eurofins

The story of Eurofins

From humble beginnings to a global leader

35 YEARS
TESTING FOR LIFE

ANNIVERSARY EDITION

Dear readers,

As we reach the 35-year milestone of Eurofins, it is quite remarkable to reflect on how far we have come since the first Eurofins company was founded in 1987. It was just three employees and I working in the small laboratory in Nantes, France, at the time, providing wine authenticity testing services. Today, the Eurofins Group is a decentralised network of companies, comprising ca. 63,000 employees and over 950 laboratories across 60 countries around the world. As we continue to expand our testing expertise in many directions, what started with verifying the authenticity of wine, is now a portfolio of over 200,000 validated analytical methods. Together, these serve our mission of Testing for Life, far beyond food and beverage testing alone.

However, despite our growth, much has remained the same at Eurofins. Just as I founded the company as a young entrepreneur in 1987, today's network of Eurofins companies remains a home to many aspiring and established entrepreneurs. I am very proud to have such passionate and ambitious leaders by my side today, many of whom started businesses they care deeply about and now continue to lead as independent companies in our network. In turn, these companies are set apart by the proactiveness of their employees – it is their dedication to our customers that defines Eurofins.

I am equally proud of how our companies have contributed to shaping the testing, inspection and certification (TIC) industry, transforming what was once an incredibly fragmented market of small-scale, often under-invested laboratories into a global industry of high-tech players, who offer broad and ever-improving testing services. Many of the laboratories and companies that have joined the Eurofins network over the years are pioneers of innovation and scientific advancement in the sectors they serve, some of them having been an influential part of the testing landscape long before 1987! In fact, we have welcomed companies into our network that are as old as the laboratory industry itself.

Our growth story has not always been an easy journey, nor an overnight success, as this commemorative book will document. We owe our success to the leaders and employees who have helped to make the Eurofins network the leading global player it is today, and I am humbled by their continued pursuit for even better solutions and the fastest turnaround times for our clients. So, what better way to celebrate the 35th anniversary than by sharing a collection of stories from Eurofins companies, told and selected by the very people behind their success.

It would be impossible to share everything that Eurofins companies have done and achieved over the years, but I hope this book, as a kaleidoscope of experiences and anecdotes from across the network, will show you some of the many inspiring jigsaw pieces that form the Eurofins of today, each a part of our vision of Testing for Life.

Let me take this opportunity to express my sincere gratitude and congratulations to all those who have been a part of the Eurofins story to date, and a special thanks to the many clients who have trusted us to provide testing and inspection services to them. It has been my honour and great pleasure to serve the Eurofins network as Chief Executive Officer for the past 35 years, and I can only look forward to the decades to come. What a journey it has been so far!

Gilles Martin
Chief Executive Officer and Founder
Eurofins Scientific

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Who we are

CHAPTER 1

The early days

If you were around in 1987, a few things may jog your memory and take you back there: Madonna and Bon Jovi were top of the charts, Dirty Dancing was in the cinema, and US President Ronald Reagan delivered a famous speech at the Berlin Wall in the former West Germany. What you probably didn't hear about that year was the founding of Eurofins on the 8th of October 1987, by a recent graduate of an engineering school in France. The company – now a global leader of the testing industry – started with one service offering: wine authenticity testing. →

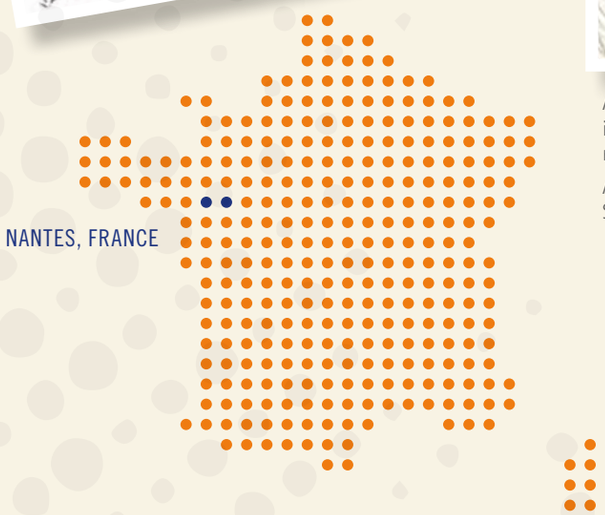
1987

At 23-years-old, Gilles Martin was a graduate of Computer Science and of Computer Engineering, plus two Master's in Science, with a PhD in Statistics and Applied Mathematics underway. →

"With one laboratory, one entrepreneur, and three employees, Eurofins was born"

Above left: Professor M. Martin at the inauguration of the first NMR spectrometer machine in France.

Above: Professor G. Martin as a student at Sorbonne University.



DID YOU KNOW...

The name Eurofins is a portmanteau of 'Europe' and 'RMN-FINS', the acronym for the French translation of Eurofins' first flagship technology, SNIF-NMR™ (fractionnement isotopique naturel spécifique par résonance magnétique nucléaire, or 'site-specific natural isotopic fractionation by nuclear magnetic resonance' in English). It was chosen to reflect the international vision that the company cultivated from the very beginning, setting their sights not only on France, but on becoming a major player Europe-wide at the time.

You might be wondering where expertise in wine testing and authenticity fits into this profile, and the short answer is that, initially, it didn't. In fact, it was the third start-up that Gilles had founded, and the furthest removed from his academic background: the first company, co-founded in his first year at Centrale Paris Engineering University, was tutoring thousands of high school students in maths, physics, and other disciplines, and the second, again co-founded while studying, built computer programmes. Yet it was Eurofins that became his life's work.

"At the time, I had absolutely no clue about the analysis of wine," Gilles admits, looking back at his motivation for the solo venture. "And I was by no means sure that founding a company around this would be worth it, as I didn't know the market yet."

What convinced him, instead, was an appreciation for the ground-breaking technology involved, called SNIF-NMR™, as well as the fact it had been invented very close to home – by his parents, Professors G. and M. Martin, and their research teams at the University of Nantes, six years earlier. It was the first time that nuclear magnetic resonance (NMR) technology had been applied commercially for authenticity testing.

"SNIF-NMR™ was revolutionary at the time, and intellectually speaking, I liked that a lot," Gilles explains. "Of course, my parents had developed it, so, I tried to make something out of it; not because I was destined to be in the testing business, but rather, to make sure my parents' work found broader use and recognition."

And so, Gilles bought the rights to use and market SNIF-NMR™ from the CNRS (National Research Centre) and University of Nantes, and founded his first laboratory, in the very same city, to make the technology commercially available to wine producers. With one laboratory, one entrepreneur, and three employees, Eurofins was born.

"The market for wine testing was extremely limited"

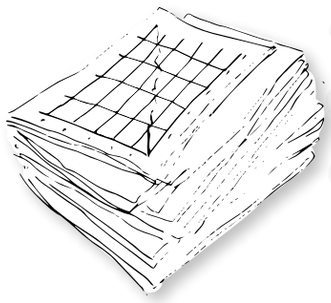
With the rights to a niche technology and a small laboratory ready to go, the question was, to what extent were people interested in wine testing?→

"I learnt very quickly about the importance of conducting good market studies," Gilles reflects. At the time, the chaptalisation of wine, whereby sugar is added to the fermentation process to increase the wine's alcohol content, was a type of food fraud often so sophisticated that other testing methods could not detect it. "That made SNIF-NMR™ a very innovative piece of technology – but I soon realised that the market for wine testing was extremely limited, nonetheless. Eurofins would not have been viable if focused only on this market."

This testing service alone was not enough

It was indeed apparent that SNIF-NMR™ and this testing service alone were not enough to reach Eurofins' goals of breaking even in the long-term. After little more than one year in operation, the small team therefore had to compensate for this lack of market research through innovation. Based on active R&D, Eurofins soon added new SNIF-NMR™ analysis methods to their portfolio, this time for other food and beverage products that may be subject to fraud during production (often unbeknownst to producers and retailers). Firstly, they expanded into fruit juices and other non-alcoholic beverages, and, later, natural flavours, spices, and honey, while adding other testing technologies applicable to the same products.

In doing so, Eurofins uncovered a huge need for specialised laboratories to support big companies in ensuring their products were of the highest possible quality...and, as it turned out, food and beverage authenticity testing was an extremely powerful and cost-effective tool to protect both brands and consumers from fraud.



"I learnt very quickly about the importance of conducting good market studies"

"I was determined that we wouldn't need external funding"

The potential for Eurofins' testing business was now clear, and the team's international ambitions unwavering, but this did not mean overnight growth.

Without a large coffer to fall back on, the pace of development was steady and measured, so as to avoid the need for external funding – a decision underscored by Gilles' entrepreneurial passion:

"I was determined that we wouldn't need external funding from private equity or venture capital firms. We wanted to be our own bosses and hold our destiny in our hands. That meant we had to be profitable from the start, and we were – each year a little bit more so. Being an entrepreneur is more of a marathon than a sprint; it means pacing oneself and managing one's resources well."

Through these early years of development, Eurofins saw a gradual employee increase of up to 40% per year – and, of course, having started out with just four people, this growth trajectory took some years to reach more significant numbers. This did, however, lead to true mastery of multi-tasking!

"During this time, I learnt to do everything," Gilles adds. "How to do the accounting – the balance sheets, the profit and loss statements – and even quite a bit about our tests and how to conduct them. I was on the commercial side, doing sales and traveling around Europe and the USA to acquire new customers, while also verifying and signing the test reports daily. Of course, this was in the days before the internet, so we'd receive the reports by fax and I'd correct them by hand. You could say I was the chief cook and the bottle washer all at once! But, step by step, we hired more people with the qualifications needed to take over some of these responsibilities."

Top: Two of the first employees at the first Eurofins laboratory in Nantes.

Above: Gilles Martin in the Nantes laboratory, beside a spectrometer.

“I was not sure the company would survive”

As with most start-ups, Eurofins’ client base did not appear overnight, and there were periods of uncertainty in the early days.→

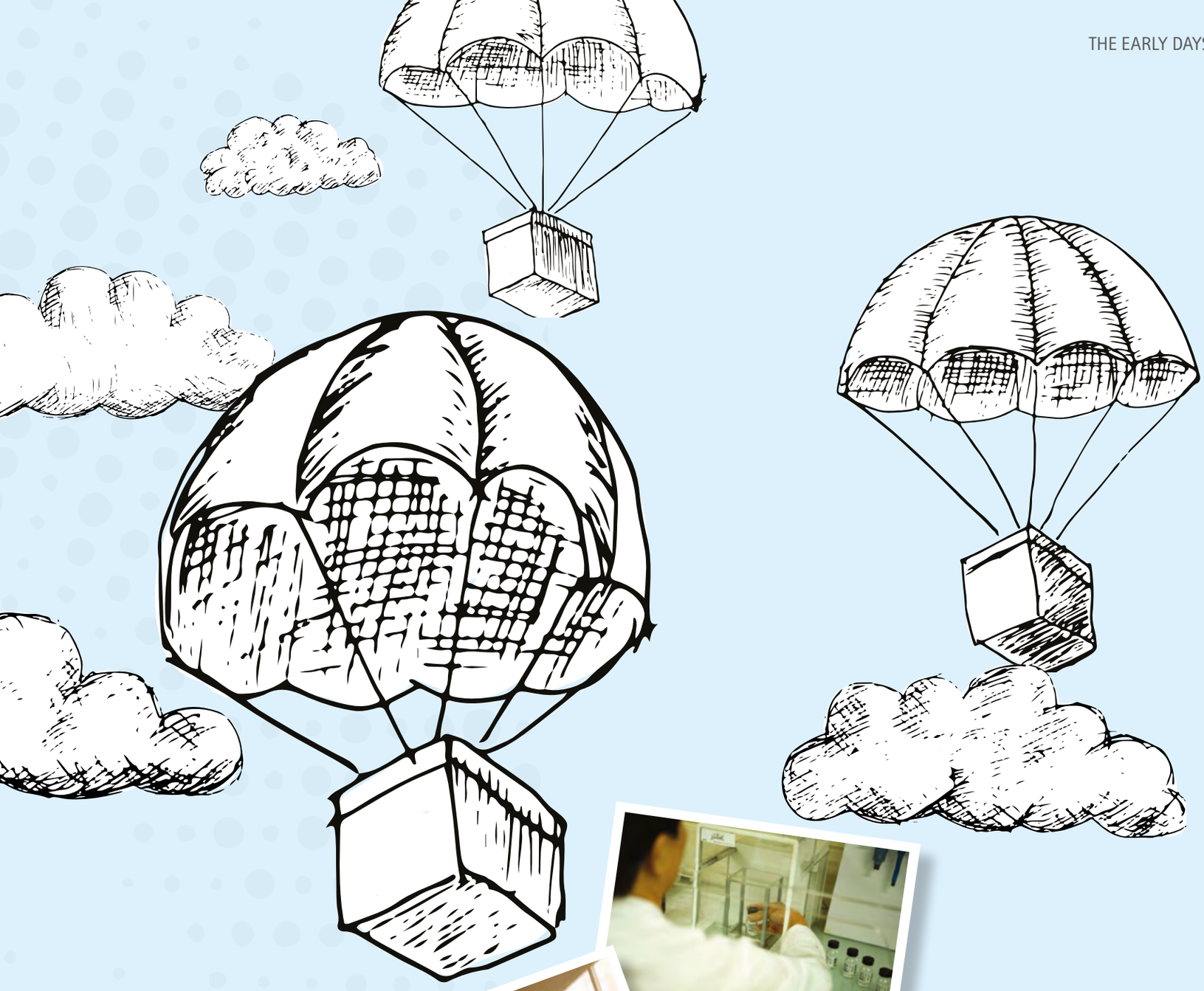
Today, Eurofins companies together perform over 450 million tests per year. It’s a steep figure, and one that has multiplied exponentially since Eurofins’ early days, when its single laboratory was still establishing itself on the market. Back then, samples would arrive to the laboratory by post, and the Eurofins team would eagerly check the mailbox each day to see what had arrived. Sometimes, it was barely enough to remain financially self-sufficient.

“We had to learn to be very patient and frugal”

Samples would arrive to the laboratory by post, and the Eurofins team would eagerly check the mailbox

“There was more than one time when I was not sure the company would survive, because for a couple of months straight, we did not reach our target number of samples,” Gilles recalls. “It was not easy, and we had to learn to be very patient and frugal.”

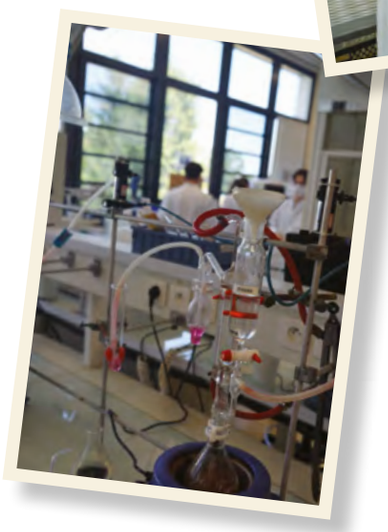
Patient they were. And by 1995, Eurofins employees had learnt a great deal about the food testing market and its testing demands, ready to take Eurofins into a new phase of growth.



Photos from the first Eurofins laboratory in Nantes.

COMPANY SPOTLIGHT

EUROFINS FOOD AUTHENTICITY COMPETENCE CENTRE



Above: The first Eurofins laboratory in Nantes, in 2022.

"We are still doing the same important work"

What became of the original Eurofins laboratory that was founded in 1987?→

Now one of hundreds of Business Units in the Eurofins network, Eurofins' first laboratory is still operating in its original spot in Nantes, France. The laboratory, which has since become the Eurofins Food Authenticity Competence Centre, was founded by CEO Gilles Martin with just three employees, offering a unique niche: verifying the authenticity of wine through SNIF-NMR™ testing.

Realising that the wine testing market was very limited, the Nantes laboratory quickly expanded its authenticity testing services into the fruit juice, spirits, spices, honey, and flavouring sectors, among many others, as well as adding many other testing technologies. Today, it still provides highly specialised food and beverage analyses, with the same focus on verifying geographic origin and authenticity (for instance, that there has been no dilution of the product or sugar added).

True to Eurofins' international vision and client base from the start, over the years the Nantes laboratory has also expanded its global reach and nurtured international synergies with other companies in the Eurofins network.

> "I like to think we are special, as we were the very first Business Unit in the Group!"

"We are still doing the same important work in the authenticity field as we did 35 years ago, but on a considerably bigger scale, bolstered by lots of international synergies and new contacts," says Eric Jamin, Business Unit Manager of Food Authenticity Testing Nantes, who has worked at the laboratory since 1995. "And we are still innovating an ever-broadening range of techniques that we can use, while developing new profiling approaches using high-resolution mass spectrometry and NMR (nuclear magnetic resonance)."

As per the original SNIF-NMR™ technique, the laboratory still uses Bruker spectrometers, and now houses five of them. The application was developed in close collaboration between Eurofins and Bruker, with the dedicated software, Eurospec, written by Eurofins in-house.

However, speed and efficiency are a far cry from those of the twentieth century, when process automation was in its infancy. "We used to count turnaround time in weeks, now it's days," says Olivier Petavy, Technician at the laboratory, who joined in 1999. "The most time-intensive analyses might have taken us 30 days – now it's eight."

The Eurofins Food Authenticity Competence Centre now employs just over 55 laboratory and sample preparation staff and is still a historically and scientifically important location within the network. "I like to think we are special, as we were the very first Business Unit in the Group!" Eric smiles.

NANTES, FRANCE

Preparing for growth

The mid-90s was the start of a new era for Eurofins.→

The word was officially out there on SNIF-NMR™. The team were no longer holding their breath to see how many samples would arrive each day; they were coming in thick and fast, and it was not an unfamiliar sight to see them transported between sites by kick scooter. Around this time, the laboratory also underwent a few makeovers, with extensions, modernised equipment, and automated processes that could ramp up testing capacities.

The portfolio, too, was still expanding into new authenticity tests and other areas, such as nutritional analysis, expediated by the workgroups and authorities who commissioned Research and Development; recognising its potential, they were keen for Eurofins to investigate how SNIF-NMR™ could support new substance authenticity tests. To this end, the University of Nantes was still an important research partner.

It was not an unfamiliar sight to see samples transported between sites by kick scooter

By this point, it had been almost a decade of consistent but careful growth. Now with a few million euros in revenue each year, the Nantes team could see their international, multi-site goalposts within reach. What was clear, however, was that it would not be possible to focus on global ambitions without sufficient scientists and leaders to manage the existing laboratory on the ground. The 'chief cook and bottle washer' period was over, and in came a new wave of employees – together reaching a headcount of around 50 by 1997 – some of whom are still with Eurofins today.

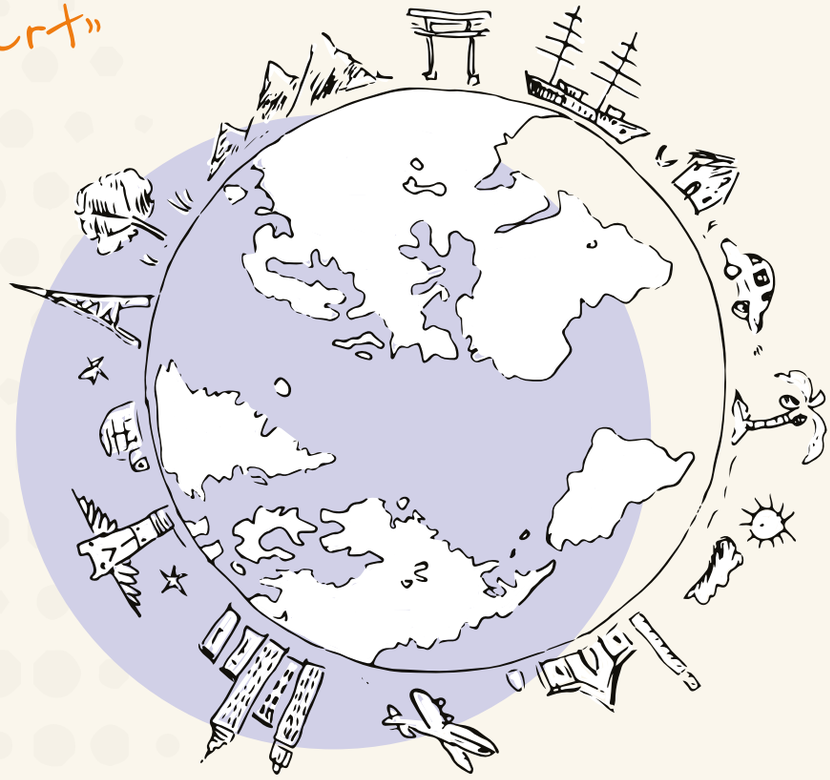
"We delivered what was promised"

Eric Jamin, Business Unit Manager of Food Authenticity Testing Nantes, has been well acquainted with SNIF-NMR™ since his university days. As a PhD student at the University of Nantes, he had been taught by Professor Martin, one of the minds behind the technology, and she "instilled [in him] a real love of NMR" as an analytical chemistry technique.

In 1995, Eric joined Eurofins, initially still as a PhD student, with a focus on Research & Development. It was here that he was first introduced to Eurofins' early vision for an international network, something he has since seen unfold over his 28 years at the Nantes laboratory.

"In the mid-90s, I had just finished university and was starting my career in the laboratory industry," Eric says. "I particularly remember a meeting we had with Gilles, when he announced that we would be embarking on a project to build an international network of Eurofins laboratories. That threw us into a very adventurous and exciting time. It's amazing to look back, more than 25 years later, and see we delivered what was promised back then."

"The international appetite was there from the start"



"On my first day of work at Eurofins, I arrived bright and early on the Monday morning, and found out during my onboarding meeting that my boss, Gilles Martin, would soon be travelling for three weeks to investigate new opportunities abroad," François Vigneau retells, having joined Eurofins in an operational role in 1996. "So, it was up to me to lead things in Nantes. 'Do your best!', Gilles told me. It certainly put me to the test." →

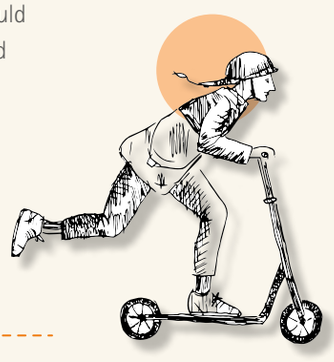
We can presume he passed, because 27 years later, François is not only still part of Eurofins, but still based in Nantes, now as Senior Vice President of Food and Feed Testing Western Europe and a member of the Group Operating Council (Management Board).

"So, the international appetite was there from the start, right from the first day I joined," François continues. "Even our Laboratory Information Management System (LIMS) was already entirely in English, foreseeing a need for international collaboration on the horizon. In fact, I remember that very early on, Gilles was talking about how he wanted Eurofins to be a global leader of the entire food testing market, not only in the specialised niche of authenticity testing. The major markets we saw at the time were in France, the UK, Germany, and the USA.

"But what was particularly unique about the Eurofins vision was the ambition to become a one-stop-shop, where one company can satisfy all of their clients' testing demands without them needing to turn elsewhere. It wasn't a common concept at the time. So, the plan was already to build a network of laboratories, specialised in different tests, which could subcontract work among each other. It's detailed in the business plan Gilles showed me some 25 years ago, and it's exactly what we have achieved today."

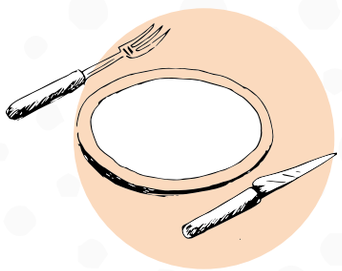
The vision may have been clear from the outset, but that didn't make it an easy feat by any means. "The year I joined, we set the target of achieving 100 million French Francs in turnover – that's over 15 million euros in today's currency – within five years, so effectively multiplying revenue by five. I went home and told my wife, *I think my boss is crazy*," François smiles.

Quite astonishingly, Eurofins would far surpass its ambitious target, and even go on to multiply its revenue into the billions over the following decades. Reflecting on what he knows now, François concludes, "There was certainly a lot of ambition. The sky was really the limit. And that did make us nervous sometimes… there were times back then when I would say to my colleagues, *We'll go into bankruptcy next month if we continue like this.* But, of course, we didn't; we kept growing and taking calculated risks – you can't have success without risk."



"L'appétit vient en mangeant"

If you're familiar with the Eurofins of today, you'll know that its work comprises much, much more than Food and Feed Testing services.→



From the environment to consumer products, and from life-saving drugs to agrochemicals, Eurofins companies are Testing for Life almost everywhere you look. But this grand vision had to start somewhere – so what was the turning point that moved Eurofins from a Food and Feed Testing company to a network of laboratories serving a broad range of life science industries?

"Opportunity" is the word that Eurofins people answer this question with time and time again. Each acquisition brought new knowledge into the network, and with that, more doors opened. This theme goes right back to Eurofins' very first acquisition in February of 1997, when an unexpected opportunity became the first step to building a one-stop-shop and penetrating the US market.

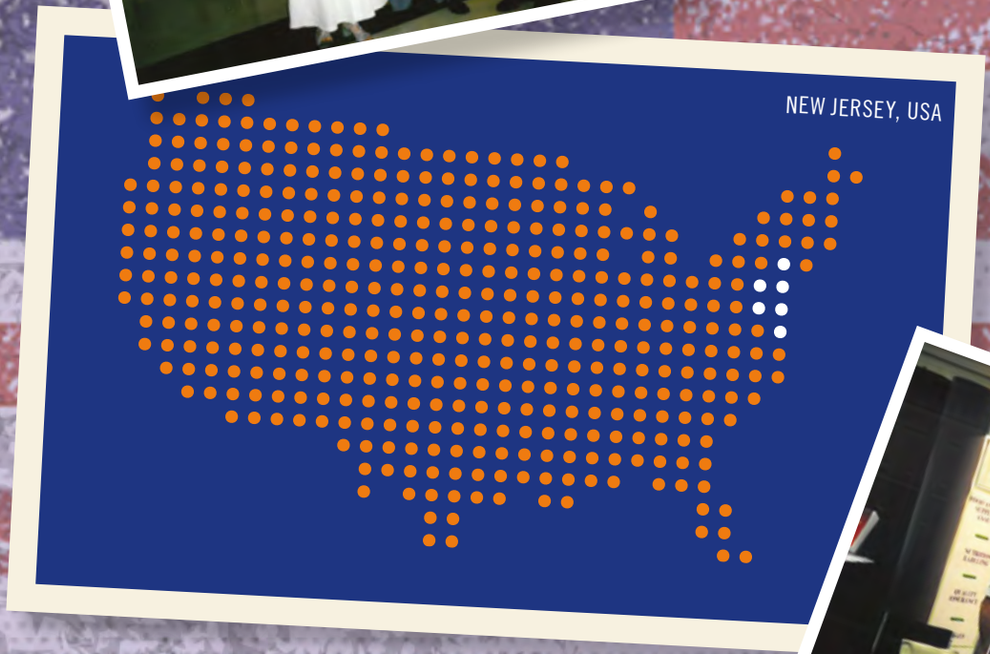
An unexpected opportunity became the first step to building a one-stop-shop

By 1997, continued profitability meant Eurofins was ready to invest in an ambitious expansion plan, and its sights were set on North America. "Eurofins identified Nutrition International as a potential partner because it performed chemical analysis of food, not dissimilar to Eurofins' own work at the time," explains Gary Wnorowski, one of Eurofins' Vice Presidents in North America. "It was just a small company in New Jersey with 40 employees, but it would give Eurofins the US presence it was looking for."

"The expansion of skillsets within the Eurofins network has developed over time"

But Nutrition International had a sister company, Product Safety Labs (PSL), where Gary was then an employee, and the owner was looking to sell the laboratories together before his retirement. However, PSL's business was not limited to food testing; it predominantly served the pharmaceutical, chemical, and agrochemical industries, providing safety and efficacy assessment of compounds. Eurofins agreed to acquire both companies. "PSL gave Eurofins a foothold in several new industries and offered a new platform for expansion," Gary adds. In the long-term, the move turned out to be a formative one: the Eurofins Group now includes the largest, wholly owned network of BioPharma-dedicated laboratories in the world.

Even within the familiar world of food testing, the acquisition, and the US debut it represented, helped Eurofins to focus its ambitions in terms of North America: "I think the Eurofins team was a bit surprised by the market here in some ways. Although most Americans had little interest in food authenticity and origin, compared to Europeans, there were countless other market opportunities to serve US clients," Gary explains. "The expansion of skillsets within the Eurofins network has developed over time and has always been quite opportunistic. It's about staying open-minded."
In fact, this was exactly the story behind many of the companies and Business Lines that Eurofins went on to savvily add to its network. And with each of them sending a ripple of new opportunities through the network, Eurofins' capabilities (and ambitions alike) snowballed, echoing an old French proverb: *L'appétit vient en mangeant* (appetite comes with eating). Soon building footholds in several markets and countries, no one could deny that Eurofins was looking at a much greater contribution to safety and health than food testing alone represented: Eurofins was Testing for Life.



Top: Gilles Martin (right) and Eurofins colleagues celebrating the acquisition of Nutrition International in 1997."

Centre right: Eurofins and Nutrition International colleagues together in 2000.

Right: Gary Wnorowski presenting to Eurofins leaders in 2004.

1.3 THE CAPITAL

"I heard a rumour about a laboratory becoming publicly listed"

With Eurofins having made its first acquisition and broken into North America, the appetite was there to ramp up efforts to become the food analysis leader in major international markets. But, to achieve this, the team needed to generate capital that could fund increased M&A activity, and equity offerings seemed the best way to go about it.→

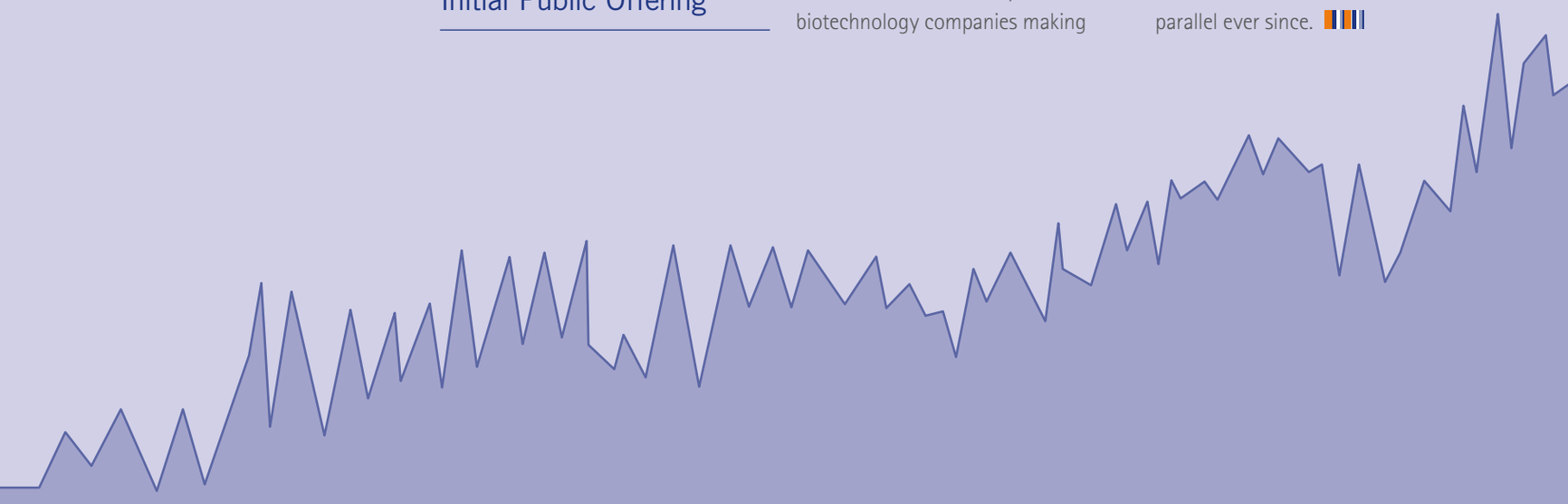
It would be a bold move, though. A young, Nantes-based company, which had made around 20 million French Francs (or three million euros) in revenue in 1996, did not have the most typical company profile for a public offering, but Gilles Martin's experience abroad had sparked some ideas.

1996 had been a record year for biotechnology companies making their Initial Public Offering

"While working in the US as a PhD student, I saw the 'American way' of funding start-ups," he explains. "In France, back then, it was extremely difficult to get funding, but American start-ups were able to list on the Nasdaq Stock Exchange just seven or eight years after they were created – I thought, why can't we do the same?"

Conveniently for Eurofins, the market was captured by a (bio)technology 'bubble' at the time. 1996 had been a record year for biotechnology companies making their Initial Public Offering (IPO), with analysts predicting that the dawn of the 21st century would bring new heights for the biotech industry. Investors were eagerly buying into the vision, and Eurofins wanted in.

Eurofins' testing work already came under the biotech sphere, but this wasn't immediately communicated to investors by its company name. The decision was made to officially rename Eurofins as Eurofins Scientific, though the shorter 'Eurofins' has remained in use in parallel ever since.



On the 24th of October 1997, Eurofins Scientific reached a major milestone in its history.→

It made its Initial Public Offering on the Nouveau Marché segment of the Paris Bourse (stock exchange), a section deemed to list riskier investments, but which was easier for start-ups and smaller companies to enter. It released 275,000 shares, worth 120 French Francs (around 18.3 euros) each.

The news was received with surprise from many in the laboratory industry. For some, it was the first time they had come across the name 'Eurofins', and an encounter they wouldn't forget – "I heard a rumour about a French laboratory becoming publicly listed, and I didn't believe it at first," admits Svend Aage Linde, who is now Eurofins' National Business Line Leader of Food and Feed Testing Denmark but was working at his own laboratory at the time. "I thought it was impossible!"

The news was received with surprise from many

Inside Eurofins, the team were wise to this perception. "It's true – everyone thought the IPO was a risky move," François Vigneau confirms. "They thought that no one would buy Eurofins shares. Remember, we weren't even a Parisian company – we were in Nantes. Journalists visited the laboratory to cover the IPO, and they acted like they were visiting a countryside farm, albeit a very modern one!" He adds, "but that is just typical Eurofins – others might think we are destined to fall, but actually, we are sometimes just one step ahead."

IPO 1997 preliminary prospectus.

DID YOU KNOW...

25 years since its IPO, Eurofins Scientific's share price has been on quite the upward journey, rising almost 37,000%, as of August 2022. In 2000, Eurofins Scientific implemented a ten-for-one stock split, followed by another ten-for-one split in 2020. One share sold at the IPO for 18.3 euros would, 35 years later, be 100 shares worth over 60 euros each, increasing the value of the original investment by over 300 times.

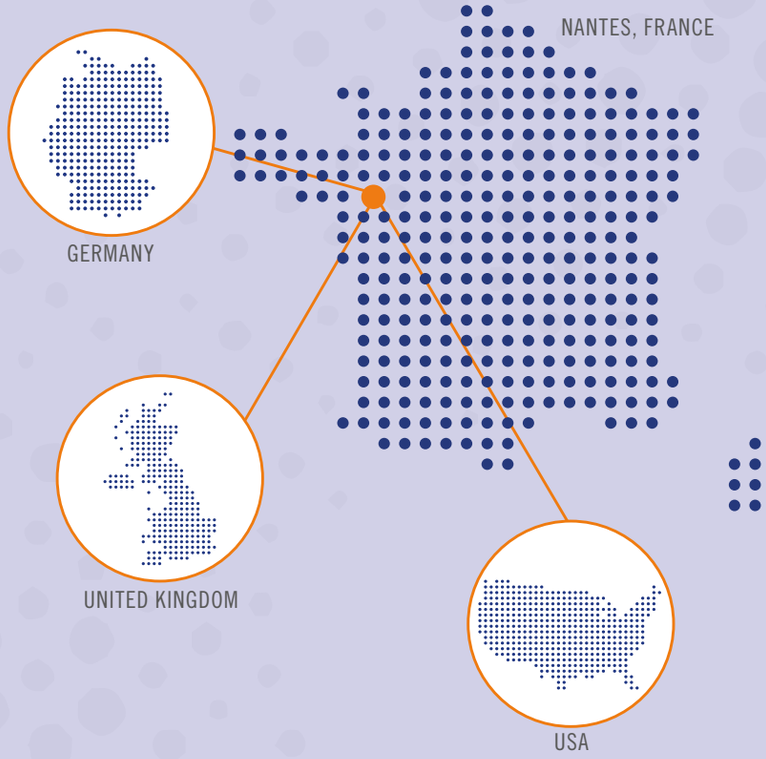
Since 1997, the Group has been one of the fastest growing, listed European groups, outperforming its peers and matching the top biotech and technology companies in the USA. In September 2021, Eurofins Scientific shares were admitted to the CAC 40 large capitalisation index, which includes the 40 largest publicly listed groups on the French Stock Exchange.

Doubts were put to rest when Eurofins' IPO successfully raised the funds needed to start strengthening the network of laboratories. In the first year post-IPO, the team made three acquisitions in the UK. Subsequent equity offerings in 1998 and 1999 – in itself an impressive feat – facilitated a further nine acquisitions: four in France, three in Germany, one in the US, and another in the UK. Eurofins had truly made the vision that inspired investors at the time of the IPO a reality.

The company's revenue continued to multiply

As any economist knows, all bubbles will eventually burst, and the decline of the biotech boom left shareholders of many such companies out of pocket. This wasn't the case for investors in Eurofins Scientific: the company's revenue continued to multiply, more than doubling between 2000 and 2001, and this success was reflected in the share price.

In 2001, following the merger of the Paris Bourse with the Amsterdam and Brussels Stock Exchanges, Eurofins Scientific's shares were included in the Euronext 'Next 150' index, an index of the 150 highest ranking mid-large capitalisation companies not included in the Euronext 100 index. It was also selected to join the 'Next Economy' Euronext segment, dedicated to shares of technology and biotechnology companies.



Gilles Martin (second from the right) with Eurofins colleagues and a representative from the Frankfurt Stock Exchange, 2000.

THE NEUER MARKT

In October 2000, during the early days of Eurofins' expansion in Germany, Eurofins made its Secondary Public Offering (SPO) on the Neuer Markt segment of the Börse Frankfurt (Frankfurt Stock Exchange). The team had observed that several similar sized companies were valued much higher on the Frankfurt market at the time, as compared to in Paris, and felt that a pan-European listing better reflected the international positioning of the Group.

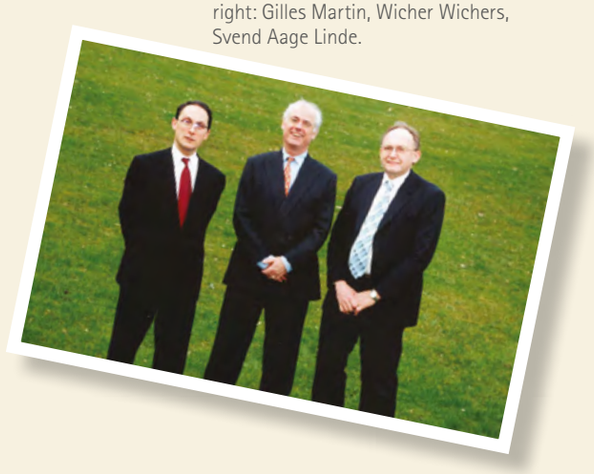
The SPO coincided with both the BSE ('mad cow' disease) crisis of the late 90s and early 2000s and the increased introduction of Genetically Modified Organisms (GMOs) – and therefore a piqued interest in food safety and testing. This awareness helped to make the SPO a success and boost Eurofins' share price from around ten euros in January 2000 to over 35 euros at the end of the year. The total cumulative equity raised across all four public offerings, including the IPO, now stood at 57 million euros. These funds allowed Eurofins to grow considerably with very limited additional equity raised externally, becoming a 6.7-billion-euro-company by 2021.

A pan-European listing better reflected the international positioning of the Group

However, over time, Eurofins found that its main trading market remained in Paris, even for international investors. In 2010, Eurofins therefore delisted from Frankfurt, and today is solely listed on the Euronext Paris Stock Exchange.

"It was a simpler time"

Once it had 50 laboratories in eight countries under its belt, Eurofins decided it needed a united team of core leaders who could develop Eurofins on different fronts.→



Below: Three of the members of the first Group Executive Committee. From left to right: Gilles Martin, Wicher Wichers, Svend Aage Linde.

Accordingly, the first Group Executive Committee was established in 2001. All four original members had founded their own companies, which were now part of the Eurofins network: Gilles Martin, founder of Eurofins; Christopher Reeves, founder of CPA Laboratories, UK; Svend Aage Linde, founder of Miljø Kemi, Denmark; and Wicher Wichers, founder of Analytico, the Netherlands.

"They were a very charismatic bunch of leaders," Svend Aage reflects. "We were a great team together. We could be light-hearted as well as serious, you know!"

Things were run a little differently back then. "It was a simpler time – there were no formal procedures or governance documents when I joined [in 2001], but things were still structured because all the teams knew what to do, and they did their work with honesty and integrity. Both great trust and freedom were established.

> "We were a great team together. We could be light-hearted as well as serious, you know!"

"Our values have stayed exactly the same. Of course, the Group is much bigger and more complex now, but I still see it as a family company, because it's still led by its original entrepreneur."

The IPO had helped to make Eurofins' international dream a reality and ushered in a new era of transformation.→

With a very healthy balance sheet, and a clear vision of Testing for Life, Eurofins was now ready to grow – and fast. It could set to work establishing itself around the world, building its one-stop-shop network, and investing into its IT infrastructure at the same time. Though it still paled in comparison to some of its competitors at the time, Eurofins could no longer be considered a small company: it was a leader in several food testing markets.

These first 15 years of the company's development were a formative chapter in its decades-long mission of achieving global leadership across the testing industry. By the early 2000s, the Eurofins story was only just beginning.

COMPANY SPOTLIGHT

MILJØ KEMI

"We were just two stupid 29-year-olds!"

All images from the Eurofins Miljø laboratory in Vejen.

In 1981, Svend Aage Linde, now National Business Line Leader of Food and Feed Testing Denmark, was a young man disillusioned with how his employer at the time, a technological institute in Denmark, was treating its customers. It wasn't the first time Svend had walked away from a job over its poor attitude towards customers, but thankfully, it would be the last – following a discussion with a colleague in the work canteen, the pair founded their own company instead, Miljø Kemi.

When asked why he took the risk, Svend answers, "to put it simply, it was to focus on customers; if you do what you need to satisfy the customer, they will come back again." But, coming from a farming family and with no prior ambitions to own a company, the journey was not all plain sailing, and a few financial mistakes were made in the early days. "We had no money, no knowledge...we were just two stupid 29-year-olds!"

But, in spite of the learning curve, Miljø Kemi went on to be very successful in its field, focusing on a broad range of analytical methods for the detection of contaminants in air, consumer products, water and soil. "I chose to establish a laboratory focusing on niche testing for the environment sector – providing a high level of quality and outstanding service to our customers," Svend explains. "No one else at that time provided a similar service."

"To put it simply, it was to focus on customers; if you do what you need to satisfy the customer, they will come back again"

In 1981, Svend Aage Linde, now National Business Line Leader of Food and Feed Testing Denmark, was a young man disillusioned with how his employer at the time, a technological institute in Denmark, was treating its customers. So, together with a colleague, he decided to found his own laboratory. →

It was 16 years later when Svend heard what he describes as a "rumour" about "some crazy guys in France" getting their food testing company listed on the Paris Bourse. The company in question was Eurofins, which made its IPO in 1997. The news didn't mean much to Miljø Kemi at the time – in fact, Svend found it hard to believe – but by 1999, they "had already decided that Miljø Kemi should extend the scope of its work to include food testing," and Svend soon found himself across the dining table from Eurofins' Chief Scientific Officer, discussing Eurofins and the opportunities it could present. It was a lesson in embracing curiosity and networking: "If you have time, always say yes to a lunch!"

Svend was then invited to visit Gilles Martin, Eurofins' founder and CEO, in Nantes in mid-2000, and it was after this meeting that the entrepreneur says he "seriously started to consider joining forces with Eurofins", as it had become clear that doing so "would give immediate access to a broad portfolio of food testing services."

> "If you have time, always say yes to a lunch!"

Eurofins therefore acquired Miljø Kemi in 2001, entering both Scandinavia and the environment testing market for the first time. As both companies were considerably smaller back then, the match presented a great opportunity to grow together. The financial support from Eurofins also allowed Miljø Kemi to reach its promising potential, with Svend initially staying on to oversee this transition while gradually assuming responsibility for a much broader scope within the Eurofins network. "It was not the money that counted for me; what counted was the opportunity to develop Miljø Kemi further and the potential extra capital to allow that to happen."

When looking back on the history of Miljø Kemi, Svend is pleased to say that "it still feels like my own company, even now."

CHAPTER 2

Growing the network

Between 1987 and 2023, Eurofins has grown from three employees in a single laboratory in Nantes, France, to ca. 63,000 employees and over 950 laboratories, spanning 60 countries and six continents. Though an international ambition was present from the start, Eurofins' appetite for new geographies and testing fields steadily expanded over time, executed through a careful balance of organic growth, key acquisitions in strategic markets, and the launch of pioneering start-ups to fill market gaps and meet industry demands.→

DID YOU KNOW...

During its first 35 years of existence, Eurofins' revenue has doubled in size every four years, growing much faster than the Testing, Inspection and Certification (TIC) market as a whole.

1999

Eurofins achieved its first market leadership milestone and became the leader of the food and feed testing market in France.

2002

"Growth Plus" – an association which groups the fastest growing companies in Europe – identified Eurofins as the fourth fastest growing company amongst the Top 500 in Europe.

2003

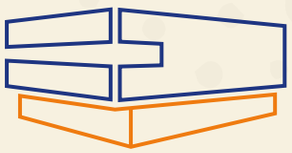
Eurofins was recognised as the largest food testing service provider in Europe and the largest GMO testing service provider in the world, boosted by the acquisition of GeneScan Europe AG.

DID YOU KNOW...

2022 was the busiest year of mergers and acquisitions activity for Eurofins, with 67 acquisitions being finalised.

Recipe for growth

EUROFINS IN FIGURES



From one laboratory in Nantes to over 950 laboratories in 60 countries across six continents.

From three employees to ca. 63,000 employees, performing over 450 million tests a year

From one method to 200,000+ analytical methods.

In 1987, when the first Eurofins laboratory was founded, the Testing, Inspection and Certification (TIC) industry was still a fragmented landscape of small, specialised laboratories serving local customers, limiting the market share that could be won through acquisition. But with every new company that joined the network, another advantage came along with it: new testing technologies and opening up doors to new markets and clients who could also benefit from other services offered by Eurofins companies. "Inorganic growth through mergers and acquisitions resulted in organic growth when companies leveraged the network effect," explains François Vigneau, Senior Vice President of Food and Feed Testing Western Europe. "At the start, we didn't draw the line between the two like we do today – it was more of a virtuous circle."

This opportunity to cross-sell additional services to new clients was a win-win for customers and Eurofins companies alike, bringing Eurofins closer to its unique ambition of being a one-stop-shop service provider. During the 1990s, this one-stop-shop model gained popularity across the TIC industry, which accordingly began to consolidate into fewer yet bigger players. As an early pioneer of this vision, Eurofins continues to shape the testing industry by making key acquisitions and investing in its 'hub and spoke' network of consolidated, high-throughput sites, complemented by specialist laboratories.

The variety of Eurofins Business Lines that exist today were not always on the cards. As new companies joined the network, they sometimes brought with them capabilities that represented new opportunities for Eurofins companies and tied nicely into their mission of Testing for Life. This, for example, is how the Environment Testing business came to be. "In January of 2001, we had just entered the Scandinavian market through the acquisition of a majority stake in the Danish company Miljø Kemi," recalls Hugues Vaussy, Eurofins Corporate Secretary. "They had a small food testing service, which had first attracted us. But Miljø Kemi's largest testing business was in the environmental testing sector, and its founder, Svend Aage Linde, was able to demonstrate that this business did not use radically different technology, making it a sensible capability for Eurofins to pick up."

> In 2015, Eurofins doubled in size, then again in 2020 surpassing EUR 5 billion in revenue the same year

With a growing, diverse portfolio of Business Lines contributing to a safer and healthier world, Eurofins was well-positioned to weather economic storms, as "the requirements for safe food products and water, reliable pharmaceutical products, and a clean environment never disappear, no matter how bad the economic situation in other sectors," points out Gilles Martin, Eurofins CEO. For instance, Eurofins' organic growth remained strong throughout the 2007-2009 financial crisis, entering its thirtieth country and reaching over 10,000 employees by 2011, despite global austerity.

In 2012, 15 years since Eurofins Scientific (EUFI.PA) made its Initial Public Offering (IPO), Eurofins was continuing to gain market leadership positions, becoming a billion-euro annual revenue business, ahead of its objective timeline.

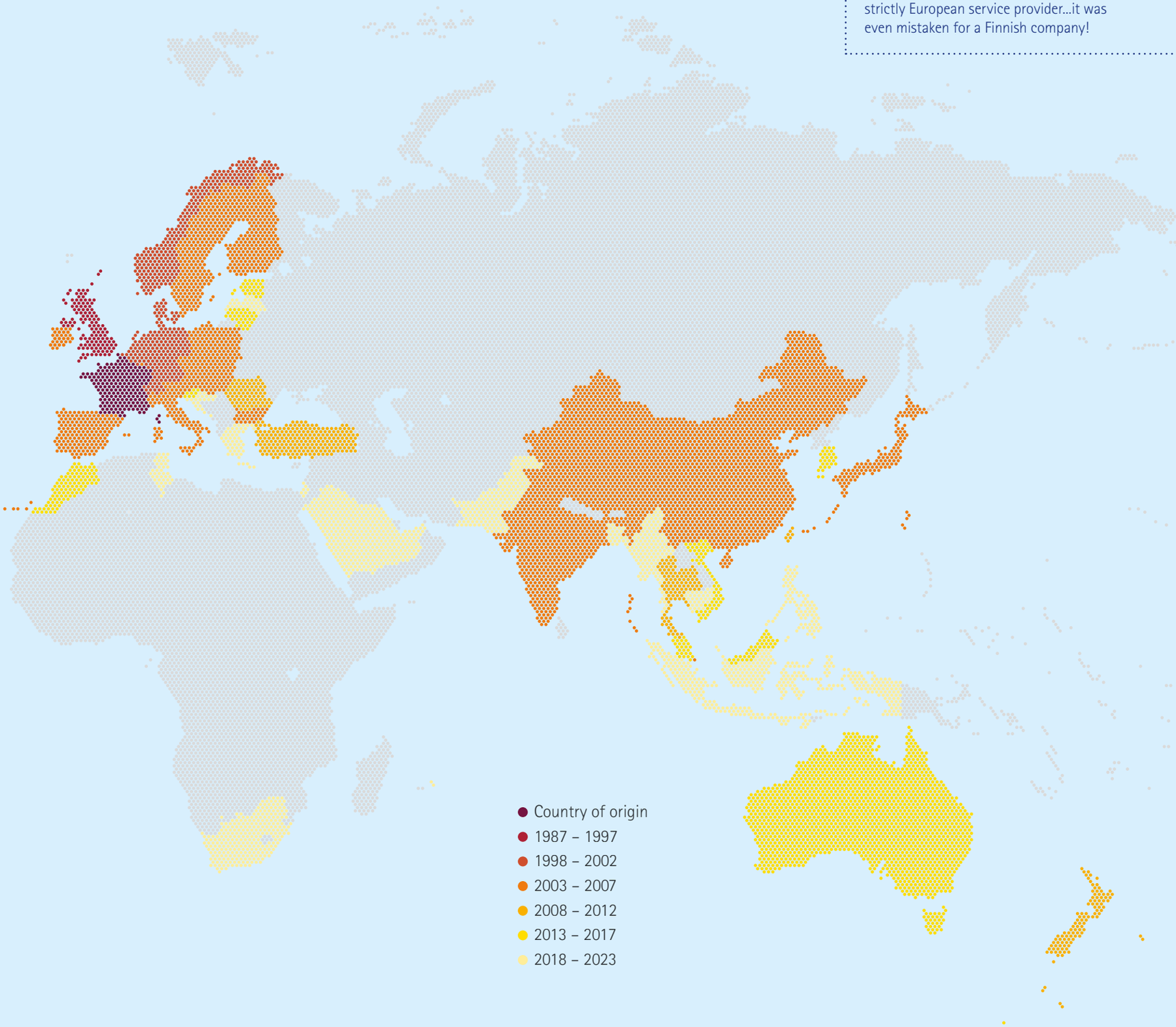
In 2015, Eurofins doubled in size, then again in 2020, surpassing EUR 5 billion in revenue the same year. In 2022, Eurofins recorded over EUR 6.7 billion in revenue.

35 years of impressive growth has allowed Eurofins companies to provide broader and ever-improving services to an increasing number of clients at a global level. The growth strategy, developed during the early days of Eurofins, has fuelled the Testing for Life mission that Eurofins companies contribute to every day.

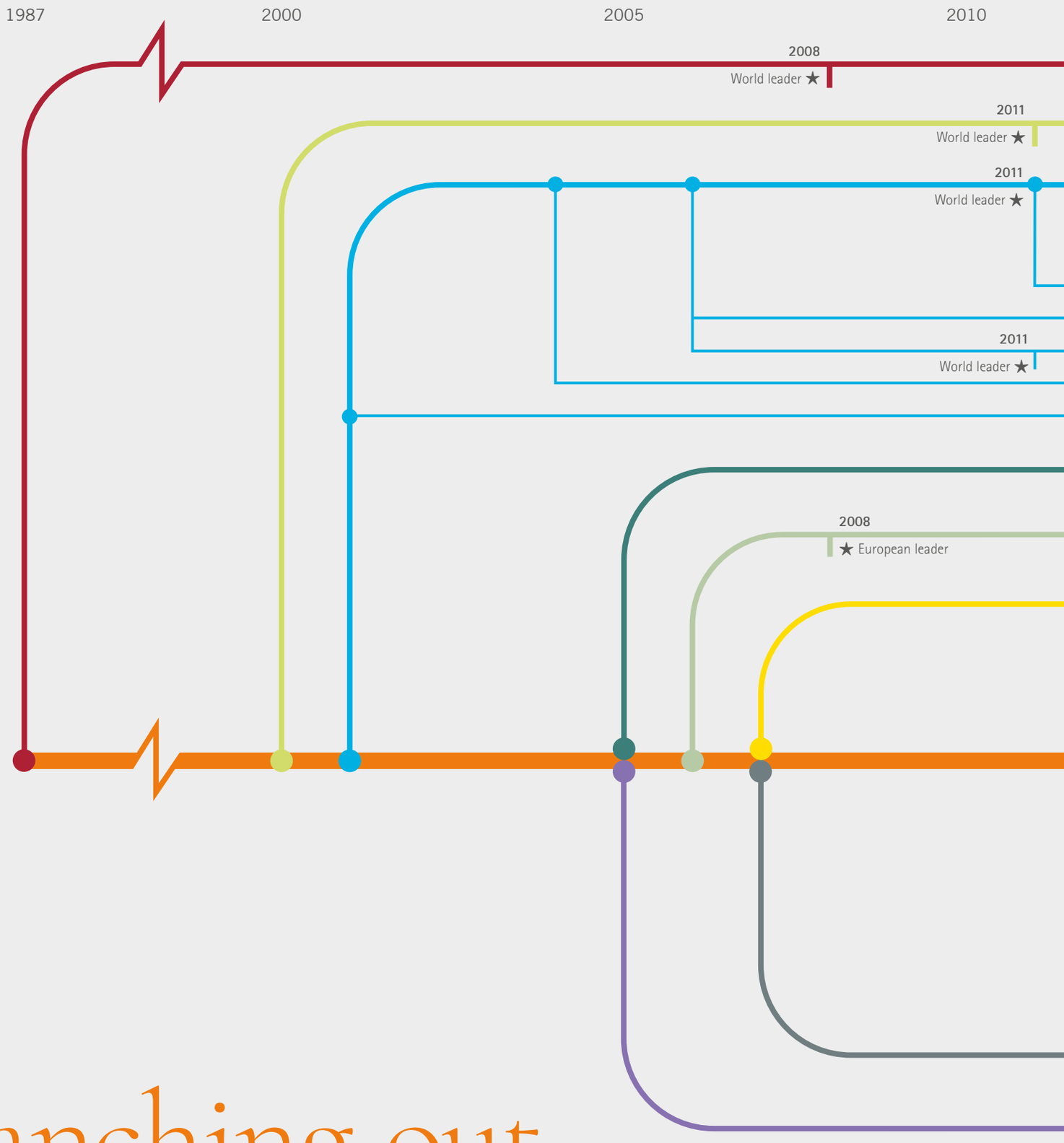
One step at a time

DID YOU KNOW...

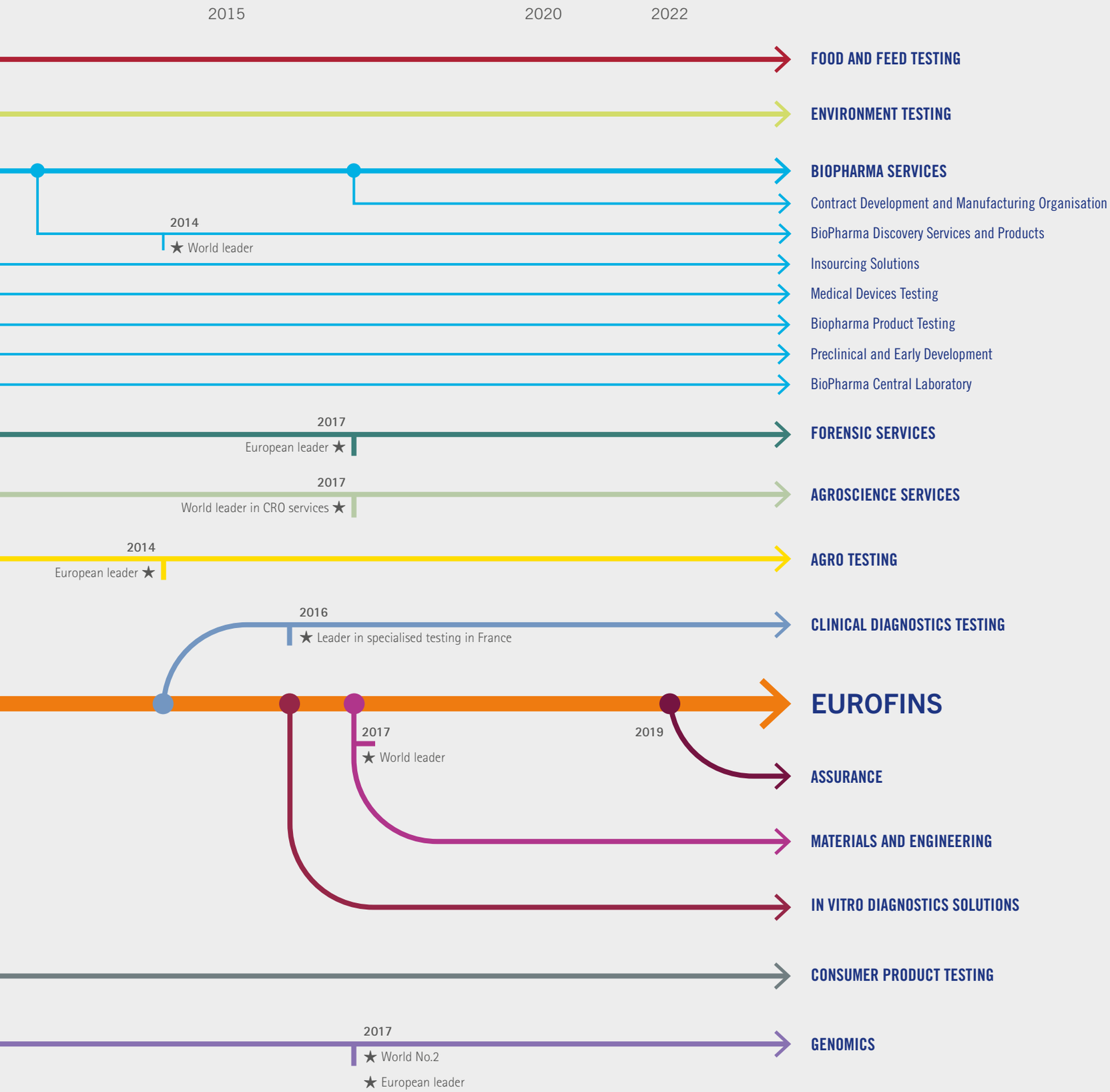
When 'Eurofins' was a new name in the testing market in the USA, it was not widely understood by everyone, as it was sometimes initially perceived of as a strictly European service provider...it was even mistaken for a Finnish company!



2.3 NEW MARKETS, NEW OPPORTUNITIES



Branching out


2015
2020
2022
FOOD AND FEED TESTING
ENVIRONMENT TESTING
BIOPHARMA SERVICES
Contract Development and Manufacturing Organisation
2014
★ World leader
BioPharma Discovery Services and Products
Insourcing Solutions
Medical Devices Testing
Biopharma Product Testing
Preclinical and Early Development
BioPharma Central Laboratory
2017
European leader ★
FORENSIC SERVICES
2017
World leader in CRO services ★
AGROSCIENCE SERVICES
2014
European leader ★
AGRO TESTING
2016
★ Leader in specialised testing in France
CLINICAL DIAGNOSTICS TESTING
EUROFINS
2017
★ World leader
2019
ASSURANCE
MATERIALS AND ENGINEERING
IN VITRO DIAGNOSTICS SOLUTIONS
CONSUMER PRODUCT TESTING
2017
★ World No.2
★ European leader
GENOMICS

COMPANY SPOTLIGHT
LANCASTER LABORATORIES

"I can't think of a better home for Lancaster Laboratories"

Lancaster Laboratories may be one of the largest commercial laboratories in the USA now, but it was founded on the humble Hess family farm in 1961, by organic chemist, Dr Earl Hess.→

At the time, Hess employed his wife and just two other scientists to provide analytical services to the agricultural industry, with a laboratory area of 230 square metres (2,500 square feet).

Over the next five decades, Lancaster Laboratories grew into a multi-site company with facilities in the USA and Ireland, including the largest single-site, independent pharmaceutical product testing laboratory in the world, and became the leading provider of pharmaceutical product testing services and cGMP Quality Control (QC), as well as a major insourcing services provider to the biopharmaceutical industry. It also became a major player in the environment testing market in the USA.

After the retirement of Dr Hess in 1995, the company ceased to be a family business. Following several ownership transitions, it was under its fifth owner, Thermo Fisher Scientific Inc., when its strength in the environment and biopharma testing markets caught the eye of Eurofins. In February 2011, Lancaster Laboratories and its 1,100 employees were acquired by Eurofins, cementing Eurofins BioPharma Product Testing (BPT) as a global leader of its industry.

> "Everyone learned a lot from observing our colleagues at Lancaster Laboratories"

The acquisition of Lancaster Laboratories was Eurofins' largest acquisition to date and represented a transformation in its BioPharma Product Testing capabilities and in its foothold in North America, where it was a comparatively newer name. Marco Baeli, Regional Business Line Leader of Eurofins BioPharma Product Testing Europe, recalls how the acquisition brought a deep understanding and knowledge of the global BPT business to the Eurofins network, which was shared among all BPT entities. "Everyone learned a lot from observing our colleagues at Lancaster Laboratories – how they dealt with global pharma companies and the partnerships and relationships they had built with these companies."

Tim Oostdyk, Group Executive Vice President of Eurofins BioPharma North America and leader of the BPT International Business Line, joined Eurofins through the acquisition of Lancaster Laboratories and adds, "Eurofins in the biopharma industry in North America was a relatively unknown name in 2011 – I remember going out and informing customers that Lancaster Laboratories had been acquired by Eurofins, and some of them responded: who are Eurofins? In contrast, the Lancaster Laboratories name had earned global brand recognition in the biopharma space. This enabled Lancaster to provide a platform for Eurofins to build a highly successful global BPT business".

The advantages though were twofold: "For the Lancaster team, it was the first time in our fifty-year history that we were part of a global network of testing companies, where we could collaborate with and learn from colleagues all over the world," adds Tim. "This, along with the long-term investment and growth strategy of Eurofins, enabled us to create and participate in opportunities that never would have been possible before. It was a truly synergistic combination, and I can't think of a better home for Lancaster Laboratories than Eurofins."

While Lancaster Laboratories today is fully integrated into Eurofins' structures, it remains a well-known and respected name in the industry.

"Lancaster Laboratories had earned global brand recognition in the biopharma space"

All photos are of Eurofins Lancaster Laboratories employees in the laboratory.

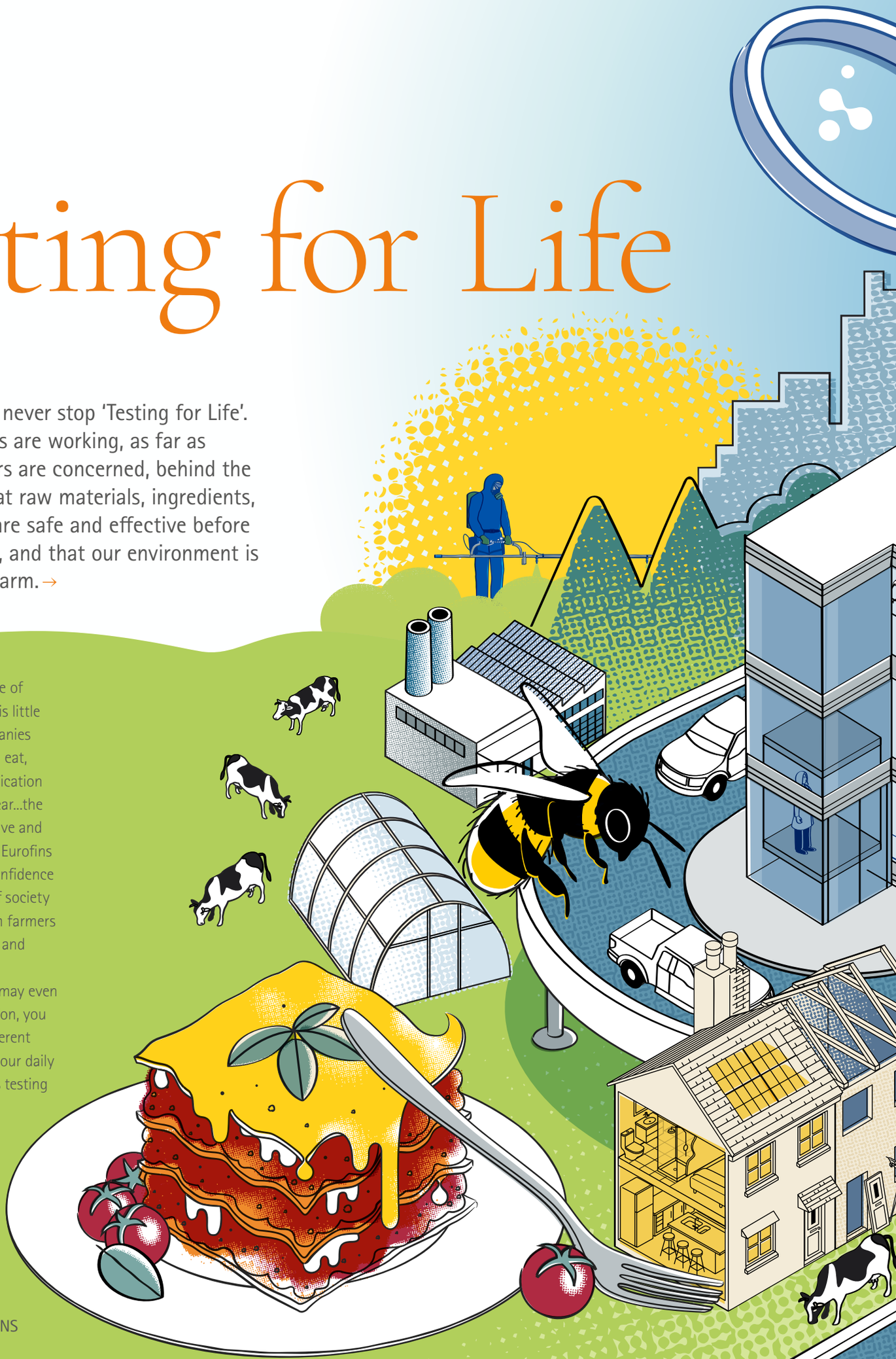
CHAPTER 3

Testing for Life

Eurofins companies never stop 'Testing for Life'. Eurofins laboratories are working, as far as many end consumers are concerned, behind the scenes, ensuring that raw materials, ingredients, and final products are safe and effective before they hit the shelves, and that our environment is safeguarded from harm. →

With such a broad range of Business Lines, there is little daily life that Eurofins companies do not touch – the food you eat, the air you breathe, the medication you take, the clothes you wear...the list is extensive. The innovative and world-leading analyses that Eurofins laboratories perform give confidence and insights to all corners of society and their professionals, from farmers and police forces to doctors and engineers.

And some Eurofins work may even surprise you. In this illustration, you can probably spot many different parts of the community or your daily life where Eurofins conducts testing and analysis.



3.1 FOOD AND FEED TESTING

3.2 AGRO TESTING

3.3 ENVIRONMENT TESTING

3.4 BIOPHARMA SERVICES

3.5 CLINICAL DIAGNOSTICS

3.6 IN VITRO DIAGNOSTICS SOLUTIONS

3.7 GENOMICS

3.8 FORENSIC SERVICES

3.9 AGROSCIENCE SERVICES

3.10 CONSUMER PRODUCT TESTING

3.11 ASSURANCE

3.12 MATERIALS AND ENGINEERING SCIENCES

If you eat it, Eurofins tests it

And if your pet eats it (and if they're supposed to eat it), Eurofins tests it, too.→

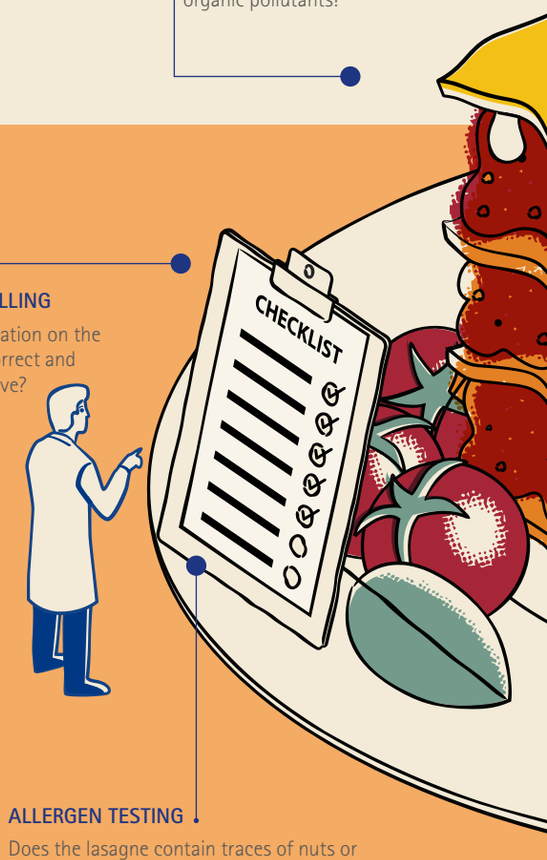
In fact, in one mouthful of your dinner – let's say, a beef lasagne – there are probably more than a dozen different testing services at play to ensure that every bite is safe, each checking for a multitude of things. The meat, dairy, pasta, vegetables, flavourings, additives, and even the packaging are all tested by Eurofins to ensure a food product is safe, authentic, and as described on the label.

> "Eurofins' clients are rarely involved in scandals or recalls"

Without these vital testing steps, you might want to put your fork down, Douglas Marshall, Chief Scientific Officer of Eurofins Microbiology North America, points out. "Consumers often do not appreciate that food companies must do many process quality and safety checks before shipping products," he says. "Unfortunately, even if they do everything right, manufacturers can inherit problems from their supply chain. Testing catches these problems, and this is exactly why Eurofins' clients are rarely involved in scandals or recalls."

The breadth of industries and services that Eurofins Food and Feed Testing companies cover is vast, and the list of potential analysis targets almost endless, but what are some of the key concerns that clients and consumers have on their radar? From a long list of capabilities, Eurofins leaders have shared some of the most in-demand, topical and up-and-coming services that their laboratories perform every day as part of their mission of Testing for Life.

CONTAMINANTS TESTING
Do any of the ingredients contain heavy metals, mycotoxins or organic pollutants?



FOOD LABELLING
Is the information on the food label correct and comprehensive?

ALLERGEN TESTING
Does the lasagne contain traces of nuts or any other allergen?

DID YOU KNOW...

Not all vegetables are created equal! Which would you bet are most likely to harbour food safety issues? Romaine lettuce is certainly on the radar: the variety has been linked to multiple recent outbreaks of E. coli bacteria, highlighting the need for careful pathogen and contaminants testing. Similarly, the warm and moist environment in which Brussel sprout seeds germinate make the vegetable more susceptible to microorganism growth, calling for the work of microbiology experts.

WINE INTEGRITY ANALYSIS

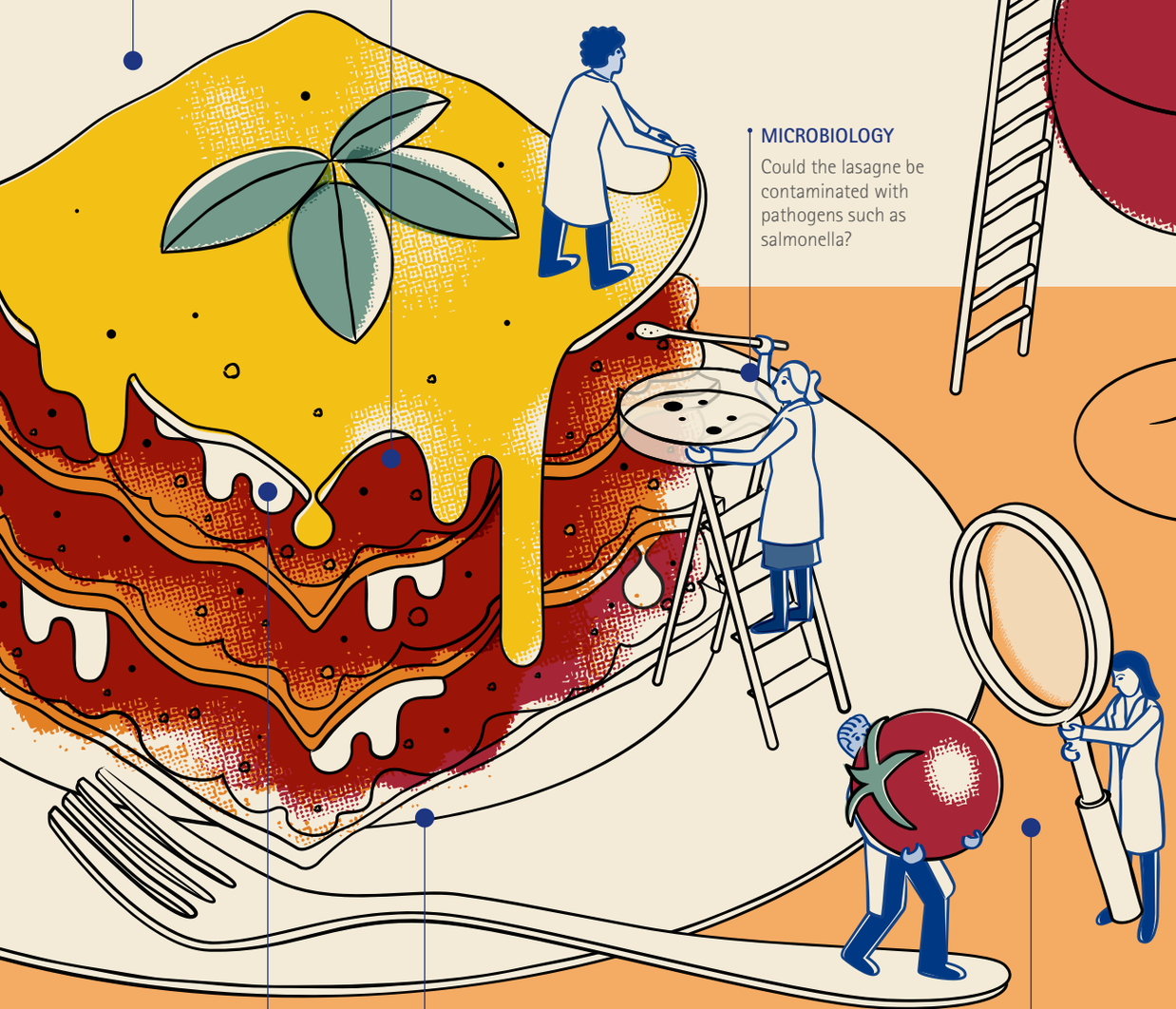
Is the grape variety cited on the label correct? Have any sugars been added to increase alcohol percentage, or dyes and flavours to mask poor product quality?

NUTRITIONAL ANALYSIS

How many calories are in this lasagne? How many grams of protein and fat?

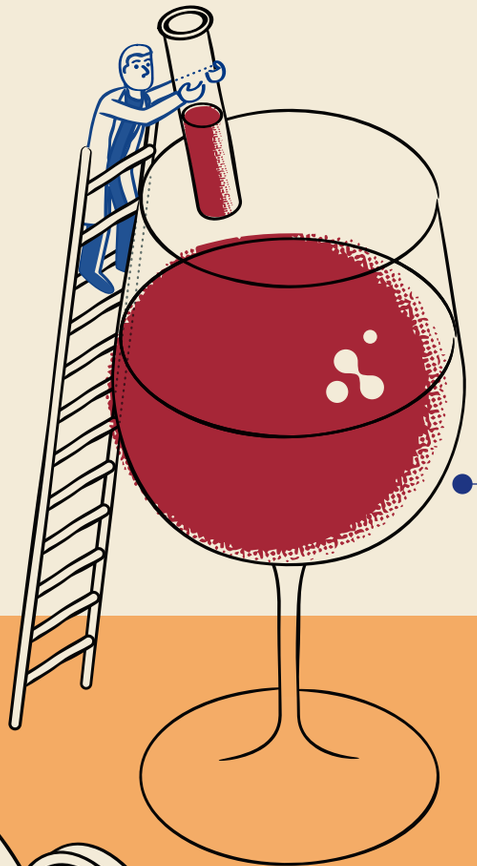
MEAT TESTING

Is the minced meat 100% beef or has it been mixed with other meat?



MICROBIOLOGY

Could the lasagne be contaminated with pathogens such as salmonella?



SENSORY AND CONSUMER RESEARCH

Does the wine offer a pleasant drinking experience? How has the formula been adjusted to ensure optimal interaction between flavour, smell, and effervescence?

PACKAGING TESTING

Could metals, organic compounds, or colouring in the packaging material migrate into the lasagne?

PESTICIDE TESTING

Do the vegetables used contain no (or safe levels of) pesticide residue?

DAIRY TESTING

Before they can be used to make the white sauce, are the milk, butter and cheese safe and high-quality?

Eurofins Dr. Specht Laboratorien, the network's Competence Centre for pesticide testing.

AUTHENTICITY TESTING

Authenticity testing has been on the Eurofins menu of services since the very beginning. Back in 1987, Eurofins' first laboratory, in Nantes, began using the pioneering SNIF-NMR™ method to determine the authenticity of wine, fruit juices, flavours, sugar syrups, vinegars, and more, as well as the geographic origin of these products. Since then, the list of products that Eurofins can test for sophisticated food fraud has grown, and its portfolio now complements SNIF-NMR™ with several techniques, including Chromatography coupled with High Resolution Mass Spectrometry (LC/GC-HRMS), which is sensitive enough to deduce the possible chemical formulas of any unknown compounds detected.

"We have a heritage of pioneering work on food authenticity," says Eric Jamin, Business Unit Manager of Food Authenticity Testing Nantes, who has seen the service evolve since he joined the Nantes laboratory in 1995. "It's a very unique field of activity. Sometimes, we still find ourselves explaining to customers what food authenticity means exactly – and, more importantly, why it matters!"

Over 35 years since its first laboratory commercialised SNIF-NMR™, Eurofins remains just as committed to detecting food fraud, something that is still a prevalent problem globally. The Business Line's largest authenticity activity is now for the fruit juice industry, with a large focus on spirits, honeys, and spices, too.

"The need is everywhere, as authenticity breakouts are everywhere," explains Eric. "But we do see different instances of food fraud get particular attention, and we are constantly innovating to keep up. A few years ago, it was honey. In response, the Eurofins Authenticity Competence Centre developed a holistic honey-profiling NMR method. And Eurofins Food Integrity Control Services, a company in the Food and Feed Testing Network, became the first laboratory worldwide to offer the authenticity analysis of known and unknown honey adulterants through a single analytical test."

PESTICIDE TESTING

Pesticides are designed to protect plants from, as the name implies, pests – including weeds, fungi, and insects. These chemicals play an important role in improving crop yields and quality to feed a growing population, but you probably don't want them served in your salad. It's no surprise, then, that ensuring food products and ingredients do not contain non-compliant levels of pesticide residue is a much-in-demand service from Eurofins Food and Feed Testing companies.

Thomas Anspach, Business Unit Manager of Dr. Specht International, corroborates this. "There is a strong focus on consumer and brand protection in relation to pesticide contamination, particularly regarding strict EU pesticide regulations," he says, adding: "the Dr. Specht Laboratories gained their reputation as the market leader in pesticide analysis, and that remains our core business today. Of the 1,000 pesticides registered worldwide, Dr. Specht covers the vast majority of them – over 80%."

And with more countries around the world introducing pesticide regulation, demand for the service continues to increase globally. Eurofins is best placed to serve these needs, with leading pesticide testing laboratories in Europe, the USA, South America, and Asia. "The goal is to analyse as many pesticides as possible with one single sample extraction – a so-called multi-residue method. We have developed, and are still developing, faster and better methods with shorter and shorter turnaround times, in order to assist our clients in their worldwide supply chains."

GMO TESTING

The wave of genetically modified organisms (GMOs) started in 1994, when the first genetically modified (GM) tomato was licenced for human consumption. It was not long after this breakthrough that Eurofins, observing the controversy and calls from consumers for transparency and caution regarding genetic modifications, launched its GMO Testing service.

"Eurofins' founder and CEO, Gilles Martin came back from a business trip to the USA and told us, 'We need to offer GMO testing,'" explains François Vigneau, Senior Vice President of Food and Feed Testing Western Europe, who joined Eurofins in 1996. "At that time, the topic was quite new, so we asked, 'Are you sure?' He was. So, in not much more than a month, we set up our first GMO Testing laboratory in a space barely bigger than a small meeting room!"

Three decades later, some foods, such as corn and soybeans, are almost always genetically modified, and the list of other GM products has grown significantly. Different GMO regulations between countries – especially as new foods are modified for the first time – means testing services are, and will be, required alongside these

Left to right: Food samples for authenticity testing and nutritional analysis respectively (both at Eurofins Food and Feed Testing laboratories in Nantes, France).

Left to right: BtpH device preparing honey and wine samples for authenticity testing; samples for pesticide analysis (both at Eurofins Food and Feed Testing laboratories in Nantes, France).

changes. Eurofins is now the global market leader for GMO testing, and its internationally recognised GMO Testing Competence Centre in Freiburg, Eurofins GeneScan, innovates to keep up with advancements in genetic technology. In 2017, this included a highly sensitive DNA-based test to distinguish GM salmon – the first genetically modified animal for human consumption – from unmodified salmon.

NUTRITIONAL ANALYSIS

Just as important as checking that contaminants don't end up in food products, is ensuring that all the ingredients you would expect to be there are present in the right quantities. Maybe you've found yourself checking the label on the packaging before putting a food product into your shopping basket? Eurofins Food and Feed Testing analytical techniques provide the accurate, product-specific nutritional data needed to ensure that you know what you are buying and consuming.

The popularity of fortified products and dietary or health supplements has grown exponentially, as societies become more conscious of certain vitamin, mineral, or nutritional deficiencies they may be at risk of. The Eurofins network has a number of Food and Feed Testing laboratories offering specialised analyses for these products, from fibre-fortified cereal and iron-fortified flour to multivitamins, sports drinks, and plant-based supplements.

"It's our job at Eurofins to analyse the components and ensure that the specific compounds responsible for the marketed health benefit are present in the right quantity and quality," explains Darryl Sullivan, Chief Science Officer of Eurofins Food Testing in the USA. "This can be highly complex."

And for society's smallest consumers – babies and infants – nutritional analysis of infant formula is extra critical, as these constitute an infant's sole source of nutrition throughout their early development. These products are therefore subject to incredibly stringent testing regulations, validated independently from other food analysis techniques: they must contain and label 32 different nutrients that meet 100% of infant nutritional requirements, while remaining stable for the duration of the shelf life, which is typically one or two years.

"Eurofins companies have been supporting infant formula testing for 40 years – not only in our own laboratories, but also as leaders of the scientific community, collaborating with standard-settings organisations to develop and codify official analysis methods," Darryl continues. "We want every infant formula on the shelf to be analysed according to the very highest standards, no matter who tested it."

ALLERGEN TESTING

Food allergy, as well as food intolerances caused by genetic diseases, is a growing problem of our times. Strict avoidance of allergens or problem foods is the only way for allergy or intolerance sufferers to safely manage their conditions – something that relies on detailed and accurate information on the contents, additives, and cross-contamination risks of the food products we consume.

Eurofins Food and Feed Testing can uncover minute traces of allergens in food, through both ELISA-based test systems, which detect specific proteins, and DNA detection via PCR methods. Eurofins was also the first to offer an allergy test that can analyse multiple allergens at the same time, using the liquid chromatography–mass spectrometry method (LC-MS/MS).

CONTAMINANTS TESTING

From mycotoxins and plant toxins to heavy metals and veterinary drug residues, there are lots of things you don't want to end up in your food and feed products, and there are many risk factors to be considered if they do. Eurofins Food and Feed Testing companies offer state-of-the-art analyses for a vast number of specific contaminants.

Mycotoxins: Mycotoxins, i.e. toxic substances produced by fungi, contaminate crops and animal feed when they become infected by mould. The Food and Agriculture Organization of the United Nations (FAO) estimates that roughly 25% of the world's food production contains mycotoxins, some of which are carcinogens or immunosuppressants.

Heavy metals: Heavy metals such as cadmium, lead, mercury and arsenic can find their way into the food chain through soil and water. Fish and seafood, fruits and vegetables, nuts, and cereals are particularly vulnerable to this contamination, and ingesting even small amounts can pose a serious risk to health.

Dioxins: Dioxins are produced as a by-product in some manufacturing processes, and can enter the food chain through air, soil or water contamination. These extremely persistent pollutants are highly toxic when consumed, with food of animal origin posing the highest risk of contamination to humans.

Left: Employee at Eurofins WEJ Contaminants scanning a sample.

DID YOU KNOW...

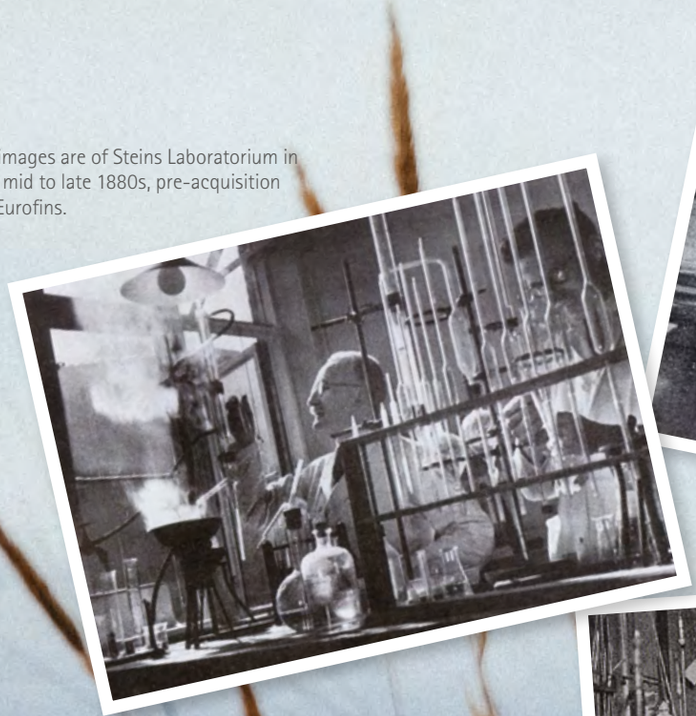
The Asthma and Allergy Foundation of America reports that almost 11% of adults and over 7% of children in the US have a food allergy. Some of the most common allergens are milk, egg, peanut, tree nuts, wheat, soy, fish, crustacean shellfish, and sesame, but over 170 foods have been reported to cause allergic reactions, according to Food Allergy Research and Education.

COMPANY SPOTLIGHT
STEINS LABORATORIUM

“We created trust”

As the oldest company in the Eurofins network, Eurofins Steins Laboratorium was originally founded as S. GROTH & ØRSTEDS LABORATORIUM in 1857, by two chemical engineers. It was the first Danish commercial testing laboratory and mainly conducted chemical analyses, as well as botanical-microscopic examinations.→

All images are of Steins Laboratorium in the mid to late 1880s, pre-acquisition by Eurofins.



Quite a contrast to the giant the company is today, sample numbers in the 1850s were small and the laboratory did not turn a profit, so it extended its offering to include the analysis of mustard formulae, bread fermentation, hydrogen production, and remedies for dry rot.

After a decade, the laboratory's new proprietor and current namesake, Valdemar Stein, decided to narrow its focus to the testing of agricultural products and foodstuffs. By the early 1890s, the renamed Steins Laboratorium was already working closely with the Danish government and health authorities on all official, state-endorsed analyses of food products. It established a special division within the laboratory to carry out this activity, called the Laboratory for State Testing of Foodstuffs. This consecrated Steins' core business and the strong reputation it holds today.

Fast forward a century and, in 1989, Steins Laboratorium was sold to the Danish Dairy Board and subsequently merged with the Dairy Industry's Analytical Company, a key moment in the laboratory's journey to become the main testing laboratory for the Danish dairy trade. In the late 1990s and early 2000s, Steins also began establishing an international presence, with laboratories in the UK, Norway, Sweden and Poland. It was this combination of factors – its expanding geographical scope, its key position in the dairy testing market, and a highly regarded brand – that made Steins both a big competitor of and potential acquisition target for Eurofins. Its acquisition would give Eurofins a strong footprint in the Nordic region in both Food and Feed Testing and Environment Testing, as well as opening up a new market in Poland.

In line with local tradition, the favour was returned and the Eurofins team were invited onto Her Danish Majesty's Yacht Dannebrog

However, management at Steins were at first hesitant about joining the network. "Initially, Steins would only sell their loss-making environment testing branch," explains Svend Aage Linde, Eurofins National Business Line Leader of Food and Feed Testing Denmark. But in 2006, the owners of Steins had a change of heart and agreed to sell the entire company to Eurofins. Svend likes to think it wasn't just the numbers that added up: "We created trust and cooperated with them – Eurofins always prioritises the acquired company."

In 2007, Eurofins Steins Laboratorium celebrated 150 years of business, and such was its importance to the national testing industry that the occasion was marked by a royal tour of the laboratory for Prince Henrik of Denmark, who showed a particular interest in its wine testing activities. In line with local tradition, the favour was returned and the Eurofins team were invited onto Her Danish Majesty's Yacht Dannebrog, Denmark's royal ship, to spend an evening with Prince Henrik and Queen Margrethe II of Denmark.

Since its acquisition, Eurofins Steins Laboratorium has become an integral part of Eurofins and its reputation for high quality in the agroscience, food, feed and dairy testing markets continues to grow.

Gilles Martin (top, right) and Svend Aage Linde (bottom, left) welcoming Prince Henrik of Denmark to a tour of Eurofins Steins Laboratorium.

3.2 EUROFINS AGRO TESTING

Eurofins Horti laboratory; soil sample ready for NIRS analysis by Eurofins Agro Testing.

From farm to fork

If you traced your favourite foods back through the food chain – whether that's steak, ice cream, fries, or anything in between – they all start with a connection to crops, making optimal crop production incredibly important for humans and animals.→

Eurofins Agro Testing employee collecting soil samples in the Netherlands.

Farmers and growers can't meet global food and feed demand unless their livestock have the right feed to thrive and crops are grown in healthy soils, both of which rely on optimal soil and crop health: an exact and multi-faceted science.

Tackling the 'farm' in 'farm to fork', Eurofins Agro Testing's agronomists collect detailed data and undertake innovative analyses that guide farmers on biodiversity, carbon storage, essential nutrients, and disease control in the soil, along with extensive feed values for grass and maize silages on a case-by-case basis. This allows farmers to run their businesses in a profitable way that sustains production.

An exact and multi-faceted science

This is all part of Eurofins' precision agriculture approach, aligned with the cornerstones of modern farming. From arable crops to biogas plants, precise tests developed by Eurofins Agro Testing companies are helping to find the answers to how to feed the world while protecting the environment.

BIOGAS PRODUCTION

Biogas plants provide an oxygen-free environment for microorganisms to break down biodegradable material, to manage waste and produce renewable fuel. Monitoring the fermentation process from beginning to end is crucial to ensuring efficiency and reducing cost – Eurofins Agro Testing provides various analyses which accurately chart this renewable energy process.

DID YOU KNOW...

Farmland is not the only turf that Eurofins companies test. Have you ever wondered how football pitches and golf courses stay green and healthy under heavy footfall? Specifically for sports fields, Eurofins Agro Testing offers analysis of soil health and fertilisation needs to keep these fields in tip top condition, as well as identifying the number and type of harmful species present in the soil.

SOIL NUTRIENTS

The levels of various nutrients in soil, such as potassium, calcium, and phosphates, have a major influence on crop quality, as do trace elements, such as boron and manganese. Eurofins Agro Testing laboratories analyse the essential nutrients in soil to ensure optimal yield, crop quality, and revenues for the farmer.

FEED VALUE

To optimise milk production, livestock need good feed that provides them with sufficient energy, protein, minerals, and trace elements, but feed composition can vary from batch to batch. Eurofins Agro Testing laboratories conduct feed value analysis to tell farmers exactly how many nutrients their livestock are consuming.

SOIL QUALITY

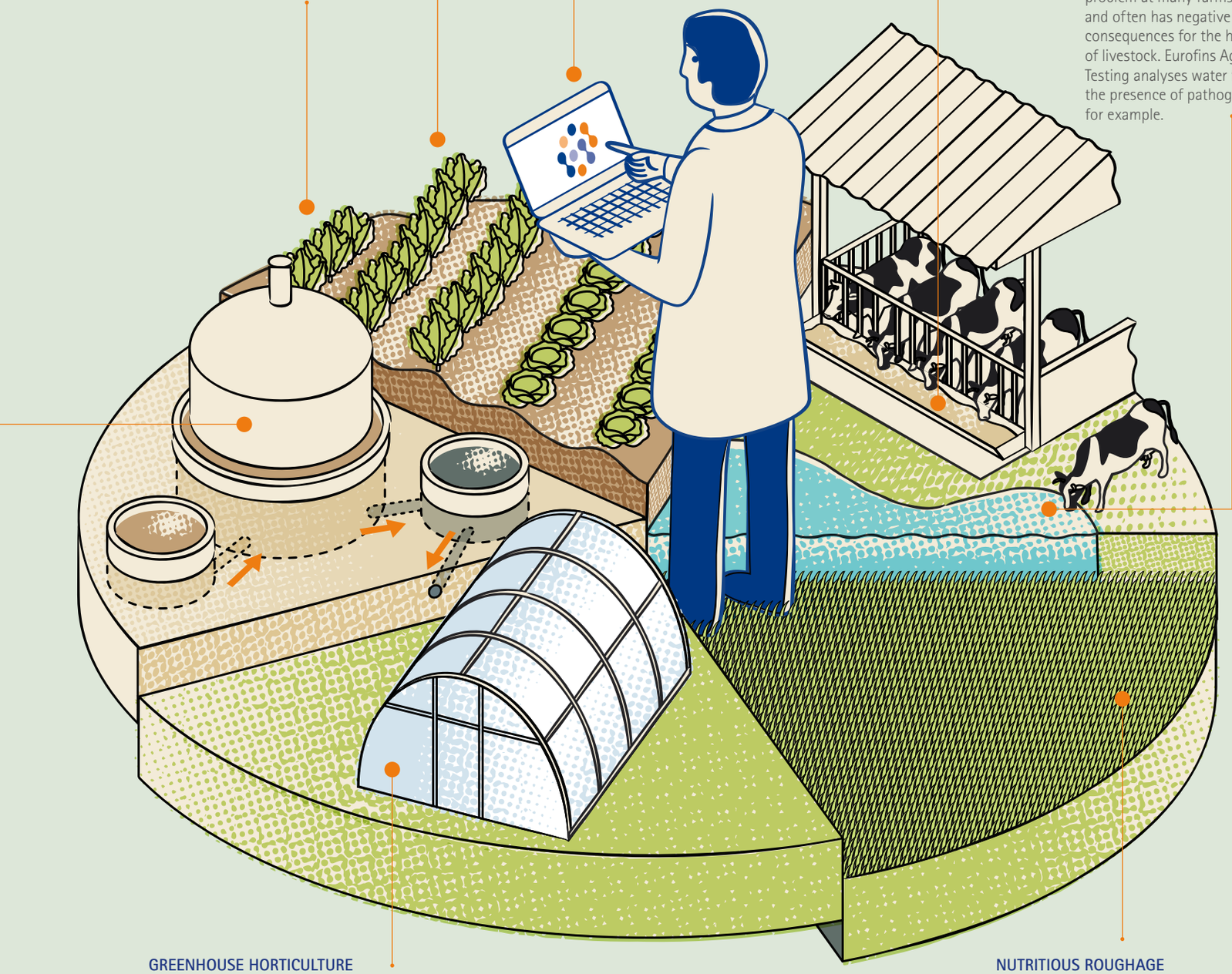
Soil properties must be just right to ensure it can host healthy crops. Eurofins Agro Testing provides extensive insight into soil health, including water holding capacity, soil biodiversity, essential nutrients, carbon storage, and potential pollution.

PEST CONTROL IN SOIL

To support optimal precision farming, Eurofins Agro Testing's nematode test, based on the latest DNA methods, indicates optimal crop rotation to control disease risk.

WATER QUALITY

Low quality water is a problem at many farms and often has negative consequences for the health of livestock. Eurofins Agro Testing analyses water for the presence of pathogens, for example.



GREENHOUSE HORTICULTURE

Greenhouse horticulture is all about accuracy and monitoring, and analyses provided by Eurofins Horti give growers guidance on fertilisation, soil and crop health, and disease prevention.

NUTRITIOUS ROUGHAGE

High-quality feed starts on the pasture – Eurofins Agro Testing's soil health analysis reveals exactly how the pasture should be managed to promote high-quality grass that can be turned into nutritious roughage for livestock. This leads to optimal milk production and income for the farmer.

3.3 EUROFINS ENVIRONMENT TESTING

What on earth?

To understand the scope of Eurofins Environment Testing's services, you first need to grasp the enormity of the environment itself: from air, water, and soil to sediment, waste, and building materials, Eurofins analyses every matrix that makes up or impacts the environment, as a global leader in the environment testing market.→

A healthy environment is synonymous with personal health and quality of life – and this fact has become more and more apparent over the past half a century. Keeping the environment safe for humans, animals and wildlife is now, rightfully so, a high priority for governments, businesses and members of the general public, all of whom have become increasingly reliant upon Eurofins' Environment Testing network.

The market wants and relies on impartial partners like Eurofins

"Back in the 1980s, there were very few environmental laws or regulations regarding requirements for soil in the Netherlands, for example," says Arjan Veldhuizen, Technical Manager of Eurofins Analytico in Barneveld. "And there were a lot of problems with the quality and credibility of environment testing laboratories throughout the 90s. Today, the landscape has changed: regulatory drivers oblige customers to test for soil safety and health. The market wants and relies on impartial partners like Eurofins Environment Testing to provide advice, guidance, and knowledge."

It is hard to imagine a thriving community without clean drinking water and safe air. And there is so much more to the Eurofins Environment Testing offering, too. Take a look at your surroundings and think about the indoor and outdoor spaces you frequent...how many environment tests do you estimate are involved in keeping you safe? The answer might be surprisingly high!

PAINT

Eurofins tested the paint chips for lead, a heavy metal that was commonly used in paint production in the past. High exposure to lead has been acknowledged as dangerous to human health.

WASTEWATER

After you flush the toilet, Eurofins supports the water recycling process from start to finish, including the testing of water piping systems and the determination of the levels of contamination present.

INDOOR AIR

When it comes to indoor air, Eurofins can assess ventilation and determine pollutant loads through volatile organic compound testing, which identifies industrial solvents in the air. These are emitted by paint, varnish, carpets, and upholstery, etc, and may be particularly concentrated in offices and communal spaces. For areas abundant in Radon, a naturally occurring and harmful gas, Eurofins companies have pioneered specific Radon tests to analyse indoor air.

DID YOU KNOW...

Eurofins can also monitor wastewater for viruses, to give an indication of outbreaks in the local community before people even report symptoms or test positive for a disease. This capability proved a valuable tool for monitoring SARS-CoV-2 (the virus that causes COVID-19) during the COVID-19 pandemic. When new pathogens emerge, Eurofins can quickly implement new technologies for detection!

OUTDOOR AIR

Eurofins' air monitoring services can assess the impact of traffic-related emissions or emissions from nearby industrial plants on the air quality in a city.

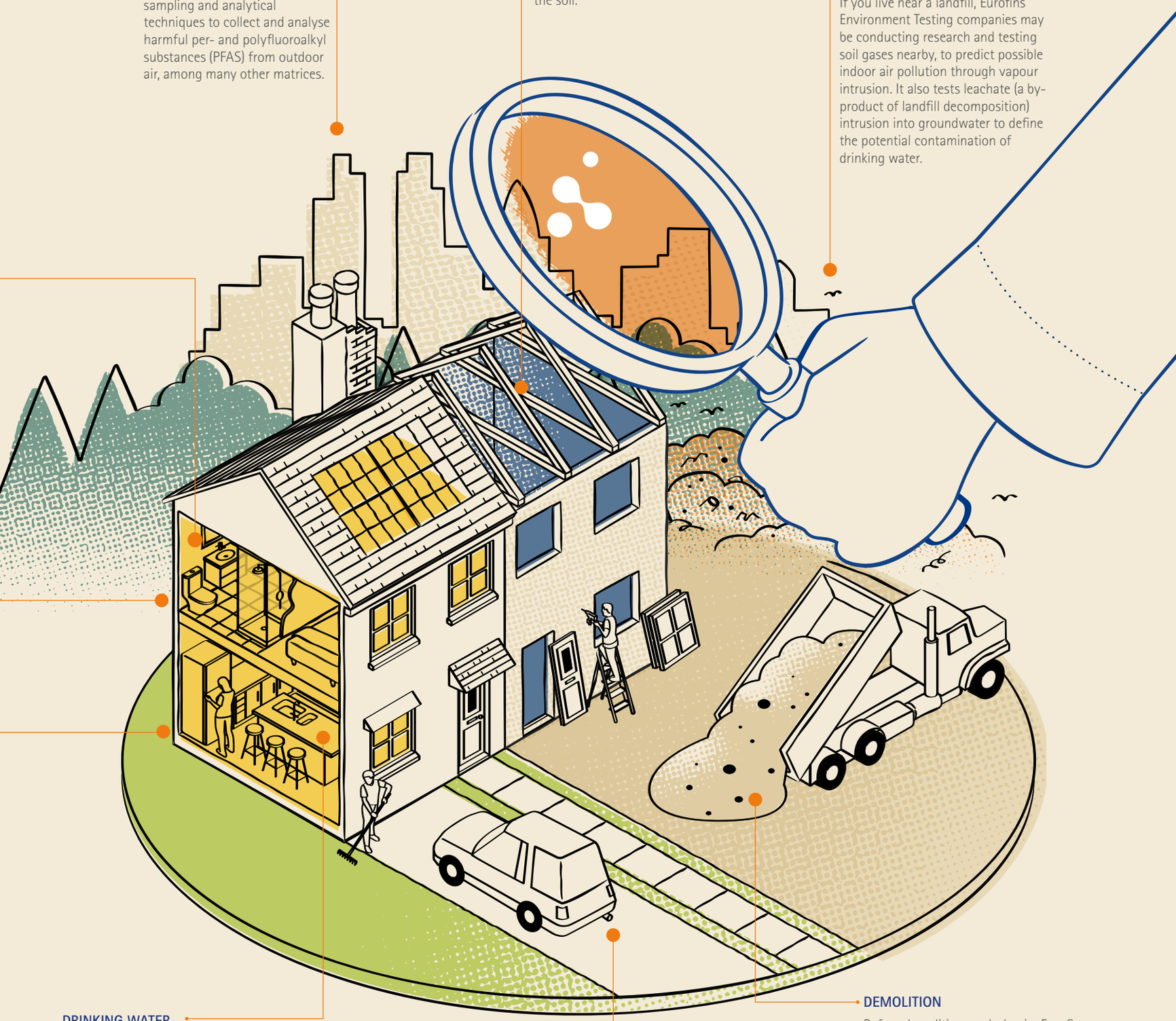
Eurofins has also pioneered sampling and analytical techniques to collect and analyse harmful per- and polyfluoroalkyl substances (PFAS) from outdoor air, among many other matrices.

BUILDING MATERIALS

The composition of these building materials was analysed by Eurofins Environment Testing and tested to ensure that materials used will not leach heavy metals or chemicals into the soil.

SOIL GAS / GROUNDWATER

If you live near a landfill, Eurofins Environment Testing companies may be conducting research and testing soil gases nearby, to predict possible indoor air pollution through vapour intrusion. It also tests leachate (a by-product of landfill decomposition) intrusion into groundwater to define the potential contamination of drinking water.



DRINKING WATER

Before water reaches your tap, it is sampled and analysed by Eurofins laboratories a number of times – at the reservoir, in the reticulated systems, before and after treatment, and finally at the tap spout! The water will be tested for the presence of heavy metals, pesticides, emerging contaminants, pharmaceutical and disinfectant residue, harmful bacteria (such as E. coli), and much more.

EMISSIONS

Eurofins' air monitoring services can assess the impact of traffic-related emissions or emissions from nearby industrial plants on the air quality in a city.

DEMOLITION

Before demolition works begin, Eurofins conduct qualitative tests to detect any dangerous substances in the building materials, so that these substances are not released into the environment when the building is destroyed. These include dangerous minerals or chemicals that were previously common in industrial and building materials, such as asbestos and polychlorinated biphenyls (PCBs).

An easy pill to swallow

New drug candidates and vaccines are constantly being innovated to help humanity fight life-threatening diseases and to improve quality of life.→

Many of these therapies have the potential to revolutionise medical care for currently untreatable diseases. But the development of new biopharmaceutical products is an incredibly complex and regulatory-driven process, with stringent quality and safety tests along the way. Eurofins BioPharma Services seamlessly supports this entire drug development cycle, helping to bring safe and effective pharmaceutical products to patients.

The development of new biopharmaceutical products is an incredibly complex and regulatory-driven process

From early screening for compound potency in the discovery process through to clinical testing and beyond, the Eurofins BioPharma Services companies are working with many of the largest biopharmaceutical, biotechnology, and medical device clients and companies around the world.

Eurofins Lancaster Laboratories, USA.

Eurofins Panlabs Discovery Services, Taiwan.

Biopharmaceutical products can be taken in multiple ways – whether they're topical, nasal, ophthalmic (e.g. eye drops), injectable, or oral – and help to cure, prevent, or alleviate various health conditions and symptoms. Eurofins BioPharma Services provides testing throughout the entire development cycle, on both the product itself and its effect on humans.

1 DRUG DISCOVERY

Eurofins Discovery helps drug discovery researchers with drug screening and profiling through a broad portfolio of assays and panels, to identify which biologicals or chemical entities may have potential for a new application, such as to treat a certain disease.

2 PRECLINICAL AND EARLY DEVELOPMENT

Once new molecular entities have been discovered, Eurofins BioPharma Services conducts safety and efficacy tests to help select the most promising to take forward, maximising the chances of success in the clinical phases.

3 EARLY CLINICAL DEVELOPMENT

During Phase I clinical trials, the candidate drug is tested in carefully selected, healthy volunteers. If the drug passes to Phase II, it is tested in volunteers suffering from the target disease. These trials can take place in Eurofins' dedicated Clinical Trial Units, with 24/7 medical supervision and the most sophisticated medical equipment and clinical technology.

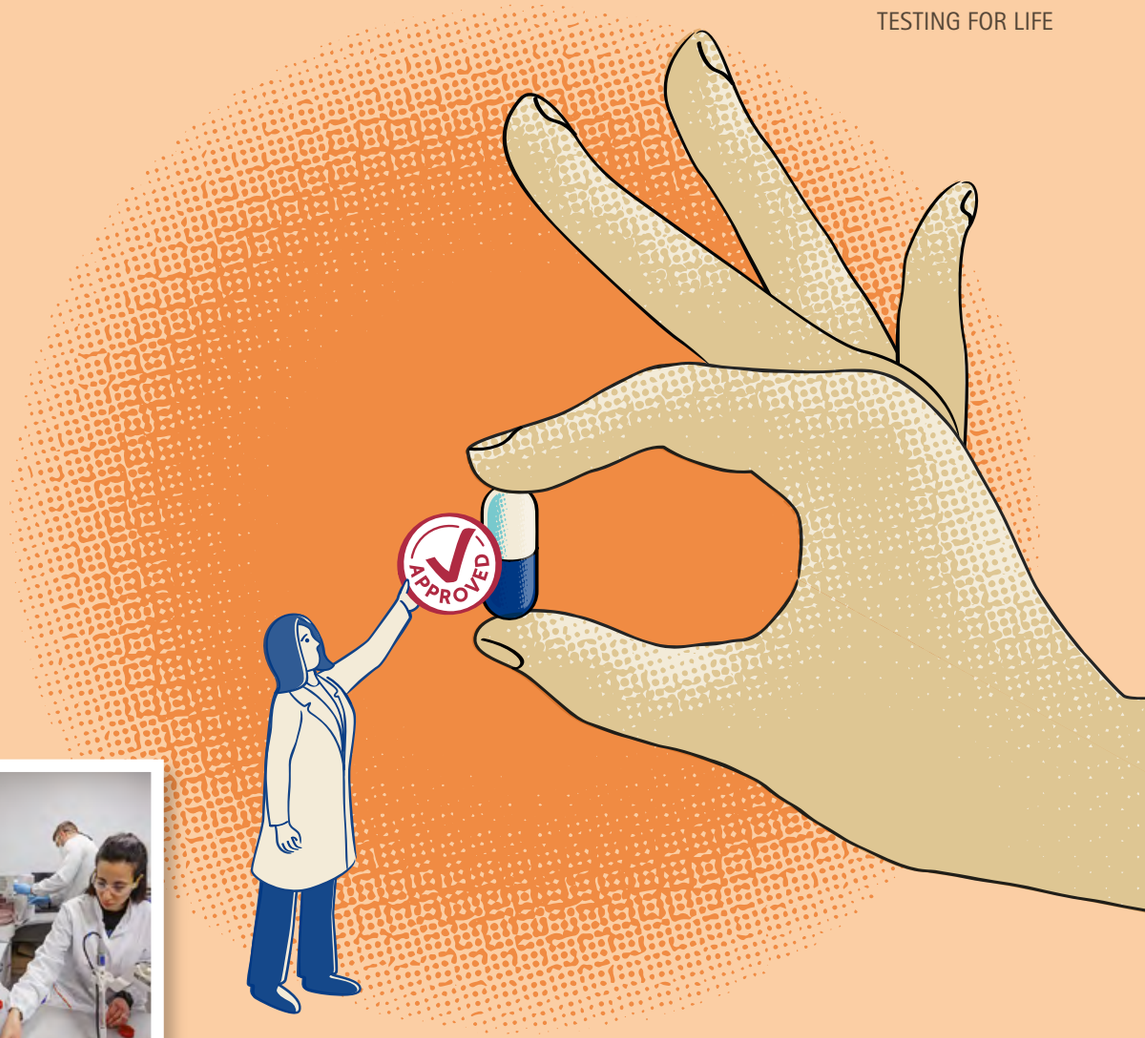
During these clinical trials, Eurofins Central and BioAnalytical Laboratories evaluate the molecular, biochemical, and physiologic effects of the drug in the human body. This includes testing to support adjusting the optimum dosage and analysing the drug's bioavailability, interaction with food and other drugs in the body, impact on sleep and appetite, and other side effects.

Eurofins Lancaster Laboratories, USA.

Eurofins CDMO, France.

Eurofins Discovery Services, USA.

Eurofins BioPharma Product Testing, Spain.



4 PHASE III CLINICAL TRIALS

Eurofins supports the assessment of the investigational drug in thousands of patients all over the world to verify safety and efficacy. Clinical trials may compare the new medical approach to a standard one, to a placebo, or to no intervention.

In the laboratory, biomarkers found in blood or other body fluids are measured, as these can be indicators of disease, to observe or predict how well the patient responds to the treatment.

5 APPROVAL AND COMMERCIAL

Eurofins BioPharma Services companies provides regulatory and submission support throughout the complex process of submitting the pharmaceutical product to medical agencies for consideration. Even once the drug is approved and put on the market, Eurofins companies continue testing to ensure long-term safety and effectiveness – for instance, monitoring for rare or long-term side effects or providing data to fine-tune and optimise usage recommendations.

✓ CONTRACT DEVELOPMENT AND MANUFACTURING ORGANISATION (CDMO)

Eurofins CDMO supports the entire development cycle, including optimisation of the drug's formulation for stability and bioavailability, and the development of the manufacturing processes for both the active pharmaceutical ingredient and the finished drug product. Eurofins CDMO supports the scale-up of manufacturing processes for clinical trials and, eventually, commercialisation.

✓ INSOURCING SOLUTIONS

Strategic insourcing through trusted partners is an effective solution for biopharmaceutical companies looking to execute drug development activities on their own sites. Eurofins Professional Scientific Service (PSS) Insourcing Solutions® deploys highly effective teams of experts to run and manage laboratory and other technical services at client sites.

✓ PRODUCT TESTING

Any testing required on the drug product itself, such as stability testing to determine expiration dates, is performed by Eurofins BioPharma Product Testing (BPT) laboratories. Eurofins BPT delivers complete chemistry, manufacturing, and control (CMC) testing services, covering all starting materials, process intermediates, drug substances, drug products, packaging, and manufacturing support.

3.5 EUROFINS CLINICAL DIAGNOSTICS

A healthier future

When you're visiting the doctor or are at the hospital, you probably aren't making small talk in the waiting room with fellow patients – but if you were to, you'd likely hear about a wide range of ailments or health concerns, from general wellness to rarer diseases.→

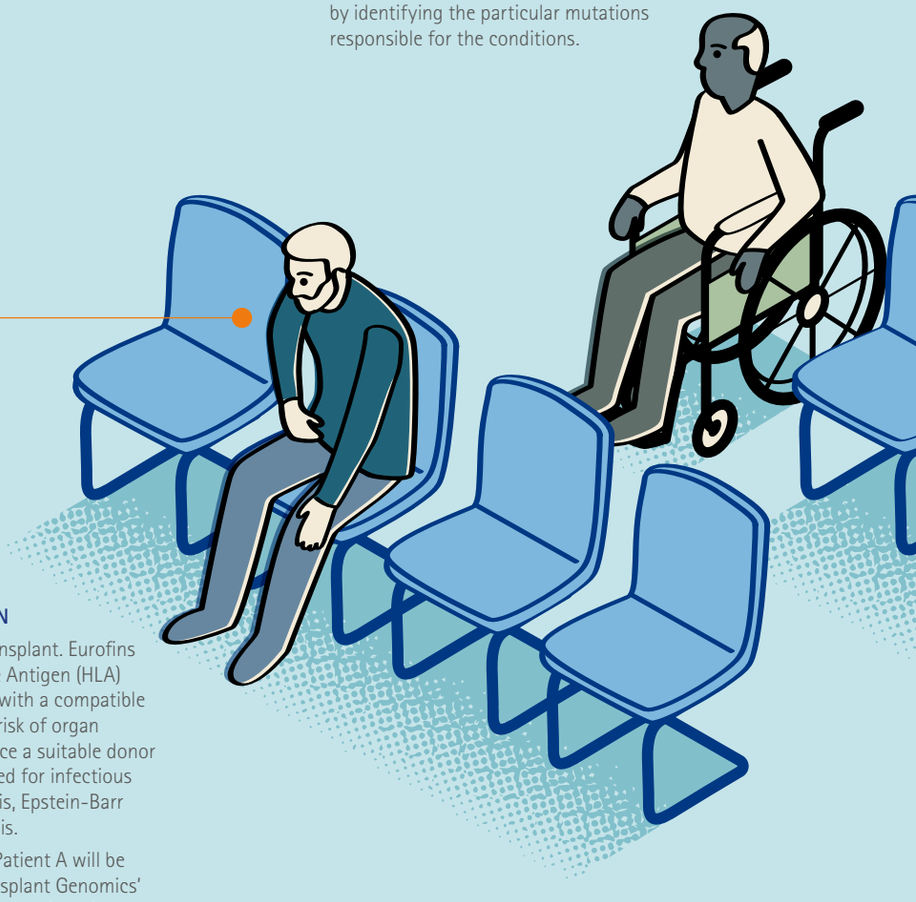
When patients take these complaints to medical experts, clinical diagnostic tests factor into around 70% of the treatments and medical decisions that doctors make.

Every stage of patient care across a broad spectrum of medical specialties

That's where Eurofins Clinical Diagnostics companies come in: their innovative tests address every stage of patient care across a broad spectrum of medical specialties, to help clinicians make the very best decisions to improve patient outcomes. Alongside routine tests, they are also leading the way on genetic and metabolic tests to guide personalised medicine, based on a patient's unique profile.

NEUROLOGY

Patient B has motor symptoms that could indicate a neurological condition. Eurofins Clinical Diagnostics companies can diagnose neurodegenerative diseases, such as Amyotrophic Lateral Sclerosis (ALS) and Huntington's disease, by identifying the particular mutations responsible for the conditions.



ORGAN TRANSPLANTATION

Patient A needs a kidney transplant. Eurofins conducted Human Leukocyte Antigen (HLA) testing to match the patient with a compatible donor who presents a lower risk of organ rejection post-transplant. Once a suitable donor was found, they were screened for infectious diseases such as HIV, Hepatitis, Epstein-Barr Virus, CMV, and Toxoplasmosis.

After the kidney transplant, Patient A will be monitored with Eurofins Transplant Genomics' OmniGraf®, the first and only non-invasive panel that combines genetic biomarker tests for the earliest and most accurate view of kidney transplant rejection. This means they will not need to endure invasive, risky, and costly surveillance biopsies.

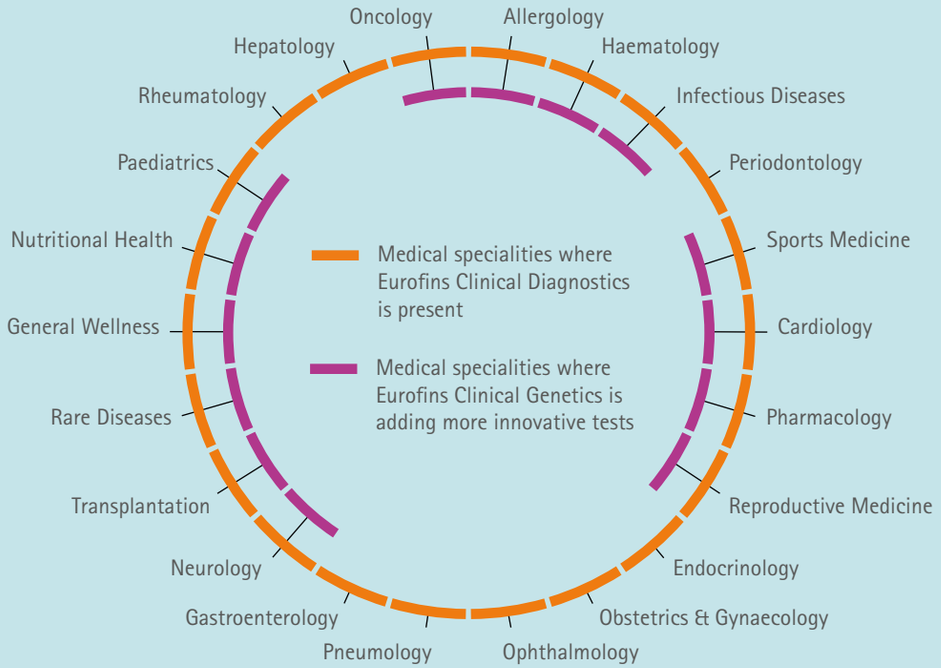
The patient will also take immunosuppressants to reduce the risk of transplant rejection. To optimise dosage and treatment, their immune function and rejection status will be non-invasively monitored through Eurofins Viracor's ImmuKnow® assay.

DID YOU KNOW...

Silent or subclinical acute transplant rejection affects 25% of transplant recipients in their first year post-kidney-transplant.

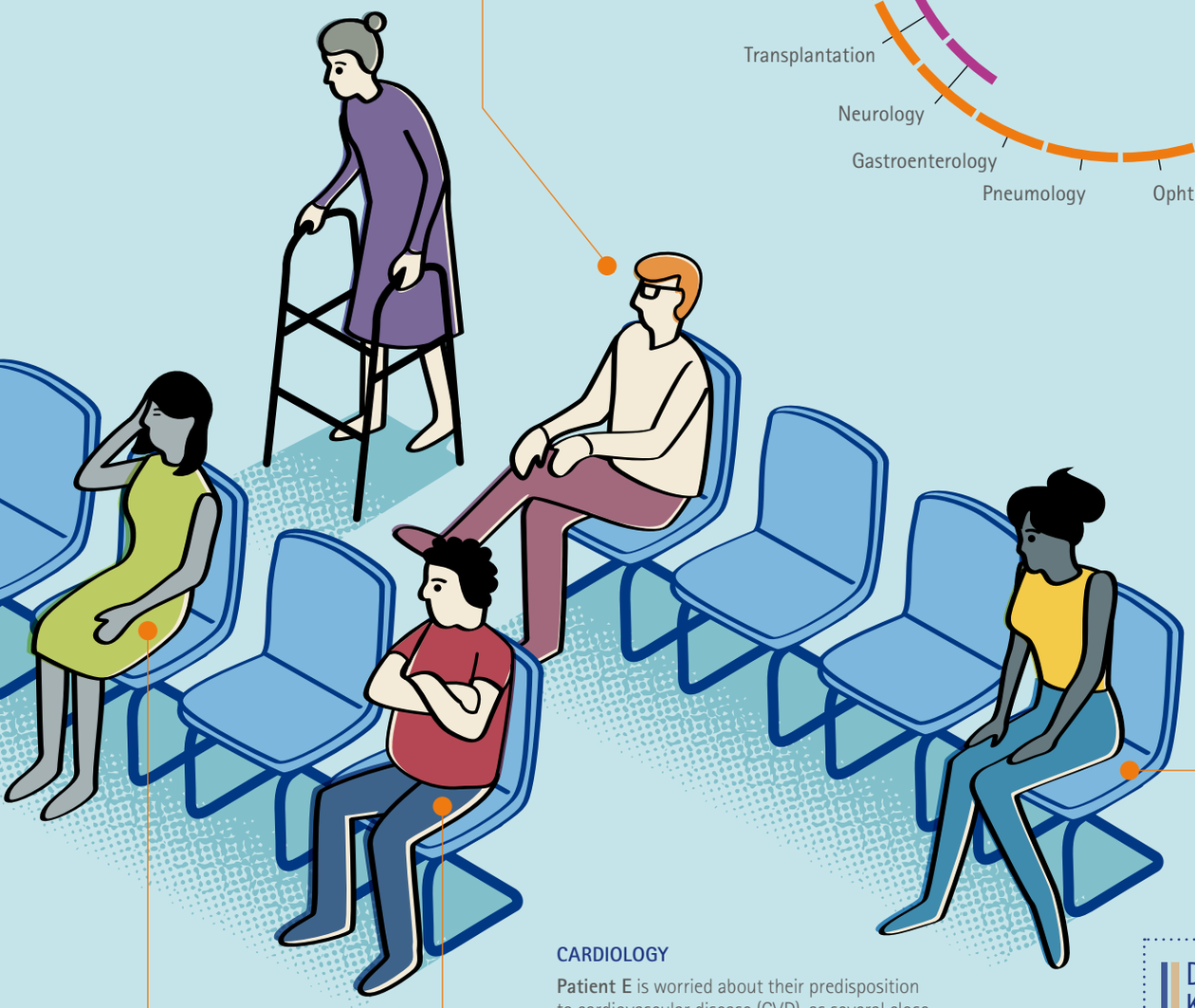
DID YOU KNOW...

A study has shown that using Eurofins Viracor's ImmuKnow® in solid organ transplant patients helped decrease bacterial and fungal infections. It also reduced immunosuppressant drug use and improved patient survival by 13% in the first year post-transplant. Eurofins Viracor now works with approximately 60% of US transplant programmes.



GENERAL WELLNESS

Patient C has come to their doctor for a general check-up. Their doctor will take a blood sample and send it to a Eurofins Clinical Diagnostics Laboratory, where it will be analysed for different biological markers likely to reflect possible malfunctions or deficiencies. Eurofins Biomnis, for example, offers a range of biological panels that check for signs of intestinal disorders, microbiota imbalances, oxidative stress, vitamin and mineral (such as iron) deficiencies, poor macro-nutritional status, and more.



REPRODUCTIVE HEALTH

Patient D is struggling to conceive. Through Eurofins' Clinical Diagnostics network, they undergo hormonal, genetic, and immunological testing to identify potential infertility and its cause. They also opt for Eurofins' carrier screening tests, to check if a recessive disease in the family could be passed onto their future child.

If the patient becomes pregnant, their doctor can use Eurofins LifeCodexx's highly specific non-invasive prenatal testing (NIPT) technology to test for common aneuploids (such as Down's Syndrome), de novo mutations (i.e. non-inherited), and inherited disorders, without posing a risk to the foetus.

CARDIOLOGY

Patient E is worried about their predisposition to cardiovascular disease (CVD), as several close family members have suffered from the condition. Eurofins uses a combination of non-standard lipid panels (blood tests that look for abnormalities in lipids, such as cholesterol) and genetic tests to facilitate early diagnosis of CVD risk. If the patient does develop CVD, improved prognosis and care is now more likely. Eurofins' Statin Induced Myopathy (SLCO1B1) Genotype test can also aid in optimised selection of cholesterol-lowering medication on a patient-by-patient basis.

INFECTIOUS DISEASES

Patient F has a respiratory infection. Before prescribing treatment, their doctor sends a TEM-PCR™ sample to Eurofins Diatherix Laboratories for analysis, to identify the pathogen responsible for the infection. The results show the infection is viral, not bacterial, ruling out antibiotics as an effective course of treatment. The unnecessary prescription of antibiotics contributes to the emerging crisis of global antibiotic resistance.

DID YOU KNOW...

Eurofins Clinical Diagnostics companies also offer at-home sampling kits for various health screenings. For instance, Eurofins NMDL provides a self-sampling device for human papillomavirus (HPV) testing, the most common sexually transmitted infection and responsible for almost all cases of cervical cancer. If the result is positive, Eurofins companies will follow up with early screening for cervical cancer through cytology testing (examinations of single cell types), a.k.a. a 'Pap smear'.

COMPANY SPOTLIGHT
BIOMNIS

"The work initiated by Pasteur and Mérieux over a century ago is never done"

The story of Eurofins Biomnis began where you might least expect it: in the trenches of World War One. Amid persistent shelling from the other side, one soldier was pre-occupied with another enemy ravaging the French troops: tetanus.→

Marcel Mérieux, student of renowned microbiologist, Louis Pasteur, had been running his own laboratory, then called Institut Biologique Mérieux, before he was drafted into the war effort. Originally, he had been studying serotherapy in horses – but seeing the dreadful toll that tetanus had taken on his fellow soldiers, he felt a new calling towards human biology.

After the war, Marcel Mérieux rededicated his career to combatting infectious diseases through testing and better diagnostics. His legacy was continued after his death in 1937 by his son, Charles. Charles understood that the French medical landscape was evolving quickly: medical professionals were increasingly relying upon clinical pathology for a variety of health services, from routine check-ups to more targeted screening, meaning clinical pathology as a practice was now moving beyond scientific research and playing a part in day-to-day patient care. In the 1980s, the laboratory, by then known as Laboratoire Marcel Mérieux, therefore began supporting doctors and hospitals in Lyon with their clinical pathology testing needs.

In 1996, Laboratoire Marcel Mérieux merged with the specialised medical pathology division of Institut Pasteur, expanding the laboratory's specialty scope. Two years later, entrepreneur Jean-Louis Oger acquired a majority stake in the company and made key acquisitions in France, Ireland, North Africa, and the Middle East. In 2006, the laboratory was merged again – this time with Laboratoire Claude Lévy, renowned for its expertise in radioimmunology – to form the Biomnis group. The Mérieux family permanently withdrew from the capital in 2008, and the Biomnis group was subsequently bought by a private equity fund, Duke Street Capital, under which ownership it continued to register strong growth.

Above all, the company remains committed to supporting doctors and hospitals

"Emerging pathogens will be a key medical challenge of the 21st century"

In 2015, Eurofins was very much a new player in the clinical testing market, with just a small presence in the USA. This was about to change: that same year its new Clinical Diagnostics Business Line would enter the French market through the acquisition of Biomnis, which by then had achieved recognition as the main player in the French specialised clinical pathology field, with its clientele including 60% of routine laboratories in France.

The market was rather wary of Eurofins, a large corporate player providing testing across many industries, joining an industry with very established businesses with long histories of clinical testing, but the news was welcomed by employees of the newly renamed Eurofins Biomnis. "The medical staff had felt scientifically unchallenged under the previous ownership," President of Eurofins Biomnis, François Cornu, retells. "In its ambition to contribute to a healthier world, Eurofins encourages its entities to share competences. It is funny to see that we share some of our star methods with our colleagues from the Food and Feed Testing network, for instance!"

Eurofins Biomnis brought a wealth of medical expertise into the wider network, and the company has thrived on the international synergies facilitated by the Eurofins network since, notably during the COVID-19 pandemic. "Tools developed by Eurofins In Vitro Diagnostics allowed us to become the first laboratory to screen for different SARS-CoV-2 variants," François points out. "This inspired us to pursue even further collaborations. By partnering with Eurofins Genomics, for instance, we now provide academics with a complete service offering for all their research and diagnosis needs."

Above all, the company remains committed to supporting doctors and hospitals in monitoring their patients' health through clinical pathology testing, among other services, and maintains a highly credible reputation among academics, thanks in part to its origins. The field still sees constant innovation: "Emerging pathogens will be a key medical challenge of the 21st century," François predicts. "The work initiated by Pasteur and Mérieux over a century ago is never done."

The right tools for the job

Eurofins In Vitro Diagnostics Solutions is an unsung hero behind much of the work that Eurofins companies do.→

From animal health to environmental sampling, they provide complete diagnostic kits to test for pathogens, allergens and much more, as well as producing laboratory consumables, such as substrates, buffers, plastic swabs, and culture media. These vital resources enable Eurofins laboratories, and many other public and industrial laboratories, to undertake a wide array of critically important analyses.

In the clinical industry, Eurofins In Vitro Diagnostics Solutions supplies laboratories with hundreds of assays for detecting infectious diseases, tumour markers, and hormones through ELISA, PCR technology, and molecular diagnostic kits. In response to the COVID-19 pandemic, Eurofins In Vitro Diagnostics Solutions channelled this expertise into developing a suite of testing methods for SARS-CoV-2 (the virus that causes COVID-19) that could support healthcare providers, through close collaboration with research hospitals and Eurofins Clinical Diagnostics laboratories.

RT-PCR KITS

The range of NovaType RT-PCR kits from Eurofins In Vitro Diagnostics Solutions are able to detect and differentiate SARS-CoV-2 Variants of Concern.

RNA EXTRACTION KITS

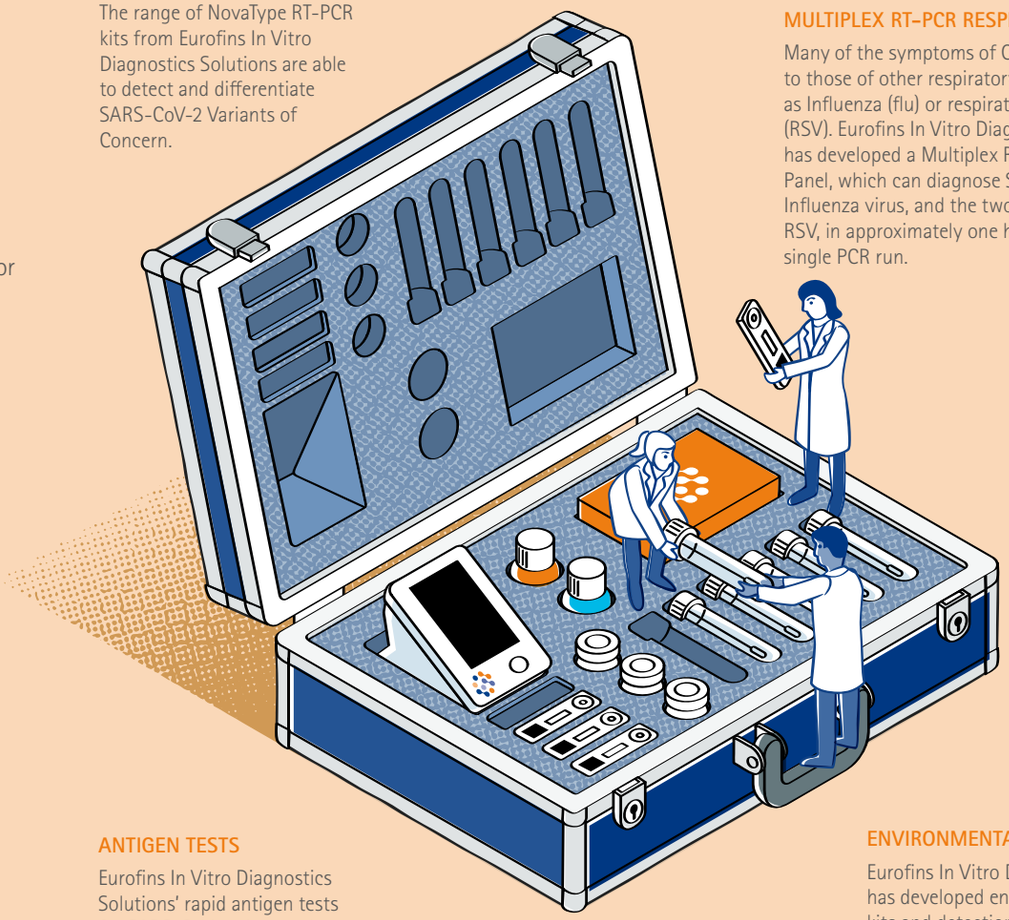
Eurofins In Vitro Diagnostics Solutions also provides laboratories with automated RNA extraction kits for clinical COVID-19 swab samples.

RT-PCR FOR WASTEWATER

The VIRSeek SARS-CoV-2 Mplex I and Mplex II Wastewater real-time RT-PCR kits from Eurofins In Vitro Diagnostics Solutions can detect SARS-CoV-2 in wastewater. This kit can also detect specific Variants of Concern and measure the viral concentration.

MULTIPLEX RT-PCR RESPIRATORY PANEL

Many of the symptoms of COVID-19 are similar to those of other respiratory diseases, such as Influenza (flu) or respiratory syncytial virus (RSV). Eurofins In Vitro Diagnostics Solutions has developed a Multiplex RT-PCR Respiratory Panel, which can diagnose SARS-CoV-2, the Influenza virus, and the two major strains of RSV, in approximately one hour, with just a single PCR run.



ANTIGEN TESTS

Eurofins In Vitro Diagnostics Solutions' rapid antigen tests for SARS-CoV-2 give results in approximately 15 minutes. Antigens are the proteins in the virus that trigger an immune system response.

ANTIBODY TESTS

Eurofins In Vitro Diagnostics Solutions' rapid antibody tests identify exposure to COVID-19 in only 10 minutes.

ENVIRONMENTAL SAMPLING KITS

Eurofins In Vitro Diagnostics Solutions has developed environmental sampling kits and detection assays to easily detect SARS-CoV-2 on surfaces, e.g. to verify cleaning procedures.

3.7 EUROFINS GENOMICS

It's all in your DNA

Genomes are the genetic material found in each cell of every living being, and understanding their complexity and how they can be leveraged is the key behind many scientific advancements. →

This has put Eurofins Genomics' solutions at the forefront of academic research and the development of cutting-edge applications, from improvements in medical diagnosis to the engineering of more bountiful and resistant crops.

By studying and mapping the structure, function, and evolution of these genomes, experts from Eurofins Genomics support customers with their research and innovations across a broad range of industries.

RESEARCH PRODUCTS

To support scientific research, Eurofins Genomics synthesises molecular tools – such as primers, probes or synthetic genes – that researchers can then use in experiments to put their hypotheses to the test.

RESEARCH SEQUENCING SERVICES

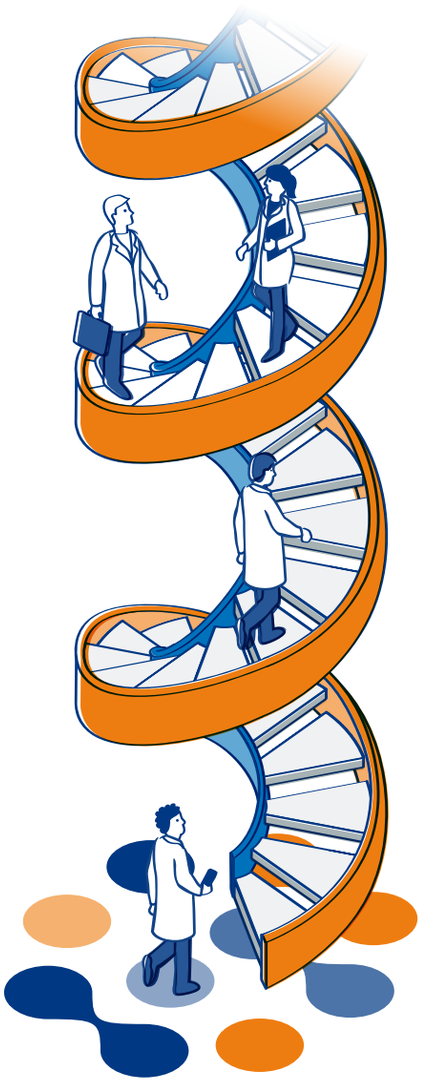
The DNA sequence of an organism's genome reveals important information. Sequencing can be used, for example, to identify the insertions, deletions, duplications, or single mutations responsible for a disease. By utilising their DNA and RNA sequencing expertise, Eurofins Genomics scientists can provide this information to researchers overnight.

BIOPHARMACEUTICAL AND DIAGNOSTIC TOOLS

Many biopharmaceutical companies rely on Eurofins Genomics companies to provide the tools they need to manufacture medical products; for instance, the oligonucleotides for diagnostic kits or the synthetic gene templates needed for the development of mRNA drugs.

AT-HOME GENOMICS

Have you ever wondered about your genetic make-up and its impact on your lifestyle? More and more consumers are opting for genetic testing to find out more about their predisposition to disease, how they can tailor their nutrition, or other ways to optimise their health according to their specific genetic profile. Eurofins Genomics is the key service provider for these testing kit component logistics and laboratory analyses in Europe.



SELECTIVE BREEDING

In the face of climate change and a growing global population, farmers increasingly rely on genomic solutions to screen plants and cattle for favourable traits, such as being more resistant to disease. Eurofins Genomics' high-throughput microarray laboratory can test thousands of cattle per week, therefore aiding farmers in selecting the best livestock for breeding programmes.

IDENTIFYING FOOD FRAUD AND ORIGIN OF CONTAMINATION

Eurofins Genomics' genetic analysis helps to combat fraud on popular products, such as basmati rice and pine nuts, as the specific variety is evident at genome level. Sequencing analysis can also identify the origin of microbial contamination.

GMP COMPLIANCE

Innovative treatment solutions, such as nucleic acid-based drugs, mRNA vaccines, and gene therapy, must all be compliant with Good Manufacturing Practice (GMP). By leveraging its expertise in the production and analysis of nucleic acids, Eurofins Genomics offers solutions for the GMP space.

DID YOU KNOW...

Genomic services are transforming the prevention, diagnostics, and treatment of diseases. Eurofins Genomics companies are supporting "Our Future Health", the UK's largest research programme to assess the health status of its population to date. As part of this initiative, Eurofins laboratories will be genotyping five million consenting participants to collect important data that will help to build a reliable picture of the main health challenges the country may face in the coming years.

3.8 EUROFINS FORENSIC SERVICES

The real CSI

Forensic science has come a remarkably long way in relatively recent history. It was only in the 1980s that forensic DNA analysis was used to solve a criminal case for the first time.→

Nowadays, forensic science is an indispensable and well-utilised component of law enforcement and justice systems, depicted in countless crime fiction dramas and powerful enough to solve decades-old cold cases. But its use is not confined to the court room – forensic science touches normal parts of ordinary people's lives, too. Perhaps you have had your fingerprints taken as part of a travel visa application process, or used an at-home DNA kit to trace your ancestry?

Eurofins' work provides the scientific clarity needed to help to solve serious crimes

Eurofins Forensic Services supports police forces, the legal sector, and private clients with a wide range of forensic disciplines. Their work provides the scientific clarity needed to help solve serious crimes in Europe, and to settle private paternity disputes across Europe and the USA. Eurofins' forensic scientists also act as expert witnesses to present evidence in court.

DNA ANALYSIS

Eurofins Forensic Services has dedicated laboratories that provide tailored DNA profiling services to police forces and legal service organisations, with expertise in all areas of forensic DNA analysis. DNA is extracted from a wide range of evidence types recovered from crime scenes and the appropriate techniques applied to support police investigations, from burglary and vehicle theft, to serious crimes, such as sexual assaults and murders.

TOXICOLOGY

Forensic toxicology is a powerful diagnostic tool that can prove past drug and chemical use or exposure, by analysing samples from the blood, urine, oral fluids, hair, or nails. Eurofins Forensic Services companies have supported breakthrough scientific innovations that assist with the conviction of drug-facilitated crimes, such as sexual assault, and analyse thousands of samples each year from individuals suspected of driving whilst under the influence of alcohol and/or drugs.

DRUGS

Eurofins Forensic Services identifies, analyses, and interprets all types of drugs, such as determining the weight and purity of drugs to support criminal cases, as well as the distribution of controlled substances. Eurofins companies also assist police investigations with the searching of imported or seized goods where drugs may be concealed, attending suspected illicit drug laboratories, and undercover operations.

FIREARMS AND BALLISTICS

The Eurofins Forensic Services firearms teams identify, classify, and compare weapons, firearms, and ammunition to help determine whether a particular weapon was used in a crime incident, alongside screening clothing, vehicles, and human skin for the presence of gunshot residue. Eurofins' firearms experts also attend major shooting incidents and reconstruct scenes to determine the angles and origins of firing, as well as supporting the post-mortem examination of the victims of shooting incidents.

MARKS AND TRACES

Forensic scientists in the Eurofins Marks and Traces team use a wide range of chemical, lighting and imaging enhancement techniques to extract the maximum amount of information from marks collected from crime scenes (such as footprints and toolmarks). Trace evidence, such as glass, paint, and fibre, is also examined and analysed to determine any links between the suspect and the crime scene.

QUESTIONED DOCUMENTS

Eurofins Forensic Services offers expertise in handwriting comparison and the reconstruction of shredded documents, and analysis of alterations, obliterations and suspected counterfeit documents.

Take a crime scene – let's say, a street corner where an unconscious victim was mugged of their valuables and later struggles to recall the events leading up to the crime, indicating the possible use of sedatives such as benzodiazepines – how could Eurofins Forensic Services help to bring the criminal to justice?

Eurofins Forensic Services employees in the laboratory, UK.

MARKS AND TRACES

Marks and traces from the crime scene, such as marks from footwear and fibre transfers on the victim's clothing, are analysed to ascertain their origin.

DNA INTERPRETATION

Any DNA profiles produced are interpreted and compared to reference DNA profiles from persons of interest. The primary objective is to assist the court in determining whether the biological material could have been deposited by the person of interest, either alone or in conjunction with others.

ASSESSMENT OF EVIDENTIAL SIGNIFICANCE

Where DNA from a person of interest is present, a statistical analysis of the evidential strength may be carried out using Eurofins' proprietary statistical software, LiRa.

EXPERT WITNESSES

When the case goes to court, Eurofins Forensic Services scientists may serve as expert witnesses to present their independent findings.

CRIME SCENE STAINS

Crime Scene Stains – i.e. samples of DNA material from body fluids, such as blood, saliva, and semen – are also analysed and profiled. The blood pattern is analysed to determine in what manner and with what type of weapon, if any, the victim was assaulted.

TOUCH DNA

Any DNA left behind at the crime scene, such as on objects that were handled by the suspect, is analysed according to the Touch DNA method. This can detect DNA from even just a few skin cells on something that has been touched by an individual.

HAIR ANALYSIS

Hair samples from the victim are analysed for drug molecules, to determine whether this was a drug-facilitated robbery, and if so, what substances were used.

A groundbreaking field

With the global population set to reach 10 billion by 2050, the development of safe, effective agrochemicals has become vital to help increase food production. →

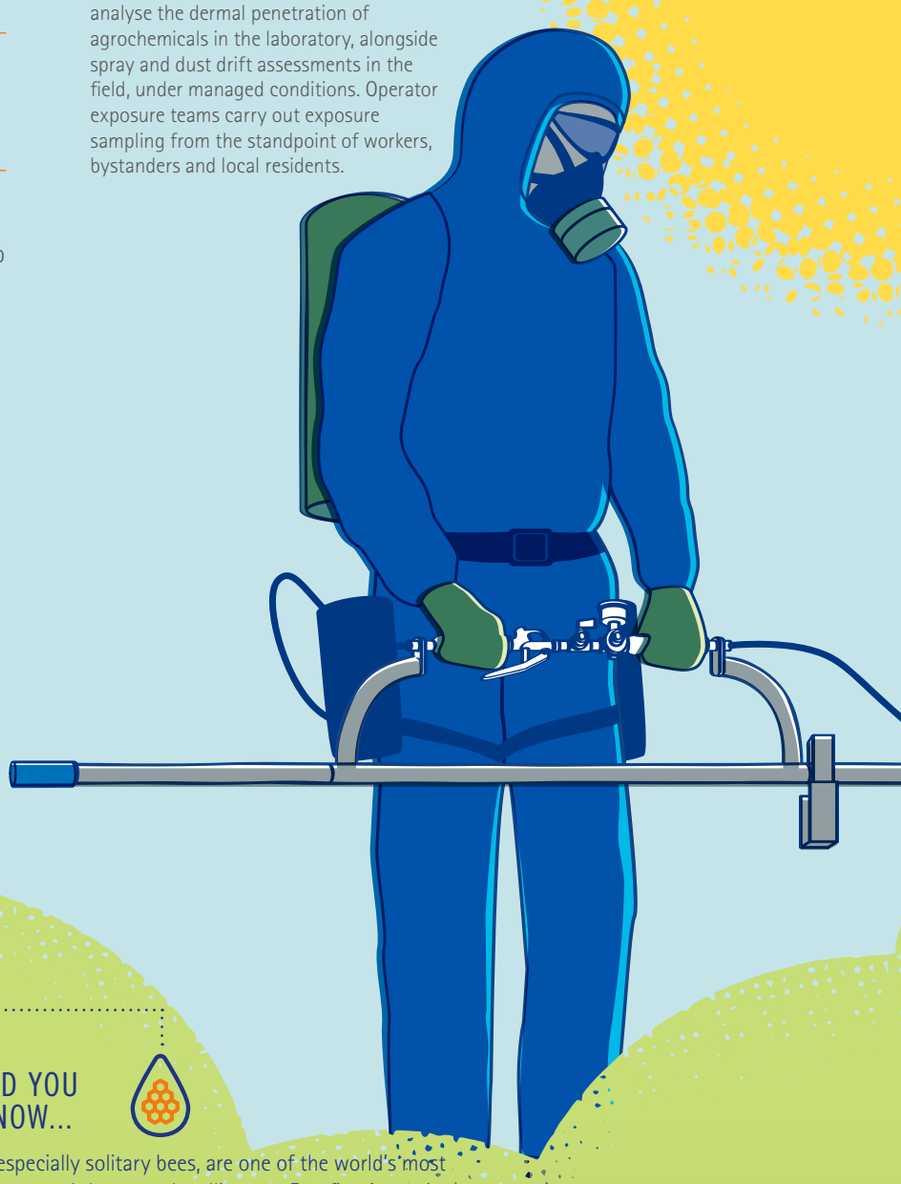
These are an important part of the solution, sustainably maintaining pace with both growing food demand and climate change. The science behind agrochemicals isn't simply left to chance – in order to ensure food availability while protecting the health of humans and wildlife, all agrochemicals are subject to rigorous testing. Eurofins Agroscience Services (EAS) is on hand to offer exactly this, providing the scientific evidence needed to support well-informed decisions about sustainable agriculture.

Whether it's on land, in water, or in the air, Eurofins Agroscience Services companies investigate the risks posed to any organisms and ecosystems that may be exposed to agrochemicals or residues, while also verifying their effectiveness. Eurofins Agroscience Services' complete portfolio for crop protection registration supports agrochemical manufacturers, seed and fertiliser producers, and regulatory authorities with product development, monitoring, and even import requirements. This ensures that farmers can rely on synthetic and biological agrochemicals, agricultural technology (AgTech), seeds, crop varieties, and more – so that you, in turn, can rely on food supply all year round.

All agrochemicals are subject to rigorous testing

HOW DOES PRODUCT EXPOSURE AFFECT AGRICULTURAL WORKERS AND OTHER HUMANS?

For most chemicals, the greatest exposure risk is through skin contact. EAS' scientists analyse the dermal penetration of agrochemicals in the laboratory, alongside spray and dust drift assessments in the field, under managed conditions. Operator exposure teams carry out exposure sampling from the standpoint of workers, bystanders and local residents.



DID YOU KNOW...

Bees, especially solitary bees, are one of the world's most important, and threatened, pollinators. Eurofins Agroscience Services has a long history of testing the effects of plant protection products on honeybees, bumblebees, and solitary bees. Its experts have helped to develop major study types used for evaluating the side-effects of pesticides on pollinators, and they continue to pioneer in this field: for example, by attaching tiny, harmless radio devices to bees, they proved it was possible to investigate the effects of pesticides on bees' homing behaviour.

Before plant protection products, such as pesticides – some of the most common and important agricultural chemicals – can be put to use, Eurofins Agroscience Services (EAS) offers analyses to answer a long list of questions about their safety and efficacy:

IS THE PRODUCT SAFE FOR OTHER TERRESTRIAL ORGANISMS, SUCH AS POLLINATORS, BIRDS, AND LIVESTOCK?

EAS' scientists evaluate the pesticide's hazard to a variety of beneficial organisms, including insects, livestock, birds and mammals, plants, and microorganisms. Some of these studies can be customised to investigate non-standard species local to the area. For all birds and mammals, EAS also tests for residues in their food sources, such as plants, earthworms, and insects, alongside studies on repellents.

CAN THE USE OF AGRICULTURAL CHEMICALS BE REDUCED?

A range of organic products, including bio-pesticides, natural fertilisers, plant stimulants and microbial seed treatments, can reduce chemical pesticide and fertiliser use while increasing yields. EAS carries out field and laboratory studies on these products. It also supports development programmes aiming to reduce pesticide use through digital farming solutions, and is working with developers of 'biological' plant protection products.

WILL PESTS BUILD RESISTANCE TO THE PRODUCT?

With the spread of resistant pest species posing a huge risk to crop protection effectiveness, EAS predicts and monitors resistance to new active substances.

IS THE PRODUCT EFFECTIVE AT PROTECTING THE CROP FROM HARMFUL PESTS?

EAS conducts short, medium and long-term field trials to establish the effects of pesticides on target organisms (such as weeds and crop-destroying insects, etc.) at different chemical dosages.

IS THE PRODUCT RAINFAST?

Using rainfall simulators, EAS determines the intensity, droplet size, and velocity of rain that agrochemicals can withstand before being washed off – a very important factor in the product's efficacy.

Top: Employee at work in a Eurofins Agroscience Services laboratory.

Middle: Eurofins Agroscience Services employee out in the field.

Left: Eurofins Agroscience Services employee conducting a field inspection.

IN WHAT WAY AND FOR HOW LONG CAN THE PRODUCT BE STORED?

EAS evaluates the properties and behaviour of active substances in the product's formula – for instance, the duration of the shelf life and whether it remains stable when stored at defined temperatures. Its experts also confirm the identity of these ingredients.

IS THE CROP SUFFERING FROM PESTS OR DISEASES?

EAS' molecular diagnostics team offers a range of diagnostic services for the detection of pests and plant diseases, such as potato cyst nematodes (roundworms) and viral, bacterial, or fungal pathogens.

IF THE PRODUCT ENTERS WATERWAYS THROUGH RAIN RUNOFF, HOW WOULD AQUATIC LIFE BE IMPACTED?

EAS' environmental safety teams conduct a full range of aqua-toxicity tests across a variety of test species, such as algae, fish, and other aquatic organisms, to determine any potential effects of a product in aquatic eco-systems.

HOW QUICKLY DOES THE PRODUCT BIODEGRADE IN THE ENVIRONMENT?

EAS can assess a pesticide's rate of degradation in soil, manure, water, and air, as well as the risks these potential means of contamination pose for human health and the environment.

A complete testing catalogue

The Consumer Product Testing (CPT) portfolio is one of Eurofins' most diverse, spanning quality and safety testing for products such as textiles and leather, building materials, furniture, cosmetics, electrical products, medical devices, and toys, to name a few.→

And with so many consumer products and product parts exported globally, the Eurofins CPT network of laboratories is present worldwide, operating close to many manufacturing hubs, huge retail brands, and their target markets.

Each day, you use and rely on many consumer products

If you look around – on any shelf, inside any cupboard, in any corner of your home – you'll find consumer products that all underwent careful analysis, from the clothes on your back and the chair you are sitting on, to the leather wallet or hand sanitiser in your pocket. Each day, you use and rely on many consumer products, and you trust them to be safe and effective. But the only way to be sure of this is through rigorous testing, certification, and inspections and audits, something Eurofins CPT companies take care of before the products reach shop shelves, offering consumers peace of mind.

Top: Eurofins Electric and Electronics Finland Oy.

Middle: Eurofins Cosmetics and Personal Care clinical study.

Right: Eurofins Consumer Product Testing GmbH.

COSMETICS AND PERSONAL CARE

Eurofins Cosmetics and Personal Care (C&PC) assesses quality and safety through a range of testing, including analysis of physical and chemical properties, microbiology and ecotoxicity testing, studies on reconstructed skin *(in vitro testing)* and on volunteers *(in vivo testing)*, and much more. When it comes to sun protection products, for example, this also means validating that the SPF (sun protection factor) value is correct. Eurofins C&PC also verifies whether sunscreens are 'reef-safe', meaning free from chemical ingredients and small particles known to damage coral reefs.

PLASTIC PACKAGING

The safety of the materials that come into contact with the food and drinks we consume is just as important as the safety of the foodstuff itself. Eurofins CPT companies ensure that no harmful chemicals transfer from the plastic water bottle to the water.

ELECTRICAL AND ELECTRONICS

From product safety to performance verification, Eurofins Electrical and Electronics ensures common and niche electrical goods are hazard-free and fit for purpose. This includes testing their wireless technology (cellular, Wi-Fi, Bluetooth, etc.), electromagnetic compatibility, electrical safety, and resistance to temperature, dust, humidity, and impact, etc.

HYGIENE PRODUCTS

Hygiene, paper, and pulp products are important to the daily lives of babies and many adults. Eurofins CPT companies support with proof of efficacy testing for nappies, menstrual products, and similar goods – for example, the absorption limit and adhesive strength – and safety assessments, including contaminant and chemical analysis.

TOYS AND CHILDCARE

Eurofins CPT puts the health and safety of toys and childcare products to the test in its laboratories: does the toy pose any choking or strangulation hazard – for example, can parts too easily become detached or can batteries be removed? Is the material used likely to become a breeding ground for bacteria? Is the product flammable?

DISINFECTANTS

The hand sanitiser is tested by Eurofins CPT to analyse its chemical make-up, verify its germ-killing efficiency, and test out its likelihood to cause irritation or sensitivity to skin through testing on reconstructed skin tissue (in vitro testing) and/or clinical studies.

SOFTLINES AND LEATHER

Through analysis of cotton seeds and chemical testing of fibres, Eurofins CPT determines whether cotton has been processed without the use of environmentally harmful chemicals, to certify it as organic. If textiles do contain synthetic fibres, Eurofins CPT can also quantify the number of fibres shed when washed, as this pollutes water systems with harmful microplastics.

BIODEGRADABILITY

What will happen to the T-shirt once it's thrown away? When biodegradability is a concern, Eurofins CPT conducts disintegration and biodegradability testing, to determine how long textiles, leathers, and plastics take to decompose when composted.

SOFTLINES AND LEATHER

Eurofins CPT can verify genuine leather and the species from which it is derived, as well as mapping the leather and textile supply chain to help identify any environmental or social risk.

3.11 EUROFINS ASSURANCE

As sure as can be

Globalisation means that many goods or their parts may have travelled around the world, at various stages of production, before they end up in your possession.→

The more steps in a supply chain, the greater the risk of something going wrong – and this has made it a real challenge for companies to testify to the safety, quality, and integrity of their end products.

Eurofins Assurance companies provide audit, certification, product inspection, training, and consulting to players in the food, consumer products, healthcare, and cosmetics industries, to help protect consumers from potential risks in these multi-tier supply chains. These risks are complex and not always obvious to the manufacturers or retailers involved – for instance, their suppliers may have used forced labour or fraudulent raw materials, followed improper chemical management policy, or otherwise not complied with changing regulations.

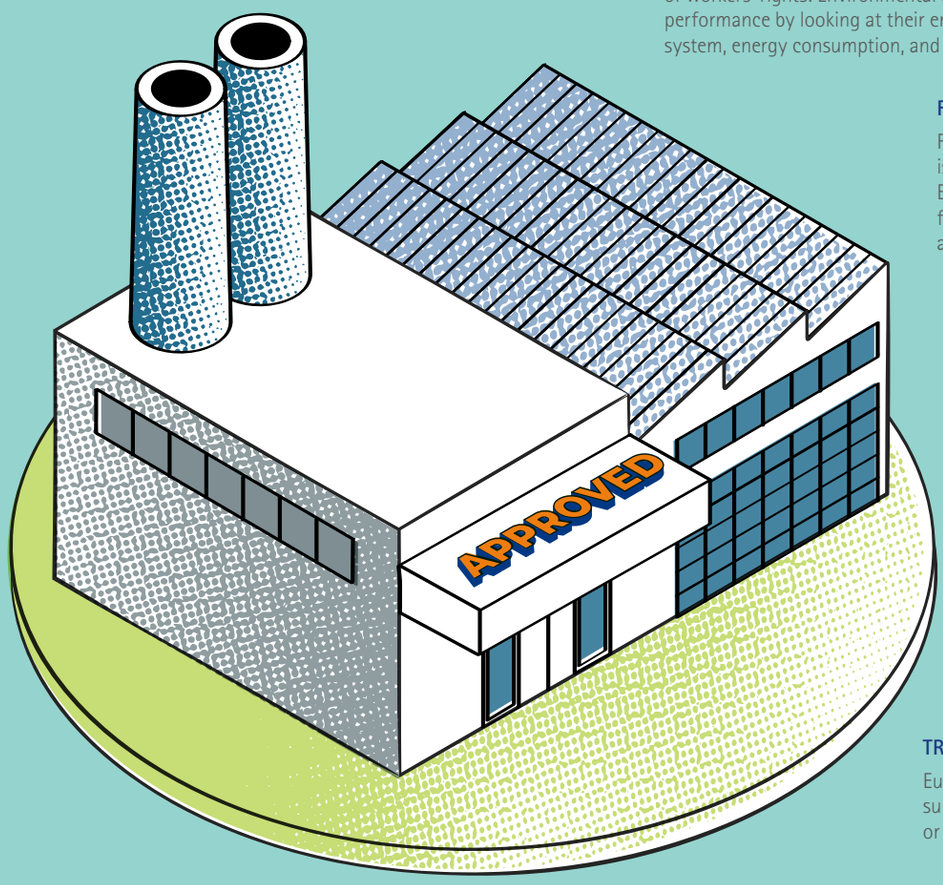
With services from Eurofins Assurance, customers can refine their processes and optimise their supply chain, ensuring safe and quality goods that are compliant with international regulations, stringent market requirements, and your expectations as a consumer.

TECHNICAL AND QUALITY AUDITS

Eurofins Assurance companies carry out audit and certification services for manufacturers and retailers, to ensure the high quality, safety, and integrity of a variety of finished products, from medications and vaccines to food products and consumer goods. Audits evaluate, for example, quality systems and controls, the traceability of raw materials or ingredients, hygiene processes, fraud management, and animal welfare, etc.

SOCIAL AND ENVIRONMENTAL AUDITS

Eurofins Assurance experts carry out audits at suppliers' factories and manufacturing sites to evaluate their compliance with social and environmental requirements. For instance, social compliance audits may highlight supply chain risks related to forced or child labour, discrimination, or the infringement of workers' rights. Environmental audits assess the sites' performance by looking at their environmental management system, energy consumption, and waste, etc.



FOOD LABELLING

Full product transparency on food product labelling is of the utmost importance for consumers. Eurofins Assurance helps food producers to fulfil food labelling requirements for allergens, nutrition, and health claims, etc.

CONSUMER PRODUCT INSPECTION

Eurofins Assurance companies inspect a broad range of consumer products at different stages of production to ensure quality, compliance and conformity.

CONSULTING

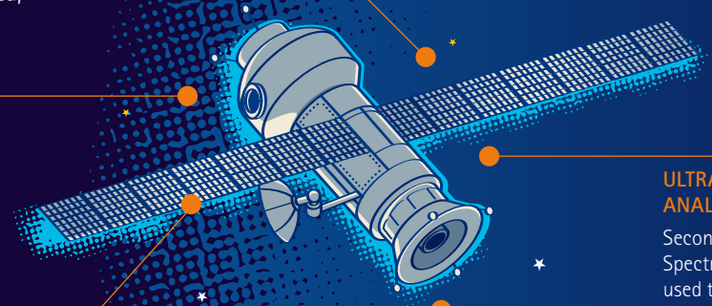
Consulting services offered by Eurofins Assurance companies support clients in improving quality systems, implementing new standards, meeting regulatory filing requirements, importing and exporting products, and much more, through expert legal advice.

TRAINING

Eurofins Assurance provides manufacturers and suppliers with specific e-learning services and live or online training modules for their employees.

3.12 EUROFINS MATERIALS AND ENGINEERING SCIENCES

Satellites provide a wealth of data and facilitate the planet's communication systems. Many send television, radio, and Geographical Positioning System (GPS) signals to Earth, provide information on weather and climate forecasting, or help scientists study Earth and space. With several thousand in orbit at any given moment, have you ever wondered how satellites are engineered, powered, and tested?



WEAR AND TEAR TESTING

The solar cells also undergo metallurgical analysis to investigate the risk of a fracture, crack, or other wear or fatigue while out in space.

PURITY CERTIFICATION

Even ultra-low levels of contaminants can influence the physical and electrical characteristics of materials, and contaminants can be introduced at many stages of the manufacturing process. To avoid this, Eurofins Materials and Engineering Sciences companies certify the purity of metal powders used via trace elemental analysis.

ULTRA-THIN FILM ANALYSIS

Secondary Ion Mass Spectrometry (SIMS) is used to measure very low concentrations of dopants and impurities in ultra-thin film, an indispensable component of all semiconductor and nano devices.

MATERIALS CHARACTERISATION

Tunnel junction solar cells convert light into electricity. Different parts of the cells are designed to absorb certain wavelengths of light and need a specific concentration of substances to do so, Eurofins Materials and Engineering Sciences measures the composition of solar cells of satellites and other solar-powered technology, using materials characterisation techniques such as surface analysis and depth profiling.

DESTRUCTIVE PHYSICAL ANALYSIS

Destructive Physical Analysis ensures that parts used in space and launch vehicle designs are high quality, addressing any likely problems before they occur.

Materials science: it's not immaterial

Technology has become such an integral part of daily life that it's easy to underestimate the sheer amount of engineering and materials know-how that goes into many familiar products, from cars and mobile phones to gaming headsets and drones.→

Technological advancements have touched almost every sector: driving innovation in the medical world, through more effective surgical tools, implants, and robotics, and in the fields of aviation, space exploration, telecommunication, data storage, and more.

Eurofins Materials and Engineering Sciences plays a vital role in these cutting-edge technologies. The laboratories test the materials that are used in components of high-performance products and electronics to ensure performance, durability, and reliability, even in harsh environments. Eurofins laboratories also support the development of new, advanced materials that are lighter, stronger, and more fuel efficient: complex requirements that call for expert testing during R&D phases and manufacturing.

And if something isn't right, Eurofins Materials and Engineering Sciences investigates the root cause of the failure, using multi-disciplinary analytical techniques.

DID YOU KNOW...

Eurofins EAG assists customers in the development of the materials and chips for wearable electronic devices, such as smart watches and smart glasses, which have Virtual Reality (VR) capabilities. Consumers can spend many hours wearing these devices, making comfort and safety paramount. Sometimes, problems can arise: for example, the base polymer of these products can contain various additives, including plasticisers, UV stabilisers, pigments, or antimicrobial agents. While these additives give the products important flexibility, colour, and texture, a number of them are known skin allergens, which can cause itching or rashes. Eurofins EAG performs extractables and leachables studies using simulated sweat to determine the chemicals present in the leachates.

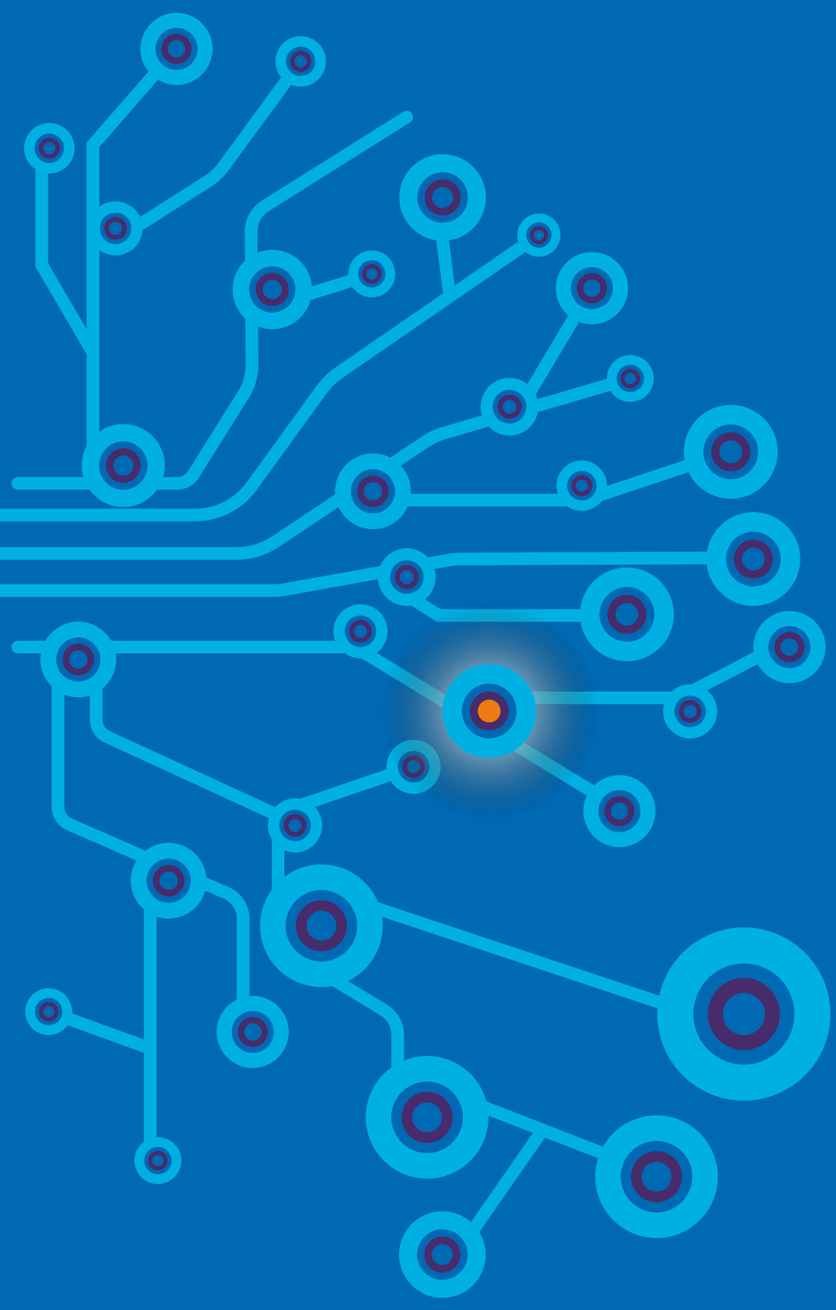
SECTION 2

What does Eurofins stand for?

CHAPTER 4

A network of entrepreneurs

The greatest asset of the Eurofins network is its people and their entrepreneurial spirit. As the network has grown, Eurofins has not only welcomed new companies to its **network, but also their entrepreneurial leaders,** who share a passion for thinking big, taking calculated risks, and doing what it takes to make their businesses thrive.→



This has been a part of Eurofins' DNA since the very beginning, when it was founded by the young entrepreneur, Gilles Martin.

"Despite the network's growth, entrepreneurialism has remained," says Hugues Vaussy, Eurofins Corporate Secretary, who started out at the first Eurofins laboratory in Nantes in 1999, back when the network comprised a little over a dozen companies. Ensuring that leaders joining the network have the freedom to run their businesses according to their clients' needs is a big part of the success of Eurofins companies: "The scientists and leaders within the companies are experts in their fields – they know their customers' needs and demands, the local regulation, the opportunities for innovation."

But they don't have to do it alone. Instead, they all have access to a very important resource: a network of like-minded entrepreneurs with complementary capabilities, who – as this small collection of stories will show – are ready to collaborate to make things happen.

4.1 INTERVIEW WITH THE FOUNDER AND CEO OF EUROFINS, GILLES MARTIN

What does entrepreneurship mean to you?

In October 1987, Gilles Martin was the 23-year-old entrepreneur behind the newly founded Eurofins. 35 years later, the Eurofins network comprises over 950 different laboratories, led by ambitious entrepreneurs. What is it that sets them apart and why is the entrepreneurial spirit so dear to Eurofins companies?→

Q: WHAT MAKES A SUCCESSFUL ENTREPRENEUR?

GILLES: Firstly, life as an entrepreneur is not easy and not always smooth sailing. There will be problems, crises, and failures – so, the most important quality is the ability to deal with nine failures in order to have one success. And, okay, you also have to stay sharp enough to let go and move on if your project really doesn't work out.

Another key strength of an entrepreneur is the ability to say no. This is the most important element in forming a strategy – not what you do, but rather, what you don't do. The companies that are the most specialised are the ones that usually succeed the most.

In general, values are more important than competencies. It is not necessarily the most intelligent people who are most likely to succeed; it is usually the most pragmatic and determined. So long as you love what you do, I believe anyone can be an entrepreneur, but it takes a lot of time and dedication. Note that there are very few entrepreneurs who succeed quickly, in just a few years. Many people want to start a company and might think they will make easy money, but actually, it takes a lot of passion and patience to grow it.

Q: WHAT'S ONE THING PEOPLE OVERLOOK ABOUT ENTREPRENEURIALISM?

GILLES: One of the things that I found the hardest as a young entrepreneur was to do it alone. When you start your own company, you do not have many people to turn to.

Q: WHY IS THE NETWORK MODEL SO IMPORTANT TO EUROFINS?

GILLES: Because one cannot decide everything on their own! By now, the Eurofins network is pretty huge, and we are active in many different areas, so my personal impact and influence is more and more limited. There are ca. 63,000 people in our network, but most of them are in small companies of 50, 100, maybe 200 people – each with their own entrepreneur, who has a lot of autonomy. It is this agility that helps us react quickly, like we did to the COVID-19 pandemic. It also means that no single individual or team needs to drive everything, because our entrepreneurs bring propositions to the table and manage their own businesses. However, it doesn't mean there isn't collaboration. Our one-stop-shop network model means Eurofins companies can leverage capabilities elsewhere in the network to offer their customers a full suite of testing services.

Q: WHAT WAS YOUR PERSONAL MOTIVATION FOR BECOMING AN ENTREPRENEUR?

GILLES: I wanted to control my own destiny and have the full entrepreneurial power to decide for myself where to invest, where to do R&D, and to decide on the axes along which the company should develop. For this, I needed my own company, and one which could generate enough cash flow each year to finance its own growth and development.
I wanted to do good in the world, too, but this takes time. Eurofins companies today are able to give a lot back to society – we donate millions to charities around the world – but it took years to get there. If the goal is to be rich, it makes more sense to work in the finance sector in London, for instance. You will get rich quicker. That was not my goal when I founded Eurofins.

Q: CAN YOU SEPARATE ENTREPRENEURSHIP FROM RISK-TAKING?

GILLES: People have a tendency to tell me, "Gilles, you have created a company, you must have taken a lot of risks!" But being an entrepreneur does not mean risking everything; it means taking calculated risks.

Would you acquire a business you hadn't seen?

In 2021, in the throes of the COVID-19 pandemic, a 'blind' opportunity presented itself to the Eurofins team in Australia.→

All photos Eurofins Biotech Laboratories.

BRISBANE, AUSTRALIA

It started when a Eurofins Business Unit Manager received a phone call from Glen Pinna, General Manager of Biotech Laboratories, a competing food and water microbiology laboratory in Queensland, Australia. The laboratory was closing down in order to repurpose the space for other testing activities, but Glen and his team, faced with potential redundancy, were keen to salvage the business they were passionate about. Demonstrating entrepreneurial prowess, they started investigating potential buyers themselves and proposed the idea of joining the Eurofins network.

> "The first word that came to mind was 'impossible'!"

Eurofins' presence in Australia at the time was on the uptick, having started out as a rather fragmented regional network of small laboratories. Through a growth strategy focused on both acquisitions and start-ups, the entrepreneurs were always on the lookout for the next opportunity – and with 500 m^2 of laboratory space sitting empty at the Eurofins Environment Testing site in Brisbane, Queensland, they saw a golden chance to establish a regional presence in Food and Feed Testing and extend their Water Testing capabilities.

"We had limited presence in the food and water testing market in Australia at the time," says Sarah Thévenet, then Managing Director of Eurofins Australia New Zealand Holding Pty Ltd. "We had recently created a start-up in Victoria and finalised the acquisition of a laboratory in Western Australia, but we were still looking to fill gaps in our regional positions."

The Eurofins Australia team quickly reached out to the existing owners, who agreed to change their initial plans and sell the laboratory after all. There was only one catch: all of the assets had to be moved by Eurofins to the new premises within six weeks. It already seemed a tall order, but what complicated things further was the closure of state borders inside Australia, due to the COVID-19 pandemic…meaning Eurofins teams outside of Queensland couldn't travel to the laboratory to help.

To many of Eurofins' competitors, this had seemed like a good moment to walk away: there was an inaccessible laboratory, 2,000 km (1,243 miles) away from the Eurofins team in Melbourne, and, potentially, no clients – as they had already been informed that the laboratory was shutting down.

"Several other companies were initially interested in acquiring the laboratory, but they gave up, probably due to the timeframe and risk of failure, as all staff and clients had already been informed of the closure," Sarah explains. "We were the only ones who reacted quickly enough and were ready to take the risk!"

Showing exceptional entrepreneurial spirit, the Biotech Laboratories employees and the Eurofins Environment Testing Queensland team were eager to help make things happen. With remote coordination from Eurofins teams in Melbourne, they took the lead on fitting out the empty space at the Eurofins site in Brisbane.

> "We were the only ones who reacted quickly enough and were ready to take the risk!"

"Even once the laboratory fit-out was complete, we only had a weekend to relocate everything and everyone, and on the following Monday, the laboratory had to be fully operational, without compromising on quality and due process or disrupting the existing Environment Testing business onsite," explains Shay Xie, General Manager of Environment Testing Australia Emerging Contaminants and Specialty Services. "The first word that came to mind was "impossible"! But we said, 'challenge accepted'. It really is opportunities and projects like this that bring out the best in our team's innovative mindset and entrepreneurial spirit."

The final result, achieved in just six weeks, was a brand-new microbiology facility with an efficient logistics system, giving Biotech Laboratories a new home as part of the Eurofins network, as Eurofins Biotech Laboratories.

"The underlying entrepreneurial culture of the Biotech Laboratories team was an asset in itself," adds Jonathon Angell, Eurofins General Manager of Environment Testing Australia Queensland, who led the mission on the ground in Brisbane. Ultimately, it was not only the laboratory's employees and their entrepreneurialism that followed, but also the clientele. "We suddenly entered a strategic market almost out of nowhere!" Sarah says. "Thanks to the proactiveness of Glen, who inspired both his Biotech Laboratories colleagues and their clients to stay on."

COMPANY SPOTLIGHT
DR. SPECHT & PARTNER

“Our growth was rapid”

Dr. Specht & Partner in the early 1980s (pre-acquisition by Eurofins).

Eurofins Dr. Specht Laboratorien, 2001.

Eurofins Dr. Specht Laboratorien, 2022.

The story of Eurofins Dr. Specht Laboratorien began in 1964, when Dr Wolfgang Specht became a shareholder of a trade laboratory in Hamburg, Germany. He set upon a mission to help guarantee the safety of food products in Germany, by investing in specialist equipment and developing pesticide testing methods. Thanks to its very hands-on and entrepreneurial approach to testing, the laboratory quickly built a strong reputation for itself in the pesticide testing field.→

Some decades later, in the spring of 2000, Managing Directors of Dr. Specht & Partner started looking for a potential buyer that could lay the foundation for further growth. The opportunity for Eurofins to purchase the 25-employee laboratory was flagged by Dr Jörissen, a shareholder of a company recently acquired by Eurofins, Wiertz-Eggert-Jörissen (now Eurofins Analytik). Recognising that Dr. Specht & Partner would allow Eurofins to broaden its testing portfolio, especially with pesticide testing, and that its strong reputation could attract new clients to the Food and Feed Testing network, he put Dr Specht in contact with Eurofins' CEO, Gilles Martin, directly. Both were enthusiastic about the opportunities the acquisition could offer, and so, in October 2000, the acquisition agreement was signed.

To better integrate the newcomer, the company's smaller, general food chemistry activities were merged into the Eurofins network, while the pesticide testing business remained an independent company, called Eurofins Dr. Specht Laboratorien. The business was also relocated to a new, larger site in southern Hamburg in September 2001, allowing sample volumes to double multiple times. "Initially, we rented a single floor and were not too sure what to do with all that space," recalls Thomas Anspach, Business Unit Manager of Dr. Specht International, "but before we knew it, two years had passed, and we were occupying all four floors of the building! Our growth was very rapid."

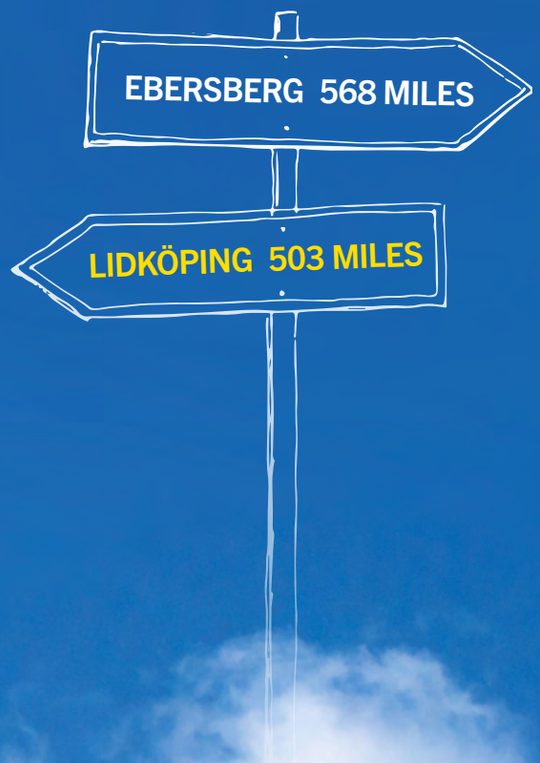
Together with Eurofins Analytik, Eurofins Dr. Specht Laboratorien became the nucleus that would establish Eurofins as the leader of the food and feed testing industry – not only in Germany, but worldwide. Additionally, Dr. Specht Laboratorien's activities in the agri-food industry formed the early building block of what would become Eurofins Agroscience Services. In recent years, Eurofins Dr. Specht Laboratorien has played a major collaborative role within the Eurofins network, becoming an indispensable source of technology and knowledge transfer, notably to fellow Eurofins laboratories based in China and Brazil, and collaborating to sell pesticide testing services across the network. The company has adapted to ever-increasing demands for faster turnaround times by launching Specht-Express, a fruit and vegetable testing service that guarantees results within 24 hours.

"Before we knew it, two years had passed, and we were occupying all four floors of the building!"

In May 2022, Dr Specht passed away, but the food testing business he sculpted, now 400 employees strong, upholds his legacy as a global leader in pesticide residue testing services in all kinds of plant and animal commodities. His dedication to research also survives in his name: his work on the development of multi-residue methods for the determination of pesticide residues notably contributed to the consecration of the 'DFG method S19', a standard method of the German Federal Food Act, as an approved monitoring method in European markets and beyond.

Miles ahead of the rest

Initially, few authorities or private laboratories had the ready-to-go infrastructure to deal with a huge volume of COVID-19 samples. But, when it came to ramping up quickly and putting processes in place, Eurofins companies had a clear advantage: collaboration across a global network of laboratories and entrepreneurs. Cooperation between Eurofins Food and Feed Testing companies in Sweden and cross-Business Line teams in Germany was the golden key to ensuring the Swedish authorities could cope with an onslaught of COVID-19 samples during the early waves of the pandemic.→



DID YOU KNOW...

The airplanes and logistics deployed by Eurofins as part of its COVID-19 effort found a second purpose: in 2022, Eurofins companies in Sweden chartered four flights of much-needed medical equipment to hospital workers in Ukraine, to relieve shortages caused by the war.

Let's set the scene: as early as March 2020, public laboratories in Sweden were becoming overwhelmed by the sheer volume of COVID-19 samples they were receiving, as well as running out of masks, syringes, and other critical equipment. The entrepreneurial mindset of the Eurofins Food and Feed Testing teams in Sweden meant they couldn't simply sit back: they quickly registered their readiness to take on samples. They were a perhaps unlikely name among other, clinical contenders, but one that already had expertise in the crucial q-PCR technique.

By August 2020, with COVID-19 cases peaking once more, public authorities in Sweden found themselves swamped by an average of 50,000 samples per day and could no longer simply power on with just their own state laboratories. That's when the authorities in the western county of Västra Götaland (VGR) took Eurofins Food and Feed Testing in Sweden up on their proposed solution. VGR signed a direct agreement with the Eurofins laboratory to test 4,000 COVID-19 samples per day initially, and later up to 10,000 – a service they were confident they could fulfil through partnerships within the Eurofins network.

"The relief our teams could provide was significant, but we knew we would have to deal with a considerable surplus of samples that needed immediate attention," recalls Henrik Jonsson, who was leading Eurofins' Food and Feed Testing business in Sweden at the time, and is now the National Business Line Leader of Clinical Diagnostics Sweden. "So, before VGR even contacted us, we had gotten in touch with our Eurofins Genomic Services colleagues in Ebersberg, Germany, and they had agreed to support us by taking on up to 15,000 samples per day."

Firstly, Eurofins needed a plane

The teams at the Eurofins Ebersberg campus had already converted a genomics laboratory into a COVID-19 testing facility, realising that the q-PCR material used for food testing, veterinary services, and human research samples was now a key asset in detecting the virus. "Our experts were already familiar with the analysis method and equipment, so we were able to jump right into action," Sonja Wiedemann, the former Managing Director of Eurofins Genomics Germany GmbH, explains.

But a major obstacle still stared the Swedish team in the face – the 1,723 kilometres (1,071 miles) between the two facilities. Naturally, speed was of the essence to help mitigate the spread of the virus, so how could they routinely get many thousands of samples to Ebersberg as quickly as possible? One route was a clear winner: by air. Flying the samples to Germany would solve both the quantity and time constraints of other modes of transport, but it brought its own logistical demands. Firstly, Eurofins needed a plane.

"We had to come up with a plan – and fast," Sonja recalls. "My colleague, Michael Hadem (Regional Business Line Leader of Genomics and Forensics Services Europe), and I immediately got in touch with some existing contacts in aviation, who were able to help us rent a plane and obtain landing permits for daily flights. Within three days, we were able to start flying." More impressively, process improvements further down the road facilitated the reduction of turnaround time on samples to just under 24 hours – including flight time!

Impressed by the successful collaboration between the VGR and Eurofins teams, the Public Health Agency of Sweden (PHAS) then entrusted Eurofins with 55,000 samples per day, collected from four additional regions of Sweden. The huge sample volume would require a dedicated, new laboratory to process them all on time – but this was no deterrent.

"We issued the budget request for a new laboratory immediately. That was actually at 19:30 on the 27th of December 2020." You might presume that the holiday period would cause a delayed response, but by 9:00 the following morning, Henrik had the approval in his inbox. "This is typical Eurofins fashion: whenever an opportunity presents itself, we act extremely fast." After a rapid 14 weeks of setting up, the new laboratory was ready to support Sweden with an additional capacity of 10,000 samples per day.

While the need for mass COVID-19 testing in Europe ebbed and flowed, the emergence of new SARS-CoV-2 Variants of Concern triggered a huge demand for sequencing to identify the specific variant responsible for a COVID-19 case. While many countries employed genomic sequencing as a way to monitor the pandemic and map clusters of certain variants, the PHAS were particularly diligent in their approach, requiring that all positive COVID-19 samples from Sweden be sequenced. The Eurofins Genomics' team in Germany, which had been performing sequencing of COVID-19 samples since December 2020, then ramped up capacities at their sequencing site in Constance, Germany, to assist Sweden with next generation sequencing services, too. They were able to provide a turnaround of less than five days, against the previous market average of 14 days.

The impact of this work by Eurofins Food and Feed Testing in Sweden and their cooperation with their colleagues in Germany had an impact beyond the COVID-19 pandemic:

More impressively, process improvements further down the road facilitated the reduction of turnaround time on samples to just under 24 hours – including flight time!

This whole ordeal made us realise that there was a golden opportunity for Eurofins to extend its Clinical Diagnostics activities in Sweden," Henrik says. In April 2021, the new National Business Line was established. "As of June 2022, we've performed over two million COVID-19 analyses, in part thanks to the continuous support of the Eurofins Genomic Services team in Ebersberg. Collaboration is a huge part of the Eurofins DNA, and a huge part of what made our response so successful. Without the Eurofins network, none of this would have been possible," Henrik concludes. "It's a testament to the strength of Eurofins."

DID YOU KNOW...

Eurofins Genomics Europe has supported 23 European countries with next generation sequencing of COVID-19 samples.

Pursuing new healthcare markets

In 2014, Eurofins was scouting the Canadian biopharma testing market for an opportunity to gain its first foothold in the country.→

They found one suitable company with owners who were willing to sell: Experchem Laboratories, a natural health product, cosmetics, and pharmaceutical testing laboratory group. The acquisition was finalised in June 2015, and with some entrepreneurial decision-making, it would soon pave the way for Eurofins' success in the country – and for a revolutionary area of pharmaceutical testing.

At the time of the acquisition, it turned out that Experchem's manager, Sohil Mana, was a familiar face; he had worked for Eurofins BioPharma Services in the USA just a few years earlier, before he relocated to Canada with his family. Now, he would not only be rejoining the Eurofins network once more, but leading Experchem's integration, as the new General Manager of Eurofins Experchem.

"Experchem was always profitable, but when I joined in 2012, it suffered a lack of growth strategy and pricing structure," Sohil explains. "For the few years prior to Eurofins' acquisition, I had been working to transform it, splitting the business into different areas of testing expertise that we could grow as standalone businesses." He adds, "Eurofins wasn't afraid to buy a company that needed investment, as long as the right entrepreneur was there to turn it around."

The investment paid off: Eurofins Experchem's revenue grew two-and-a-half-fold between the acquisition and 2022, by expanding its existing businesses and exploring new ventures. An important milestone in this evolution was entering the medicinal cannabis testing market, as a new way to help pharmaceutical companies transform patient care. Sohil had recognised that regulatory changes in Canada and a number of other countries, where the prescription of cannabis by health practitioners had been legalised for medical reasons, brought a new opportunity to support pharmaceutical companies in these licenced countries.

The Eurofins Experchem team pitched the idea to other leaders in the network. At first, several of them were hesitant about entering the market, mindful of the potential stigma associated with cannabis, even when prescribed exclusively for medical use. However, the new frontier of business would ultimately contribute to better healthcare for patients in Canada, and "the numbers spoke for themselves," Sohil adds – making the final "go for it" an easy one.

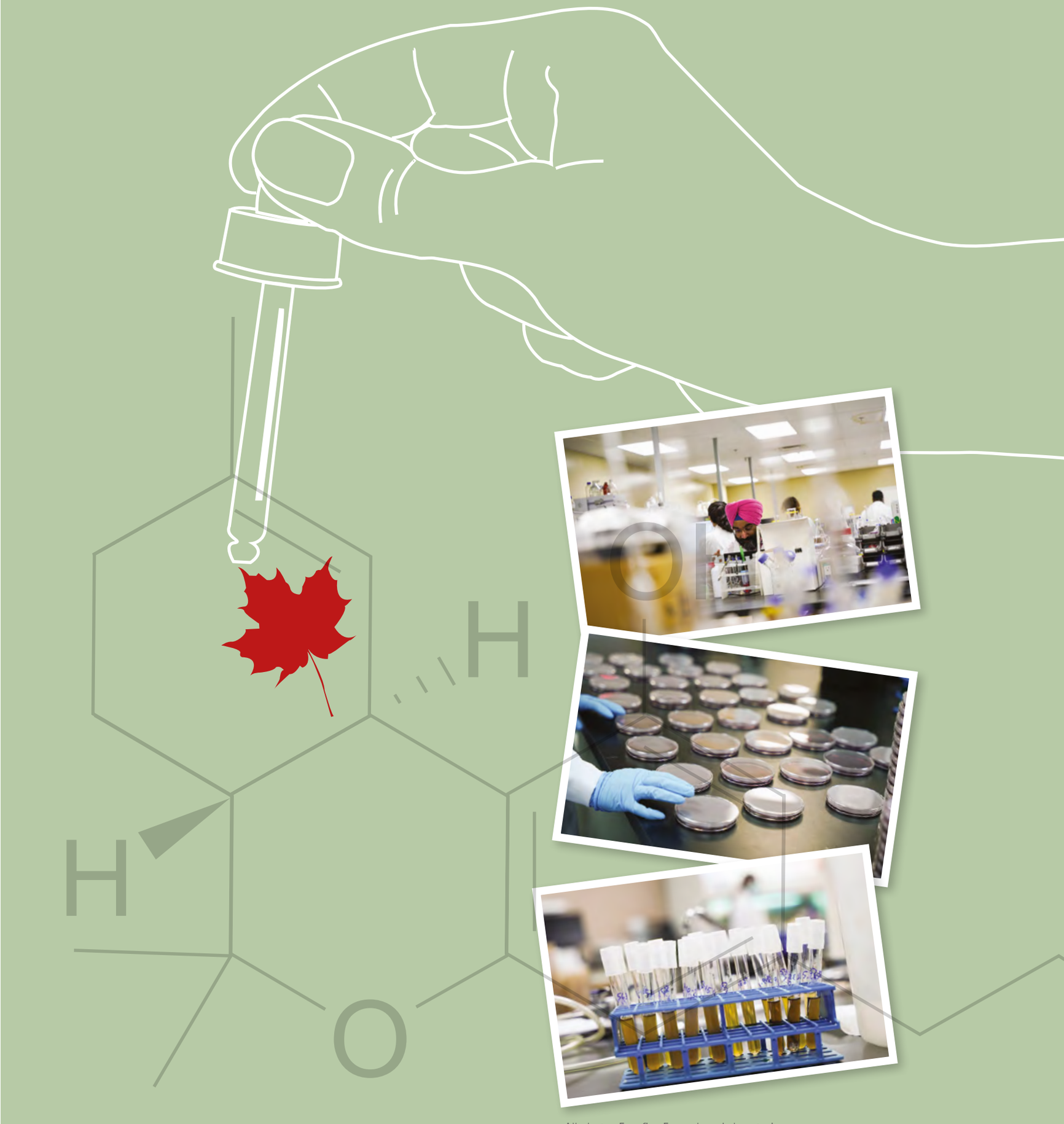
In late 2015, the team began working with Health Canada, the Government of Canada department responsible for national health policy, to offer regulatory support for medicinal cannabis, through a new service offering, Eurofins Cannabis Testing and Consulting Services. In parallel, Eurofins Experchem scientists have also been instrumental in developing analytical testing methods in the medicinal cannabis field, which they conduct under Good Manufacturing Practice (GMP). They have also supported Eurofins companies in other licenced countries, such as Denmark, the UK, and Australia, with their own medical cannabis testing start-ups.

Taking a chance on a new business paid off: in just a couple of years, Eurofins Cannabis Testing and Consulting Services went from a new, zero revenue venture to a double-digit million-dollar business.

It's a success that can be credited to the freedom to take quick decisions, something that Sohil, for example, didn't experience in the same way during his tenure at competing companies. "At Eurofins, there are no blocks to seemingly crazy ideas, if there is a rationale for success," he explains. "As an entrepreneur, I like the freedom to get into whatever area of testing I feel will be right for us as a business."

As approaches to global health continue to change, and new avenues of effective treatment emerge, the scope for the business continues to grow – Eurofins has even entered the medical psychedelics testing market, with the Eurofins BioPharma Product Testing network including the only laboratory in Canada licenced to do such testing, as of April 2023.

"Our freedom to act, take initiative, be decisive, and ability to think out of the box is the key to our success," Sohil reflects. "To me, entrepreneurship is the foundation of Eurofins."



All photos Eurofins Experchem Laboratories.

COMPANY SPOTLIGHT
BIOLAB

MILAN, ITALY

"He founded the laboratory out of his own apartment"

Eurofins Biolab has an interesting history of ownership since the microbiology laboratory, then Biolab, was founded by Italian entrepreneur Alessandro Salvi in 1971.→

The company took a focus on cosmetic testing, and in 1988, SGS – one of Eurofins' main competitors – purchased Biolab. SGS remained the owner until 1994, when, dissatisfied with the centralised structure of the SGS Group, Salvi repurchased his company and resolved to grow it under his own leadership again.

"This was a man who founded the laboratory out of his own apartment in Milan," explains Marco Baeli, General Manager for Eurofins BioPharma Product Testing (BPT) Europe, who joined Biolab in 2003. "He was not happy to simply be an employee."

It is then not surprising, perhaps, that two years later, in 1996, Biolab rejected Eurofins' first offer to buy the business. In fact, Salvi embarked on a similar mission himself, connecting with other Italian laboratories to try to build his own network of companies. However, legal and financial obstacles hampered these efforts. Ultimately, the financial backing that Eurofins could provide, and its shared vision of a broad testing network, brought Biolab to the negotiating table a decade later.

"He was not happy to simply be an employee"

So, in January 2007, Eurofins acquired Biolab, its second laboratory in Italy and one of the first in BioPharma Product Testing (BPT). Biolab was a good match for Eurofins, as "the nature of the Eurofins network allowed us to run our own laboratory and drive our own business," Marco says. In return, as Eurofins was the newcomer to BioPharma Product Testing industry at the time, "it allowed Biolab to shape the future of Eurofins' BPT strategy."

Interestingly, to this day, the Salvi name is still a part of the Eurofins BPT business, not only in Biolab's legacy but with Alessandro Salvi's son, Luca Salvi working as Managing Director of Eurofins BioPharma Product Testing Spain.

4.5 THE ORIGINS OF EUROFINS ASSURANCE

From 'Testing' to 'TIC'

The Eurofins network owes its growth to the willingness of its people to seize opportunities in new markets, and it's this ethos that saw Eurofins' inspection and certification business come into fruition.→

One of its national leaders, Fayçal Bellatif, National Business Line Leader of Eurofins Food Assurance France, is certainly no stranger to this opportunistic mindset. In 1999, he sold his group of food hygiene and microbiology laboratories to Eurofins, despite the fact that Eurofins' Food and Feed Testing companies at the time were solely focused on food chemistry testing. "But we're in different businesses!" Fayçal had remarked at the time, during initial negotiations with Eurofins' CEO, Gilles Martin. Nonetheless, microbiology capabilities were "exactly what Gilles wanted to acquire" – all part of his vision to lead the food testing markets worldwide.

Fayçal would mirror this entrepreneurial flare himself when a fresh opportunity arose in 2004. The certification and regulatory requirements for food producers were growing, representing a new opportunity for the Eurofins network to expand into an as-yet unchartered territory. With some experience in auditing already, Fayçal proposed to the Eurofins Board of Directors that they establish a brand-new offering that could support health and safety in the food industry through inspection and certification services.

"It was clear that all food suppliers would be bound by certification in order to sell their food products, and that it was a market driven by requirements," Fayçal explains. "We already did some auditing and had the capacity for expansion there, but what we totally lacked was a focus on third-party certification."

Though not everyone was convinced by entering such a different scope, ultimately, Fayçal left the Board meeting with the crucial "why not?" he needed – with a caveat of a deadline of two years to make the new activity profitable.

Obtaining the green light was the easy part: "I knew I was free to bring an idea to the table," Fayçal says. "Eurofins looks for people to contribute to the growth of its network by taking initiative. Its decentral set-up is really built for an entrepreneurial mindset." The bigger challenge, it seemed, would be creating a profitable business from scratch within just a couple of years.

A team was established and they got to work, laying the foundations for the new business and hiring local leaders who could stay close to the operations they would be leading. It was a rigorous and detailed process, but the team's high ambition to establish a successful venture carried them to the end. And once the business was successfully up and running in France, they expanded their activities through Europe and into the USA and Asia.

> "I knew I was free to bring an idea to the table"

Today, the idea that came out of a boardroom discussion is now an established International Business Line within the Eurofins network, Eurofins Assurance, which provides auditing, training, and certification services to the food industry, as well as the consumer products, healthcare, and cosmetics markets. In the decade since Eurofins took the leap into inspection and certification, it has become a reference point not only in the testing world, where its core businesses lie, but across the entire TIC (Testing, Inspection, and Certification) industry.

Photos of Eurofins Consumer Product Assurance employees at work.

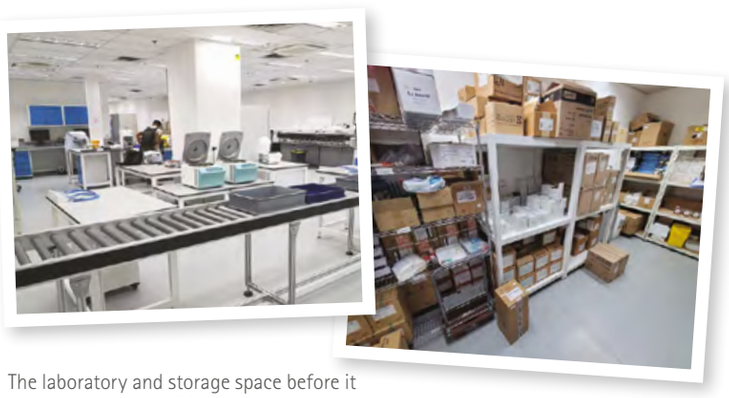
4.6 ENTERING THE CLINICAL MARKET IN SINGAPORE

SINGAPORE, ASIA

Eurofins Clinical Diagnostics laboratory in Singapore after the refurbishment.

How to make some from (almost) nothing

In early 2020, when the COVID-19 pandemic took the world by surprise, there was a sudden, unforeseen need for mass clinical testing to detect and help contain the virus.→



The laboratory and storage space before it was repurposed for COVID-19 testing.

Eurofins sprang into action in all five of its active continents to offer COVID-19 testing of patients, among other services, but its Clinical Diagnostics presence varied vastly between regions at the time: while all countries required a huge ramp-up of capacity to handle such high volumes of samples, some Eurofins countries had no Clinical Diagnostics laboratories, nor experts, at all.

The reaction of Eurofins teams in these areas was one of determination and entrepreneurship: they rapidly set up new Clinical Diagnostics laboratories from scratch, or in some cases, converted existing laboratories in other Business Lines towards this critical testing activity.

Eurofins Clinical Diagnostics Singapore is one such example of speed and resourcefulness. In the following 2022 interview, Jessica Chua, Regional Business Line Leader for Eurofins Clinical Diagnostics in Asia and Michael Chai, General Manager of Clinical Diagnostics in Singapore tell us how their teams approached the development of their new laboratory and launched a resolute campaign to become a trusted government partner for COVID-19 testing – all from zero.

An employee testing COVID-19 samples in the Eurofins Clinical Diagnostics laboratory in Singapore.

Q: LET'S START FROM THE BEGINNING – WHAT WAS THE STATUS OF EUROFINS' CLINICAL DIAGNOSTICS OFFERING IN SINGAPORE IN EARLY 2020, WHEN THE PANDEMIC FIRST BEGAN?

JESSICA: Eurofins Clinical Diagnostics was still setting up its first laboratory in Singapore in early 2020 and didn't yet have its clinical laboratory licence! And in April 2020, when we successfully acquired our laboratory licence for routine clinical testing, Singapore suddenly went into lockdown. We were offering clinical testing services to clinics, doctors, and medical centres, but due to the lockdown, our sales team were unable to do in-person sales visits, so reaching customers was tough.

Q: SO HOW DID YOU FIRST GO ABOUT BUILDING A COVID-19 TESTING LABORATORY WITHIN A SHORT PERIOD OF TIME?

MICHAEL: We decided to make use of what we had. We had a microbiology laboratory room with negative pressure, so we redesigned this space for RNA extraction and did some configurations to meet the authorities' requirements for a COVID-19 laboratory. We also cleared out a storage room to build an amplification room for PCR testing and brought in more equipment. We had to learn on the go and adapt to the situation, as well as bring in the right people to support us. And we have continued to add capacity ever since.

Q: WHAT WAS THE BIGGEST CHALLENGE TO OVERCOME?

JESSICA: The Singapore COVID-19 testing market is quite different from many other countries; swab samples are collected by trained swab collectors from medical institutions, instead of by the laboratory. Initially, COVID-19 testing was also tightly controlled by the authorities, and laboratories could only perform COVID-19 testing upon being contracted by the Ministry of Health. Despite our effort to engage with the authorities, the Ministry of Health didn't believe they needed the help of such a relatively small laboratory. But we remained steadfast in our drive to support COVID-19 testing and we had Group-level support to keep trying, so we continued with the validation of our molecular assay – and in August 2020, our new molecular laboratory passed its government audit and we received our licence for COVID-19 PCR testing!

Q: WHAT CONVINCED THE AUTHORITIES THAT EUROFINS SINGAPORE WAS A WORTHWHILE PARTNER IN THE FIGHT AGAINST COVID-19?

JESSICA: Eurofins' contribution to the resumption of cruise tourism in Singapore played an important role. Through our global contract with Royal Caribbean Cruises, we were doing the testing for their crew and passengers here in Singapore – this allowed us to develop our strengths. Then, we started to receive small allocations of samples from the government.

MICHAEL: At first, we received few samples, but I think they quickly realised that the quality Eurofins laboratories could offer was better than they had experienced with other laboratories, so they started sending us a bigger and bigger proportion of national samples.

JESSICA: We also offer one of the fastest turnaround times on the market, so when there was a cluster of cases, the government was initially surprised to receive results from us in a matter of hours. We literally set a new standard for the market!

Q: HOW DID THE NEW LABORATORY KEEP UP WITH HIGH SAMPLE VOLUMES?

MICHAEL: We optimised our workflow to process more samples within a shorter timeframe, and our people are cross-trained to be versatile to handle job rotations and absenteeism. We started off doing less than 100 samples a day – it was tiring and we were sweating! As we grew and gained more experience, our team could easily process 5,000 samples per day…without breaking a sweat. Our system is also integrated into the government system electronically, so results are transmitted almost instantly.

JESSICA: We can process up to 7,500 samples per day now! As senior managers, we aren't hesitant to roll up our sleeves and work alongside our staff on the laboratory floor to keep the morale up. In Eurofins companies, we all work exceptionally hard as a team, from top to bottom.

Q YOU'VE BEEN PART OF A CRUCIAL EFFORT TO MITIGATE COVID-19 – WHAT HAS MADE YOU MOST PROUD OF THIS?

JESSICA: As I see it, we are just doing our job! But I will say that I am proud of the learning journey we've been on. It was a steep learning curve as we started off with very minimal understanding of a molecular biology laboratory. But we learnt how to build a highly efficient and scalable laboratory from our colleagues in the global Eurofins network. We wanted to show what a small, young laboratory can do, and as such, expanded our Eurofins Clinical Diagnostics footprint. Now we have a clinical presence in five Asian countries, and here in Singapore, we are working on offering a wider service portfolio to several market segments, such as corporates and the specialists market.

MICHAEL: For me, the best moment is when a customer tells you they have worked with many other laboratories, and that their experience with Eurofins was by far the best. That moment really makes us proud.

COMPANY SPOTLIGHT
AGRISEARCH UK

“Stronger together”

In 1980, Agrisearch UK Ltd was founded as a family-run business. Based in the Midlands, UK, this research and consultancy company was created to serve the crop protection industry. →

An Agrisearch employee using the company’s combine harvester to collect samples.

The family-run company enjoyed 25 years of successful business and considerable expansion before the owners chose to enter into acquisition negotiations. With a history of several Eurofins laboratories collaborating with Agrisearch and having seen the industry's potential first-hand, Eurofins successfully acquired Agrisearch in 2006, officially entering the Agroscience Services market in the UK.

Not everyone realised, however, that Eurofins would simultaneously acquire Agrisearch's main competitor, GAB Consulting, a German company, on the very same morning. Naturally, this sent a ripple of surprise – even frustration, in some cases – through employees and shareholders in both companies, who now had to work together.

But GAB's geographical scope, which focused on Germany and Eastern Europe, complemented that of Agrisearch, which was primarily based in the UK and Western Europe. Minimising crossover and maximising compatibility was, therefore, much easier than some may have presumed – with the trickier challenge being finding compromise between the British and German working style, perhaps! Luckily, the once-bitter-rivals soon gelled as a team and even coined their own slogan, "Stronger together".

> "Eurofins gave us the backing we needed to go for it"

Eurofins had much to learn about the world of field work and agricultural equipment…it was certainly the first of its companies to have tractors and combine harvesters onsite. The new unit's processes were very different to the typical Eurofins laboratory of 2006, with projects being carried out over a period of eight to 12 months or longer, compared to the 12-48 hour turnaround time that was standard in other Business Lines, and financial periods dictated by season. The nature of the activities also required access to a larger geographical spread than Eurofins' consolidated laboratory sites, in order to gather data from a range of climates and soil conditions.

Once integrated, Agrisearch benefited massively from Eurofins' financial backing and willingness to invest. This, and Eurofins' network structure, allowed the company to establish a presence in countries and continents not previously economically feasible, leveraging the existing administrative functions already set up in Eurofins' National Service Centres around the world. Expanding into the Southern Hemisphere also allowed the Agrisearch team to conduct seasonal work all year round.

"Anything that could be justified and had a good business case generally was accepted," explains Ian Greig, Managing Director of Eurofins Agroscience Services Ltd, who originally joined Agrisearch in 1993. "We developed a business plan to enter the USA, for example, and Eurofins gave us the backing we needed to go for it."

Eurofins Agroscience Services now offers a true global service to their clients, providing technical knowledge and regulatory support to agrochemical manufacturers and the seed industry in Europe, North America, South America, Asia, and Australia.

CHAPTER 5

WHAT DOES EUROFINS STAND FOR?

Innovation

Eurofins' appetite for innovation dates back to its very inception. Indeed, the first Eurofins laboratory was founded upon a milestone innovation in authenticity testing – namely, the SNIF-NMR™ analytical method, developed by Professors G. and M. Martin and their research teams at the University of Nantes in 1981.→

The method was first developed to detect the prevalent problem of exogenous sugar being added to grapes to increase the alcohol content of wine, something known as chaptalisation, by using Nuclear Magnetic Resonance (NMR). This type of sophisticated food fraud typically evaded other testing methods.

In 1987, this zeal for innovation became a cornerstone of the newly established Eurofins company, which commercialised the SNIF-NMR™ method and has built upon its scope of application ever since; the method is now used for a wide range of food and beverage categories and has become a gold standard of food authenticity testing. In parallel, Eurofins has built a database compiling the 'fingerprints', i.e. the unique identifying characteristics, of a wide range of foodstuffs, to facilitate better traceability and improve the turnaround time of authenticity test results. Today, Eurofins' SNIF-NMR™ fingerprint database currently holds over 100,000 pieces of data.

The invention and persistent expansion of SNIF-NMR™ technology and its corresponding database have paved the way for a rich history of innovation in Eurofins companies, which continue to pioneer new methods and technologies in their fields. This chapter will cast a spotlight on just some of these innovations, how they came to be, and their impact on the wider world.

This zeal for innovation became a cornerstone of the newly established Eurofins company

A dinner date in space

The 60s are famous for many things, not least the fraught 'space race' to demonstrate superior spaceflight capability.→

With the first human space launch in 1961, and Neil Armstrong's famous 'leap for mankind' in 1969, the 60s represented a decade of research and groundbreaking milestones for space travel – and with that came landmark innovation in food technology. Around this time, NASA's missions into outer space were becoming increasingly longer, with the Apollo 11 journey to the moon and back taking eight days. This meant that, on top of years of meticulous engineering and training, one very crucial question needed answering before take-off: what were the astronauts going to eat?

Outer space is a unique environment. With this in mind, food products could not simply be prepared and packaged as they are for normal consumption. Not only would they require lyophilisation, or freeze drying, to ensure their stability and safe storage, they needed to contain substantial nutrients to maintain the astronauts' health throughout the highly physically demanding mission – all while tasting good.

Outer space is a unique environment

NASA reached out to two food testing companies, WARF Institute and Hazleton Laboratories, both of which have since been integrated into the Eurofins network. Their experts needed to come up with a step-by-step process to fortify world-first astronaut meals, alongside developing new analyses to measure the nutritional value of these very particularly prepared products. Some of the processes they ultimately developed relied on innovative approaches to High Performance Liquid Chromatography (HPLC) and Inductively Coupled Argon Plasma Atomic Emission Spectroscopy (ICP-AES) methods, techniques to isolate, identify and quantify components within food products. These methods have since been validated by AOAC International, the reference authority for chemical and microbiological analyses, and are now also used outside of space travel for precise and reliable food testing in general.

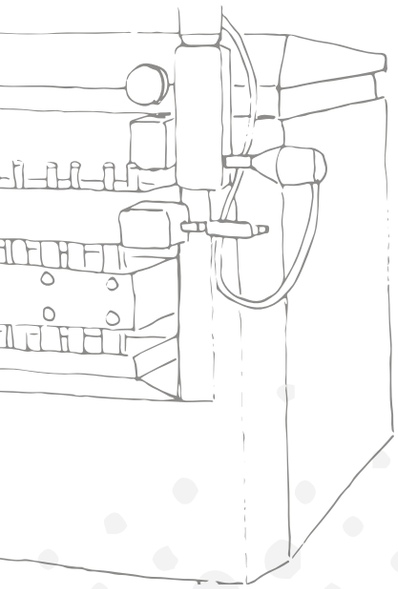
Over the years, WARF and Hazleton maintained their close working relationship with NASA, later under Covance Food Solutions and now as part of the Eurofins Food and Feed Testing network. Their team of experts continue to contribute to the development of new and tastier food options for astronauts, that can remain stable for up to five years. Eurofins Food and Feed Testing companies notably contribute to the quality control testing for food products used in the International Space Station and, as the first manned mission to Mars draws closer as a possibility, their teams of scientists are working to make sure tomorrow's space pioneers will be healthy and well-fed on their missions to explore new frontiers.

What were the astronauts going to eat?

Left: A food tray scheduled to be used in the Skylab programme (the USA's first experimental space station), 1972. Photo credit: NASA.

Right: American astronaut and engineer Sandra Magnus, holding food pouches in the International Space Station, 2009. Photo credit: NASA.

COMPANY SPOTLIGHT
COVANCE FOOD SOLUTIONS



"Quite a feat for Eurofins"

In 1933, the Wisconsin Alumni Research Foundation, part of the University of Wisconsin, started a food testing business, which later became a part of Corning Incorporated. →

"What? You mean I don't have to prepare a lengthy presentation to convince you?"

This was the inception of Covance, which only earned its familiar name in 1996, when it was spun off along with Corning's pharmaceutical services business. Though Covance's pharmaceutical activities were much larger, its food testing subsidiary, Covance Food Solutions, established itself as a pioneer in food, beverage and dietary supplement testing services, becoming the biggest food testing laboratory in the United States in the late 1990s, with specialties in infant formula and nutritional supplement testing.

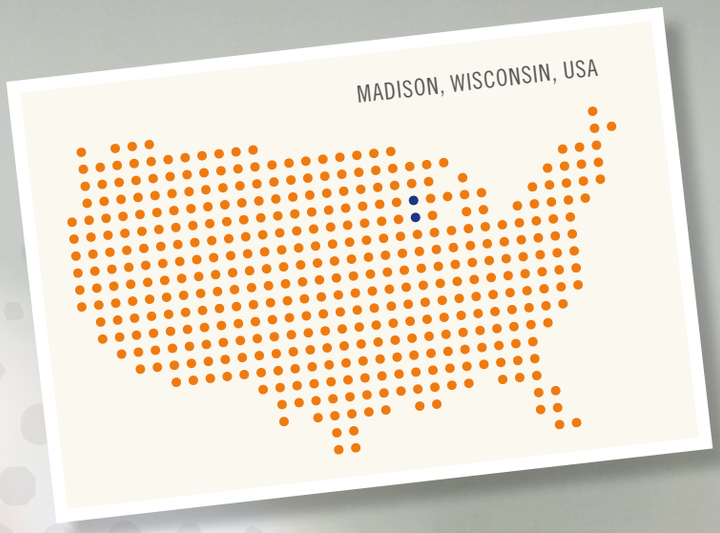
In 1997, Eurofins also entered the food and feed testing market in the USA, with the acquisition of Nutrition International. At the time, Eurofins' global footprint of seven laboratories was much smaller than the likes of Covance and many other of its North American competitors, but as the Eurofins name grew, so too did its allure, drawing in new employees from some of the most prominent laboratories nationally – including Covance Food Solutions. These new joiners highlighted the valuable expertise and experience that Covance scientists could bring to the table.

> Covance Food Solutions established itself as a pioneer in food, beverage and dietary supplement testing

In 2013, after 25 years with Covance and 11 years in Covance Food Solutions, Mary Kay Krogull – now the Eurofins Senior Vice President of Food and Feed Testing Ontario – was one of several to make this switch. She recalls the stark contrast between the two organisational structures: "I was shocked when I put in a request for new high-performance liquid chromatography equipment and the answer was, 'Okay, let's buy it'. I said, What? You mean I don't have to prepare a lengthy presentation to convince you?"

By 2018, Eurofins was well on its way in its mission to build an unprecedented global testing platform and had the unique opportunity to acquire Covance Food Solutions, which by then had built an integrated network of 12 facilities in the USA, UK, and Singapore. But it was not the only company with its eyes on Covance – Eurofins was up against five serious competitors in what turned into a fierce bidding war, but ultimately, it came through as the successful bidder – "quite a feat for Eurofins," adds Mary Kay.

The acquisition of Covance Food Solutions and its 850 employees brought additional high-quality assets into the Eurofins network under two new brands, Eurofins Food Chemistry Testing Madison and Eurofins Botanical Testing Brea, CA, and marked a significant milestone in solidifying Eurofins' world-class Food and Feed Testing portfolio.



Top right and above: Photos from Covance Food Solutions, 2017.

Right: Eurofins Chemistry Food Testing Madison laboratory.

Taking the ‘identical’ out of ‘identical twins’

We’ve all heard the claim in crime fiction before: genetically speaking, there is no way to tell identical twins apart – that is, twins who developed from a single fertilised ovum.→

This dilemma has been at the root of many legal issues, from paternity suit dismissals to high-profile acquittals of serious crimes. But it raises the question: is the DNA of identical twins really identical?

Determined to crack the case, experts from Eurofins Medigenomix Forensik and Eurofins Genomics in Germany, together the largest commercial DNA and genomic service provider in Europe, joined forces to come up with a game-changing scientific breakthrough. They found that through a genome sequencing approach, it was possible to spot specific mutations that happen in the early stages of all embryonic development. These occurrences are specific to each individual, meaning DNA samples from one identical twin can be distinguished from the other.

Burkhard Rolf, Managing Director of Eurofins Medigenomix Forensik GmbH, sheds some light on the story behind this innovation and its impact on the forensic field.

Is the DNA of identical twins really identical?

Q: WHY WAS IT SO IMPORTANT TO BE ABLE TO TELL IDENTICAL TWINS APART AT A GENETIC LEVEL?

BURKHARD: Monozygotic, or 'identical', twins are a lot more common than you'd think – they represent one in 250 people worldwide! And to really understand the importance of this innovation, you have to consider the implications outside of the scientific field. If two individuals share the exact same DNA, there is no way to tell them apart from a legal perspective – which means if your suspect in a criminal case has an identical twin, you simply can't prosecute them. Finding a way to differentiate identical twins was a huge step towards bringing closure to families impacted by such cases.

Q: HOW DID YOU COLLABORATE WITH EUROFINS GENOMICS TO DEVELOP THE TWIN DIFFERENTIATION METHOD?

BURKHARD: It wasn't our first time collaborating; Eurofins Genomics' experience, resources and services have been of tremendous help to us throughout the years. When working to answer this twin differentiation conundrum, we made good use of their next-generation sequencing (NGS) method to screen whole genomes for even the tiniest of differences. Eventually, we found what we were looking for: rare mutations that occur very early in the embryonic stage and are therefore unique to each twin. Even better, we were able to provide evidence that, because these changes happen so early in the embryo's development, they can be found throughout the individual's DNA, notably in their reproductive cells (gametes). This means the genetic characteristic is inherited by their children, so it can also solve paternity cases involving monozygotic twins as potential fathers.

Q: TO WHAT EXTENT HAS THE METHOD BEEN WELL RECEIVED AND UTILISED?

BURKHARD: Since our initial publication in 2014, our method has been used to successfully establish paternity in a number of cases brought to us by family or criminal courts, and as the feedback from the larger forensics community and the associated media coverage has been overwhelmingly positive, we've certainly been kept busy with even more cases!

The first application of the test in a criminal case context was to support the Boston Police Department and Suffolk County District Attorney's Office in a serial rape case, in which one of the offenders had an identical twin. We used saliva samples to unambiguously match the DNA to one twin, which was powerful evidence. However, the US justice system tends to be wary of new techniques, so as it awaits recognition from the criminal courts in the United States, this evidence cannot yet be admitted in court, as of July 2022.

Q: WHAT CHALLENGES DO YOU FACE?

BURKHARD: The biggest challenge for us is to stay 100% focused when dealing with the most sensitive cases. It is impossible not to feel for the families involved, but at the end of the day, we always maintain the highest professionalism and we can clock out knowing we helped bring families and victims closer to the truth.

Q: SO, WHAT'S NEXT FOR THE METHOD?

BURKHARD: Actually, the scope for potential future applications of this method is quite extensive. We have already cut costs by 50% to make it more accessible to families in need of answers, but we don't plan on stopping there. We are exploring alternative screening methods, such as microbiome profiling, which would entail looking at new genetic areas to even further improve accuracy and reliability.

African Swine Fever – more than a farmyard flu

Like humans and pets, farm animals commonly receive vaccinations to protect them from certain diseases.→

However, the right vaccines are not always commercially available to help curb the impact of animal health endemics.

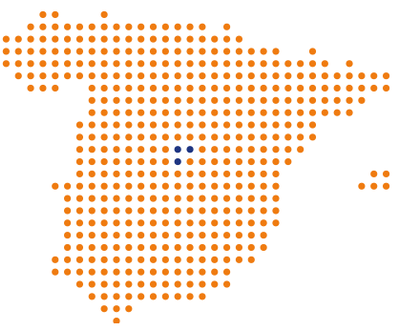
This is exactly the case for African swine fever (ASF), a highly contagious and usually fatal viral disease affecting domestic pigs and wild boar. Since it first broke out in Kenya in 1921, the virus has caused epidemics in Africa, Europe, the Americas, and Asia, with a huge socioeconomic impact on the swine industry and the communities that rely on it: infection not only spreads rapidly but means that any not-yet-infected pigs in the herd must be culled to stop the spread of the virus.

Eurofins Ingenasa, an Eurofins In Vitro Diagnostics Solutions company based in Spain, is an important contributor to efforts to develop and deploy a safe and effective vaccine for domestic pigs and wild boar. To support the European project, 'A safe DIVA (Differentiating Infected from Vaccinated Animals) vaccine for African Swine Fever control and eradication (VACDIVA)', Eurofins Ingenasa is developing a set of assays for DIVA tests, which can accurately monitor the vaccine's efficacy and differentiate between infected and vaccinated animals – a crucial aspect of vaccine development and strategy.

Infection not only spreads rapidly but means that any not-yet-infected pigs in the herd must be culled to stop the spread of the virus

This is not Eurofins Ingenasa's first time tackling African swine fever. In fact, they have been carrying out pioneering work to fight this animal health epidemic since 1984, following an early outbreak of ASF in Europe, when the company developed the first commercial ELISA test capable of detecting antibodies against the virus in serum from the blood of pigs and wild boar. Over the next decade, this antibody test was deployed by veterinarians across pig farms in Spain as part of successful national eradication programmes.

More recent outbreaks of ASF – notably that in China in 2018 – mean this technology is still relied upon as an important control measure. Today, Eurofins Ingenasa has developed a full catalogue of tests for specific ASF antigen and antibody detection, which have been employed to carry out eradication or control programmes in Sardinia, the Dominican Republic, many countries in Asia, and elsewhere.



MADRID, SPAIN

This technology is still relied upon as an important control measure

Is it really vegan?

20 years ago, veganism might have been seen as a niche lifestyle choice, but recent years have seen the popularity of animal-free foods and consumer products grow significantly.→

"Many clients are surprised to discover that their goods aren't 100% vegan"

The late 2010s saw the start of a new era of vegan-consciousness, with many brands starting to label some of their products as vegan for the first time.

The growing consumer demand for alternatives to animal-derived materials – particularly leather, but also silk and wool – has triggered creative innovations in the consumer product space, from bamboo bags to shoes made from sugar cane. But who is checking what really is or isn't vegan? With no legal framework to mandate vegan verification or formally hold companies to account in terms of misinformation (as of 2022), brands are at risk of adding vegan claims to products that used animal parts or their by-products at some point in the supply chain, knowingly or otherwise.

Even when a leather substitute itself, for example, is vegan, there are many risk factors at play in the finished handbag or pair of shoes. "A lack of third-party checks has resulted in manufacturers using animal-based dyes, base chemicals, and pigments, often unintentionally due to a lack of research or supply chain transparency," explains Victoria Addy, Chief Technical Officer of Eurofins Sustainability Services. Shoppers are becoming increasingly wise to this: "Self-certification as vegan has already aroused suspicion and confusion among consumers – sometimes, brands are unable to answer questions about vegan product claims from these customers."

Eurofins found a way to determine whether animal DNA was present

Companies quickly realised that relying on self-certification could pose threats to their brand reputation. They needed a partner who could certify their consumer products as vegan with confidence, and Eurofins | BLC, part of the Eurofins Consumer Product Testing network, noticed a gap in the market for this service. Where testing services did exist, these methods typically only identified animal proteins or microscopic animal fibres in products, but the Eurofins company wanted to complement this offering with more precise DNA analysis. Initially, this presented a challenge, as detecting animal DNA in finished products is a difficult task; the DNA in various components of a product is often altered during extensive production processes.

But through the development of sophisticated DNA analysis for input chemicals, Eurofins found a way to determine whether animal DNA was present in formulations used in textile and synthetic materials, proving whether vegan-friendly substances had been used during production. This breakthrough led to the launch of the Eurofins | Chem-MAP® Vegan Verification programme, which facilitates brands to promote their vegan product lines with peace of mind.

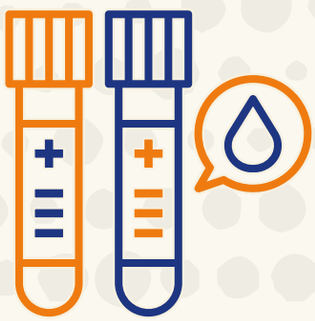
In some cases, testing results from the programme show brands that they need to go back to the drawing board and rethink their 'vegan' supply chain. Victoria says, "many clients are surprised to discover that their goods aren't 100% vegan. Abstaining from the use of animal products is deeply important for vegans – our programme allows brands to build credibility with consumers by having all the insights to accurately answer queries about the composition of their vegan products."

And vegan goods are cropping up on far more shelves than those in clothing and accessory departments. The same trend is in motion among shoppers of cosmetic and cleaning products, for example, and even picking up pace in the electronics sector. Eurofins Consumer Product Testing companies are therefore continuing to innovate additional vegan testing capabilities to serve clients in other industries.

5.5 INNOVATION

Transforming cancer care

Eurofins scientists are not afraid to break the mould, and certainly do not shy away from new technologies and methods with the potential to revolutionise patient care.→



Research is highlighting alternatives to standard cancer treatments, that can promise better results and patient comfort – a movement that Eurofins companies are helping to drive through clinical innovation.

Personalised cancer treatment – the gold standard of cancer care – relies on frequently monitoring the genetic mutations within the tumour, but the monitoring method itself can have a huge impact on data accuracy, as well as patient comfort. The current medical standard is a tissue biopsy, a costly and often painful procedure, which involves extracting suspected cancerous tissue with a small needle or by surgically removing a larger portion. Not only does this procedure carry risk, especially when performed repeatedly, but a single tissue sample is heterogeneous, meaning it often does not reflect all the mutations at the tumour site.

That's why, in recent years, the medical community has been increasingly interested in the potential of circulating tumour DNA (ctDNA) for cancer screening and diagnostics. This is DNA that is secreted by the tumour and circulates in bodily fluids. Because genetic defects found in ctDNA are identical to and representative of the entire tumour genome, it allows scientists to profile the tumour accurately. To do so, they need to take a blood sample and then extract DNA fragments from blood plasma – a non-invasive process known as liquid biopsy – which is comparatively quicker, more affordable, and safer than tissue biopsy.

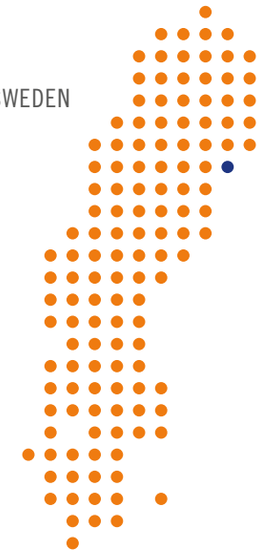
Tissue biopsy is a costly and often painful procedure

In 2017, Eurofins Genoma, a Eurofins Clinical Diagnostics company, launched Onconext Liquid™, the first commercially available liquid biopsy test, in partnership with the Regina Elena National Cancer Institute of Rome. Crucially, this was the first project of its kind to make the technique available for daily clinical practice in Italy, as well as the first to prove the appropriateness of liquid biopsy for screening early-stage cancer, where a sensitivity at least tenfold to that of metastatic cancer (cancer that has spread to other parts of the body) is required. A later project from Eurofins Genoma explored how liquid biopsy can be used to manage head and neck tumours to detect multiple mutations with very low allelic frequencies (<1%), helping to reveal the potential spread of tumour cells.

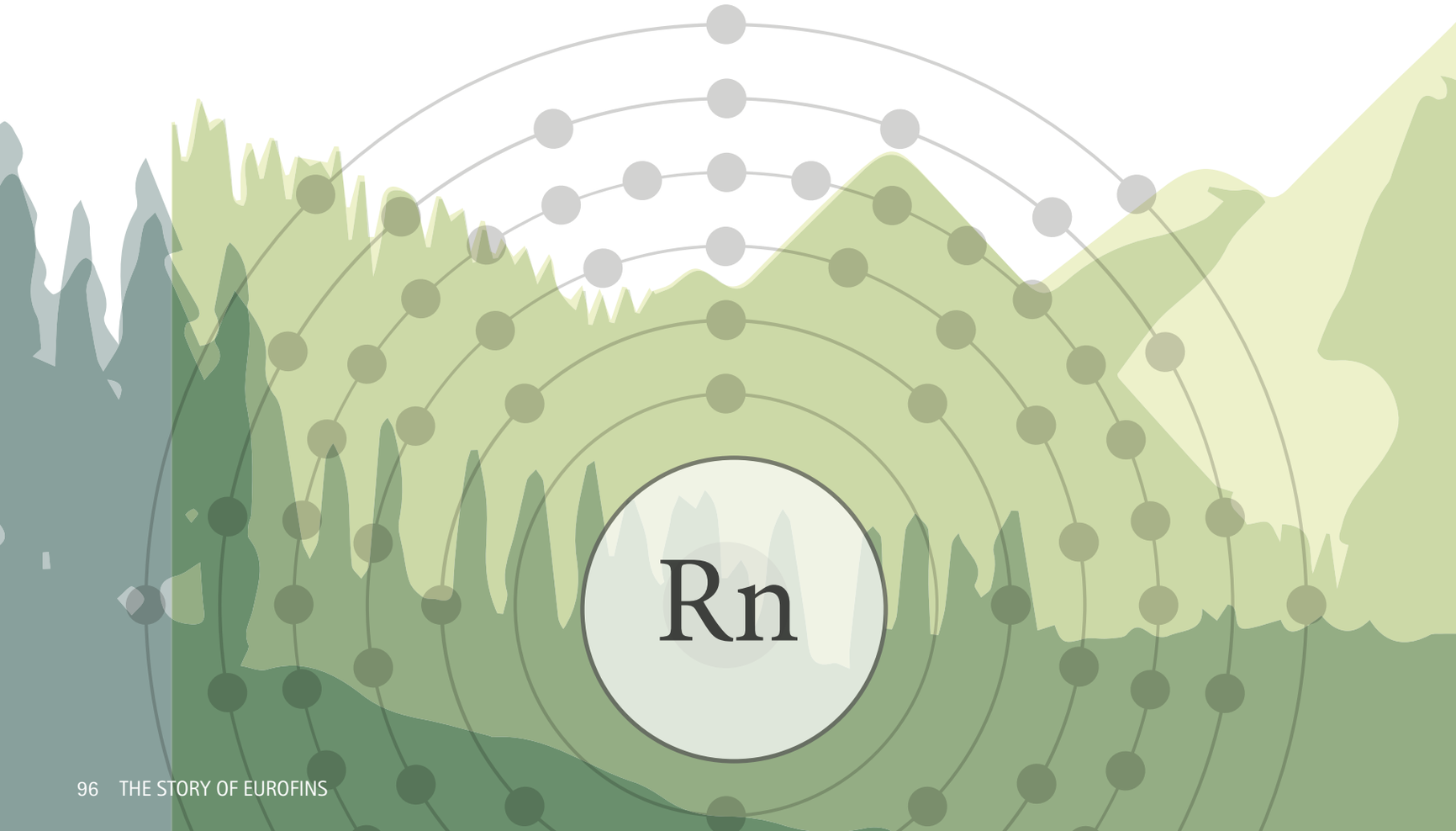
Eurofins Genoma employee extracting cfDNA from a blood sample.

Sweden's natural nightmare

LULEÅ, SWEDEN



Sweden is well-known for many things: pop music that transcends generations, iconic Swedish meatballs, flatpack furniture, and, of course, its beautiful forests and lakes. What many don't realise is that its green landscape also harbours a lesser-known phenomenon: radon gas emissions.→



Radon gas is a naturally occurring, radioactive gas that's produced when uranium in the ground decays, an element that Sweden's natural geography is not short of. Radon is odourless and colourless, and it might not meet your expectations for a typical radioactive gas, as it comes without acute poisoning symptoms. But that doesn't mean it isn't dangerous. It can seep into enclosed spaces through cracks in foundations and accumulate to dangerous levels, entering the lungs and potentially causing lung cancer over time. Responsible for 14% of all lung cancer diagnoses in Sweden, radon gas causes more deaths in Sweden per year than road traffic accidents, for instance.

But to detect and measure this environmental hazard, very sensitive and reliable tests are required, such as Eurofins Radon Testing Sweden AB's 'track etch' method. This was developed by geological specialists at the legacy company, MRM Konsult, who had worked for the government's geology unit in the 1980s. The innovation was all thanks to some eagle-eyed field work, niche expertise, and some good fortune.

Eurofins Radon Testing Sweden was the first to make this method commercially available

While working at sites with known uranium deposits, the specialists noticed that plastic coverings were becoming warped and damaged in the presence of radon gas. This phenomenon formed the premise of the 'track etch' method, which can detect and measure the gas inside buildings over a period of two months by installing a detector with a small plastic film inside. This film is damaged by radon gas, just like the plastic sheeting, and the resulting lesions can be examined by specialists to determine the level of radon gas present in a given building. Eurofins Radon Testing Sweden, as MRM Konsult, was the first to make this method commercially available, as well as the first laboratory to receive accreditation for radon testing. Their method is now the ISO Standard 11665-4, having set a global benchmark.

Since then, and with Eurofins' acquisition of MRM Konsult in 2016, the method has seen further innovation through automation and robotics. Monika Karlsson, Managing Director of Eurofins Radon Testing Sweden and Norway, explains that "in 2015, we were touching each and every sample eight times from receipt at the laboratory to when the report was finished. Now it's touched once… and it is a robot which does this!"

As a result, turnaround time for the entire sampling and testing process has been reduced from 60 days to just five days, making it the fastest radon test on the market. As part of this, the chemical process has also seen a huge time reduction, now almost 75% quicker, at just over an hour, massively increasing the company's capacity to one million samples per year. Monika notes: "Before, if you were a good laboratory technician, you could perform radon testing on 150 samples per hour. Today, we have a speed of 800 samples per hour."

COMPANY SPOTLIGHT
MRM KONSULT

“Eurofins is very proud to have this company as part of the network”

Mark Radon Miljö (MRM) Konsult, now known as Eurofins Radon Testing Sweden AB, was founded in 1991 by an entrepreneurial group of geological specialists from the Swedish government’s environmental monitoring unit, Geological Survey of Sweden (SGU).→

The SGU conducted radon testing throughout Sweden, a country where the radioactive gas is a common environmental hazard. But when the government closed the branch to narrow its focus on other activities, nine SGU team members in particular were reluctant to give up their involvement in mitigating the potential negative impact that radon exposure could have in Sweden. That’s when they decided to buy the innovative instruments and methods used by the government, in order to continue providing vital radon testing services under their own private company, MRM Konsult.

Over the next two decades, the company focused on the market in Sweden and other Nordic countries. However, its growth trajectory took a sudden spike in 2013, when a new EU Directive required all EU member states to increase (and better enforce) radon testing in many buildings. Demand for testing skyrocketed, with a twentyfold increase in sample volumes, triggering the expansion of MRM Konsult’s activities.

Eurofins conducts approximately 15% of all radon measurement tests worldwide

Three years later, in 2016, Eurofins acquired MRM Konsult, which was subsequently rebranded as Eurofins Radon Testing Sweden. The acquisition gave the radon team the financial backing and network integration needed to make their global ambitions come true, innovate faster, and foster more efficient ways of working.

The impact of the EU Directive and the benefits of being part of the Eurofins network have allowed Eurofins Radon Testing Sweden to grow significantly. To accommodate further growth, they moved to a new site in June 2021, which was designed with automation in mind and has the capacity to process one million samples per year. As of spring 2023, Eurofins conducts approximately 15% of all radon measurement tests worldwide.

“Eurofins is very proud to have this company as part of the network,” says Monika Karlsson, Managing Director of Eurofins Radon Testing Sweden and Norway, who joined Eurofins through the acquisition of MRM Konsult. “This gives us pride in ourselves, too.”

"The acquisition gave the radon team the financial backing and network integration needed"

Right and below: MRM Konsult employees before the company was acquired by Eurofins.

Bottom right: Eurofins Radon Testing Sweden.

Tackling the PFAS problem

Have you ever cooked with a non-stick pan? Eaten food off a paper plate? Maybe you've worn waterproof shoes?→

If so, without knowing, you've likely come into contact with per- and polyfluoroalkyl substances, or PFAS for short, which comprise a group of more than 4,700 synthetic chemicals.

PFAS have been in commercial production since the 1940s, due to their unique characteristics that can give products heat and stain resistant, non-stick, and water repellent properties, but they can be toxic when they accumulate in the body. Unfortunately, PFAS are difficult to escape nowadays, as they are often present in everyday items such as shampoo bottles, food wrappers, and even dental floss.

The problem is that PFAS are dispersed through air and water, and they can remain in the environment almost indefinitely, something that has earned them the daunting nickname of 'forever chemicals'. They're not only contaminating the densely populated areas you might expect – researchers have detected PFAS in all corners of the Earth, from rainwater in Antarctica to polar bear blood in the Arctic. Alarmingly, dangerous levels of these man-made chemicals have also been discovered in food and agricultural soil around the world, ending up in human blood, and evidence has linked such exposure to serious health issues such as cancer, resistance to vaccines, impaired fertility, and high cholesterol.

A Eurofins Environment Testing in Sweden employee testing for PFAS.

Researchers have detected PFAS in all corners of the Earth, from rainwater in Antarctica to polar bear blood in the Arctic

Eurofins companies are at the forefront of developing methods to test for these harmful artificial compounds across a variety of matrices, including water, soil, food, packaging, air, and blood. For instance, Eurofins Environment Testing in the USA became the first commercial laboratory to test environmental samples for PFAS in the United States and is now helping manufacturers, firefighters, and airports to detect PFAS compounds. Eurofins Environment Testing companies in the USA have also collaborated with the United States Environmental Protection Agency (US EPA) to work to validate testing methods for the identification of PFAS in drinking water and non-potable water.

Across the pond in Europe, Eurofins Environment Testing Sweden AB is a pioneer in PFAS research. It was the first accredited commercial laboratory to be able to detect PFAS in water at LOQs (limit of quantification) of 0.3 parts per trillion. This is equivalent to one third of a single grain of sand in an Olympic-sized swimming pool.

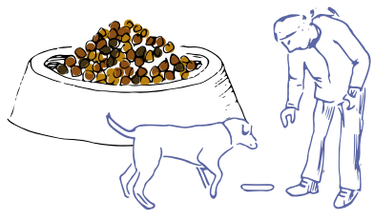
PFAS can remain in the environment almost indefinitely, something that has earned them the daunting nickname of 'forever chemicals'

With rising concern about PFAS exposure in humans, Eurofins Environment Testing companies have also been testing PFAS in human serum as part of biomonitoring programmes. In 2021, they collaborated to launch the world's first direct-to-consumer at-home PFAS test in the United States, made available through Eurofins' at-home health testing business, empowerDX. The PFAS Exposure Test™ uses a simple finger prick test to allow customers to easily measure the levels of up to 47 known PFAS compounds in their blood. Researchers at several universities have also embraced the quick and affordable PFAS Exposure Test™ for their own studies.

DID YOU KNOW...

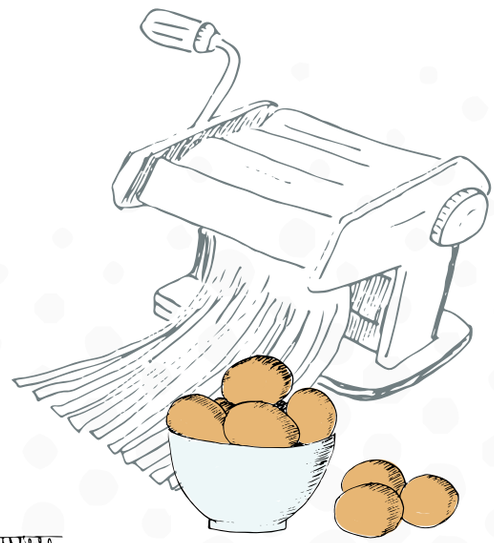
Certain types of PFAS remain in the body for years. For instance, biomonitoring has shown that perfluorohexanesulfonic acid (PFHxS) can be found in human blood up to 35 years after exposure!

CHAPTER 6

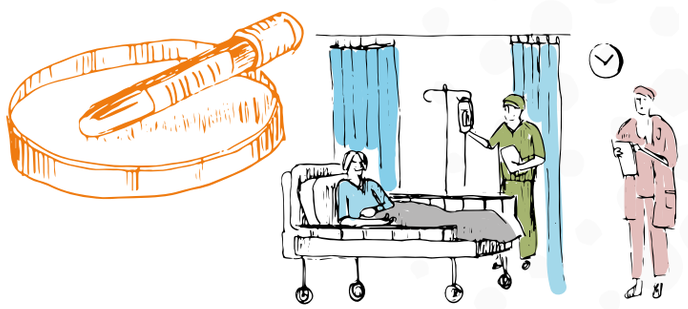


WHAT DOES EUROFINS STAND FOR?

Customer focus and quality



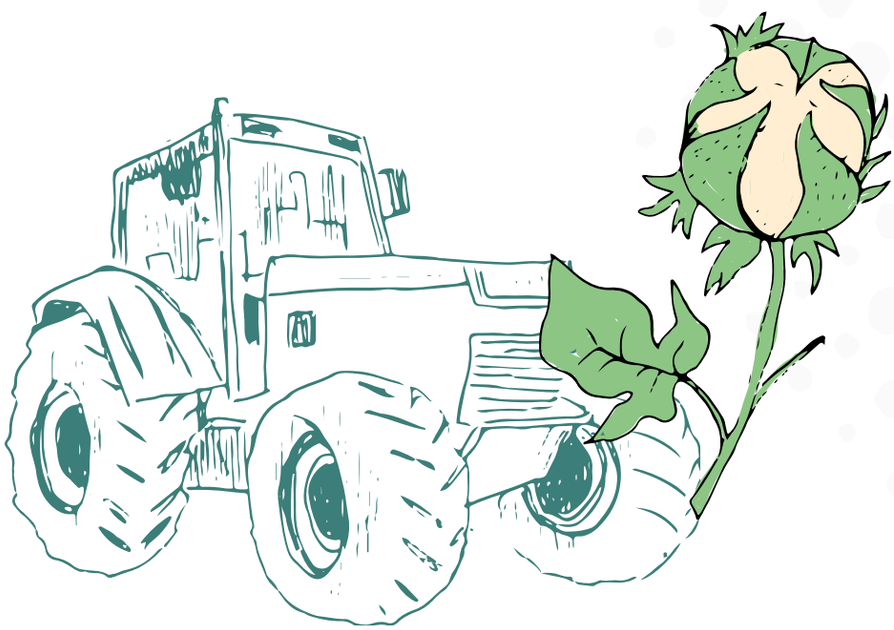
No matter the sample type or the volumes arriving to the laboratories, high-quality analysis is something that clients of Eurofins companies can always count on. →

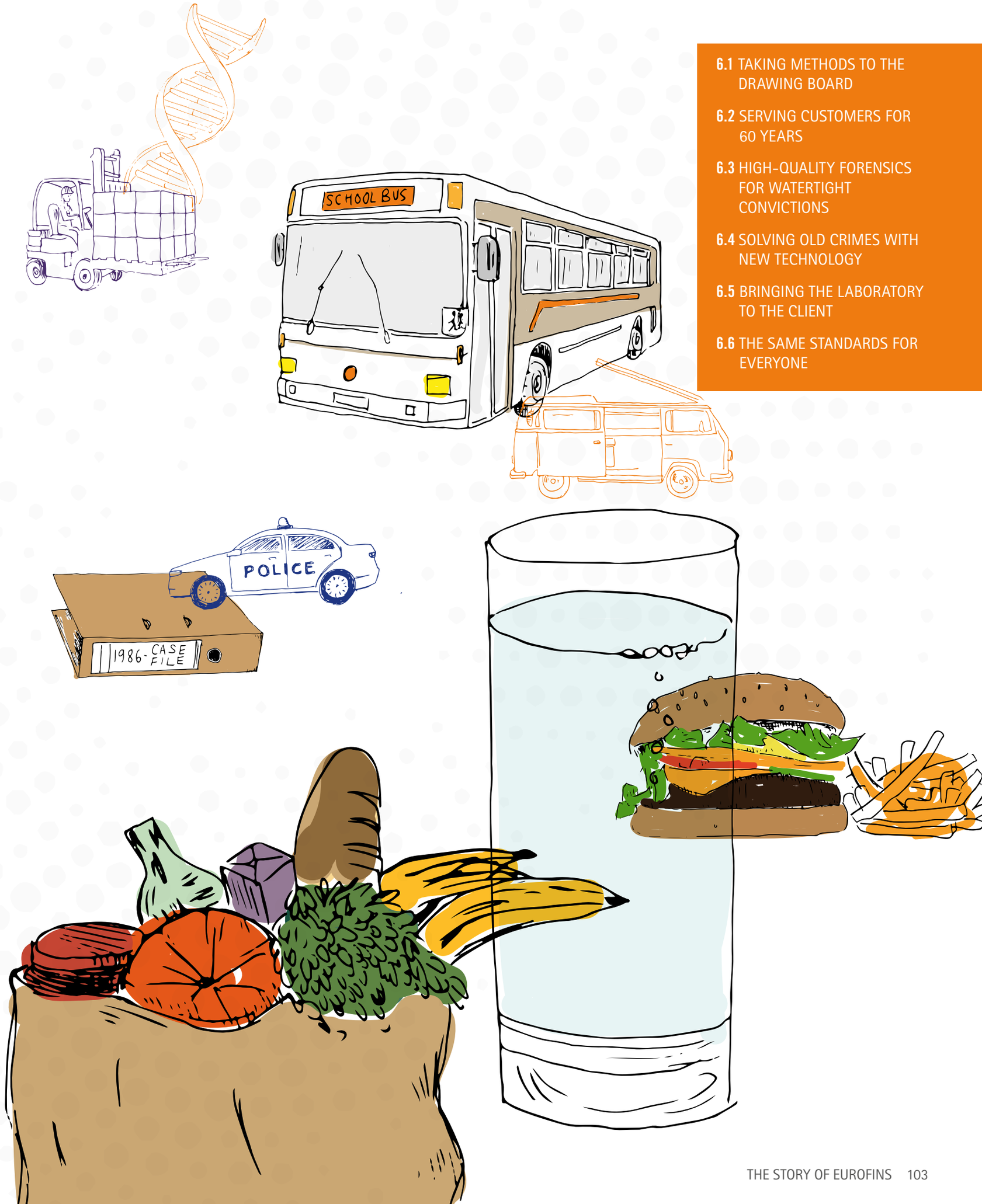


Whether it's food, drinking water, electrical goods, forensic material, agrochemicals, a blood sample, or anything else that Eurofins laboratories touch, cutting corners is off the table: Eurofins scientists are dedicated to the rigour and scientific integrity needed to protect the health and safety of people and the planet.

When clients require new solutions, Eurofins experts are prepared to think outside of the box. They innovate tailored testing methods and, when needed, creative ways of bringing their services to the customer. With such a varied client base, from manufacturers and farmers to police forces and hospitals, Eurofins companies always stay agile in their approach to customer care.

Each of the over 450 million tests that Eurofins companies perform each year benefit from this high quality, attention to detail, and willingness to go the extra mile.





Taking methods to the drawing board

You might think that with over 200,000 verified analytical methods in the Eurofins portfolio, there would be little demand for new methods, but Eurofins companies regularly help their clients with very particular needs.→

When off-the-menu testing requests arise, Eurofins teams can take new ideas to the drawing board or adapt existing methodology quickly, as part of their focus on customer service and innovation.

"In Italy, when we develop a new method from scratch for a customer, the process typically takes just two or three months, from start to finish," says Valeria Merlo, Business Unit Manager of Eurofins Chemical Control (Cuneo), a Eurofins Food and Feed Testing company, based in Italy. "We work with Accredia, an Italian accreditation body, to obtain flexible accreditation that can more easily be extended to other matrices. That allows us to innovate quicker, in line with our clients' demands."

This was the case when a local coffee producer, wary of potential ethylene oxide contamination in the coffee beans they were using, asked Eurofins Chemical Control to develop a method for ethylene oxide testing for coffee beans. Ethylene oxide is banned in the EU, due to its carcinogenic properties, but is sometimes used elsewhere as an antimicrobial pesticide to treat food products for import. Coffee beans had not previously been a known victim of this contamination; the long-running ethylene oxide food scandal has predominantly affected sesame seeds, dried herbs and spices, dried vegetables, and additives.

> "When we develop a new method from scratch for a customer, the process typically takes just two or three months, from start to finish"

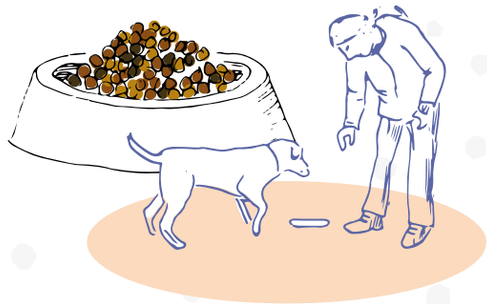
The coffee producer needed a method that could return a result in a very short space of time, so the Eurofins Chemical Control team developed a fast, reliable method that fit the brief. "We were later able to extend this method to propylene oxide testing, another toxic and carcinogenic contaminant," Valeria adds.

Tea companies had worries of their own. In fact, these producers were also keen to verify that their tea leaves were free from contamination, this time from other pesticides. "Pesticides are one of the most concerning contaminants," explains Valeria. "For us, most of our clients are in farming or use ingredients coming from the farm, so pesticides are, in general, a big concern." In response, Eurofins Chemical Control worked with AOAC to validate a method that could test for pesticide residue in tea leaves, which presented a unique analytical challenge, as some aroma molecules in tea are more difficult to distinguish and separate from certain pesticide molecules.

Other customer requests may seem more niche. For instance, Valeria adds, "a renowned Italian food company needed a way to specifically test the freshness of the eggs used in their fresh pasta." The company turned to the team at Eurofins Chemical Control, who set about researching several methods that could meet the client's requirements and then selected the most promising avenue: a method that did not rely exclusively on organic acids as the classical marker of non-freshness, but rather on multiple indicators of freshness, such as asparagine, glutamine and uracil. Eurofins Chemical Control scientists wrote and carefully validated the method, before making it available to the food company and any other clients who might face similar requirements.

Serving customers for 60 years

The Eurofins network boasts many longstanding employees, but few have seen the testing industry through as many years as Ardin Backous, Senior Manager of Eurofins Food Chemistry Testing, Des Moines.→



Ardin is the longest-serving employee of any Eurofins company, with 60 years under his belt. During his long career, which started when he was just a teenager, Ardin has witnessed the transformation of the food testing market from a fragmented landscape to an industry of global players who can better serve their customers.

"In 1963, I was 19, fresh out of high school, and looking forward to a career as a schoolteacher, or perhaps a sports coach," Ardin recalls. In the meantime, he decided to take a part-time job at Woodson-Tenent Laboratories (WTL), a company specialising in analytical chemistry and microbiology for food and feed products. WTL would be acquired by Eurofins in 2000. "Once I had the opportunity to be trained in the laboratory itself, I fell down a rabbit hole: I became so passionate that I ended up working on weekends and, within a few months, changing my degree to science."

Back in the late 1970s and '80s, with customers becoming more and more aware of the potential safety risks associated with food, opportunities were opening up – but, at a time when market research and long-distance networking were not as easy as they are today, finding and securing growth opportunities was often a face-to-face endeavour. This could involve a lot more time on the road, as Ardin recounts.

"Back then, the best way to reach new customers was to identify the most interesting food and feed trade fairs across the USA, to approach potential clients and their representatives directly," he says. "So, in 1978, I embarked on a tour of trade fairs across the country."

> "Once I had the opportunity to be trained in the laboratory itself, I fell down a rabbit hole"

It was during these travels and while in Kansas, far from WTL's headquarters in Memphis, that Ardin found a golden opportunity to help a potential client meet the growing demands of pet owners. "American customers at the time were becoming increasingly aware of food safety issues, including for their pets. Pet health had become a gap in the market," he explains. "A leading pet food manufacturer wanted to develop specialty, healthy, pet food products in response. Despite no time to prep, I arranged a spontaneous pitch at their headquarters in Kansas and presented how our testing and certification expertise would win their customers' trust in the product launch. It got us the contract!"

Changes were not only happening in the realm of consumer habits; producers and retailers' global ambitions were also expanding, and with that they were increasingly looking for support from international laboratories that could meet the full spectrum of food and feed testing requirements, at home or abroad, without having to engage multiple, specialised laboratory companies. To keep up with these customer needs, WTL had already been expanding its footprint, and joining the Eurofins network in 2000 presented an opportunity to become a truly international company with a broader suite of services. With similar steps being taken by companies across the food testing industry, it was the beginning of a more consolidated market including global players offering one-stop-shop services.

It may have been 60 years in the business, but not everything about the testing industry – or about Eurofins – has changed. For instance, "providing an excellent turnaround time and customer service experience is still the top priority as it was six decades ago." Ardin adds, "advancements in testing technology just mean that it's now a question of hours, not days!"

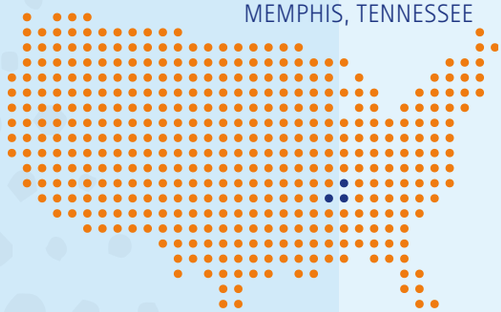
Reflecting on his impressive tenure and the company growth he has contributed to, Ardin concludes, "Having joined Woodson-Tenent Laboratories so long ago, in 1963, I have had the opportunity to be a part of its success and metamorphosis. Who could have guessed then that we'd now be a major player and part of Eurofins, the largest analytical testing Group in the world?"

The Eurofins Food Chemistry Testing US site in Iowa now houses a Food and Feed Testing laboratory dedicated to Ardin Backous as a tribute to all his work to facilitate WTL's integration into the Eurofins family and his continued dedication to its customers.

COMPANY SPOTLIGHT

WOODSON-TENENT LABORATORIES

MEMPHIS, TENNESSEE

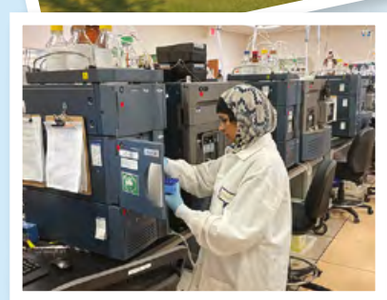


"We shared a love for innovation"

Cotton is woven into the history of Memphis, Tennessee, so in 1933, scientist Edgar Tenent Sr and businessman Mr Woodson teamed up to establish a laboratory to test cotton seeds there, before expanding into other areas of agricultural testing.→

Above: Woodson-Tenent-Laboratories in the 1990s.

Below: Eurofins Food Chemistry Testing, Des Moines.



Woodson-Tenent Laboratories (WTL) became a specialist in various aspects of analytical chemistry and microbiology testing for animal feeds and foods, including soybeans, meat, feed and grain, operating six laboratories around the USA.

But it was its employees' commitment to problem solving and customer satisfaction that made WTL stand out. "Our team always took the time to explain the numbers to our clients and work with them to fix the problem behind them," says Business Unit Manager, Anders Thomsen, who joined WTL in 1992. So, even as their clients grew, they continued working with Woodson-Tenent Laboratories, who built a loyal and impressive customer portfolio.

In 2000, WTL started looking for potential partners in order to grow further, and Eurofins' non-hierarchical working culture and global network was a great fit. "WTL and the Eurofins network shared strong entrepreneurial values and a love for innovation," explains Lars Reimann, Chief Scientific Officer Chemistry of Eurofins Food Chemistry Testing.

> "Our team always took the time to explain the numbers to our clients and work with them to fix the problem behind them"

A focus on quickly delivering reliable results to their clients was also a shared focus for the two laboratory groups: "TAT and client satisfaction are still our priority to this day," adds Ardin Backous, Senior Manager at Eurofins Food Chemistry Testing, Des Moines. "As much as customer expectations may have changed throughout the years, delivering the best service will always remain at the top of the list!"

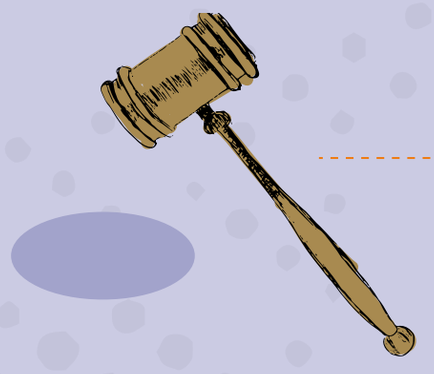
Although the acquisition brought about initial organisational challenges, many employees embraced it as a welcome opportunity for change and growth, and WTL's corporate know-how proved to be an invaluable asset in structuring the Eurofins Food and Feed Testing network in the USA. In turn, Eurofins' willingness to invest in innovative, high-stakes projects allowed WTL, now Eurofins Food Chemistry Testing, to take on new challenges and collaborate with other companies in the network.

Since 2010, the company has been based at a 60,000 square foot (5,574 m2) facility in Des Moines, Iowa.

"Eurofins Food Chemistry Testing has been growing constantly through the years, and we don't plan on stopping," Anders says. "Our goal is not only that clients think of us as their best service provider, but also that all of our employees think of us as the best employer possible."

High-quality forensics for watertight convictions

Eurofins Forensic Service's client base includes police forces around Europe, who trust these Eurofins companies to conduct the highest quality analyses on the evidence they collect in relation to crimes, from ultra-modern DNA profiling to careful analysis of marks and traces. Through this diligent work, Eurofins has a longstanding history of helping its clients to bring criminals to justice as quickly as possible.→



On the 27th of April 2021, Kent Police in the UK discovered the body of one of their colleagues: Julia James, a Police Community Support Officer, who had been murdered by blunt force trauma to the head while walking her dog off-duty. The investigation into the violent crime was of the highest priority, but with no eyewitnesses or known motives, the police force would need to heavily rely on forensic testing from Eurofins Forensic Services UK.

The gravity of this case would call for a truly exceptional level of service from the Eurofins team. "The police submitted an unprecedented number of urgent exhibits for testing, sending new items almost every day," recalls Stephen Paddock, Forensic Scientist at Eurofins Forensic Services Tamworth, UK. Anything nearby, that could possibly carry clues to the killer's identity – not only Julia's blood-soaked clothing, but everything from cigarette butts to sweet wrappers – was recovered from the scene and sent for analysis. "In the first three weeks of the investigation, we received about as many exhibits as we might usually expect to receive in six months!"

Stephen and his team found traces of DNA from multiple individuals on Julia's clothing, which they had to interpret and, in some cases, eliminate – for instance, if they came from Julia's loved ones or paramedics at the scene. "Every day, just by brushing up against someone at the supermarket, or by sitting on the bus, your clothing can pick up DNA traces," explains Stephen.

> The gravity of this case would call for a truly exceptional level of service from the Eurofins team

Initially, none of the DNA profiles yielded a significant match in the National DNA Database. In fact, the breakthrough would come later, when police investigators, having painstakingly reviewed almost 7,000 hours of footage from surveillance cameras, dashcams, and smart doorbells in the local area, found footage of a suspicious man carrying a long object, captured by a dashcam on a farmer's tractor. After the suspect's image was released in the media, he was identified as 22-year-old Callum Wheeler. The court would need more than circumstantial camera footage to convict him, but finding a suspect had opened up a new avenue for forensic testing.

Clothing, the potential murder weapon (a metal pole), and the bag the weapon had likely been transported in were seized by police from Wheeler's home address and analysed by Eurofins Forensic Services for Julia's DNA. Likewise, the team could now re-examine Julia's own items of clothing and determine whether any of the DNA profiles found on them were a match with the suspect. "Wheeler's DNA was found on Julia's shoes, jacket, and shirt, and her blood was found on Wheeler's shoes," Stephen recounts. Using Eurofins' DNA statistical software, LiRa, Eurofins experts were able to help investigators to understand the strength of the DNA evidence by calculating the likelihood that they came from Julia and Wheeler respectively.

The DNA findings were supported by strong evidence from the Eurofins Forensic Services team specialising in the analysis of minute material transfers. These experts identified a combination of distinctive traces of fibreglass, resin, dried adhesive and black paint in Julia's hair combings, and proved they matched the weapon found in Wheeler's home. "We know that these types of traces only remain in hair combings for an hour or two," adds Louissa Marsh, Eurofins Casework Team Lead. "So, unlike DNA evidence, they really helped to build a timeline."

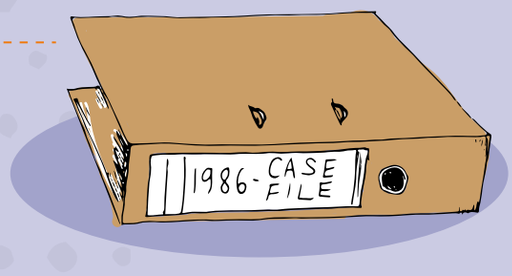
With the combination of evidence gathered and presented by Eurofins Forensic Services UK and Kent Police, the jury needed only one hour of deliberation to find Callum Wheeler guilty of the murder of Julia James. He was handed a life sentence, with a minimum term of 37 years.

"The investigation was a true collaborative effort between our team and the police," Stephen reflects. "We are glad to have contributed to getting justice for Julia."

6.4 CUSTOMER FOCUS AND QUALITY

Solving old crimes with new technology

The work of Eurofins Forensic Services supports not only investigations into recent crimes, but also into cold cases that date as far back as the 1940s.→



Of these, the 1986 murder of nine-year-olds, Karen Hadaway and Nicola Fellows in the UK called for a particularly meticulous re-investigation: it was a six-year-long effort to find evidence of the highest quality that could bring the offender to justice, as Sussex Police's largest and longest running enquiry to date, as of early 2023.

> "We do it to bring resolution and closure to the families"

The original prosecution case for the crime, which is often referred to as the 'Babes in the Wood' murders, had centred around trace evidence, such as textile fibres, hairs and paint which were collected using clear, adhesive tapes, along with evidence of transferred paint. However, persuasive arguments from the defence team had exploited weaknesses in the evidence presented, leading to the acquittal of the defendant, Russell Bishop, in December 1987.

25 years later, Sussex Police were confident that re-examining items and tapings with modern DNA profiling techniques would corroborate initial findings and yield new evidence. If they could build a compelling case, Bishop, who was by then behind bars for another assault, could stand trial again. In 2012, Sussex Police called upon Eurofins Forensic Services UK, a longstanding partner, to help finally solve the cold case.

The main challenge was that not all of the evidence relating to this historic crime was dependable; often, items of interest in cold cases have been tested, retested, and tested again, and potentially stored improperly or put into contact with other evidence over the decades. It was down to Eurofins' forensic scientists to do their utmost to extract reliable evidence, while advising their clients on the artefacts most likely to secure a correct conviction – even if this process would take years.

> "I'll always remember how hard it was to go back to the police force and tell them that the sweatshirt was unreliable evidence"

For instance, the most promising source of evidence for the prosecution was a sweatshirt, believed to have been worn and abandoned by the offender. It had already been linked to the victims by fibre evidence during the original investigation, but there was insufficient evidence connecting the sweatshirt to Bishop. To help prove that Bishop had worn the sweatshirt, and thus uncover highly compelling evidence that he was the perpetrator, a Eurofins Forensic Service scientist tested the DNA from the cuff of the sweatshirt – and it was a match.

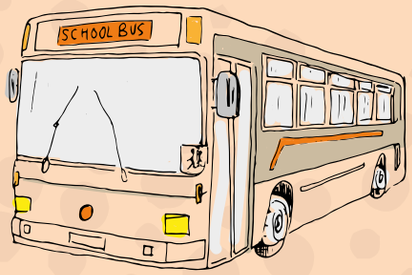
However, when Rosalyn Hammond, Senior Scientific Advisor at Eurofins Forensic Services UK, carefully examined the history of the sweatshirt and other items of interest, she could not rule out that it had been contaminated with Bishop's DNA during handling or storage. This meant the evidence could not be deemed reliable and would therefore not be admissible in court – a major blow. "I'll always remember how hard it was to go back to the police force and tell them that the sweatshirt was unreliable evidence," says Rosalyn. "But, in the long run, it refocused the investigation and ensured everything was credible in court."

The team knew that the original hair and fibre tapings taken in 1986 could have also picked up skin cells and blood flakes, potentially providing valuable DNA evidence that the methods and technology used at the time had not been equipped to detect. Luckily, these tapes had been carefully preserved in archives. Eurofins' scientists discovered that, indeed, some tape samples taken from the arm of one of the victims contained skin flakes that they matched to Bishop using ultra-modern DNA profiling techniques. They also searched for paint fragments on the tapes and re-examined the existing fibre evidence, through which they managed to link the sweatshirt to the girls' clothing, to Bishop's home address, and to the paint on his car.

> It was down to Eurofins' forensic scientists to do their utmost to extract reliable evidence

Years of careful analysis and consideration, and painstaking attention to detail and quality, went into bringing the case before the Crown Court of England and Wales again, with Eurofins' scientists serving as expert witnesses to present their findings. "We do it to bring resolution and closure to the families," Rosalyn reflects. "Of course, it can be exhausting – but it's what we're trained to do. With this case, we knew we'd get there one way or another, even if it took a long time."

On the 10th of December 2018 – exactly 31 years after his acquittal – Russell Bishop was found guilty of the abduction, molestation, and murder of Karen Hadaway and Nicola Fellows. He received two life sentences.



Bringing the laboratory to the client

If you were in Europe during the COVID-19 pandemic, you may have seen a Eurofins mobile testing vehicle on the road. With unequal access to testing services a problem in many cities, Eurofins teams had an ingenious solution: they took whatever suitable vehicles they could find, from campervans and disused ambulances to school buses and truck trailers, and transformed them into a highly flexible means of testing people many miles apart! →

These four-wheeled Eurofins sampling units, some of which could even process samples onboard, soon became a feature of cities in Belgium, France, the Netherlands, Italy, Germany, and the UK.

Tibo Demoor, National Business Line Leader of Clinical Diagnostics and Forensic Services Belgium, explains how his team created and put to use these mobile testing stations and laboratories, as the first of several Eurofins teams to help clients in this way.

From top right to bottom left: Eurofins Megalab COVID-19 registration bus, Spain; Eurofins Megalab COVID-19 registration bus, Spain; Eurofins COVID-19 testing bus, Belgium.

Q: HOW WAS THE IDEA FOR A MOBILE COVID-19 TESTING SERVICE BORN?

Tibo: Belgian municipalities and cities were struggling to ensure that less fortunate populations had access to COVID-19 testing without having to travel far by tram or bus, putting them at greater risk of spreading or catching the virus. We wanted to help, initially by transporting healthcare professionals to various neighbourhoods, but then we came to a second idea of building a mobile sampling site ourselves and sending it to these areas. It was a great way of launching a fast response without having to jump through the bureaucratic hoops of opening a static testing station. I brought the idea to our Group Senior Vice President of Clinical Diagnostics Europe, Gabriel Julia, and he said "Let's do it! We'll buy 20 buses if we have to!" – 20 was a bit of a stretch, but the idea and the enthusiasm were there!

Q: HOW DID YOU ACQUIRE AND TRANSFORM REGULAR BUSES INTO FULLY EQUIPPED AND ACCREDITED SAMPLING UNITS?

Tibo: As we all know, the travel sector had come to a standstill during the pandemic, and even lots of school buses were out of service, but schools and coach companies were still paying for these vehicles and losing money. So, they were happy for us to take over their lease and rent the buses. We then transformed them: buses have good airflow and are easy to separate into different compartments, and they also have heating, electricity, even WIFI sometimes...this made renovating them quite easy. Accreditation was more straightforward than with static sites; however, we did have (and pass) a few audits.

Q: ALONGSIDE TESTING FOR UNDERSERVED COMMUNITIES, WHAT OTHER CLIENTS DID YOU WORK WITH?

Tibo: In Belgium, we had a fleet of five COVID-19 testing buses, several of which went to different places of need each day. We engaged quickly with Eurofins' international, cross-business line COVID-19 team to also offer our testing services to companies; mostly dignitaries and workers from essential sectors, such as energy suppliers, harbour workers, police forces, safety and security personnel, as well as for the cultural sector. One also went to Liege Airport to conduct testing for Formula 1 drivers and staff. We also sent buses to France and the Netherlands, so our teams there could travel around their local communities to fill testing gaps.

6.6 CUSTOMER FOCUS AND QUALITY

The same standards for everyone

Eurofins' people have something very important in common with standard-setting bodies: the desire to constantly drive progress in the testing industry, so that Eurofins companies and other laboratories alike can provide their clients with high-quality testing services. →

This, combined with extensive scientific knowledge and experience, is the basis of Eurofins' longstanding partnerships with standardisation authorities around the world.

One of the partnerships that Eurofins scientists are most proud of is that with AOAC INTERNATIONAL, one of the testing industry's oldest and most renowned scientific associations. Founded in 1884, AOAC INTERNATIONAL's mission is to develop and validate key testing methods to optimise safety in the agricultural and food industries, by bringing government, industry, and academia together. Their work, aligned with key international standards, helps to protect end consumers throughout the world.

Eurofins companies have been working with AOAC INTERNATIONAL to codify reliable methods since as early as 1936, when one of their Food and Feed Testing companies (then Covance Food Solutions), the first laboratory in the world to be able to test for vitamin D, collaborated to develop a standard method for this test.

Ever since, Eurofins companies have continued to enhance AOAC INTERNATIONAL's Official Methods of Analysis (OMA) and make them available to customers – from Eurofins' flagship SNIF-NMR® method to innovative testing solutions for fortified food products that are suitable for space travel. They have also reacted quickly when their clients have been impacted by industry crises, such as the melamine adulteration scandal in 2008; as of 2022, Eurofins employees have helped to codify 65 AOAC OMA methods for infant formula. Other examples include the development of new methods to verify the safety of food products containing ginger, sugars and fructans, and hemp and cannabis, as well as multiple contributions to methods for the detection of foodborne pathogens, such as Salmonella and Listeria. Additional areas of contribution by Eurofins employees to AOAC standards and methods activities include dietary supplements, furans, acrylamide, glyphosates, and dietary fibre.

> "Eurofins professionals have gone above and beyond to further our mission of contributing to global health and safety in their respective fields"

"Every five years, we see the need to develop additional methods... perpetrators are finding methods to be even smarter in [their] adulteration," remarked Eurofins CEO, Gilles Martin, in his AOAC INTERNATIONAL keynote speech in 2020, speaking on the importance of the association's collaboration with Eurofins companies. Gilles actually made his first presentation on behalf of AOAC INTERNATIONAL in 1988, just one year after founding Eurofins.

But how are such testing methods developed, validated, and cemented as industry standards? Typically, it starts with a specific request from a food company or a government agency with a specific testing need. AOAC INTERNATIONAL convene volunteer subject matter experts into working groups to discuss the parameters and priorities of the new method development, and release calls for methods to players in the food testing industry. Scientifically validated method solutions are published as a compendial method and then put through a two-year trial period that includes method reproducibility, during which time they are adjusted according to feedback, before receiving the final stamp of approval.

It's a process that many Eurofins scientists are familiar with. "Eurofins professionals have gone above and beyond to further our mission of contributing to global health and safety in their respective fields," confirms David Schmidt, Executive Director of AOAC INTERNATIONAL.

Indeed, Eurofins employees have not only collaborated on method codification, but chaired important committees, work that has been recognised through numerous awards and AOAC titles. In 2021, the Harvey W. Wiley Award, AOAC's highest scientific honour, was awarded to Katerina Mastovska, Chief Scientific Officer of the Eurofins US Food Division. The following year, Darryl Sullivan, Chief Science Officer of Eurofins Food Testing in the USA, was presented the William Horwitz Award, the highest volunteering award bestowed by AOAC INTERNATIONAL in recognition of extraordinary service. The title of AOAC President for 2023, a one-year term, is also held by Eurofins employee, Mary Kay Krogull, Senior Vice President of Food and Feed Testing Ontario. Katerina, Darryl and Mary Kay add their names to a long list of Eurofins experts who have partnered with AOAC INTERNATIONAL to bring better testing solutions to clients worldwide over the years.

DID YOU KNOW...

The Eurofins Foundation has inaugurated an AOAC INTERNATIONAL award of its own. In 2020, the Annual AOAC INTERNATIONAL/Eurofins Foundation 'Testing for Life' Student Award was established to recognise student researchers advancing basic or applied science in analytical or molecular testing for food, health or environmental protection. It supports up to five award recipients each year with a cash prize, mentorship experiences, and a fully funded AOAC student membership.

SECTION 3

Eurofins' impact on society

CHAPTER 7

Response to crises and scandals

With its longstanding history of responding to health concerns in the sectors its laboratories are serving, Eurofins companies have invested in building a global network of state-of-the-art laboratories and specialised research teams that are well-placed to readily react to sudden food scares, environmental disasters, disease epidemics, and more.→

While the huge capacities, specialist equipment, and network of experts are why many clients turn to Eurofins companies, it is the adaptability, entrepreneurialism and know-how of the Eurofins people who make the difference, especially in times of crisis. During times of high pressure and, sometimes, media frenzy, employees and leaders on the laboratories' front lines race to tackle often unprecedented problems, from the aftermath of natural disasters and terrorist attacks, to outbreaks of food contamination and the COVID-19 pandemic.

"We have always reacted very fast at Eurofins," explains Colin Granier, Eurofins International Division ComLIMS Responsible APAC. "It's always been a part of our culture". In fact, these crisis responses often constitute the most memorable and rewarding challenges that Eurofins teams retell for years, even decades, having been united by their mission of Testing for Life. This chapter will tell some of these renowned stories in their words.

"We have always reacted very fast at Eurofins"

Leading the way through food safety crises

What's the first food industry scandal that you can remember hitting the news? Such crises have the power to massively influence consumer shopping habits, laws and regulations, and even international politics.→

Clockwise from top: Eurofins Analytik; Eurofins Analytik; Eurofins WEJ Contaminants.

You might recall the 'mad cow disease' epidemic of the late 20th and early 21st century, which saw families swear off beef for years, with decade-long import bans on British beef – or the melamine milk crisis of 2008, which pushed fearful parents to replace infant formula with dangerous home recipes. The infamous 2013 horsemeat scandal, on the other hand, is perhaps a lighter chapter in food history, with brands involved nevertheless suffering several years of mockery and a change in customer perception.

Eurofins Food and Feed Testing companies have to stay one step ahead

These days, an increase in precautionary testing and consumer safety awareness, often driven by ever-tightening regulations, has meant fewer food safety incidents reach the customer (or the TV screen) – but the threat has not disappeared. Disingenuous companies are constantly finding new ways to outsmart food authenticity tests, and at the same time, agricultural chemicals, manufacturing processes or sheer human error can lead to new problems. Eurofins Food and Feed Testing companies have to stay one step ahead, not only innovating to develop new testing methods but also working with standard setting bodies to constantly raise the food safety benchmark. For more than 35 years, they have done exactly that.

Above: Eurofins EnvrioneX, Canada.

MILK ADULTERATION SCANDAL

Melamine: a big impact on small bodies

Most people would agree that children, particularly babies and toddlers, require extra special care. Society tends to apply extra caution to its youngest age group, and the testing industry is no exception. →

"The infant milk formula scandal was one of the largest responses to a food crisis in our history"

Products designed for infants tend to be very highly regulated, with product analysis following the strictest of testing methods, and this includes supermarket staples such as infant milk formula. It's no surprise then, that, until 2008, most parents purchasing these formulas were more pre-occupied with factors such as price point and added nutritional benefit, rather than whether the powder had been adulterated with dangerous chemicals – something that would have seemed far-fetched.

But in 2008, this was exactly the concern on every such parent's mind, after it transpired that milk products from more than 20 Chinese companies (most notably the Sanlu Group, a then-leading producer of infant formula nationally) contained melamine, an industrial chemical. However, it wasn't actually infant formula that first rang melamine alarm bells in the Eurofins Food and Feed Testing laboratories. Back in 2007, concern started in the pet food industry:

"The first indication of melamine contamination came from pet food fraud," says Scarlett Biselli, who was the Business Unit Manager of Eurofins WEJ Contaminants in 2008, and is now the Industry Director of Contaminants and Residues. She is referring to the mass recall of pet food in Europe and the US, following reports of kidney failure in dogs and cats. The culprit was melamine-contaminated wheat gluten in mostly wet pet food from China. "This was the starting point for developing the Melamine LC-MS/MS method for us in Hamburg – that was in early 2008."

When the LC-MS/MS instrument proved to be incredibly effective at testing for melamine in pet food, the team at Eurofins WEJ Contaminants spread the word. Other Eurofins companies, such as Eurofins Central Analytical Laboratories (CAL), over in New Orleans, took the recommendation on board and got to work too.

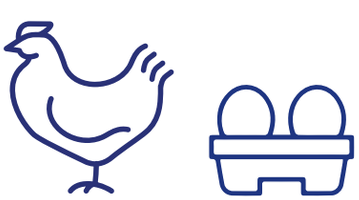
"The first indication of melamine contamination came from pet food fraud"

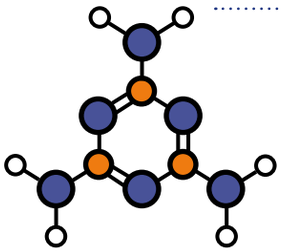
"The success of our work was dependent on that instrument," remembers John Reuther, who was the Laboratory Director at the time, and is now Eurofins Business Unit Cluster Manager of Analytical Laboratories New Orleans USA. Though Eurofins CAL was a much smaller company back then, Eurofins Food and Feed Testing US already had a large customer base in the pet food industry, and so the team soon found themselves inundated with samples. "It was one of the largest responses to a food crisis in our history. We gained a lot of experience with handling anxious clients and running high volumes of samples in a tight timeline."

What Eurofins didn't know at the time was that this response and, crucially, its melamine-related method developments would become an important head start in addressing an even bigger scandal, just months later: in July 2008, the adulteration of infant milk and formula with melamine was exposed.

News erupted that leading producers had been illegally adding melamine to milk or powder to imitate protein and fool quality control tests, as the AOAC standard test methods developed in the 1980s were unable to distinguish between the nitrogen in melamine and the naturally occurring nitrogen in amino acids. However, melamine can cause kidney stones or even kidney failure. The impact of this food fraud shocked the world: ultimately, there were almost 300,000 reported victims of the adulterated infant formula, most of whom were under

Eurofins Food Testing Service Dalian, China.





DID YOU KNOW...

Melamine is an organic compound containing carbon, hydrogen and nitrogen, with the chemical formula $C_3H_6N_6$. Certain melamine derivatives and mixtures are flame-retardant and highly durable, making melamine useful in the production of many products, including laminate flooring, dry erase boards, and insulation.

When melamine is illegally added to food, it is absorbed into the bloodstream, along with cyanuric acid, and the two then react in the person's renal tubules (long, narrow tubes in the kidneys). As a result of this reaction, yellow crystals form, which in turn block and damage the renal cells lining the tubes, triggering kidney malfunction. Long-term consumption of melamine can also cause infertility and bladder cancer.

According to a World Health Organization food safety expert, the amount of melamine that a person can tolerate per day without incurring a greater health risk is 0.2 mg per kilogram of body mass. However, evidence suggests that this threshold would be much lower for an infant.

the age of two. Six babies died and an estimated 54,000 needed hospital treatment for kidney damage or other complications.

News erupted that leading producers had been illegally adding melamine to milk

It wasn't only infant milk that was impacted, either. As investigations continued, it emerged that many milk-containing or milk-substitute products from China tested positive for melamine content, as well as eggs and poultry that had become contaminated through melamine-containing pesticide and animal feed. Brands around the world were suddenly scrambling to verify that their products were free from the dangerous compound and thus reassure panicked consumers – or urgently issue the necessary recalls.

"Suddenly, the WEJ laboratory was receiving 3,000 samples per day to test for melamine, coming from Europe alone," Scarlett continues, and the story was similar across Eurofins' network of contaminant testing facilities. There was not yet a verified melamine test on the market for infant formula, but as some Eurofins companies, such as WEJ, had already gained experience with melamine testing during the pet food scandal, the international Food and Feed Testing network quickly pulled together to develop one. Xiaowei Tie, Eurofins National Business Line Leader of Food and Feed Testing China and Hong-Kong, still remembers "how quickly [his] team got help from Eurofins WEJ Contaminants to help set up the necessary standards."

Alongside the usual challenges of method development, efforts were impacted by the 2007-2008 financial crisis; although Eurofins was weathering the storm of the recession well, this was not always true of its suppliers, who faced global shortages. As a result, some important consumables – such as a solvent, acetonitrile – were very difficult to get hold of. Finding alternative suppliers hampered the teams' speed somewhat, but within a remarkable period of around three weeks, the new method was developed, approved by authorities and made available. It was quickly put to good use, both in commercial and government laboratories, having been picked up by the United States Food and Drug Administration for the testing of imports coming from China.

When we ask the Eurofins employees who were part of the taskforce at the time, what the key to this incredibly fast development was, international collaboration and heavy investment are big factors:

"The big win was that Eurofins employees felt comfortable enough to go out on a limb and investigate something. There was also a willingness to run the risk and invest, and our people were very good at taking on that challenge," explains Lars Reimann, Chief Scientific Officer Chemistry of Eurofins Food Chemistry Testing US, speaking of his experience at the New Orleans laboratory. "Initially, for example, we didn't actually know what was killing the dogs, so we set up testing for rat poison and other suspected substances, until we found the culprit. Eurofins was willing to be the safety net and take the repercussions if we failed."

And this isn't something that scientists can always take for granted – "So often, in other situations in my career, when I had somewhat similar

opportunities, people were reluctant. They asked me, "Lars, can you prove we will make money by doing this?" I couldn't prove anything! But at Eurofins, I could go ahead and do it just because I believed it would be important – admittedly, that's not always a good sales argument."

"Our people were very good at taking on that challenge"

In parallel, big names in the infant formula industry had come together to form the Stakeholder Panel on Infant Formula and Adult Nutritionals, SPIFAN, to ensure that all infant formula products would benefit from the same suite of modernised, stringent testing methods – not only to detect melamine, but a whole range of vitamins and nutrients, too. SPIFAN appointed scientists from Eurofins Food Integrity and Innovation (now Eurofins Food Chemistry Testing Madison and Botanical Testing Brea CA) as Chair, who leveraged their laboratories to validate all new testing methods. More than 60 such AOAC methods have since been verified by SPIFAN, and these are applied today by every infant formula producer globally.

Although it's true that such critical work is what Eurofins companies do every day, some responsibilities certainly weigh greater than others. When asked about the atmosphere at Eurofins WEJ Contaminants during this particular crisis, Scarlett needs no time to pause. She reflects on the psychological impact the event had on her team, and how they channelled this duty into a positive memory that will always stick with them:

"Everyone was very cautious of their every step in the laboratory, as they knew how serious a wrong result could be

She says, "Together with the time pressure, this feeling is always a challenge. You do often struggle mentally at these times because your mistakes could have a huge impact. And this pressure is also true for the quality personnel in the companies, and so our clients are really depending on us.

"But for us, the pressure is more on getting the right result and providing a highly reliable service than it is on saving the world. The people in our food analysis laboratories are doing the job and enjoying it because they like work with added value – this idea of contributing to a better world – but in these scenarios, you have to think much smaller. It's more important to just focus on doing things right, because in times of crisis, a false negative or false positive – it doesn't matter which – can be a disaster.

"So, it was a cause of stress, of course, but team members always remember how these short periods of stress ended with successful method development, and that we were all very productive, trying to do as much as possible. They have contributed to identifying a crisis and bringing it under control. I find that the mentality of people working in contaminants testing at Eurofins is very positive like this, and I think the key to that is whether or not you see a problem as solvable; we always find a solution, so people feel they have participated in a success story. People who were around at Eurofins during these times, most of them stay with us."

And she is right, of course – the solutions that Eurofins developed in response to the melamine scandal have radically changed the infant formula testing industry, making it a bittersweet success story for all the laboratory personnel involved.

COMPANY SPOTLIGHT

WIERTZ-EGGERT-JÖRISSEN (WEJ)

"WEJ was nearly twice as big as Eurofins"

Wiertz-Eggert-Jörissen's (WEJ) origins begin with the story of three scientists.→

In 1957, Dr Wiertz founded a Hamburg laboratory, focused on food, feed and oil testing. In 1965, Mr Eggert became the second partner and namesake, and exactly ten years later, Dr Jörissen joined their ranks. The three continued to lead the laboratory together, with a growing speciality in contaminants testing, until Dr Wiertz retired in 1991.

A few years later, Mr Eggert was also nearing retirement, and discussions were opened as to a potential acquisition of WEJ by Eurofins. So, on France's annual 'Bastille Day' in 1997, instead of enjoying the public holiday at home, Eurofins' CEO, Gilles Martin and some of his colleagues went to Hamburg to visit the WEJ laboratory and its leaders in person to negotiate.

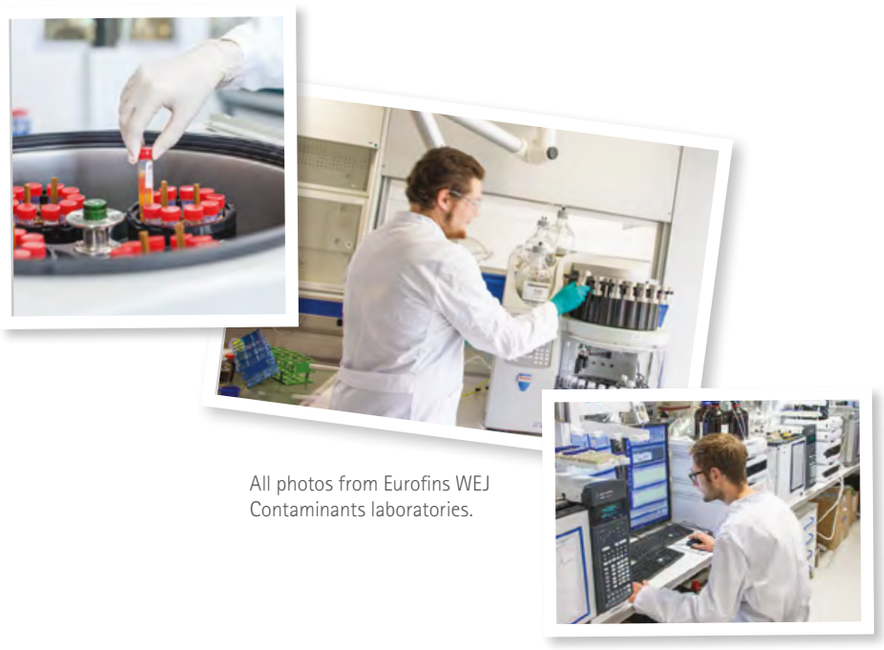
"You have to remember that WEJ was nearly twice as big as Eurofins at the time – and Dr Jörissen twice as old as Eurofins' CEO!" remarks François Vigneau, who joined the visit as the Eurofins Operations Manager at the time. François has been responsible for many scopes within the Eurofins network since and is now the Senior Vice President of Food and Feed Testing Western Europe.

So, on France's annual 'Bastille Day' in 1997, instead of enjoying the public holiday at home, Eurofins' CEO, Gilles Martin, and some of his colleagues went to Hamburg

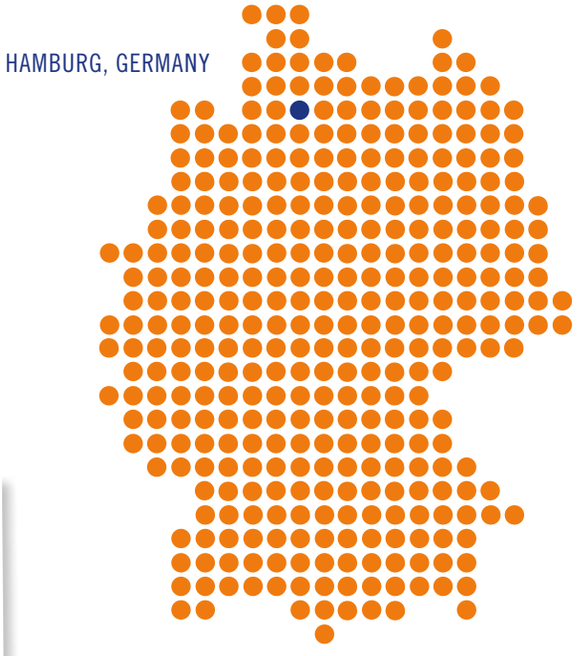
Convincing the experienced food chemists to sell their business to the much younger Eurofins seemed a tall order, but ultimately, it was Eurofins' forward-thinking vision for a consolidated network of laboratories serving emerging global markets that convinced the two partners that uniting WEJ and Eurofins was the right move.

It helped, too, that Gilles could demonstrate knowledge of the German industry, tax laws, and even language – perhaps surprising for a leader of a relatively small, French company! "It made keeping up with the conversation a little challenging for me personally," laughs François. "But it did help them take Eurofins seriously!"

But it wasn't only WEJ as a company that Eurofins wanted to add to its network – it was also its entrepreneurial



All photos from Eurofins WEJ Contaminants laboratories.



leader, Dr Jörissen, "a real expert" with several decades of experience in food testing and managing the laboratory. So, when the acquisition was finalised in 1999, Dr Jörissen stayed on as leader and stakeholder of WEJ. Although he was invited to become a member of Eurofins' Executive Committee, he opted to stay true to his passion for managing laboratory operations on a daily basis and close to the company he had grown for more than 20 years – right until his retirement in late 2004.

WEJ was the seventh company to join the Eurofins network and the partnership proved to be a huge success, notably allowing Eurofins to expand its portfolio into the world of contaminants testing. Likewise, WEJ benefitted from access to important markets in France and the UK by collaborating with Eurofins companies present there. The acquisition also opened the door for another significant purchase – competitor Dr. Specht Laboratorien – the following year, by leveraging Dr Jörissen's industry knowledge and building trust among German food testing companies.

WEJ was the seventh company to join the Eurofins network and the partnership proved to be a huge success

In 2008, having grown to 300 employees, WEJ was split into four companies with three different focuses: general food chemistry (Eurofins Analytik), contaminants testing (Eurofins WEJ Contaminants), and microbiology (Eurofins BioTesting Services Nord and Eurofins Q-Bioanalytic, later merged as one).

Today, Eurofins WEJ Contaminants and Eurofins Analytik are both key Competence Centres in the Eurofins network, leading the way on the analysis of organic and inorganic contaminants, mycotoxins, plant toxins, and veterinary drug residues in food and feed, and for allergen, irradiation and sensory testing respectively.

BOVINE SPONGIFORM ENCEPHALOPATHY (BSE)

Fighting a farm-born crisis

Eurofins WEJ Contaminants..

The global 'mad cow disease' crisis reaches back to 1987, when the first case of the illness, Bovine spongiform encephalopathy (BSE), was confirmed by post-mortem of a cow in the United Kingdom.→

By the early 1990s, belief that BSE could not be passed from cattle to other animals had already been dispelled, but it was not until late 1994 that the first people began to show symptoms of a neurological disease similar to BSE. This disease, caused by BSE-contaminated beef, was named Variant Creutzfeldt–Jakob disease (vCJD) in humans, and came with a life expectancy of just 13 months following the onset of symptoms. 177 people lost their life to vCJD between 1995 and 2014.

Unfortunately, despite tougher measures imposed on beef farming in Europe as of the mid-late nineties, the beef industry continued to battle BSE into the 21st century. In 2000, France detected a case of the disease in a young cow, triggering export bans and consumer panic that had a devastating impact on farmers. The French authorities reacted by making BSE testing a requirement for all beef products, and the sudden resurgence in demand for these tests required a huge reaction on the part of laboratories such as Eurofins.

177 people lost their life to vCJD between 1995 and 2014

Fayçal Bellatif, Eurofins National Business Line Leader of Food Assurance France, was part of the project team that stepped up to establish new capacity for BSE testing in cattle when it was needed most, by rapidly building multiple laboratories close to key beef production hubs. Fayçal tells the story of how, ultimately, the team managed to use their "good vision and the power to motivate others" to be among the very first in France to apply for government authorisation to help farmers.

"When the BSE crisis gripped France again in 2000, CEO Gilles Martin immediately identified that there was a huge need for us to set up testing capacities very specific to this disease, and he came straight to the Eurofins team in France," Fayçal explains. "After all, the whole meat industry was expecting their product to be tested for BSE in under 24 hours, as they were not authorised to release the beef unless the test had come back negative. We started to do a bit of maths: how many single

"Over 10 years, with just one BSE-testing laboratory in France, we helped many farmers"

animals in France are slaughtered each day and need to be tested for BSE overnight? We had the necessary investment behind us, but we still had doubts about how quickly we could build up capacity.

"Moreover, we needed capacities not just anywhere, but close to the clients, to facilitate such quick testing. So, under Gilles' supervision, the management team took a map and studied the position of Eurofins' existing laboratories in France, along with the main areas where livestock farms and slaughterhouses were based, and settled on four ideal locations. We first asked, 'How many?! We can't build four laboratories in ten weeks!' This was the first of several times in my Eurofins career that I witnessed the importance of empowering, motivating and teaching people how to react in times of crisis: Gilles was able to align the whole team with the goal of being first to market, to ensure we could help clients as soon as possible and gain their loyalty.

"It took us just 10-12 weeks to build four laboratories and hire everyone we needed"

"We took pieces of land from the four chosen laboratory sites and started setting up new testing facilities – we had mobile laboratories in the garden! In the end, it took us just 10-12 weeks to build four laboratories and hire everyone we needed, set appropriate training modules, purchase required equipment, and set up a dedicated software. We worked night and day, seven days a week, to get there.

"However, we needed government approval to get started with testing, but the French Administration would not audit all four laboratories. We only got the green light for one of our four sites, in Nantes. But we did not lose all investment: we transferred as much equipment as possible from the other laboratories to Nantes and maximised its capacity instead, creating an even bigger facility that could handle over 1,000 beef samples per day. Over 10 years, with just one BSE-testing laboratory in France, we helped many slaughterhouses and generated tens of millions in turnover."

HORSEMEAT SCANDAL

The real beef about beef

When it comes to meat, many food lovers are keen to know that their steaks or beef burgers, for example, come from high-quality, local sources. →

"We received samples as big as 30kg blocks of frozen meat"

But there is at least one expectation that all shoppers have: that the product on the label matches the food in the packet. If not, it is difficult to trace the supply chain and ensure that the meat is free from veterinary drug residue or other contaminants. These are all expectations that Eurofins Food and Feed Testing companies quietly verify every day, but back in 2013, in the wake of the horsemeat scandal in Europe, food authenticity fell into the media spotlight.

In January of that year, it emerged that customers in Ireland had been unknowingly consuming horsemeat, a cheaper meat not typically consumed there, in products labelled as beef. Investigations quickly revealed that the problem was rife across the meat industry in the UK and Ireland and was affecting products from many major retailers. The uproar soon gripped much of Europe, where further horsemeat DNA was found in mislabelled products, and raised serious health concerns.

"Unknown origin means unknown hygiene," Liz Moran points out, Managing Director of Public Analyst Scientific Services Ltd. "The initial concern was that the meat came from old racehorses and therefore could contain veterinary drugs. We quickly addressed those concerns and tested the meat for veterinary drugs and, thankfully, found none."

Although the scandal did not pose a health threat, Eurofins Food and Feed Testing companies in the UK, at the epicentre of the frenzy, faced an unprecedented volume of meat samples from clients scrambling to mend their reputations and ensure their products were made from 100% beef. Thanks to the capacity and capital to ramp up, Eurofins Food Testing UK Ltd and Public Analyst Scientific Services in Wolverhampton were heavily relied upon by clients and local authorities alike, who were also conducting surveillance sampling.

The uproar soon gripped much of Europe, where further horsemeat DNA was found in mislabelled products

"We received samples as big as 30kg blocks of frozen meat!" recalls Liz. "Luckily, at the Wolverhampton laboratory, we had a big room with a drain where samples could defrost ready for testing, which could take days due to their size. It was unlike anything I've ever experienced in my life – blood was pouring and pouring down the drain. Then we needed to order refrigerated shipping containers to store the samples onsite because they were potential criminal evidence that we'd been asked to hold onto!"

At the time, the standard meat test across the industry was an ELISA protein test that could identify cow, pig, sheep, and poultry. "Nobody

Below left and top right: Eurofins Food Testing Wolverhampton, UK.

Bottom right: Eurofins CEO, Gilles Martin at the opening of the Wolverhampton site in September 2012.

was looking for horse," Liz explains. DNA analysis was the way forward, something that Eurofins Genomics was already set up to do. The issue was that the mass of samples needed to reach Eurofins Genomics in Ebersberg, Germany, faster than shipping companies could offer. "So, we ended up hiring a refrigerated van for two of our employees to drive from Wolverhampton to Ebersberg with a whole van load of meat samples! For the first month, we did the journey several times a week." Liz adds, "Eurofins Genomics made it their top priority and basically dedicated all of their equipment to horsemeat testing."

With the help of Eurofins Genomics, Eurofins Food and Feed Testing in the UK was the first laboratory in the UK to offer this crucial DNA test for horse, a technique that is now the industry standard. Based on a DNA chip-based method that allowed for the simultaneous identification of not only horse, but also 20 other specific animal species in food products, Eurofins Food and Feed Testing in Nantes then validated a routine test that made it one of the first companies able to verify a wide range of samples as horsemeat-free at high throughput.

By shining a light on the importance of supply chain traceability and reliable labelling, the horsemeat scandal took a huge toll on consumer faith and uprooted the meat industry's approach to testing. Almost a decade on, most meat-eaters are comfortably biting into their beef burgers again, but Eurofins companies continue testing to verify the composition of these products.

DISCOVERY OF ACRYLAMIDE IN FOOD

Burger, fries, and... acrylamide?

LIDKÖPING, SWEDEN

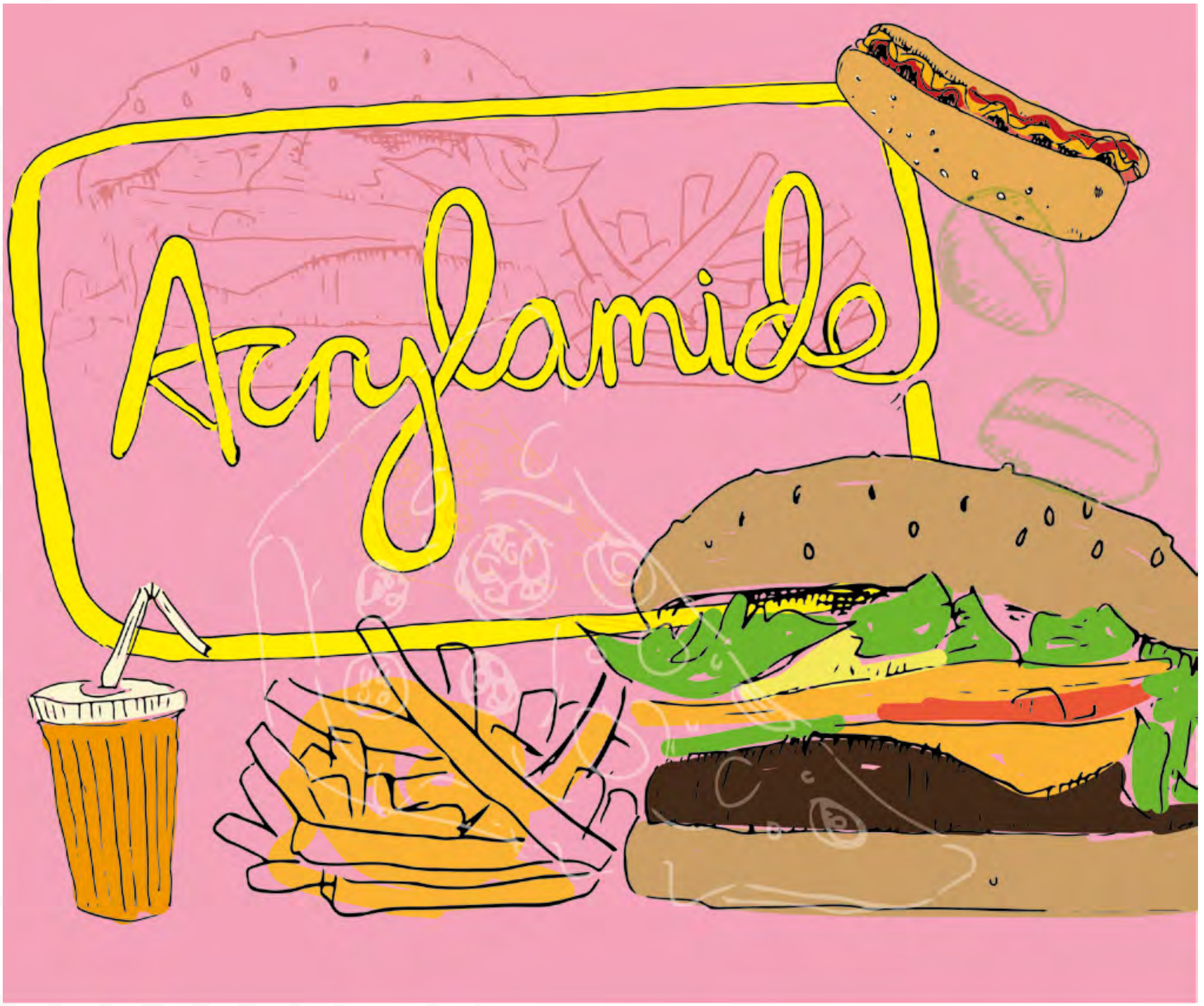
In the late 90s, a series of events in Sweden led to the discovery of a likely carcinogen abundant in certain food products.→

The Swedish authorities ran into trouble during the construction of a train tunnel in a porous mountainous region in 1997, which was suffering from significant leaks. To fix this problem, polyacrylamide, a chemical formula, was used to 'cork' the porous rock, unintentionally causing severe contamination of streams and other water sources in the surrounding area with acrylamide. This raised serious concerns over the health of the local population, farm animals, and marine life, with reported cases of paralysis and death in nearby creatures.

In order to understand the scale of the problem, AnalyCen AB, which later became Eurofins Food and Feed Testing Sweden, began carrying out tests for acrylamide in water, milk and foodstuff, as well as in people from the local area, in collaboration with the University of Stockholm. It was during these tests that researchers made the unexpected discovery that the control group, who had not been exposed to the acrylamide contamination from the train tunnel, still showed relatively high levels of acrylamide in their body.

Acrylamide is formed when foods containing the amino acid asparagine are heated to high temperatures in the presence of certain sugars

"The first assumption was that something must be wrong with the analysis, that we must have done something wrong, but everything had been done correctly," says Torbjörn Synnerdahl, Eurofins Business Unit Manager of Pesticides Testing Lidköping and part of the research team at the time. "Then we noticed



that levels of acrylamide varied depending on when the participants had last eaten, and so we began to question if food or drink intake was linked to the presence of acrylamide."

The Eurofins team and their research partners at the University of Stockholm began a diligent process of elimination to find the exposure source, testing many types of food prepared using a wide range of cooking techniques. Over the course of the project's two-year span, a clear pattern emerged, and they gathered enough evidence to support a breakthrough discovery that acrylamide is formed when foods containing the amino acid asparagine are heated to high temperatures in the presence of certain sugars. One of the biggest culprits, making up one-third of all acrylamide found in humans, was coffee, as smaller beans can be over-roasted in comparison to the larger beans. Many vegetables, including certain varieties of potato, are also susceptible to acrylamide formation when fried, baked or boiled.

The full report was released during a press conference in 2002 and opened the eyes of food producers across the industry to the widespread issue. "There was a lot of product development in certain industries to reduce the level of acrylamide, especially for products that tended to be the worst cases," recalls Torbjörn. "For example, coffee manufacturers reduced the size difference between their beans to avoid the over-roasting of smaller beans."

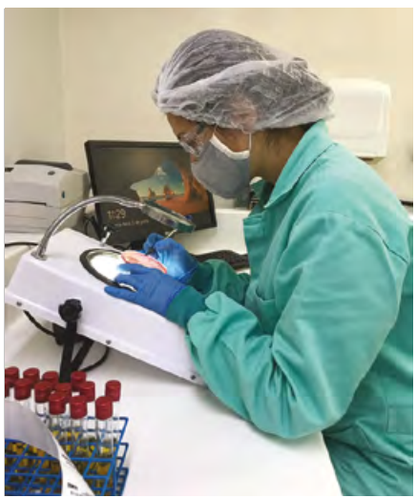
The revelation triggered a need for new methods that could analyse acrylamide in food. As Eurofins Miljø-Kemi laboratories in Denmark had already developed and validated a method to detect acrylamide in water, they immediately modified the method for the analysis of the substance in food, as well as further increasing the test's sensitivity. This method, based on liquid chromatography–mass spectrometry (LC-MS), is still used by Eurofins Food and Feed Testing companies today; with no stringent limits on acrylamide in foodstuffs in Europe (despite the widespread knowledge that it is harmful in higher volumes), new instances of high acrylamide levels have continued to show up through testing over the years.

MEAT CONTAMINATION SCANDALS IN BRAZIL

Furthering food safety in Brazil

For a decade, the Eurofins Food and Feed Testing network has been the leader of the food testing market in Brazil, with the biggest test portfolio in the country.→

But becoming established on the South American continent, where regulatory frameworks are often less mature than in much of Europe, was not an overnight success – and in the wake of early food safety crises in Brazil, Eurofins' capacity and expertise there were still in their infancy. While this presented a sudden challenge for Eurofins Food and Feed Testing teams in Brazil, these incidents have turned out to be a huge driver of growth for them, as they have for the Brazilian food testing market in general. The operations that Eurofins has there today are now twenty times bigger than they were 15 years ago. Edison de Fraia, Eurofins General Manager of RBLSC Food and Environment Testing LATAM, explains how a preference for reactive testing has dictated the direction of food safety and business development in Brazil, in the context of two notable scandals – veterinary drug residues in beef, and dioxin-contaminated chicken.



Eurofins employee at work in a Food and Feed Testing laboratory in Brazil.

"We've dealt with many food safety incidents in South America!"

Q: COULD YOU TELL US ABOUT SOME NOTABLE FOOD SAFETY INCIDENTS THAT YOUR TEAMS HAVE RESPONDED TO?

EDISON: We've dealt with many food safety incidents in South America! A pretty interesting one, from the end of 2010 into the beginning of 2011, was the contamination of beef with ivermectin, an antiparasitic veterinary drug, for export to Russia, China and Canada. At this time, we mostly sold GMO (genetically modified organisms) tests and had no routine testing for contaminants and residues, so when the crisis hit, we only had one laboratory with the accredited methodology in place!

Q: SO, WHAT WAS THE TEAM'S FIRST MOVE?

EDISON: Day to day, we might have received ten samples per day for residues testing, and suddenly we were getting 1,200 samples of meat overnight. We were not prepared for that, so firstly we had to buy several freezers to store and preserve all these perishable, bloody samples. I went with the task force over to the laboratory and remember it was just full of boxes of meat! Then, we sat down together with the leading beef producers worldwide to talk out pricing and capacity. Of course, we ramped up the laboratory accordingly.

Q: WHAT WAS THE IMPACT OF THE INCIDENT ON EUROFINS IN BRAZIL?

EDISON: We learned how to offer routine residues testing and adjust to high sample volumes. We also developed the commercial side of things, managing to improve our pricing strategy in win-win partnership with our customers. Customers who had walked away two months previously, because they weren't willing to pay for high-quality testing, started coming back to us.

Q: HAVE THERE BEEN ANY OTHER BIG INCIDENTS FOR THE BRAZILIAN FOOD TESTING MARKET SINCE?

EDISON: Yes. In 2015, we experienced another notable food safety scandal, which concerned dioxins in chickens to be exported to China. This incident actually fostered closer collaboration with our international colleagues and helped to integrate our local companies into the wider network.

Q: HOW SO? WHAT ROLE DID INTERNATIONAL COLLABORATION PLAY HERE?

EDISON: At the time, we subcontracted a lot of analysis to Eurofins GfA Lab Service in Germany – Eurofins' Competence Centre for dioxin testing and one of the leading testing centres for dioxins in the world – but it was complex to export samples for testing by foreign laboratories not certified by the Brazilian authorities. When a government minister approached Eurofins in need of laboratories to support testing for this dioxin crisis, we realised the incident would be a good opportunity to get Eurofins GfA certified by the Ministry of Agriculture in Brazil. The urgent situation expedited the accreditation process and it was done very quickly.

To meet demand, we then used Eurofins GfA as a platform to launch a local dioxin testing laboratory in Brazil, following GfA's quality standards and protocols, which was completed in just two months. This new laboratory was the first in the Eurofins network in South America to match the high-tech level of its European sister companies, if not the most high-tech of any South American laboratory of its kind.

Q: WHAT MAKES EUROFINS FOOD AND FEED TESTING AN ATTRACTIVE PARTNER TO CLIENTS AND AUTHORITIES DURING FOOD SAFETY INCIDENTS IN BRAZIL?

EDISON: Knowledge transfer within the Eurofins network has been a great thing. Nowadays, it's not just our operations in Brazil and Chile that are connected with each other, but we are connected with all Eurofins companies worldwide. It's a big selling point for our international clients that everything we do is supported by and in line with our wider network. It boosts confidence, especially as international companies are recognised in Brazil as best-in-class and used as a benchmark. None of our competitors can bring this to the table.

Q: WHY ARE FOOD SAFETY INCIDENTS SUCH BIG BUSINESS FOR EUROFINS FOOD AND FEED TESTING IN BRAZIL?

EDISON: Regulation-driven quality control services in Brazil are not as big business as in Europe, for example. It is rather the food scandals and big incidents that generate testing revenue. These earlier scandals still generate a lot of business for us, even now. However, we are working together with universities and authorities to change the perception of preventative testing as a financial burden into a valuable part of risk management. This has started to generate good discussions and more opportunities.

How to prepare for the unpredictable: environmental disasters

The nature of environmental crises makes them particularly daunting to mitigate – they are often unpredictable, difficult to contain, and can have catastrophic consequences on human and animal health.→

Sufficiently quick responses also typically require a certain physical proximity to the issue at hand. That's why Eurofins Environment Testing companies are no strangers to rapid reaction, nor to mobile or temporary laboratories, when duty calls.

"We don't have a dedicated emergency team on standby because we need to be ready everywhere!" explains Jim Miller, Eurofins Senior Vice President of Environment Testing US Strategic Sales and Marketing. "Time is of the essence when disaster strikes, so we are always ready to mobilise locally and use the employees closest to the site – they're all capable."

Between all the Eurofins Environment Testing teams, the companies have helped to address the impact of environmental disasters across the USA, Asia, Europe, and Australia, by testing for dangerous contaminants, pollutants, biological matter, and even radioactive particles. Their stories are part of history, but more importantly, part of what it means to be Eurofins

"We need to be ready everywhere!"

ASBESTOS TESTING AUSTRALIA

One van, four wheels, 125,000 km²

The COVID-19 pandemic may have made pop-up testing centres and mobile laboratories a familiar sight, but transportable resources are not a new addition to Eurofins' emergency response strategies.→

In fact, Eurofins Environment Testing companies have long since been incredibly agile when it comes to this, with a track record of rapidly bringing laboratory resources to the areas that need it most. This could not have been more pertinent in early 2020, when an incredibly severe bushfire season in Australia left over 125,000 km² (96,000 mi²) of burnt land posing an asbestos risk. So, the local team at Eurofins Environment Testing in Sydney, six hours from the affected region, decided to put their laboratory on four wheels.

As many of the almost 10,000 buildings destroyed in the fires had been built before 1990, the risk of exposure to asbestos during clean-up operations was high. In collaboration with a local council of the East Coast of Australia and NATA, an Australian accreditation body, the team from Eurofins Environment Testing Australia Pty Ltd set about converting a transit van into a fully accredited, mobile laboratory. The new laboratory was fitted with testing equipment, safe in-transit storage, stabiliser legs, and a portable generator to prepare it for long journeys and remote or uneven terrain. Three months later, in spite of COVID-related setbacks, the mobile laboratory was ready, having passed its audit, and the team could get to work.

There was just one thing missing: a driver

The mobile asbestos laboratory was not retired after the 2020 bushfire clean-up. One year later, in April 2021, a deadly tropical cyclone (Cyclone Seroja) travelled from Southeast Asia to Western Australia, putting an 800 kilometre (500 mile) stretch of Australian coastline under red alert. With many buildings damaged or destroyed, the Eurofins team received an urgent request from the Department of Fire and Emergency Services to journey over 4,000 km (2,485 miles) across the desert to assist with asbestos testing at the impact zone.

There was just one thing missing: a driver. Although there were lots of volunteers, a testimony to the reactive spirit of the team, COVID-related staff shortages in the laboratories meant it was two Eurofins leaders who had to take the wheel: Bob Symons, Eurofins Regional Pacific Environment Testing Technical Manager, and Sefton McGraw, Eurofins Business Line Leader of Environment Testing Pacific and Agro Testing Australia. Between them, they drove the van from Sydney to Perth, a 4,100 km route, in two separate legs. How did they keep up morale travelling the long, straight roads of the Australian outback? "I had my favourite podcasts playing over the van's stereo system to make the journey enjoyable, while learning new things along the way!" Bob remembers. For Sefton, he brought his wife along to enjoy the road trip together.

The van now continues to journey around Australia for routine asbestos testing, ready to respond to any emergency situations where asbestos-containing dwellings have been destroyed by natural disaster.

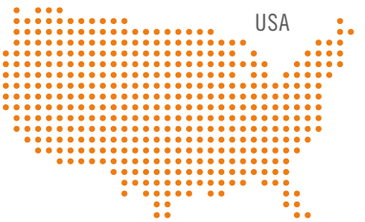
Top: Eurofins employee attending to the potentially asbestos-contaminated debris on the East Coast of Australia.

Right: Eurofins Environment Testing Australia mobile asbestos testing laboratory.

COMPANY SPOTLIGHT
TESTAMERICA

In 1986, Thomas R. Barr purchased Wastewater Services Inc., a small water and wastewater contract operating business with a tiny laboratory, using investments from HIG Capital.→

"We could reorient our leaders to manage their businesses more autonomously."



Below: TestAmerica employees outside the JSTI headquarters.

Thomas was a natural entrepreneur looking for a career change, having worked on a variety of ventures since his university days, which had taken him around the USA and the globe. Out of the small laboratory, he decided to found TestAmerica, an environment testing company, with grand goals for its growth: and by late 2007, TestAmerica had grown both organically and inorganically to earn its place as the leading environment testing company in the USA, having gone from 13 employees to over 3,000.

Nine years later, after selling some of the individual ancillary businesses, HIG was ready to divest and sell the company, and Eurofins quickly came forward as an interested party. Although it was JSTI, a Chinese engineering company, that ultimately won the bid, Eurofins had made a mark on the leaders at TestAmerica, who had met Eurofins' CEO, Gilles Martin for lunch in midtown Manhattan:

"There wasn't actually a lot of food eaten, but there were a lot of questions asked!" recalls Rachel Brydon Jannetta, the then-CEO of TestAmerica. Rachel is currently Executive Advisor at Eurofins Environment Testing America.

"For Gilles, it was a due diligence interview – he asked a lot of interested, detailed questions and made hundreds of notes," Jim Miller adds, Eurofins Senior Vice President of Environment Testing US Strategic Sales and Marketing, who started his TestAmerica journey in 1999.

> "There wasn't actually a lot of food eaten, but there were a lot of questions asked!"

This dialogue between Rachel and Eurofins remained open during the next couple of years and in 2018, when it was clear that strategic differences between TestAmerica and JSTI could not take the company forward, she began to plant seeds for the idea of Eurofins acquiring TestAmerica. When both sides came to a deal that October, the news "generated a much more positive response among TestAmerica employees than previous changes in ownership had", as Eurofins companies were already experts in the field and Eurofins was unlikely to sell TestAmerica again.

TestAmerica is now part of the Eurofins Environment Testing network in the USA. The acquisition brought an additional 2,000 employees and 64 service centres to the network, along with a strong portfolio of Fortune 500 clients. TestAmerica's complementary portfolio of over 45,000 accredited methods and almost 450 State or Federal accreditation programmes and licences enabled Eurofins to offer an even wider range of services to its customers. The network also benefited from TestAmerica's industry-leading laboratory information management system (LIMS), which was subsequently rolled out across all Eurofins Environment Testing entities in the USA.

When asked about how the original TestAmerica team adjusted to the acquisition, Jim remarks that they were "impressed with the greater capital investment into laboratories and equipment...we weren't just getting the basics!" Moreover, Rachel adds that "there was a change in culture – we could reorient our TestAmerica leaders to manage their businesses more autonomously rather than function as homogeneous branches within a company."

Four years on from the acquisition, Jim admits, "I don't ask myself, is that a Eurofins laboratory or a TestAmerica laboratory? I think of us all now as Eurofins!"

9/11 DIOXIN TESTING AND ANTHRAX TESTING

Environment Testing in the wake of terror incidents

Behind the scenes, Eurofins companies have also done valuable work to help deal with the aftermath of high-profile national security incidents, which even after the fact can pose serious, lingering threats to human health or the environment.→

Following the terrorist attacks on the World Trade Centers, USA, on the 11th of September 2001, there was concern around dangerous contamination in neighbouring buildings. Over a period of about two years, TestAmerica, now part of the Eurofins Environment Testing network in the USA, conducted highly specialised analyses on samples collected from the Deutsche Bank Building, adjacent to the World Trade Centre site, to check for highly toxic dioxin contamination caused by inferno fumes from the towers. This work supported clean-up efforts and, ultimately, TestAmerica's persistent detection of dioxins informed the decision to demolish the building on the grounds it would never be habitable again.

Just one week after the September 11 attacks, a new terrorist threat emerged in the USA, whereby letters containing anthrax spores, a dangerous bacterium, were posted to prominent media offices and political figures, causing five deaths and even more infections. TestAmerica supported the United States Postal Service by setting up a mobile laboratory to test postal items for anthrax before they continued to their destination.

RADIOACTIVITY TESTING AFTER 2011 TŌHOKU EARTHQUAKE AND TSUNAMI

"I'd learnt that, in spite of doubt, recovery was a sure thing"

On the 11th of March 2011, the Tōhoku earthquake shook Japan. At 9.0 on the moment magnitude scale, it was Japan's most powerful earthquake, and the fourth most powerful recorded earthquake in the world, causing devastating destruction on the ground.→

Above: Post-tsunami damage to a building where Eurofins conducted environmental monitoring in the aftermath of the disaster.

The enormous undersea tremors also triggered tsunami waves up to 14m high (46 feet), which overwhelmed and flooded the Fukushima Daiichi Nuclear Power Plant. The resulting damage caused radioactive material to leak into the atmosphere and the Pacific Ocean, where it was swept far and wide by strong coastal currents and winds.

"Within about six months, Japan had made a significant recovery"

"I was working in Tokyo when the Tōhoku earthquake hit," recalls Colin Granier, Eurofins International Division ComLIMS Responsible APAC. "Things were so bad that Eurofins suggested that I move back to Europe, and everyone was saying we would probably have to give up on expanding in Japan for a number of years. I decided to stay because I'd learnt from the Great Hanshin earthquake of 1995, as I was in Tokyo at this time, that, in spite of doubt, recovery was a sure thing – and indeed, within about six months, Japan had made a significant recovery. I stayed in the country and saw things start to pick up in a matter of weeks, with people back on the street going to work. There is so much resilience in Japan."

Instead of moving operations out of Japan, Eurofins worked to quickly set up a radioactivity testing laboratory to analyse customers' samples for potential contamination. Using its companies' prior experience in the surface monitoring of food products for radioactivity after the Chernobyl catastrophe, Eurofins experts deployed a facility for radioactivity testing within a matter of weeks. Sample volumes at the laboratory were huge, and all proceeds generated in the aftermath of the disaster were donated to the Japanese Red Cross and other public organisations carrying out welfare activities.

Given the wide dispersion of radioactive matter, the high demand for radioactivity testing was not confined to East Asia; Eurofins' clients around the globe needed to ensure that their products were free from contamination, and so other Eurofins companies began ramping up this service. To this day, there is still some demand for such testing as a result of the Fukushima disaster. This photo (right) shows a gamma-spectrometer used by Eurofins WEJ Contaminants to test a variety of food matrices for gamma emitters such as caesium, which has a half-life of up to 30 years and can remain abundant in certain soil.

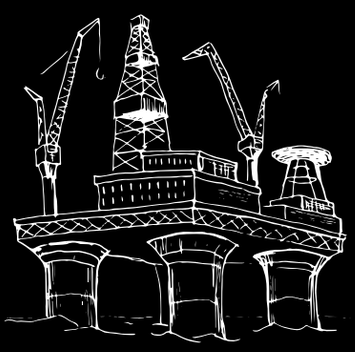
"There is so much resilience in Japan"

DEEPWATER HORIZON OIL SPILL

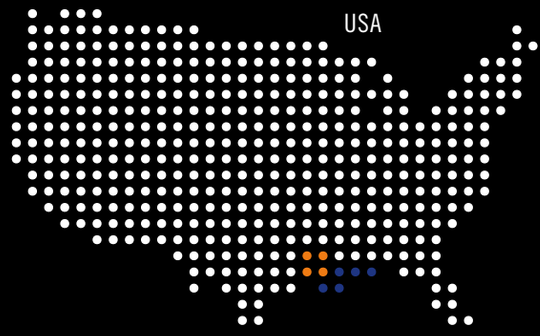
210 million gallons of oil vs. 45 Eurofins chemists

"Everyone wanted to be a part of history"

On the 20th of April 2010, the Deepwater Horizon oil rig off the Gulf of Mexico suffered an explosion, causing an oil spill so severe that it is considered not only the largest marine oil spill in the history of the petroleum industry to date, but also one of the largest environmental disasters ever recorded. →



"We mobilised very, very quickly"



The reported 210 million gallons of leaked oil had a highly significant, publicly documented impact on the rich marine life surrounding the rig, with impact stretching as far as several hundred miles, requiring huge clean-up and recovery operations.

The oil rig had been chartered to British Petroleum (BP) at the time, an oil and gas 'supermajor' that was a partner of Eurofins Environment Testing in the USA, then called TestAmerica. TestAmerica was contacted for urgent help with mobile laboratories and gas chromatography units at BP's command centre in Louisiana, close to the rig and thus very heavily affected by the spill.

"The usual willingness to help was intensified by the scale of the emergency"

Below: Eurofins Environment Testing (then TestAmerica) laboratory.

Without a site local to Louisiana, the challenge for TestAmerica was getting resources down to the Gulf quickly – but one thing they weren't short of was volunteers, united in their mission to help alleviate impact. "The first big question was determining an emergency response team. We had over 200 volunteers," explains Jim Miller, Eurofins Senior Vice President of Environment Testing US Strategic Sales and Marketing. "The usual willingness to help was intensified by the scale of the emergency. Everyone wanted to be a part of history."

And so, 45 chemists from TestAmerica were temporarily allocated to the project in Louisiana, and in five quick weeks, five laboratories were set up and became fully operational. "We mobilised very, very quickly – it was a 24/7 process," Jim reflects. "I remember taking calls in my car at midnight on a Saturday."

In five quick weeks, five laboratories were set up and became fully operational

With the equipment and teams in place, TestAmerica developed a fingerprint method for the analysis of petroleum hydrocarbons, the chemical compounds found in oil, in water and sediment samples, in order to determine whether the oil originated from the Deepwater Horizon rig or elsewhere, as it had emerged that other petroleum companies had exploited the disaster as an opportunity to dispose of their own oil waste cheaply.

The work continued at the mobile laboratories for the remainder of the year, until demand for fast turnaround was replaced by a need for broader environmental testing. At this point, TestAmerica started conducting testing as part of an important ecological study to assess the long-term impact of the oil spill on wildlife.

Together with their collaborators, the company played a key role in bringing better understanding of the scale of the disaster and ensuring the best decisions could be taken to help mitigate its impact – truly, as Jim says, "a part of history."

The frontline of global health crises

Innovations in clinical diagnostics are constantly pushing the boundaries of what is possible in terms of better medical care, but when regions are hit by acute outbreaks of infectious disease, pharmaceutical and clinical experts face a race against the clock to develop and make available the diagnostic tests, remedies, and proven preventative measures – including vaccines – needed to protect societies.→

These diseases can be caused by the spread of bacteria, viruses, fungi, or parasites, and typically spread to humans by infected people, animals, or the environment. Tackling them can be a cross-industry effort: beyond the medical consequences that might come to mind immediately, infectious diseases can be airborne and hang around on surfaces, calling for environmental monitoring. When it comes to viruses, DNA sequencing services are often required to track and monitor their development.

A strength of the Eurofins network is its wide-ranging capabilities, with many hundreds of laboratories equipped to step up and play a part in fighting new diseases and epidemics as they happen. When the stakes are high, these Eurofins companies can rapidly pull together to help combat health crises together.

COVID-19 PANDEMIC

Untold stories of the fight against COVID-19

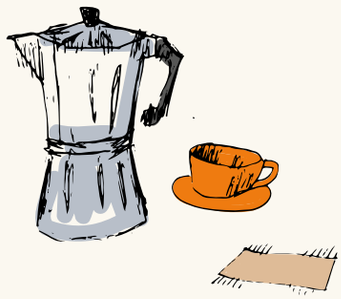
The COVID-19 pandemic is the defining global health crisis of modern times and has triggered the most expedited and highly anticipated race for an effective vaccine in, arguably, medical history. →

"When the pandemic had just begun and was spreading rapidly, there was a severe lack of testing resources to support widespread clinical testing. As a result, workplace spread of COVID-19 was happening without any proven options to control it. We began thinking about a way to use testing methods from Eurofins In Vitro Diagnostics in a novel way – namely to monitor the workplace environment for the presence of the coronavirus to detect spreaders before they caused an outbreak. We used two Eurofins laboratories in Europe and the USA to perform environmental monitoring testing. Results of our work were published in a scientific paper and were the first to show that environmental monitoring had predictive value in measuring the risk of COVID-19 spread in the workplace, without having to rely on extensive and expensive employee testing. We were actually the first of our competitors to publish such a paper.

"But, to get it done, from March 2020 until early summer, I basically didn't sleep! Conference calls with Europe and South America were starting at 5am and calls with colleagues in Asia and Australia were concluding around 4am. It was absolutely exhausting – but, you know what, we could see the goalpost, and as we got closer and closer, it didn't matter. To see the speed at which Eurofins developed these offerings to help customers and societies around the world to better manage this crisis has simply been a fantastic thing to see."

Douglas Marshall
Chief Scientific Officer of Eurofins Microbiology North America

"From March 2020 until early summer, I basically didn't sleep"



"We managed to build a fully operational laboratory from scratch out of about five office buildings"

"I'd been working for Eurofins in Romania to set up a new vitamin testing laboratory when Svend Aage Linde, National Business Line Leader of Food and Feed Testing Denmark called me up and asked me to join his team, who were endeavouring to establish a new COVID-19 laboratory at Copenhagen Airport. Within just one month, we managed to build a fully operational laboratory from scratch out of about five office rooms. It was an exceptionally fast-paced project because not only did everything need to be done as quickly as possible, but we didn't have the same budget constraints that other projects might. Brand new equipment could be there in a matter of days. The special goal of this laboratory was to speed up the time from PCR sampling to result, which we managed to reduce to one hour. It ended up being one of my most rewarding professional experiences."

Jesper Christensen
Eurofins Lean & Project Manager

While we are unlikely to ever know a true death count, over 6,850,000 deaths as a result of the virus have been reported to the World Health Organization (WHO) as of April 2023, a figure that would almost certainly be much higher, were it not for the 13 billion vaccine doses administered worldwide. Although many carriers did not suffer any severe symptoms themselves, very few people have escaped the coronavirus' multiple waves without a swab up their nose or a vaccine needle in their arm, and even fewer without a mask on their face. These, and many more products, tests and pharmaceuticals, were manufactured and tested by laboratories such as Eurofins to help make them a safe, realistic part of COVID-mitigation strategies. →

RIJSWIJK, NETHERLANDS

Seen here are Eurofins teams at work in the Eurofins Clinical Diagnostics High Volume COVID-19 Laboratory in Rijswijk, the Netherlands.

More photos from the ramp-up and opening of the Eurofins Clinical Diagnostics High Volume COVID-19 Laboratory in Rijswijk, the Netherlands.

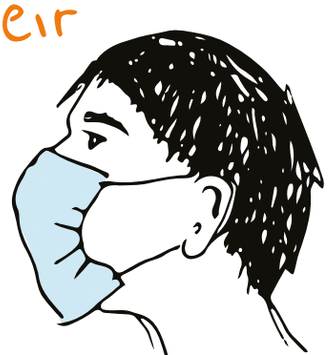
DID YOU KNOW...

In February 2020, a Eurofins Environment Testing company detected SARS-CoV-2 (the virus that causes COVID-19) in wastewater in Denmark, three days before the authorities detected the country's 'Patient 0' through human testing.

DID YOU KNOW...

Eurofins' COVID-19 laboratory in Ebersberg, Germany, is Europe's largest COVID-testing laboratory. **On the same day** that the World Health Organization (WHO) designated Omicron as a Variant of Concern, a Eurofins company launched a kit for the rapid detection of the variant in one hour.

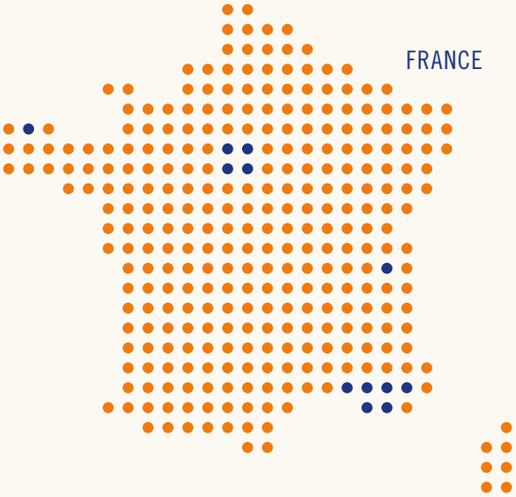
"Employees of Food Testing companies were the first from many non-clinical Business Lines to transfer their expertise"



"When the COVID-19 pandemic hit, Eurofins' diverse network was a huge advantage. In the Food Testing business here in the USA, we already had some equipment in our microbiology laboratories that could be loaned to Eurofins Clinical Diagnostics companies immediately. Having to quickly turn samples around was also something we had a lot of experience at, and so employees of Food Testing companies were the first from many non-clinical Business Lines to transfer their expertise. We also contributed through numerous special projects, including the microbiological testing of surfaces and masks, and helped to get COVID-19 PCR testing laboratories set up and functional.

"There were over 45 people who moved from Food and Feed Testing companies in the USA into full or part-time roles within Clinical Diagnostics companies, myself included, from sales and marketing personnel to finance staff. The effort also involved around ten colleagues from Environment Testing businesses. We actually had a number of high-potential people who have since been able to become Business Unit Managers and even Presidents of Eurofins Clinical Diagnostics companies, with no clinical background before the pandemic. It was a real Group effort to contribute to something really impactful to the health of people all over the world."

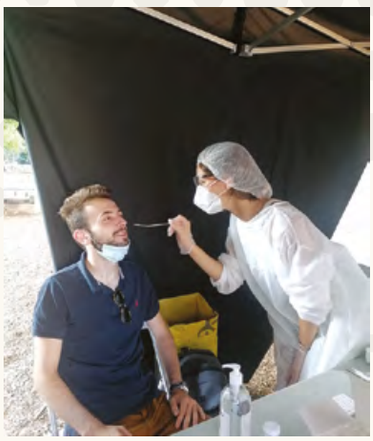
Mary Kay Krogull
Eurofins Senior Vice President of Food and Feed Testing Ontario



Like for most businesses, the lockdowns and supply chain disruption had a huge impact on Eurofins companies. "When the first lockdowns hit Europe, we initially had to stop some of our operations completely. We had to manage situations where revenues had dropped 90% in one week," explains Gilles Martin, Eurofins CEO. "This was not easy – but our business leaders found strategies to manage the situation as well as possible."

On the flipside, other Eurofins companies had to ramp up overnight to help governments and public health authorities (and, later, all sectors of society) to tackle the crisis directly. Many of these companies were, most obviously, in the Clinical Diagnostics and BioPharma Services Business Lines, but that was by no means the extent of Eurofins' involvement: colleagues from the Environment Testing, Genomics, Food and Feed Testing, In Vitro Diagnostics Solutions, Consumer Product Testing, and Assurance businesses, among others, came together to develop, validate and provide many of the services that became a new part of daily life. →

Clockwise from top left: COVID-19 sampling on Norwegian Cruise Line ship; Eurofins BioSafety Level 2 laboratory supporting vaccine development; Eurofins COVID-19 sampling centre in Bordeaux, France; Eurofins COVID-19 sampling at a festival in Marseille, France; Eurofins COVID-19 sampling station sign-posted at Brest Bretagne Airport, France; Eurofins Biologie Médicale France laboratory; Eurofins Biologie Médicale COVID-19 sampling point; Eurofins Laboratory Technician running a COVID-19 PCR sample.



"Our key support was to keep our BioPharma Product Testing business running when everything around us had stopped"

"Looking back to the very start of the pandemic, our key support was to keep our BioPharma Product Testing businesses in Europe running when everything around us had stopped, as drugs still needed to get to market. We weren't working directly on COVID-19 products yet, but we were protecting the supply chain for the pharma industry and healthcare system, to ensure patients could access the medicines they rely on.

"When news of a potential COVID-19 vaccine first broke, we knew this would be a huge task, as usually, it takes years to bring new drugs to market. We were soon contacted by our pharmaceutical clients who needed our help. It wasn't just about batch release: we needed to build the supply chain; test the raw materials, packaging, and the vials for extractables and leachables; support all CDMO and CMO manufacturing; support imports into Europe; and so much more. We recruited and trained a lot of people and set up full-time, dedicated teams. And we did it all with maximum priority. After six months, we had set up three different laboratories in Columbia (US), Homburg (Germany) and Milan (Italy) for COVID-19 vaccine release.

"All this created excitement throughout the team. We were happy to be part of this challenge, as it had such a clear and high-stake message."

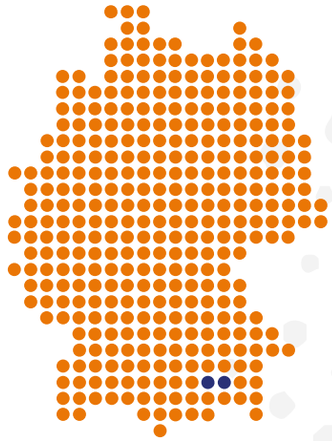
Marco Antonio Baeli
Eurofins Regional Business Line Leader of BioPharma Product Testing Europe

DID YOU KNOW...

Did you travel abroad in Europe in Summer 2021? Then you might have seen Eurofins. Throughout the season, Eurofins operated 1,000 COVID-19 test centres around Europe, including at 12 of Spain's busiest airports.

DID YOU KNOW...

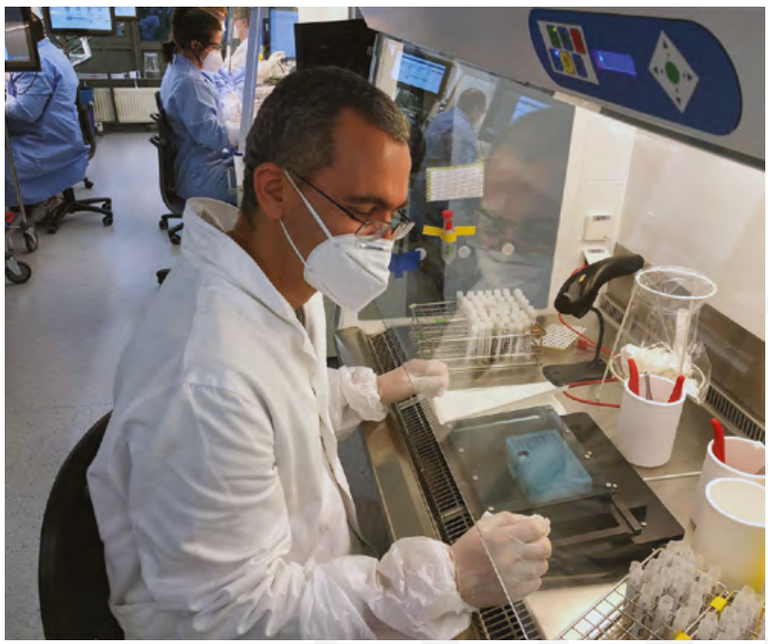
In February 2021, Eurofins donated 100,000 fast PCR tests to detect three COVID-19 Variants of Concern to hospitals around the world. Eurofins also made donations to hospitals and programmes in Belgium and India to support the provision of health services during COVID-19, such as oxygen concentrators for hospitals, as well as for Eurofins' companies employees and their families in need of home-based oxygen support.



EBERSBERG, GERMANY

Two months into the pandemic, Eurofins had already built capacity to facilitate over 20 million COVID-19 tests per month. Its capacity and portfolio continued to develop rapidly, parallel to the ever-changing pandemic situation, with ultra-rapid PCRs, genomic sequencing for specific variants, and even the integration of variant-detection technology to its tests.

Testing was not limited to clinical settings, either; Eurofins' COVID-19 offering included monitoring wastewater, surfaces, air and worn masks, testing personal protective equipment (PPE), and providing consulting services, as part of the cross-business-line Eurofins SAFER@WORK™ programme. This programme not only assisted authorities but was also rolled out widely for businesses, educational institutions, transport companies, healthcare settings, sports and events, and more, to help them safely reopen and manage outbreaks.



A selection of images of COVID-19 operations at the Eurofins Genomics site in Ebersberg, Germany.

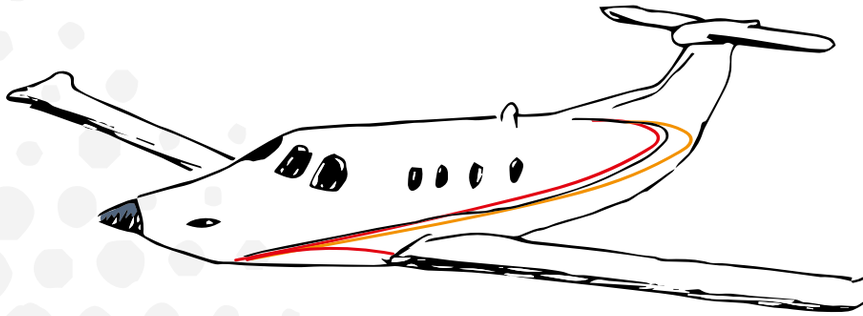
DID YOU KNOW...

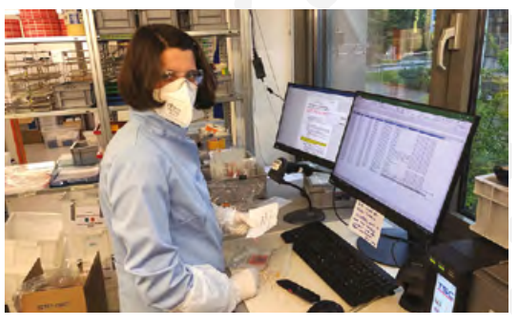
150,000

The highest number of COVID-19 PCR samples that Eurofins processed in a single day.

Between March 2020 and June 2022, Eurofins carried out over 40 million PCR tests in its own laboratories.

"The Irish Air Corps flew samples to our laboratory in Munich"





Sonja Wiedemann, former Managing Director of Eurofins Genomics Germany GmbH, processing COVID-19 samples at the Eurofins Genomics site in Ebersberg, Germany.

"Eurofins Genomics supported a lot of Eurofins teams in other countries with their backlog of COVID-19 samples or with their ramp-up phases. These were the times when it was all hands on deck in the laboratory, including for management...I was changing from heels to trainers to help with sample processing! Several times, the Irish Air Corps flew samples from Eurofins Biomnis Ireland to our laboratory in Munich: it was, "Tell us when you can take these samples and we will fly them there", and they arrived just hours later. Our colleagues in Sweden were flying samples in each day, too.

One of the most fast paced requests was the clearance of backlog from health authorities in Montenegro. Samples were in the plane to Munich before we even had finalised all details! Another one was the testing of travellers at German highways in summer 2020. We were asked to take 20,000 additional samples on the spot – the challenge being a completely different sample type and sample registration system and frequently insufficiently wrapped due to the lack of equipment at local sampling stations. They literally arrived in plastic bags. So we did not only process the samples, but also equipped our partners with adequate transport materials and trained them on packaging and disinfection protocols."

Sonja Wiedemann
Former Managing Director of Eurofins Genomics Germany GmbH

DID YOU KNOW...

Zika epidemic

The COVID-19 pandemic was not Eurofins' first time responding to a public health emergency. Amid the Zika virus epidemic of 2015 and 2016, which caused large outbreaks in Africa, the Americas, Asia and the Pacific, Eurofins Biomnis and Eurofins Viracor were amongst the first commercial laboratories to develop and make available a real-time polymerase chain reaction (PCR) test for Zika to hospitals and health care providers. When subsequent outbreaks hit the French Guiana and the West Indies during the same period, also requiring large-scale testing, the two companies again very quickly stepped up to make tests available on an international level.

COMPANY SPOTLIGHT
VIRACOR

"It was one of Eurofins' fastest acquisitions"

Eurofins Viracor's story starts in Lee's Summit, Missouri in 2001, when it was founded as ViraCor Laboratories, with a focus on infectious disease testing and immunology, particularly for patients suffering from immune deficiencies or recovering from critical surgery, such as transplants.→

Meanwhile, in Lenexa, Kansas, IBT Laboratories, which had been around since 1983, had made a name for itself through the successful development and commercialisation of allergy tests for roughly 900 food substances. The company's investors were looking for further growth opportunities for IBT when they realised that "ViraCor Laboratories was only 22 miles (35 kilometres) away and really completed the picture of diagnostic testing and balanced IBT's offering," recalls Michelle Altrich, who worked for IBT at the time and is now President of Eurofins Viracor.

The two companies officially merged as Viracor-IBT in 2009, a single service provider working with biopharmaceutical clients on research and development and supporting clinical trials. By 2014, the company had already established itself as a key player in the biopharmaceutical testing sector, serving 550 institutional clients, over 4,000 affiliated clinicians, and 12 leading pharmaceutical companies across the USA.

"From there, everything happened very quickly"

Above: Viracor employees at work circa 2000.

But when the private equity firm that owned the company had to close the fund, its then-CEO, Tom Burnell, who had worked at Eurofins previously, naturally thought of Eurofins as an ideal potential buyer, as it had both financial stability and a compatible mission of Testing for Life. Tom was able to quickly establish the connection with Eurofins' CEO, Gilles Martin.

"From there, everything happened very quickly," Michelle explains. "The process started in spring 2014, and we closed the deal at the end of June. So it was one of Eurofins' fastest acquisitions!" And as for the 200 employees who now found themselves part of a much wider network: "We were already driven by the entrepreneurial spirit and decentralised idea. Taking risks to be successful was already part of our culture, so it was an easy transition for us."

Welcoming Viracor-IBT into the network laid the foundation for Eurofins' Clinical Diagnostics Business Line, as well as strengthening its BioPharma Product Testing and Genomics companies. The business lines went from strength to strength from hereon, with Eurofins Viracor partnering with numerous Eurofins companies in the network and assisting in subsequent key acquisitions in the USA.

Today, Eurofins Viracor is one of the biggest innovators in the Eurofins Group: some of its most ground-breaking innovations include the ImmuKnow® assay, used to evaluate a transplant patient's existing immunity levels, and a predictive assay for acute graft versus host disease in stem cell transplant recipients.

CHAPTER 8

ESG and sustainability

Through their testing and certification work, Eurofins companies enable their clients across numerous industries to assess, monitor, and limit the negative impact of their activities on the environment or society, while constantly innovating better technology to detect new or old threats to the health of people and the planet.→

The result is that more companies around the world are able to meet Environmental, Social and Governance (ESG) criteria, a set of sustainability and ethical standards for a company's activities.

Eurofins leaders have shared some examples of the significant work their companies do to enable positive changes in their clients' operations. From managing toxic waste to investigating modern slavery in the supply chain, Eurofins companies are constantly collaborating with customers to help build a safer, healthier, and fairer world together.

WASTE MANAGEMENT

Running out of space

Every year, approximately 2.1 billion tonnes of waste are sent to landfills, and raw materials and manufacturing operations are a huge contributor. Landfills are far from just an eyesore – materials can leach potentially toxic compounds into soil, rivers, and oceans as they degrade. Adding to this problem should therefore be a last resort.→

The Eurofins Consumer Product Assurance (CPA) 'Zero Waste to Landfill' programme helps companies to achieve their target of diverting 99% of waste away from landfills and towards more sustainable alternatives, such as by reusing, recycling, repurposing, or generating energy from this waste, or using biodegradable materials instead. Through staff training and auditing of manufacturing facilities, Eurofins CPA highlights how waste can be minimised, and the recovery and reuse of residual waste optimised.

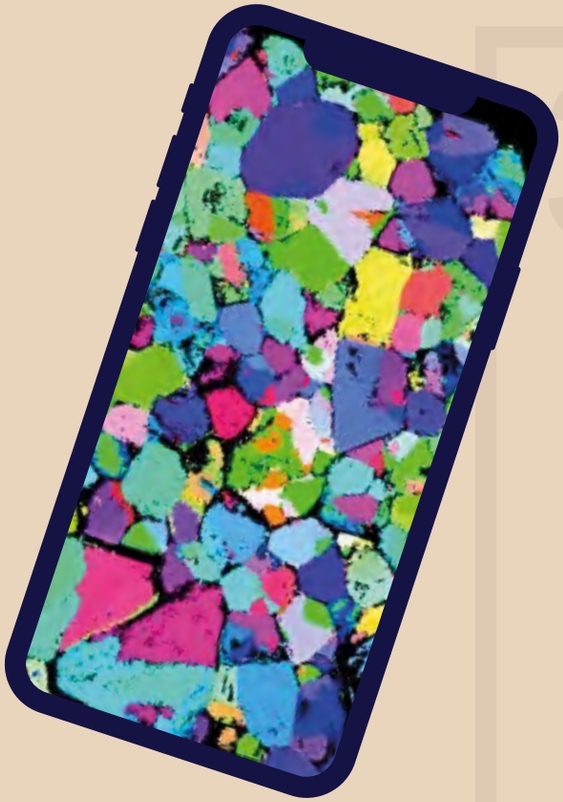
Responsible manufacturers are increasingly trying to reduce the quantity of persistent materials (materials that do not degrade when disposed of) in their products, but sustainable alternatives have complex properties that require testing. Eurofins Consumer Product Testing laboratories measure and verify the end-of-life characteristics of products marketed as biodegradable, disintegrating, or compostable. To put them to the test, they use simulated conditions to assess the rate of degradation of a product over time.

Let's say the material is biodegradable or will disintegrate – what happens next? It is vital to know whether the remains of biodegradation or disintegration release toxic or harmful chemicals when mixed with soil or other compost. Eurofins Environment Testing companies provide ecotoxicity testing to measure hundreds of different compounds that can be found in degradants, as well as analysing the response of plants and weeds to the degradant-compost mixture.

These Eurofins services enable companies to factor sustainability into their choice of materials early on in the product design, meaning fewer waste products and toxins end up in landfills and compost.

DID YOU KNOW...

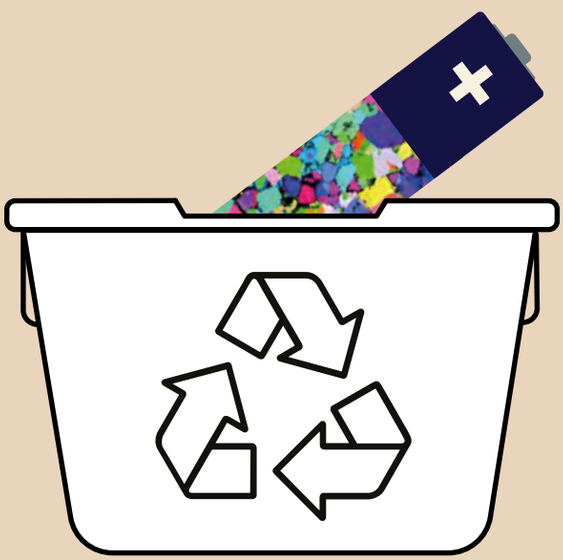
Biodegradability, disintegration, and compostability are often used interchangeably, but they refer to different processes that can have very different outcomes for the environment. Biodegradable materials can be decomposed by bacteria or other living organisms, while disintegration means being broken into small pieces by impact or decay. Compostability, on the other hand, refers to organic materials that can be made into compost.



RECYCLABILITY ASSESSMENTS

Reduce, reuse… recycle?

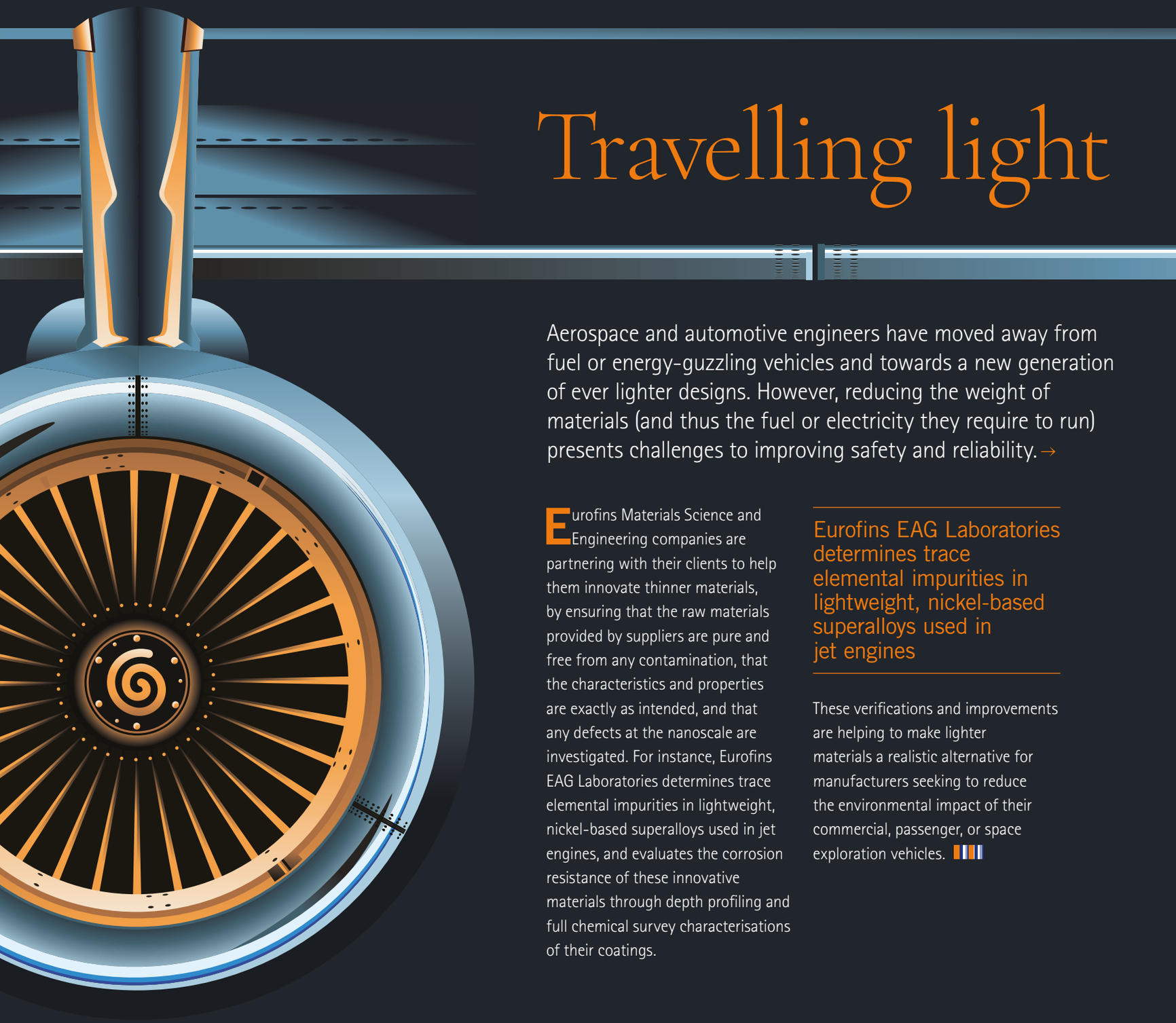
Throwing your empty packaging into the recycling bin instead of into general waste might seem like an easy way to reduce landfill pile-up, but determining the recyclability of a product is a complex process that requires expert verification.→



Eurofins Consumer Product Testing (CPT) companies carry out recyclability assessments and can indicate a product's performance with a score of up to 100%. This score considers not only the materials themselves, but the feasibility of separating the product into individual components that may need to be recycled separately, in the context of local recycling infrastructure. For example, in Germany, where waste reduction and recycling are heavily regulated, Eurofins CPT enables companies to be compliant with applicable laws.

Some product components, however, are particularly difficult to recycle and reuse, and lithium-ion batteries are one of them. For portable electronics and the ever-growing electric vehicles market, rechargeable lithium-ion batteries provide lightweight and efficient power. Reusing the recycled lithium-ion battery material is a sustainable and cost-effective alternative to mining raw materials, but a circular electronics economy must be supported by precise elemental composition analysis. Eurofins EAG Laboratories has developed methods for purity characterisation, concentration analysis, and more, to ensure the recycled lithium-ion battery materials available are of the highest quality. These techniques give manufacturers the option to sustainably source safe and effective battery materials for their products.

INNOVATING LIGHTWEIGHT MATERIALS



Travelling light

Aerospace and automotive engineers have moved away from fuel or energy-guzzling vehicles and towards a new generation of ever lighter designs. However, reducing the weight of materials (and thus the fuel or electricity they require to run) presents challenges to improving safety and reliability.→

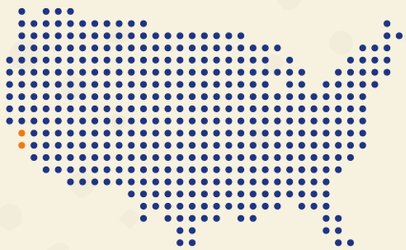
Eurofins Materials Science and Engineering companies are partnering with their clients to help them innovate thinner materials, by ensuring that the raw materials provided by suppliers are pure and free from any contamination, that the characteristics and properties are exactly as intended, and that any defects at the nanoscale are investigated. For instance, Eurofins EAG Laboratories determines trace elemental impurities in lightweight, nickel-based superalloys used in jet engines, and evaluates the corrosion resistance of these innovative materials through depth profiling and full chemical survey characterisations of their coatings.

Eurofins EAG Laboratories determines trace elemental impurities in lightweight, nickel-based superalloys used in jet engines

These verifications and improvements are helping to make lighter materials a realistic alternative for manufacturers seeking to reduce the environmental impact of their commercial, passenger, or space exploration vehicles.

COMPANY SPOTLIGHT
EAG LABORATORIES

"An exhilarating industry to work in"



SILICON VALLEY, USA

In 1978, Dr Charles A. Evans, an expert in material-related surface analysis for integrated circuit technologies, developed critical applications that supported a groundbreaking analysis technique for solid surfaces: Secondary Ion Mass Spectrometry (SIMS).→

Realising the full potential of SIMS, Dr Evans followed the dawning tech boom to the Silicon Valley, USA, where he opened the first commercial testing laboratory serving the materials sciences and semiconductor industry: Charles Evans & Associates, later Evans Analytical Group (EAG) Laboratories.

> "Many materials testing professionals around the world still know by name the EAG entrepreneurs who developed these testing methods"

In the decades that followed its foundation, EAG Laboratories established a full suite of materials testing techniques, as a worldwide provider of material science testing services, with additional activity in pharmaceutical and agroscience testing. The company had established 21 laboratories by the time it was acquired by Eurofins in 2017, with a focus on testing high-performance materials used for extremely dynamic and innovative end products.

"Some examples include components that go into people's bodies to make their lives better, whether it's a hip replacement or a stent in the heart… and other high-performance components, like jet engines, that tolerate broad temperature fluctuations and pressure swings," says Stefan Karnavas, Global Head of Materials & Engineering Sciences Business Line, who joined Eurofins through the acquisition. "It's an exhilarating industry to work in."

After Eurofins bought EAG Laboratories, its pharmaceutical and agroscience testing activities were successfully integrated into the Eurofins network, while its core business in the materials and engineering sciences represented a brand-new market for Eurofins. It proved to be a prosperous match. Together with EAG's strong reputation, the Eurofins network allowed the company – now called Eurofins EAG Laboratories – to expand its existing sites and "invest organically and inorganically to grow and diversify the customer base," resulting in "the acquisition of four additional materials science testing companies within one year of EAG Laboratories' acquisition," Stefan explains.

Eurofins EAG Laboratories continues to lead the materials sciences testing market, with new laboratories in Europe and Asia, as well as in the USA. Considered a global thought leader in many of the techniques it offers, Eurofins EAG is a respected name in its own right, and "many materials testing professionals around the world still know by name the EAG entrepreneurs who developed these testing methods," adds Stefan.

All images show Eurofins EAG Laboratories employees at work, USA.

ENERGY EFFICIENCY TESTING

Unplugged

How often do you charge your phone or tablet?→

Images: Energy efficiency testing being conducted in Eurofins Electrical and Electronics laboratories in the UK.

Maybe you spend hours per day with your laptop hooked up to mains supply? And if you head into your kitchen, you will probably find electronic appliances that are almost never switched off, such as your refrigerator and freezer.

The energy that all these electronic goods require is a major contributor to greenhouse gas emissions, as well as costly for the consumer. Energy-efficient devices are now a major consideration for individuals and businesses who want to purchase electronics. Eurofins Electrical and Electronics laboratories, part of the Consumer Product Testing network, perform energy efficiency testing in line with a broad range of national energy rating systems and power consumption limits, so that shoppers can consciously choose more sustainable products and reduce their carbon footprint.

BIOGAS TESTING

Fuelling sustainability in Singapore

Demand for energy is increasing at an unprecedented rate, accelerating climate change. In response, the last decade has seen a global effort to transition from fossil fuels, such as coal, oil, and gas, to renewable energy sources. With more and more countries committing to drastically reducing their greenhouse gas emissions or achieving carbon neutrality, pressure is mounting on companies to investigate and adopt sustainable fuel alternatives. →

Biofuels, including biodiesel and bioethanol, have therefore been gaining momentum as a viable means for partial substitution of fossil fuels. This renewable energy source, derived from plant-based biomass, can be used to power a range of vehicles, including cargo ships. To reduce the carbon footprint of petrochemical and transport companies, key trading ports and bunkering hubs have therefore become hotspots of activity for trialling the potential of biofuel – not least in Singapore, the world's busiest bunkering port.

Eurofins Mechem, an Environment Testing company in Singapore, is playing a vital role in supporting clients in their transition to clean energy.

Eurofins Mechem's biofuel laboratories analyse biomass feedstock for physicochemical parameters that could impact engine performance, such as contaminants, by-products, and moisture, to ensure the high quality of biomass for renewable energy production.

The inspection team then samples the biofuel used in vessels, as well as the air surrounding them. The composition of the biofuel is analysed to investigate parameters such as sulphated ash, copper strip corrosion, and environmental contaminants (i.e. heavy metals), and its calorific value is calculated to provide information about the amount of heat released during combustion. Crucially, the Eurofins Environment Testing experts also analyse the surrounding air samples for greenhouse gas emissions, such as carbon dioxide and nitrogen dioxide, which trap heat in the atmosphere and contribute to global warming.

Eurofins Mechem, an Environment Testing company in Singapore, is playing a vital role in supporting clients in their transition to clean energy

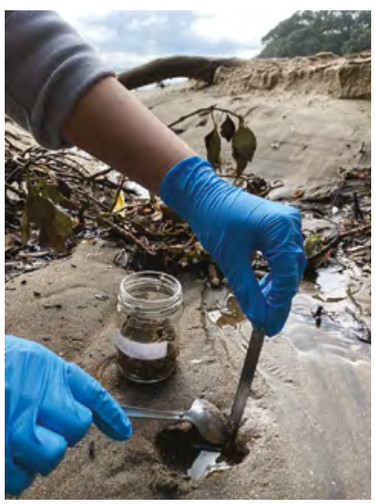
These services enable clients to monitor their carbon footprint by verifying the quality of renewable biofuels and accurately quantifying the impact of this reduction in fossil fuel use, guiding their ongoing efforts to limit their impact on climate change.

Biofuel samples being taken by Eurofins Mechem employees on board a vessel in Singapore.

MICROPLASTICS TESTING

No small problem

When plastic waste is mismanaged, small, plastic fragments can end up in soil, rivers, oceans, and other waterways, ultimately finding their way into drinking water and the food chain.→



Above: Eurofins Environment Testing employee collecting water samples for microplastics testing, Australia.

Background: Microplastics found in samples by Eurofins Environment Testing in Australia.

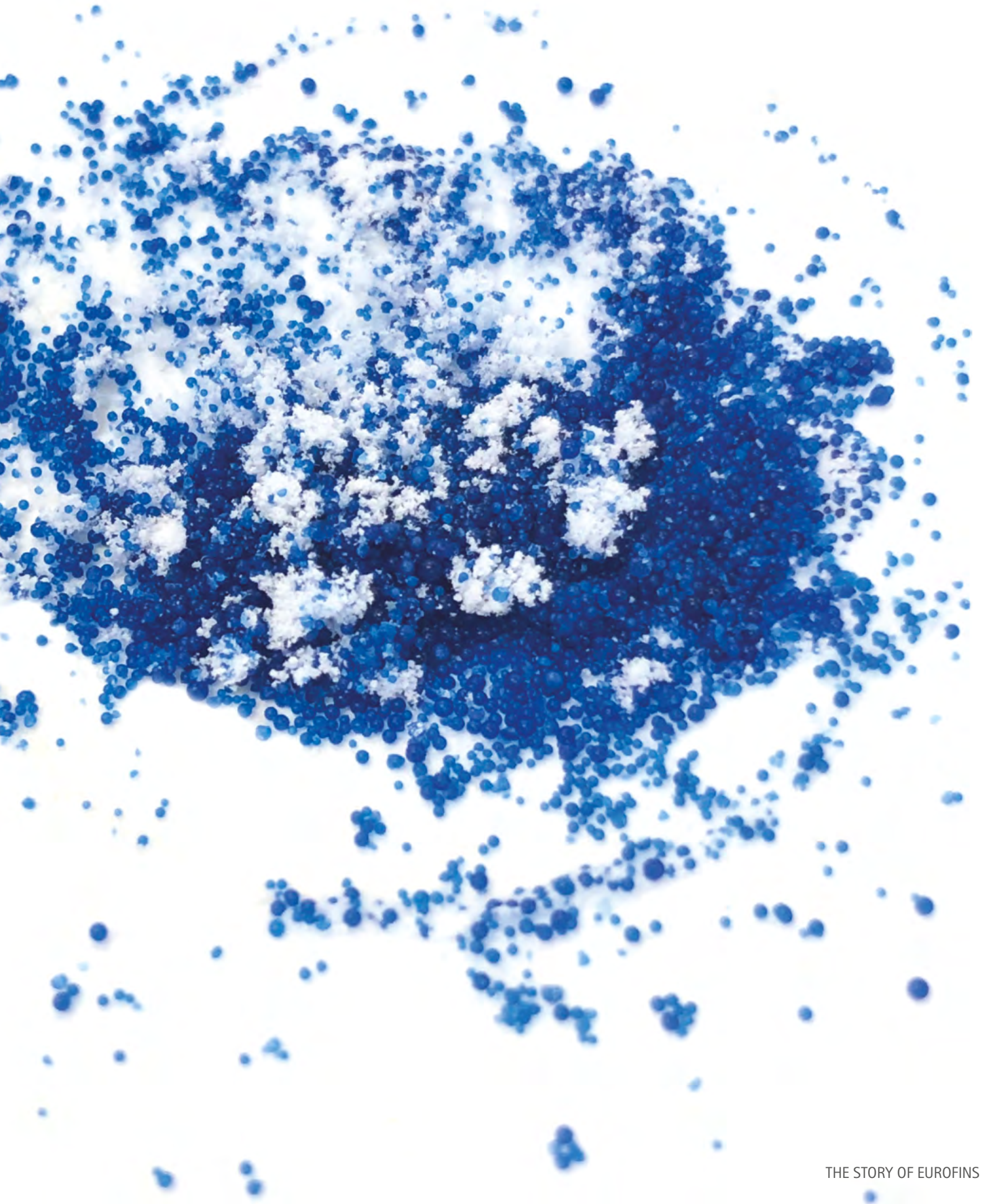
These particles are called microplastics, and although usually too small to see, they are circulating everywhere. Microplastic pollution has even been detected in the air, as certain consumer products made from non-biodegradable plastic can shed tiny, airborne particles.

Eurofins Environment Testing companies are world leaders in qualifying and quantifying microplastics

Yet, they're no small problem. Microplastics can contain hazardous chemicals and take hundreds, if not thousands, of years to degrade. Even when they do break down, the process may release compounds such as plasticisers, stabilisers, and pigments into the environment. Some researchers believe that ingesting or inhaling high concentrations of microplastics could damage respiratory systems and even increase the risk of cancer. Eurofins Environment Testing companies are world leaders in qualifying and quantifying microplastics in different matrices, such as food, water, and sediment.

To help manufacturers tackle the problem, Eurofins Softlines and Leather laboratories, as part of the Consumer Product Testing network, are working with clothing and furniture producers to measure the propensity of fabrics to shed fibre particles when washed, by simulating domestic laundering under typical conditions and analysing the result through electron microscopy. Eurofins Consumer Product Testing companies are also enabling manufacturers to take preventative steps against microplastic pollution by helping them to explore the use of biodegradable or recycled materials.

These actions help companies to make informed and proactive decisions about the materials they use and their impact on the environment, all towards a common goal of limiting the use of microplastic-shedding plastics.



SOIL CARBON CHECK

The answer beneath your feet

Under your feet lies the most biodiverse habitat on Earth: soil.→

An indispensable part of the water cycle and the food chain, soil supports the majority of life on the planet. But did you know that it has another important function? Soil can store carbon in organic matter, by absorbing carbon dioxide (CO_2) – the world's most abundant greenhouse gas – from the atmosphere. This makes it a powerful tool for CO_2 sequestration. In fact, soils currently store three times more CO_2 than forests and other vegetation! Replenishing depleted soil with manure or compost improves its fertility and helps to slow the pace of climate change.

Having recognised the power of soil-based carbon sequestration in the fight against global warming, Eurofins Agro Testing companies introduced a Soil Carbon Check for its clients in the agri-food industry, as one of its many soil health solutions. Eurofins Agro Testing experts measure and monitor the levels of carbon dioxide in farmers' and growers' soils, and provide advice on how to improve carbon storage, such as through crop rotation or by sowing green manures. In turn, farmers not only help to remove CO_2 from the atmosphere, but their healthy, fertile soil enables better crop yields to feed a growing population.

FORAGE ANALYSIS

Of all the major contributors to global warming, there is one particularly smelly factor to consider: livestock flatulence and excrement.→

It's not all about CO_2

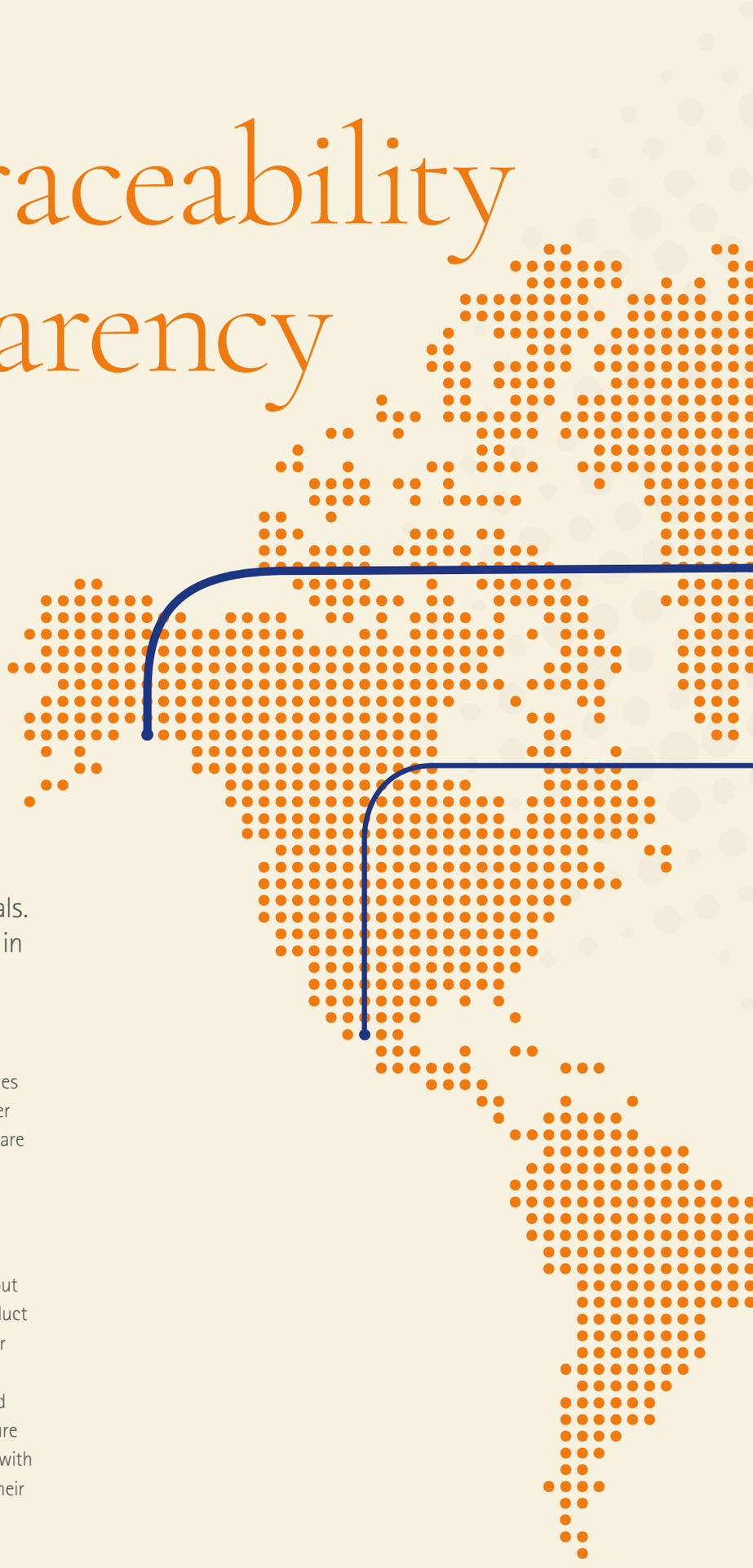
It is estimated that cattle farms are responsible for up to a third of all human-caused methane emissions, an abundant greenhouse gas that accounts for almost 15% of total greenhouse gas emissions.

Dairy farmers can reduce the methane emissions of their farms by feeding their livestock only exactly what they need, as overfeeding leads to unnecessary methane and manure production. But this requires careful forage analysis. Eurofins Agro Testing companies enable farmers to take this step by analysing the feed intake and the nutritional quality of their forage, which varies between batches. To do so, they use a specially pioneered technique, called Dried and Ground NIRS (near-infrared spectroscopy), along with several other techniques, for optimum accuracy and reliability.

Eurofins Agro Testing in the Netherlands is also working for Wageningen University & Research, to investigate how methane emissions can be reduced by feeding livestock with fresh grass, aiming to provide farmers with more greenhouse-gas-reduction methods in the future.

SUPPLY CHAIN MAPPING

Enabling traceability and transparency

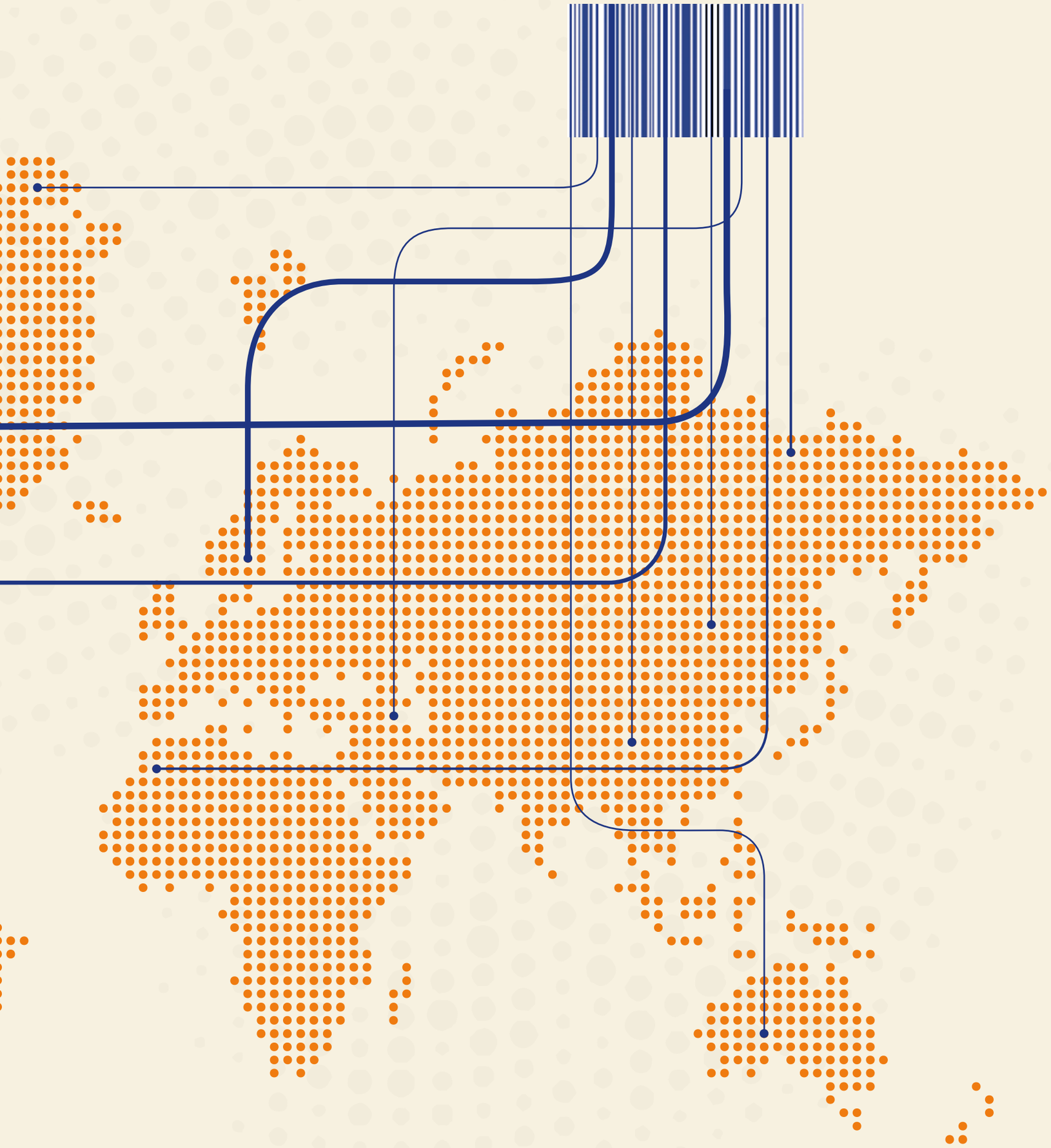


Raw materials are often sourced from all over of the world, and suppliers are not necessarily based in the same place as the manufacturers who use the materials. In all likelihood, the finished product will then be sold in yet another country or region.→

The complexity and geographical spread of supply chains can introduce a number of different environmental, social, and governance risks, which may not always be obvious to the retailer. These risks include deforestation, pollution, animal welfare, worker safety, and modern slavery.

Supply chain traceability and transparency can help companies to re-evaluate their supply chains with sustainability and social ethics in mind. The question is where to begin? Eurofins Consumer Product Testing's supply chain mapping and risk assessment service for Softlines (clothing, bedding, etc.) and leather goods uses digital mapping software to help build a full picture of the entire supply chain and flag any localised risks.

Eurofins Consumer Product Assurance companies also carry out social compliance audits and product inspections that highlight social or safety issues and gauge any risks in the supply chain, such as forced labour, helping companies to ensure they are operating in accordance with standards stipulated by law and their own strict targets.



A shared responsibility

Eurofins' commitment to sustainability starts within Eurofins companies themselves, through a shared responsibility towards people and the planet in all that they do.→

Eurofins has committed to investing 12 million euros in the Livelihood Carbon Fund 3, an investment fund mobilising financial investors to invest in solutions that aim to restore natural ecosystems, facilitate access to rural energy, and establish agroforestry and regenerative agriculture systems in developing countries.

Protecting the environment is also one of the pillars of the Eurofins Foundation: it supports numerous non-governmental organisations (NGOs) that work towards a common goal of a more sustainable world.

CO_2

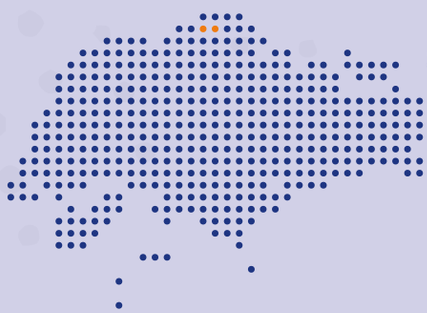
In 2022, Eurofins offset 200,000 metric tonnes of CO_2 emissions.

With climate change an imminent threat, Eurofins and its many companies recognise their duty to proactively reduce or compensate for the environmental impact that essential operations have on the planet, as well as helping its clients to do the same.

Many Eurofins leaders have ramped up local sustainability activities across their Eurofins sites

In 2019, Eurofins announced a five-year plan to reach full carbon neutrality by 2025, through initiatives that are overseen and continually expanded by a dedicated Carbon Footprint Reduction team. While developing a global framework is key to supporting Eurofins companies in their sustainability goals, crucial efforts must also be driven de-centrally. That's why many Eurofins leaders have ramped up local sustainability activities across their Eurofins sites and companies, each effort having a tangible impact on carbon footprint and the environment. This chapter will share some highlights of these endeavours.

Eurofins companies in Denmark send their organic waste (milk, cultivation medias, and canteen waste) for biogas production, a renewable energy source. In 2021, this amounted to 228 tonnes of recycled organic waste.



Many Eurofins laboratories are empowering their employees to make a difference inside and outside of their working lives. In 2021, Eurofins companies in Singapore committed to educating their employees on environmental responsibility, particularly in the context of waste segregation and disposal.

Eurofins Food and Feed Testing companies in Poland are tackling the issues of food waste and animal welfare at once, by donating the remains of safe meat samples to local animal shelters.

In 2021, Eurofins companies in Brazil made sustainable changes to their office supplies, such as replacing all single-use plastic cups with reusable silicone cups.

INCORPORATING SUSTAINABLE FACILITIES

The building blocks of sustainability

Sustainability is a guiding principle for all new building projects and renovations within the Eurofins network.→

In 2021, Eurofins Food Testing Services opened a new, large site in Madison, USA, which is a leading example of how sustainable facilities are being incorporated into the Eurofins network. The site includes design elements specifically chosen to reduce the impact on the environment: its three-acre roof is fully fitted with a 408 kW rooftop PV (Photovoltaic) solar panel system, and the site also uses a cold loop water system to conserve over 1,000,000 gallons (4,545,000 litres) of water annually.

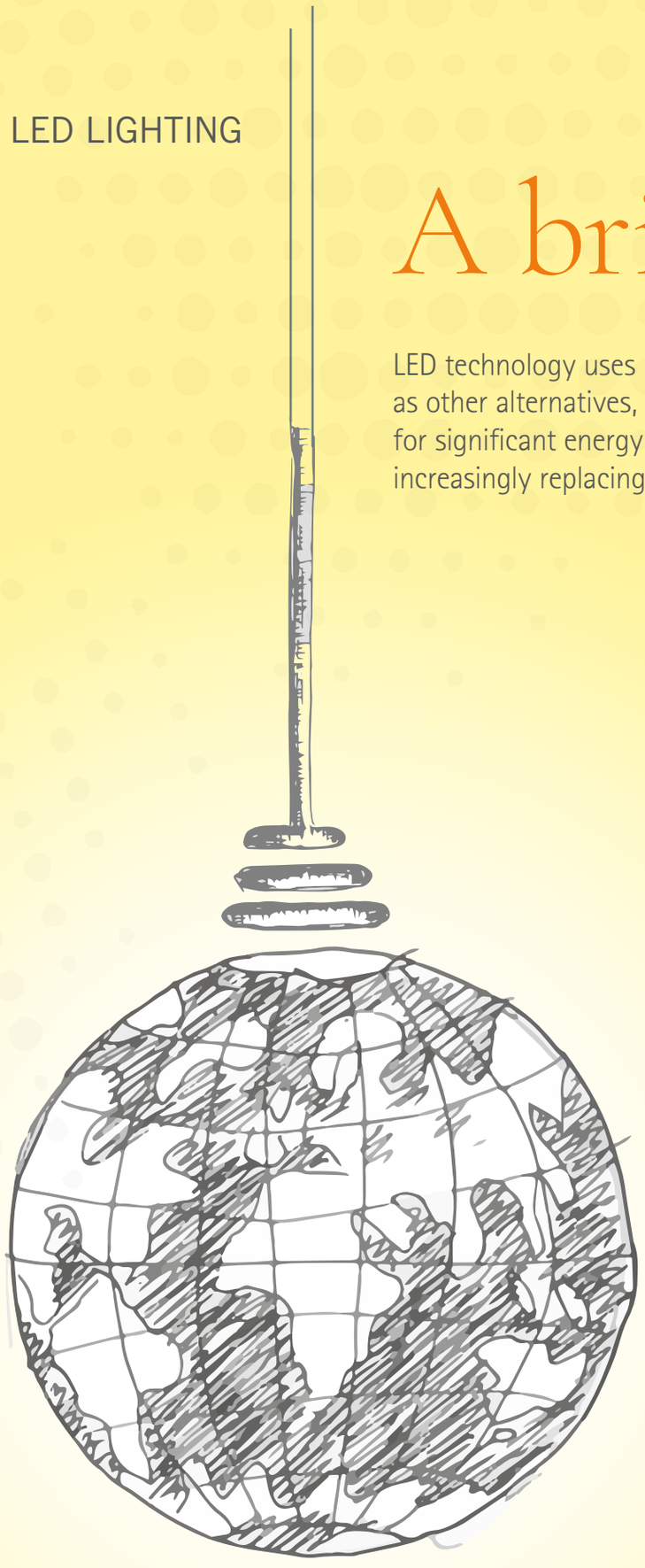
The Eurofins Food Testing Services site in Madison, USA.

The site includes design elements specifically chosen to reduce the impact on the environment

LED LIGHTING

A bright idea

LED technology uses much less energy to provide the same amount of light as other alternatives, making LED lighting an efficient solution that allows for significant energy savings. Eurofins companies around the world are increasingly replacing their lighting systems with LED bulbs. →



For instance, the Eurofins Environment Testing team in Dandenong South, Australia, upgraded over 400 light panels and high bays throughout their offices and warehouses in 2021, saving an estimated 59,616 kWh annually – enough to power 11 residential homes for a full year!

This reduced the laboratory's carbon footprint in 2021 by the equivalent of 2,844 kg

Likewise, Eurofins Mechem, part of the Environment Testing network, has converted 142 units of conventional fluorescent light tubes in its Singapore laboratory to LED, which makes up around 30% of the lighting fixtures onsite. This reduced the laboratory's carbon footprint in 2021 by the equivalent of 2,844 kg.

All exterior and interior light bulbs at Eurofins BioDiagnostics Inc. sites in the USA have also been replaced with LED alternatives, covering approximately 24,000 ft^2 (2,230 m^2).

Eurofins companies are increasingly replacing their lighting systems with LED bulbs

PLASTIC-FREE SHIPPING

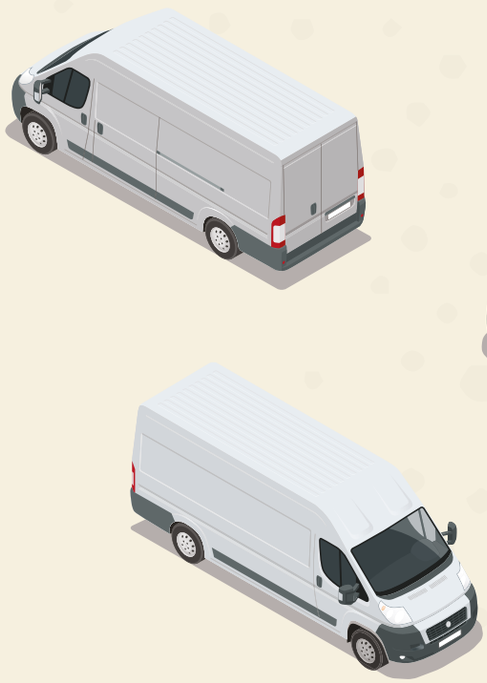
Pushing for plastic-free shipping

Waste that persists in the environment is a growing problem. Eurofins companies work to divert as much of their production or packaging waste away from landfills as possible, whether through recycling, reusing, or replacing materials with more environmentally friendly alternatives. →

Eurofins Genomics companies, for example, use sustainable paper packaging to ship sequencing samples and primers. The team is also progressively replacing its remaining plastic and metal packaging with ecoBÖXLE packaging: a minimal, environmentally friendly sample container made of cardboard.

In a similar approach, Eurofins laboratories in the Netherlands now exclusively use bags made from recycled material for sample collection.

Sustainable packaging used by Eurofins Genomics companies.



REVITALISING ENDANGERED PLANTS

Conserving biodiversity

The team at Eurofins Analytical Science Laboratories in Kyoto, Japan, is working to conserve biodiversity, including rare and endangered plant species that are part of local traditions and culture. →

Notably under threat is the Asarum caulescens, the leaves of which are used as decorations in Japanese festivals. Eurofins Analytical Science Laboratories employees and their families volunteered to grow Asarum caulescens in a dedicated green space onsite and at home. Thanks to their efforts, the plants were able to be replanted at the Kamigamo Shrine, an important local sanctuary.

Thanks to their efforts, the plants were able to be replanted at the Kamigamo Shrine.

Photos of the Asarum caulescens plant growing onsite at Eurofins Analytical Science Laboratories, Japan, and the Kamigamo Shrine.

ECO TRANSPORTATION

Driving towards carbon neutrality

Many Eurofins companies are reducing their carbon footprint by switching to eco-friendly transportation and empowering their employees to follow suit with their choice of commute.→

Eurofins Food and Water Testing UK and Ireland have pursued an electric route: the company is increasingly replacing vehicles in its nationwide fleet with electric vehicles, which travel around South England to collect samples. These new additions represent the first of many investments, as part of a target to fully replace the company's fuel-operated fleet with electric vehicles by 2026.

Similarly, Eurofins BioPharma Product Testing in Lancaster, USA, replaced half of their petrol-powered employee shuttle buses with electric transport vans in 2022.

The Eurofins Food and Feed Testing laboratories in Hamburg, Germany, have made it easier for their employees to cycle to work. An onsite repair station provides access to key repair tools in case of any bicycle mishaps, and the campus has installed covered, illuminated storage facilities for employees to store their bikes securely. In recognition of their efforts, the German cycling association, ADFC (Allgemeiner Deutscher Fahrrad-Club, or 'General German Bicycle Club'), awarded the Eurofins Hamburg Campus the silver seal of 'Bike Friendliness'.

From top to bottom: Eurofins BPT electric shuttle bus; Eurofins Food and Water Testing UK and Ireland electric sample collection van; representative from ADFC presenting the silver seal award to Oliver Främke, Eurofins Sub-Regional Business Line Leader of Food and Feed Testing DACH; bicycle storage installations at the Eurofins campus in Hamburg.

CHAPTER 9

Giving back to society

Enabling social entrepreneurship

The greater Eurofins' success, the greater its opportunity to give back to society. Since the early days of Eurofins' growth, its companies have taken on a philanthropic responsibility to raise funds for and awareness of worthwhile causes, both internationally and in their local areas.→

Improving health

Some of the charitable links that Eurofins maintains today were formed some twenty years ago! From the early 2000s, Eurofins companies have made impactful contributions towards philanthropic causes. The first donations made by Eurofins went to medical research foundations, social service organisations, cultural institutions, and schools - several of which Eurofins has continued to support in the long-term, including ProGreffe and Plan International, among others.

In 2017, to mark the 30th anniversary of Eurofins, this spirit of giving back was recognised by a significant gesture: Eurofins donated one million euros to 40 charities and non-governmental organisations (NGOs), selected at the recommendation of its employees. These donations inspired a long-term vision among employees, leaders and founders of Eurofins companies, who wanted to commit to consistent philanthropic efforts. Thus, the decision was taken to formalise a charitable channel within Eurofins, and in 2019, the Eurofins Foundation was born.

The Eurofins Foundation aligns itself with the commitments of all Eurofins companies by supporting projects that aim to make a real difference to the safety, health, and equality of societies and the environment, from facilitating access to clean water and sanitation, to protecting our ecosystems. The selection of causes chosen for support is driven by the values close to the hearts of Eurofins employees across the network: often, the organisations are not only active in the local communities where they live and work, but many organisations are actually nominated to the Eurofins Foundation by these very employees, who are passionate about making a positive impact in their local communities.

In 2022-2023, the Eurofins Foundation is donating to more than 80 projects, renewing its long-term support for several organisations and establishing new relationships with other organisations, too. On the occasion of Eurofins' 35th anniversary, and five years since it ramped up its philanthropic efforts, six of these organisations have shared an insight into the tangible impact that Eurofins' funding has on their activities and the role their work plays in creating a healthier, more advanced, and fairer society.

Bettering nutrition

Empowering local communities

Providing emergency support

Protecting the environment

Promoting inclusion, diversity and equality

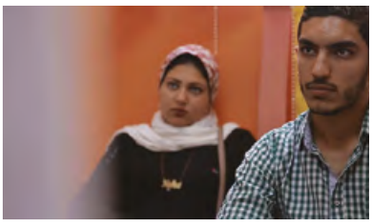
Supporting students

Plan International France

Eurofins' support for Plan International France goes back almost 20 years, when Christopher Reeves, one of the Eurofins Group Executive Board members at the time – and also one of the first entrepreneurs to join the network through acquisition – introduced his colleagues to the NGO's important work to facilitate equal access to education and the job market, particularly for girls and young women.→

"Partnerships with the private sector, such as the Eurofins Foundation, are crucial to ensuring the continuity of the organisation's programmes"

"Eurofins has been playing a major role in supporting Plan International France since 2003"



Over the years, Eurofins has supported many of Plan International France's projects and the NGO has been an important partner of the Eurofins Foundation since this was established in 2019.

"Eurofins has been playing a major role in supporting Plan International France since 2003," says Anne Bideau, CEO of Plan International France. "Partnerships with the private sector, such as the Eurofins Foundation, are crucial to ensuring the continuity of the organisation's programmes."

Plan International France is active in 35 countries, with the Eurofins Foundation most recently having supported projects in Egypt and Benin. In Egypt, where women from disadvantaged backgrounds can struggle to access a diverse range of quality training and employment opportunities, the Tamkeen Project tackles these barriers by providing in-demand skills training in its fully equipped training centres. In parallel, it works with local authorities and businesses to raise awareness and dispel gender stereotypes. Almost 2,000 young people have received training as part of the project, and many of its graduates have already used their newfound confidence and knowledge to make their career ambitions a reality. Samah Sabri, now a qualified nurse, has shared her story:

"I was never accepted for a job because I was told I didn't have the experience. I joined the Tamkeen Project to become a nurse. Through the project, I acquired the knowledge and skills needed to now work at the Aqab Ibn Nafi hospital, where I earn my own salary and am able to give my children what they need and take care of them."

18,000 primary school pupils in Benin have been given better access to education

Over in Benin, the Eurofins Foundation also supported the AGIR pilot project in 2021, where the proportion of school graduates is still as low as 52% and 45% for boys and girls respectively in some regions. Thanks to this project, 18,000 primary school pupils in Benin have been given better access to education, by providing necessary school supplies, tricycles to commute to school, menstrual products for girls, improved training for teachers, and more. Furthermore, to tackle problems underpinning the high rate of school dropout among girls, such as gender-based violence, early marriage and pregnancy, Plan International France also conducts significant awareness-raising activities in communities and advocacy work with national and regional institutions, as these are crucial partners in effecting change.

Reflecting on the Eurofins Foundation's longstanding support for Plan International France and its projects, Anne Bideau comments that the accomplishments of the Tamkeen and AGIR programmes are "a good example of the great success which has been made possible thanks to our joint efforts and long-lasting collaboration."

Photography provided by Plan International France.

UNICEF Belgium

Originally established as the United Nations (UN) International Children's Emergency Fund by the member states of the UN in 1946, UNICEF has spent many years providing humanitarian and developmental aid to children in need throughout the world, carrying out crucial work in various fields, including health, nutrition, and education. Eurofins has been proudly supporting UNICEF for a decade.→

With a Group Service Centre location in Brussels, Eurofins has built a particularly strong partnership with UNICEF Belgium. Since 2012, Eurofins companies and the Eurofins Foundation have contributed to numerous UNICEF projects, especially those focused on improving nutrition – a topic very closely aligned with Eurofins' mission to contribute to a healthier world.

UNICEF's initiatives to improve nutrition and combat child malnutrition and illness have made a significant difference to local communities in Angola, Bangladesh, Uganda, and more, by providing the best medical attention to children and to pregnant and breastfeeding mothers. In 2013, when Angola suffered its worst drought in over three decades, leaving 1.5 million people in food insecurity, UNICEF opened more than 500 therapeutic programme centres, with Eurofins' financial support. These centres provided screening for malnutrition to over one million children, 59,000 of whom then received ready-to-use emergency food packets (designed specifically for children suffering from severe acute malnutrition), helping them to make significant recovery within a few weeks or even days.

> UNICEF opened more than 500 therapeutic programme centres, with Eurofins' financial support

Of course, there is more value in prevention than in cure, and UNICEF also works to stop health crises before they happen, wherever possible. Their work in Bangladesh

"On behalf of UNICEF, a sincere thank you to Eurofins for their valuable support over these past 10 years"

is exemplary of this approach. Undernutrition in young children often starts in the womb with foetal growth restriction, when a baby doesn't grow to a normal weight during pregnancy because the mother is suffering from malnutrition. Together with Eurofins and other donors, UNICEF provided iron-folic acid supplementation to a total of 91,500 pregnant and breastfeeding women and teenage girls in Bangladesh. As a result, anaemia rates among these women dropped by 12%, helping them to carry a healthy baby to term and improving the child's overall health outlook.

Similarly, in 2018, Eurofins also supported UNICEF's efforts to supply over 517 million vitamin A tablets to children in vulnerable communities across 58 countries. Vitamin A contributes to stronger immune systems, reducing mortality rates in children under five and providing them with better defences against various diseases and disabilities caused by vitamin A deficiency, such as blindness.

Eurofins also supported UNICEF's efforts to supply over 517 million vitamin A tablets to children in vulnerable communities across 58 countries

In 2022, the Eurofins Foundation continued its partnership with UNICEF Belgium through support for the 'Indonesia's support for Girls' Education and Empowerment through STEM skills' project.

Christèle Devos, Executive Director at UNICEF Belgium, looks back on how their partnership with Eurofins has helped them to scale up their efforts around the world:

"On behalf of UNICEF, a sincere thank you to Eurofins for their valuable support over these past 10 years. Our partnership has helped us to bring significant change to the health and nutrition of children worldwide. We look forward to continuing to join forces with Eurofins in our efforts together to make a difference for every child in need."

Photography provided by UNICEF.

Australian Laboratory for Emerging Contaminants

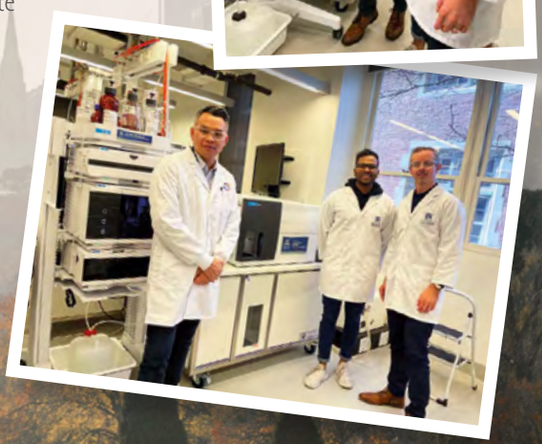
Ever since it welcomed its first students in 1853, the University of Melbourne has been committed to contributing to a better society through education and research.→

One of their research partnerships, the Australian Laboratory for Emerging Contaminants (ALEC), brings together environmental scientists working towards minimising the impact of legacy pollutants and novel emerging contaminants in the environment, helping to inform effective remediation strategies in the Asia Pacific region.

Detecting known and unknown environmental hazards requires new, advanced instrumental techniques. In 2020, the Eurofins Foundation supported ALEC's "Novel Analytical Techniques for the Determination of Emerging Contaminants" project by funding a research grant. The work carried out as part of this initiative is contributing to the development of better, more reliable analysis techniques, which in turn will empower experts with a better understanding of the challenges associated with emerging contaminants.

ALEC has also partnered with Eurofins Environment Testing in Australia to facilitate mutually beneficial student projects working on contaminants such as microplastics and PFAS (per- and polyfluoroalkyl substances). Student researchers from the University of Melbourne were welcomed into Eurofins Environment Testing laboratories to research and develop new analysis techniques, also allowing for the translation of cutting-edge analytical approaches between ALEC and Eurofins. Research completed through this collaboration has helped to advance pollution monitoring towards a cleaner future.

The partnership between ALEC, the Eurofins Foundation and Eurofins Environment Testing allows for important engagement between research and industry, advancing the science of emerging contaminants while providing graduate opportunities.

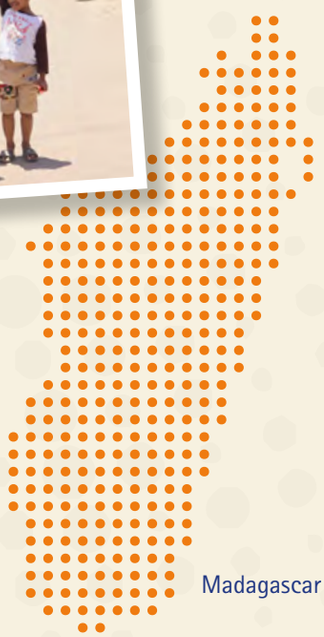


Incidental photography provided by ALEC.

9.4 GIVING BACK TO SOCIETY

GRET

With a mission to improve lives, conserve the planet, and promote social justice, the work of GRET is aligned closely with the values of Eurofins companies.→



Photography provided by GRET.

For 25 years, the international solidarity organisation has been working in the field of health and nutrition – one of its eight pillars – and this is the area where Eurofins has focused its support.

GRET has ensured the long-term availability of high-quality, fortified food

In 2017, Eurofins began supporting a number of GRET's initiatives designed to combat chronic malnutrition in vulnerable populations (and particularly infant populations). These initiatives, carried out in conjunction with the local private sector, support projects in communities in Madagascar, Niger and Haiti, where GRET has ensured the long-term availability of and accessibility to quality fortified food to complement breast milk for young children.

For example, in Madagascar, more than half of all children under two years of age suffer from chronic malnutrition, and finding sustainable, effective, and local solutions to this problem is still a real challenge – parents often have limited access to quality foods to complement breast milk to meet their child's nutritional needs at an affordable cost. GRET therefore established and supports a local social business called Nutri'zaza, which delivers locally produced, high-quality, fortified porridge in 130 vulnerable Malagasy neighbourhoods, for a fair and accessible price. The social business has already benefited the lives of around 900,000 infants – and thanks to the support of the Eurofins Foundation, "GRET was able to consolidate its important partnership with Nutri'zaza and ensure an additional 9,000 children approximately were able to benefit in a single year," Clémence Boulle Martinaud says, Programme Team Leader 'Health: Nutrition and Social Protection' at GRET.

Clémence adds: "Eurofins shares real global values with GRET: the constant search for high-quality products, for innovation, and a passion for supporting entrepreneurship initiatives with a true commitment to social and sustainable actions. The Eurofins Foundation's partnership enabled GRET to provide technical assistance to local (social) SMEs [small and medium-sized enterprises] in developing countries, which is critical, as the private sector has a crucial role to play in the sustainable fight against malnutrition."

In 2023, the Eurofins Foundation is supporting GRET with the construction of drinking water supply and sanitation infrastructures in Cambodia.

Water For People

Many communities around the world still lack access to clean water and sanitation services. →

Photography provided by Water for People.

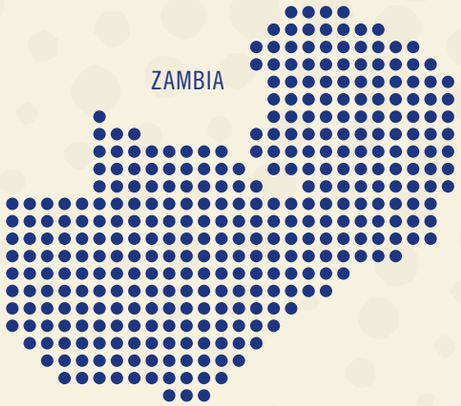
"Thank you, Eurofins, for your support of Water For People and your dedication to improving the livelihoods of families across Bolivia"

Since 1991, Water For People, a non-profit organisation, has been tackling this crisis in parts of Latin America, Asia, and Africa, making a sustainable impact on sanitation-related infrastructure and awareness. Their goal is to help communities and local governments achieve the skills and capacity they need to establish and protect water services for future generations – a model they call 'Everyone Forever' – through the development of drinking water and household sanitation systems, water resources management, hygiene education, and programmes for clinics and schools.

With a parallel mission to help to create healthier communities around the world, Eurofins companies have been supporting Water For People since 2014. When the Eurofins Foundation was established five years later, its committee wanted to further its commitment to the organisation and became a contributor to Water For People's 'Everyone Forever in Bolivia' programme. This initiative focuses on historically marginalised and underrepresented populations in rural communities, which are some of the most vulnerable and hardest-to-reach households in Latin America. With support from the Eurofins Foundation and local districts, the programme has supported San Pedro and Araní to became Bolivia's first districts to bring sustainable water services to all of their households, clinics, and schools. Since 2017, 'Everyone Forever in Bolivia' has played an instrumental role in providing approximately 145,000 people in Bolivia with intermediate or high levels of water service.

"The Eurofins Foundation's long-time support of Water For People has played a tremendous role in helping us to reach families across Bolivia and provide access to sustainable water, sanitation, and hygiene (WASH) services," says Andrés Abasto P., Country Director of Water For People Bolivia. "When sustainable access to these services exists, everything changes: health outcomes improve, girls are more likely to stay in school, local leaders are empowered, and communities become more resilient to climate change. Thank you, Eurofins, for your support of Water For People and your dedication to improving the livelihoods of families across Bolivia."

BOLIVIA



Campaign for Female Education (CAMFED) supports some of the most vulnerable girls in sub-Saharan Africa to go to school, learn, thrive, and lead change for their families and communities.→

Campaign for Female Education

Since 1993, the NGO has partnered with over 7,000 schools to support more than 5.5 million children to access education. CAMFED removes barriers to education through various initiatives, including providing necessities such as school fees, uniforms, shoes, stationery, books, and menstrual products.

The Eurofins Foundation's bursary support directly benefited 175 girls in rural Zambia

As a strong advocate for equitable access to education, the Eurofins Foundation contributed to CAMFED's project, "Supporting women in rural Zimbabwe to transform their futures through tertiary education", in 2020. The project was designed to address the inaccessible costs of university courses that make it difficult for many women to break out of the poverty cycle. Support from the Eurofins Foundation and another partner enabled 121 young women from the most marginalised backgrounds to complete higher education. The fund will continue to be replenished so that future generations of young women will also be able to access tertiary education and build the professional careers they dream of.

Additionally, in 2021, the Eurofins Foundation's bursary support directly benefited 175 girls in rural Zambia to access secondary education. In 2022, the Eurofins Foundation then partnered with CAMFED to help provide education and wellbeing support to 500 of the most disadvantaged female pupils in Zambia. Without such wraparound support, children in poverty are much less likely to complete their secondary education.

Mercy, a student at Midlands State University, Zimbabwe, was selected by members of her community for bursary support during her school days, through the CAMFED and Eurofins Foundation partnership. Able to fully concentrate on her studies as a result, she achieved the good grades she needed to be accepted to her Information Systems university course. "I was motivated to work extra hard [...] knowing that my mother did not have to worry about sanitary [menstrual products], school fees, books...," she says. Now, her goal is to "advance [her] education as a way to inspire [others]."

Girls educated with CAMFED's support not only go on to forge meaningful careers, but also to ensure that the help they have received and the positive changes they have made are passed on: they can join Africa's largest network of young women activists, the CAMFED Association, where they spearhead programmes in their local communities and provide mentoring and support to other girls in need.

In 2023, the Eurofins Foundation is supporting CAMFED's goal of ensuring pupils at 100 schools in rural Zimbabwe are well fed during the dry season, when food scarcity is a concern.

Photography provided by CAMFED.

ZIMBABWE

Organisations supported by the Eurofins Foundation, 2019-2022

Accountability Lab
ACTED
Actions Santé Femmes
Association Départementale pour l'Insertion des Sourds
Afia Shuleni
Africa Research Excellence Fund
AgroParisTech
Aktion Deutschland Hilft
Al Majmoua
ALEC Australia
Allergy UK
Amigos do Bem Instituição Nacional Contra a Fome e a Miséria
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AOAC International
Article 1
Asociación Solidaria Andaluza de Desarrollo
Ashoka Belgium
Associação Vaga Lume
Autour des Williams
Be The Match Foundation
Blue Marine Foundation
Blue 02
Borneo Nature Foundation
Breast International Group
Bricks to Bread
Campaign for Female Education
Casa do Zezinho
Centrale Supélec
Centrepoint
Charles Sturt University
Child 10
Chimalaya Charity
Chimistes sans Frontières
Community Health Coalition
Conservation Research Africa
Cordio - Red List of Coral
Des Eléphants & Des Hommes
DKMS Germany
Donation and Transplantation Institute
Dune ASBL
Dunes Learning Center
Dung Dung
EAT
Eau et Vie
Ecole Sainte-Geneviève / Ginette
Empow'HER
End 68 Hours of Hunger
Engage Nepal with Science
Entrepreneurs du Monde
EnVie
Equalize Health
ESSOR
Eurofins Sac Ky Hai Dang
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FareShare South West
FFSB
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Fondation St Luc
For a Child's Smile
ForeFront Charity
Fondation AgroParisTech
Foundation for the Future Generations
Friendship Bridge
Fruits of Hope Development Initiative
FUNBIO, The Brazilian Biodiversity Fund
Fundacja "Nasz Wybor"
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Future Generations Foundation
Gardens for Health
Geres
Girls Inc.
Girls on the Run Michiana
GRET
HBCU First
IECD

Imece Association
Imperial College London
Inter Aide
International Development Enterprise
International Federation of the Red Cross
Iracambi
Jacaranda Health
Jhpiego
Jiangnan University
Keystone Human Services
Kinder-Hospiz Sternenbrücke
Kinomé
Kulturbrücke Hamburg
Lancaster Science Factory
Les Oursins-Enfants des trottoirs
Libereco & Vostok SOS partnership for human rights
Life Project 4 Youth
Linköping University
Lood LAB
Lund University
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Mountains To Sea Wellington Trust
Mujeres por Africa
Nadacia - Habitat for Humanity
NCL-Stiftung
Ndes Foundation
Noé
Oh Crap I Gut My Future
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People in Need
Pitt Hopkins Research Foundation
Plan International
Plan International France
Plesios Onlus
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Pro Mujer
Project Vietnam Foundation
ProMundo
Rêv'Elles
Round Table India Trust
Sanku-Project Healthy Children
Santé Sud
She's the First
Sightsavers
Skåne Stadsmission
So They Can
Society for Community Organization and Rural Education
SOIL - Haïti - Sustainable Organic Integrated Livelihoods
Soils, Food and Healthy Communities Organization
Solidagro
Solthis
Stanford University
STEM for Her
Still I Rise Onlus
Sustainable Organic Solutions
Tara Ocean Foundation
The Global Hunger Project
The Social Mobility Foundation
UNICEF Belgium
Universitat Politécnica de Catalunya
Université catholique de Louvain
Université Libre de Bruxelles
University of Cambridge
University of New South Wales
University of Oxford
Vent d'Est
Wanaukee Food For Kidz
Water for People
Young Water Solutions

What's next?

Eurofins has come a long way since 1987, but the story is far from over. The network of companies, once just a single laboratory in Nantes, is now the world leader of the Testing, Inspection and Certification (TIC) industry, with a diverse testing portfolio that continues to develop in many directions. Eurofins scientists and entrepreneurs work continuously to innovate new tests, optimise service and quality for their customers, and stay agile to tackle new threats to the safety of people and the planet.→

Eurofins' remarkable development into a global leader was made possible by its consistent investment in research and development, start-up laboratories, acquisitions, physical infrastructure, and bespoke IT solutions – something that it will continue to prioritise. Looking ahead to the decades to come, and where Eurofins companies will see the most development, Eurofins' CEO, Gilles Martin, says, "forecasting the future is a difficult exercise – the world is extremely volatile – but the recent technological breakthroughs in biotechnology will bring massive growth to most markets we are serving. In the fast-growing TIC industry, Eurofins has always been a forerunner in developing and rolling out proprietary IT solutions for our laboratories. Our IT solutions are something we have invested in since the very beginning, and we are ramping up our latest digitalisation programmes across all of our Business Lines."

The laboratories of the future will have likely more robot hands to help. Eurofins companies are ramping up the use of automation and artificial intelligence, to complete routine tasks more efficiently and free up their employees to focus on more complex operations.

"We have also invested heavily into building our leading global platform of state-of-the-art laboratories," Gilles continues. "Our main focus over the next number of years will be to set new standards in breadth, performance and speed of service. Indeed, artificial intelligence and robotics will soon enable us to derive significant advantage for our clients from our unique digital tools and the massive amounts of data our laboratories are generating."

Innovation has been a part of the Eurofins story since the very beginning, when it first commercialised the pioneering SNIF-NMR technology for authenticity testing, and the future has many more opportunities for advancements through innovation. With increased investment into Research & Development, Eurofins companies will continue to develop new testing methods and technologies that can contribute to a safer and healthier world. The medical industry's evolution towards personalised medicine to improve patient outcomes is, for instance, an area where Eurofins companies see a particular opportunity to make a difference to patients' lives through testing, building upon their early investment in genomics and personalised medical care.

With a presence across five continents, the Eurofins network will increase the reach of its innovative tests, while seizing new opportunities around the globe. "In general, we are investing significantly into laboratory start-ups, particularly in Asia and Latin America," Gilles adds. "We are complementing our M&A activity with more start-ups than ever before, bringing new capabilities into the Eurofins network."

> "Forecasting the future is a difficult exercise"

With the goal to achieve carbon neutrality by 2025, Eurofins will also accelerate its efforts to reduce the environmental impact of its essential operations, while continuing to support its clients in doing the same.

Eurofins has many more decades of Testing for Life ahead, in a world that is dependent on clean and safe food, water, air, and biopharmaceutical products. As testing markets and potential health threats continue to evolve, companies in the Eurofins network have the unmatched leading platform, investment, agility, and testing expertise to face new challenges and keep making the world a safer place.

The Eurofins spirit

Nobody knows Eurofins better than the people behind its success. When asked, "How would you sum up the Eurofins spirit?", many words came to mind.→

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OUR VISION

Our long-term aspiration

To be the Global Leader in Testing for Life.

OUR MISSION

Why we are here - the cause/purpose of our business

To contribute to a safer and healthier world by providing our customers with innovative and high quality laboratory, research and advisory services whilst creating opportunities for our employees and generating sustainable shareholder value.

OUR VALUES

What we stand for/what is important for us

Customer focus

- Delivering customer satisfaction by listening to and exceeding customer expectations
- Adding value for our customers through our services
- Seeking innovative solutions to help our customers achieve their goals

Quality

- Delivering quality in all our work; providing accurate results on time
- Using the best appropriate technology and methods
- Seeking to improve or change our processes for the better

Competence and Team Spirit

- Employing a diverse team of talented and competent staff
- Investing in training and creating rewarding and equitable career opportunities
- Recognising and encouraging outstanding performance

Integrity

- Behaving ethically and socially responsibly in all our business and financial activities
- Demonstrating respect and inclusivity towards our customers and our staff
- Operating sustainable environmental policies

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LEADERSHIP CHARTER

What we expect from our leaders

ARE YOU A LEADER?
HERE ARE 12 WAYS TO MAKE SURE

Behaviour and competencies expected from Eurofins leaders

1. VISION
Define & communicate a clear vision and strategy
1. Develop an exciting customer centric vision of the future - think big.
2. Develop strategies to facilitate accomplishment of the vision.
3. Use various means of communication to ensure people know the vision & strategy.
4. Hold team discussions to check and improve the understanding of the vision & strategy.

2. GOALS
Set ambitious goals based on strategy & vision
1. Set up action plans with clear-cut distribution of responsibilities.
2. Take obstacles away so that people can implement the strategy.
3. Set goals that are consistent with the vision and strategy (people know how they can contribute at the operational level).
4. Keep goals simple, focus, always maintain a consistent course.

3. CUSTOMER OBSESSION
Be a trusted and reliable partner to their customers
1. Work with passion to exceed customer expectations and earn their trust.
2. Systematically solicit feedback and strive to continuously improve the customer's experience.
3. Encourage their teams to share knowledge with customers and help them achieve their goals.

4. HIRE THE BEST
Attract, develop and retain star performers
1. Deploy enormous energy and time to find and hire the best.
2. Raise the performance bar with every hire and promotion.
3. Recognise exceptional talent and give them roles with true team leadership.
4. Make sure that high performers enjoy and contribute their best.

5. INSPIRE
Inspire passion to achieve excellent performance
1. Demonstrate a strong drive for high quality output.
2. Set the highest standards and always deliver more than what is required.
3. Create positive tension to get the most out of people.
4. Always expect and recognise high performance.

6. EMPOWER
Empower & motivate their teams
1. Create or influence an environment in which people perform, grow, contribute and enjoy.
2. Show trust in people.
3. Care about people's motivations.
4. Allow people to implement their own ideas.
5. Challenge people in constructive ways.

7. EXECUTION
Ensure strategies are implemented
1. Monitor progress on critical actions and metrics/KPIs. Quickly become hands-on if things derail.
2. Implement decisions fast and effectively.
3. Stay connected to details and dive deep in the business when needed. No task is below them.

8. RESULTS & OWNERSHIP
Deliver profitable & sustainable growth
1. Relentlessly explore ways to improve existing business returns.
2. Provide financial support for high-impact ideas.
3. Maintain a balanced view between bottom line short-term goals and innovative, long-term growth.
4. Be very cost conscious. Spend the Company's resources frugally like their own.

9. ACTION
Encourage pro-activity and initiative
1. Show strong bias for action.
2. Be metric-based but prepared to decide without exhaustive analysis – many decisions are reversible.
3. Know that speed of action matters.
4. Value intuition and calculated risk-taking.

10. BE A ROLE MODEL
Lead by example and earn trust
1. Demonstrate a strong drive for excellent output.
2. Stay focused, keep it simple and consistent.
3. Listen attentively, speak candidly and treat others respectfully.
4. Be clear on expectations, direction and requirements.
5. Walk the talk, show commitment.
6. Show integrity and credibility – be tenacious.
7. Be frugal. Accomplish more with less.
8. Have backbone. Disagree and challenge when not convinced but once a final decision is taken, commit fully.

11. INITIATE CHANGE
Initiate and drive change in an uncertain future
1. Always question the status quo (Can we do better? Is there another way?).
2. Spot opportunities very quickly.
3. Come up with alternatives, creative solutions to unmet needs, problems and demands.
4. Form a culture that supports change and innovation.

12. BOUNDARYLESSNESS
Enable/promote the building of an internal network to optimise business opportunities
1. Act on behalf of the whole Company beyond just their own team.
2. Constantly seek to pull in high potential people from outside the team and facilitate/promote their best team members throughout the Group.
3. Encourage cross-functional, cross-business team work.

Group Leadership Philosophy

How the Group Operating Council leads/organises Eurofins

Eurofins is a decentralised, non-bureaucratic fast moving group of entrepreneur led businesses. Group Operating Council members/Business Line leaders behave as shareholders towards the Presidents of Eurofins businesses and:

1 Set the framework in which leaders of Group companies can succeed:

a) Put businesses together that address one homogenous market (local or global depending on clients' decision making level) and that are large enough to be efficient under one leader; an empowered and accountable President/Managing Director who sets the strategy for his/her business along an ambitious vision.

b) Get out of the way.

c) Provide support as required.

2 Select, develop & retain the best leaders

a) Encourage a value-creation-based meritocracy.

b) Reward progress in Economic Profit (EP) growth by sharing value creation with outstanding leaders.

3 Allocate capital according to EP/ROCE (Return on Capital Employed) growth

4 Rules of the game include full transparency & common financial systems/policies

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ENTREPRENEURIAL CHARTER

How the independence of Eurofins Companies, and of their Leaders, is protected

DO YOU TAKE ADVANTAGE OF YOUR FREEDOM TO BE AN ENTREPRENEUR?

THE EUROFINS DNA

Eurofins has a unique DNA that stands for and protects the independence and entrepreneurial freedom of the Leaders of over 1,000 operating companies and 2,000 Business Units. Indeed, Eurofins has chosen to be a Network of Independent Companies, each led by an intrapreneur. Service centres around the globe (e.g. GSCs, NSCs, NBLSCs, and ITISCs) support operating companies, striving to provide them with speedy and agile assistance, shared services, and funding. Across the network, Eurofins Companies work, individually and together, to drive growth and performance, as well as to make positive contributions to global health and the environment.

ENTREPRENEURIAL FREEDOM

In line and in conjunction with the principles and values set out in the Eurofins Leadership Charter, the Group Leadership Philosophy is one where the Group Operating Council members and Regional and National Business Line Leaders support the Business Units and Independent Companies and their Leaders as required, but otherwise "get out of the way" so that the Leaders may run their businesses as freely as possible, within certain clearly defined boundaries. Such boundaries exist to ensure that Eurofins Scientific S.E. continues to meet its responsibilities as a publicly listed company, as well as to enable Eurofins Companies to reap the benefits of belonging to a large global network, including alignment in servicing global clients, efficiency, bargaining power, career development opportunities, and cost-effectiveness.

The structure of the Eurofins Network and its Vision, Mission & Values, together with the Leadership and Entrepreneurial Charters, serve as a directional compass for Employees and Leaders of all Eurofins Companies. These, along with the Spending & Contracting Authority of the Leader of each Eurofins Company, define the boundaries within which Leaders of Business Units and Independent Eurofins Companies have, and take full advantage of, their entrepreneurial freedom to:

1. Set the vision and strategy of their company

1. Determine areas of growth and areas of divestment for their company.
2. Choose the markets and industry sectors their company should serve.
3. Determine what the competitive advantage of their company should be, how to achieve it, and how to position its offerings in the market.
4. Decide on the selection of services, testing methods used and to be developed, and any associated products and services offered.
5. Set their pricing & discounting strategy.
6. Drive the marketing & sales strategy and efforts of their company.
7. Define, build, and maintain a strong brand, Employee Value Proposition, Environmental, Social, and Governance commitments, and a reputation that enforces high quality ethical and legal standards; and ensures responsible mitigation of risks for their company.

2. Decide how to serve and delight their customers

1. Choose their target customers.
2. Determine the Unique Value Proposition for current and prospective customers and how the testing services or associated products of their company are, or will be, the best choices and best value for customers in its chosen market(s).
3. Determine how to care for and best serve their customers.
4. Decide how to manage customer expectations and relationships.

3. Decide how to attract, develop, retain, compensate, and inspire talent and promote a positive culture

1. Decide on and drive the hiring, managing, developing, and promoting, and, if need be, the employment termination of employees within their budget (with the limited exception of certain Key Employees and Leaders) in a manner that ensures equality and promotes a culture of inclusivity.
2. Define how to care for, empower, and engage people working under their leadership so they feel appreciated and are inspired to passionately carry out the brand promise of their company each day.
3. Design the organisation of their company.
4. Work with other Independent Companies within the Eurofins Network to encourage and promote internal mobility as a driver for career development and succession planning.
5. Be proud and transparent regarding the operational KPIs and the performance of their Sub-Units to the Leaders, staff, and shareholders of their company.

4. Run the business operations and finances of their company freely within known boundaries, with the support of experts from within the Eurofins Network

1. Set operational priorities.
2. Propose and defend the budget for their company, which can be challenged during the budget process.
3. Drive operational improvement initiatives, e.g. to reduce Turn-Around-Time, increase quality, and boost service level.
4. Deploy and use IT Solutions from a defined universe of options, selected or specified at the global level by themselves and Leaders of other Eurofins Legal Entities working in the Area of Activity of their company, as well as specify and develop locally needed additional modules.
5. Allocate freely Capital Expenditure and purchase within their budget.
6. Decide on capital allocation within their company and receive equity or debt funding from their shareholders for projects where adequate return of capital can be justified, at budget meetings or whenever needed during the year for non-budgeted projects.
7. Manage the Net Working Capital of their company.
8. Generate and implement creative solutions to resolve issues faced by their company, such as pandemics, inflation, and any other emergencies, or to proactively capture new market opportunities.

5. Choose how to drive performance and growth through innovation, R&D, organic growth, M&A, and partnerships

1. Decide on and drive innovation, R&D, and organic growth initiatives: propose and create start-up laboratories; develop and offer new services; and enter new geographic or industry markets.
2. Conduct M&A activities: identify, propose, and assess targets and the investment required; be meaningfully involved in decision-making, including the recommendation of an offer price; be fully responsible for the integration of targets into the Eurofins Network.
3. Establish partnerships with other companies in the Eurofins Network or third-party laboratories, customers, or businesses to drive performance and growth.

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