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Sommaire

Ne pas rater les omnibus

Les récents votes au Parlement européen sur le paquet Omnibus 1 revisitant, entre autres, les directives CSDDD (devoir de vigilance des entreprises en matière de durabilité) et la CSRD (reporting en matière de durabilité) soulignent une réalité préoccupante : la mise en œuvre des mesures destinées à améliorer la compétitivité en Europe se révèle être un défi politique de taille.

Après la publication et l'accueil positif des rapports Letta et Draghi sur le marché intérieur, respectivement sur la compétitivité de l'UE et des recommandations concrètes qu'ils contiennent, on pensait qu'une feuille de route largement partagée favorisant un redressement de la situation économique avait été tracée et qu'elle serait suivie avec l'urgence qui s'impose.

Suite aux élections européennes de 2024, la nouvelle Commission a clairement affiché son intention de réaliser un programme correctif pour revenir sur une série d'erreurs du passé qui ont commencé par étouffer nos entreprises et qui ont alerté les investisseurs en Europe. Ce programme correctif visant à s'attaquer à une réglementation excessive moyennant plusieurs paquets dits « omnibus » est soutenu, voire réclamé par le Conseil européen, où la grande majorité des chefs d'État et de Gouvernement a bien reconnu l'urgence d'agir. Pourtant, au Parlement européen le paquet Omnibus 1, avec les améliorations importantes des textes sus-mentionnés, n'a pas trouvé l'approbation d'une majorité de députés appartenant aux partis modérés du centre. Cette situation est regrettable.

Nul ne peut remettre en question la nécessité d'agir. Les indicateurs économiques sont là, et ils sont décevants. Une part non-négligeable des députés, promoteurs du projet européen, auraient-ils perdu la capacité, face à des arguments accablants, de changer de cap rapidement et de manière décisive? Certes, cet exercice correcteur n'est pas toujours évident pour eux, car ce sont souvent les mêmes partis et les mêmes décideurs qui, au cours des dernières années, ont soutenu, voire exigé et voté la surrèglementation de notre économie, paralysant ainsi notre moteur de croissance.

Mais persister dans les erreurs du passé et refuser les réformes serait irresponsable et ouvrirait la voie aux partis extrêmes, qui se nourrissent des contre-performances économiques, des caisses sociales vides, des signes évidents de désindustrialisation et de l'anxiété de la population qui suit cette évolution. L'ironie, c'est que ce sont précisément ces partis qui ont néanmoins permis d'obtenir une majorité en faveur de ce premier paquet omnibus. D'autres paquets du même type, destinés à rééquilibrer le cadre réglementaire européen dans plusieurs domaines clés, sont déjà déposés ou annoncés par la Commission. D'autres votes au Parlement européen sur cet agenda de redressement de la compétitivité auront lieu.

Face à nos principaux concurrents sur le marché mondial et face à des économies émergentes qui ont pris confiance en elles et qui nous le font sentir, l'Europe ne peut se permettre de rester passive, si elle veut continuer à jouer un rôle économique et technologique de premier rang et si elle ne veut pas fragiliser sont modèle de cohésion et de protection sociales. L'avenir de l'Europe dépend de notre capacité à agir maintenant, en adoptant des mesures courageuses et en faisant ainsi preuve de responsabilité politique.

RENÉ WINKIN
Directeur de la FEDIL
rene.winkin@fedil.lu


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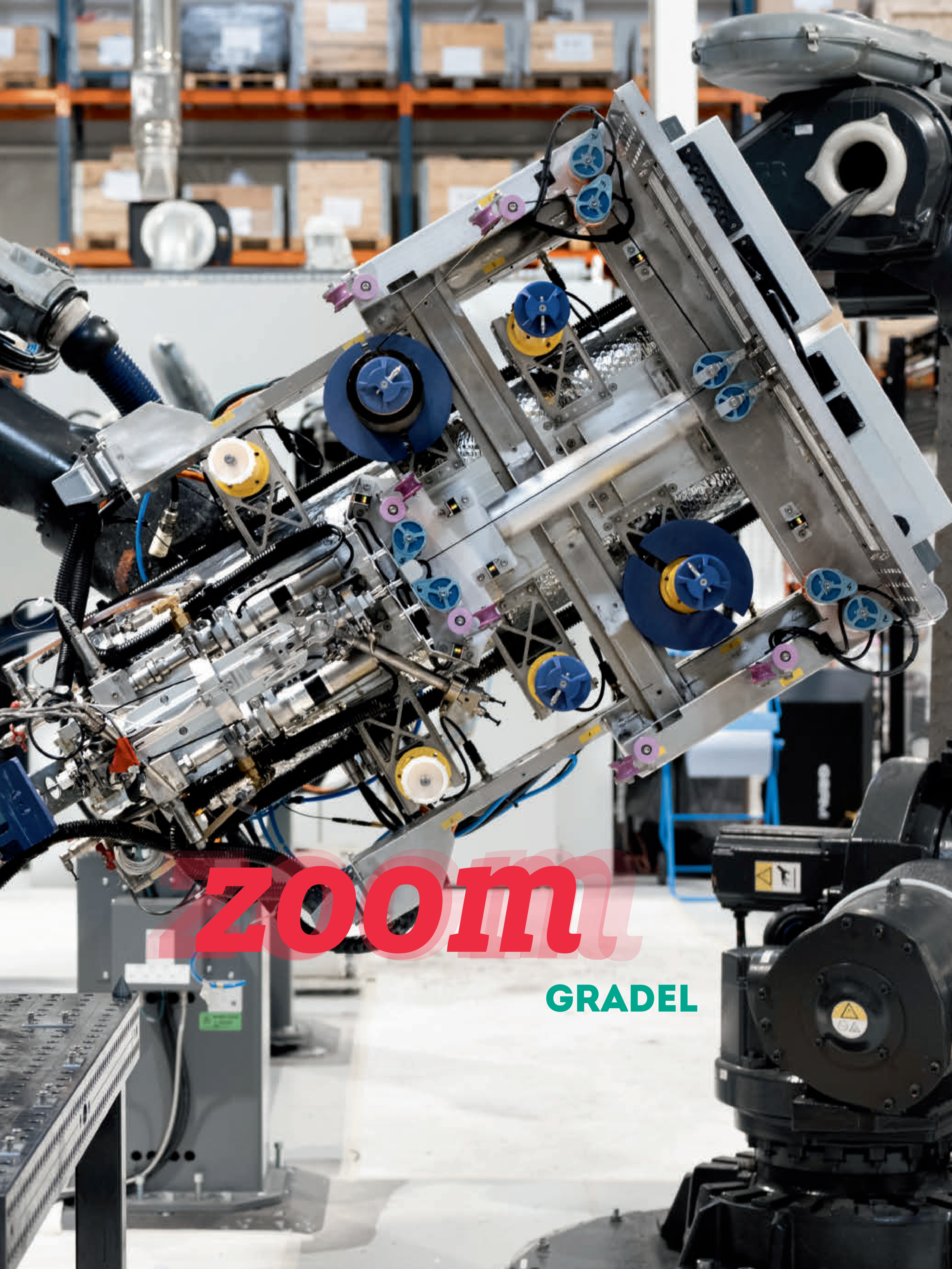

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GRADEL

GRADEL

60 years of engineering excellence, and a lightweight revolution in the making

In October 2025, GRADEL celebrated its 60th anniversary - a milestone that marks far more than longevity. Founded in 1965, the Luxembourg company began as a pioneer in nuclear maintenance equipment at a time when Europe was commissioning its first commercial reactors. Over the decades, GRADEL became a reference for underwater filtration systems and custom machinery for power plants in operation and decommissioning. Its expertise earned the trust of customers across Europe and built a reputation for highly specialised solutions in demanding environments.

Diversification came early. When glass manufacturer Guardian established its first European factory in Luxembourg in 1981, GRADEL supplied welded and machined parts, later developing a continuous casting process for sputtering targets. Today, hundreds of these targets are produced each year for glassmakers across Europe, the Middle East and North Africa, under the subsidiary Gradel ST. The manufacturing concept was circularity-driven long before the term became fashionable: 99.5% of alloys are recycled, damaged components are refurbished, and rainwater replaces powered cooling systems.

The company also turned toward space. Since Luxembourg joined the European Space Agency in 2005, GRADEL has supplied ground support equipment for leading satellite manufacturers. Multi-purpose handling systems, integration tools and transport containers have since become part of its engineering portfolio, giving the company an entrance into one of the world's most innovative industries.

Yet today, the most ambitious transformation is underway. In 2019, GRADEL began developing a patented endless-filament winding technology: GRAM – Gradel Robotic Additive Manufacturing. Born inside a joint R&D programme with the Luxembourg Space Agency and supervised by ESA and in collaboration with the Luxembourg Institute of Science and Technology (LIST), GRAM enables the creation of ultra-light, 3D-shaped structures with minimal material waste. Weight reductions reach up to 70%, material consumption can drop by 80%, and the process can combine almost any fibre and resin. In a geopolitical and industrial context marked by supply-chain vulnerability, GRAM presents a convincing alternative to rare raw materials such as titanium.

GRAM is more than a production method: it is a new business model. GRADEL aims to supply full production cells, software and engineering to industrial customers, shifting from one-off projects to scalable, recurring products, assembled, integrated and tested in-house. The timeline is ambitious. Commercialisation of GRAM equipment is planned with Tier-1 to Tier-4 aerospace and defence suppliers, universities and research centres. The first dedicated manufacturing site opened in Bascharage in 2023, located strategically next to LIST to reinforce a joint laboratory and collaborative research.

To accelerate industrial deployment, GRADEL has formed a strategic partnership with Data Design Engineering (DDE), a pioneer in artificial intelligence. Together they are developing the GRAM AI suite, expected to cut engineering and robot programming costs by a factor of five to ten. The collaboration has already yielded a second breakthrough with strong commercial potential: an ultra-light autonomous drone able to navigate without GPS, GNSS or remote control, using only an onboard optical sensor. GRADEL plans to produce the composite structures of these drones using GRAM technology from 2026, targeting defence applications where longer range, lower energy consumption and reduced detectability offer a decisive operational advantage.

Another end product under development is a composite back-panel for photovoltaic systems. By significantly reducing weight, these structures make it possible to install advanced solar panel components on a wider range of industrial roofs and façades, expanding solar capacity and supporting industrial decarbonisation.

A third project focuses on high-altitude platform systems capable of flying at 18 km to provide 5G telecommunications and earth-observation services. Deutsche Telekom is among the prospective end users. Because operating such platforms in the European airspace requires stringent certification, the project's progress will depend on strong governmental backing.


GRADEL


BASALT FIBER
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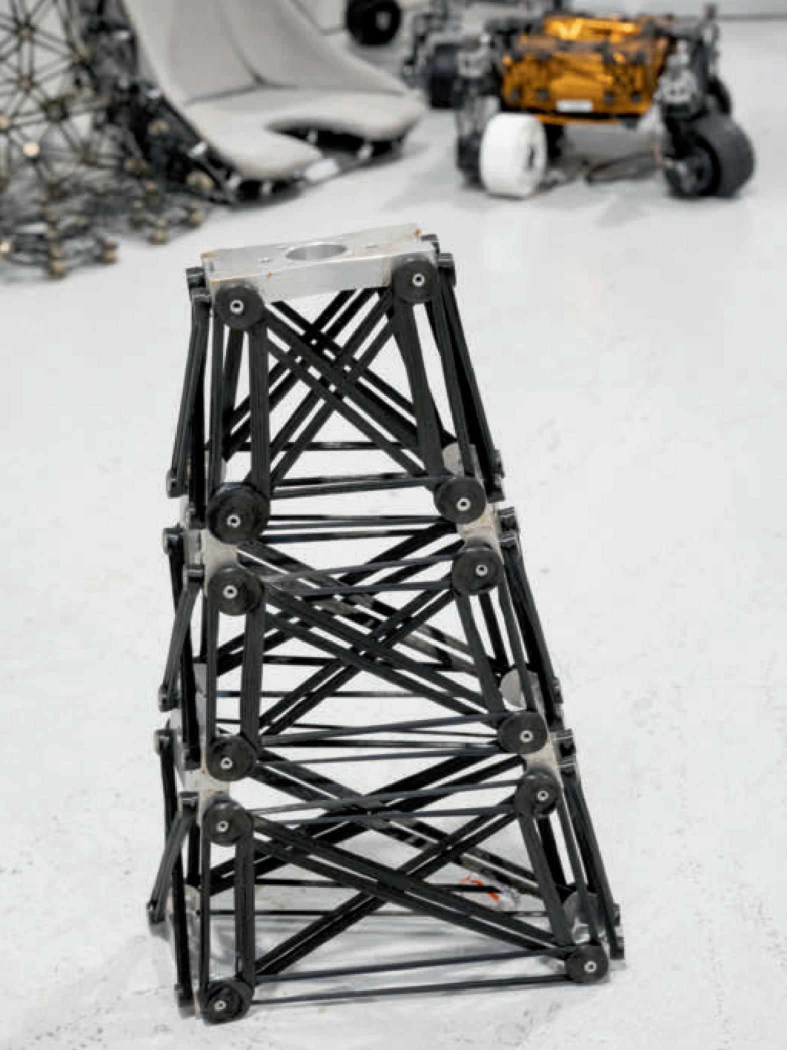
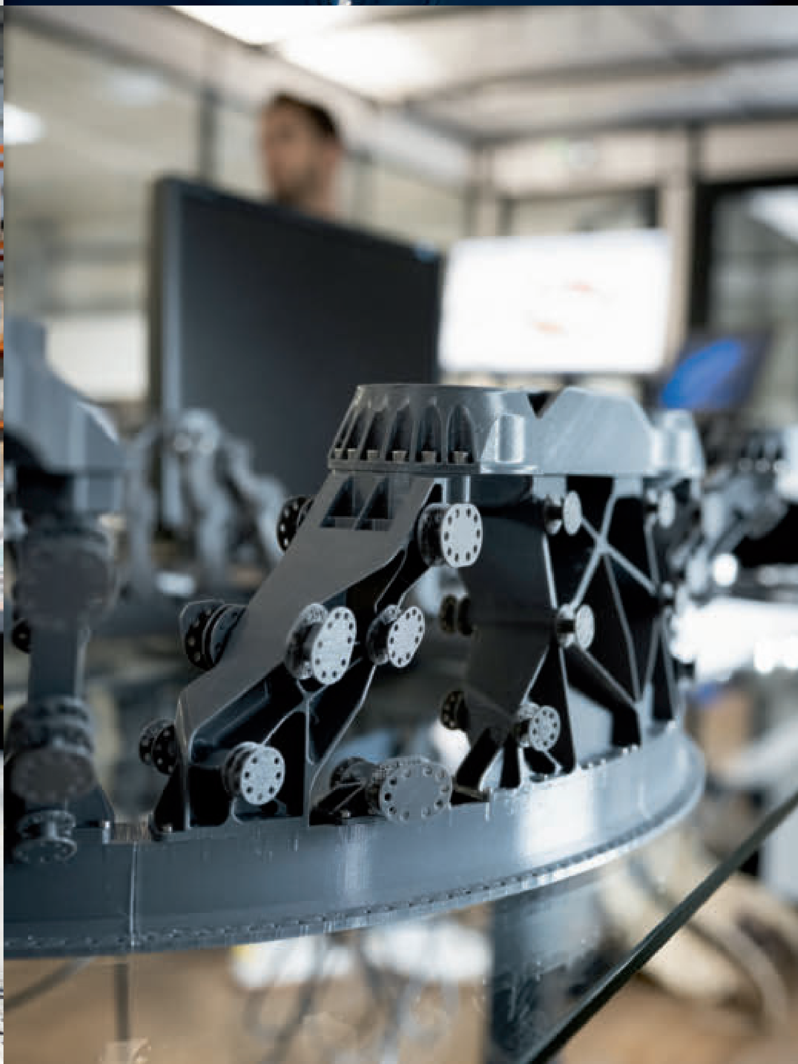
GRADEL




GRADEL



If successful, GRAM positions Luxembourg as a supplier of strategic technology that supports European sovereignty in space and defence. GRADEL is already involved in several European R&D programmes, with projects worth EUR 12 million over the next three years. To move from pilot scale to industrial production, the company is negotiating with strategic investors and expects to expand its Bascharage facilities. International joint ventures are also being examined, notably in Saudi Arabia, with a GRAM manufacturing site planned for lightweight concrete reinforcement - an application that could cut construction cost by 30% by replacing steel with fibres while also reducing global CO_2 emissions.

After 60 years, Managing Director Claude Maack compares GRADEL to a start-up: high risk, high innovation, but anchored in decades of engineering know-how. His message is unambiguous: lightweighting is not a niche, it is an industrial catalyst. Every kilogram saved cuts emissions, reduces energy use, increases payload and boosts performance. From aircraft and satellites to drones and civil engineering, the label “lightweighted” unlocks significant potential for the future.

For Luxembourg, GRADEL’s story is a reminder that small countries can shape cutting-edge industries. For the company, it is a new chapter - one where advanced materials, robotics and artificial intelligence converge to build the next generation of composite structures.

Like many industrial companies, GRADEL faces a shortage of skilled labour, particularly in production. “Recruiting engineers for ambitious R&D projects remains relatively manageable,” notes Claude Maack. “Finding people for production roles is far more difficult.”

As Claude Maack said during the anniversary celebration, the mission is not only commercial. It is about contributing to strategic autonomy, decarbonising industry, and proving that innovation made in Luxembourg can compete at the highest level.

Article :
LAURENCE KAYL
Head of communication at FEDIL
laurence.kayl@fedil.lu

Photos :
ANN SOPHIE LINDSTRÖM

Interview

DR. OLENA VOZNIUK-LOSCH

Senior Development Scientist & Sustainability Leader Typar ® / DuPont Water & Protection

A climate-conscious future for polymers

Plastics and polymers are indispensable to modern life - but their fossil-based origins have placed them at the center of the global climate debate. We spoke with Dr. Olena Vozniuk-Losch, a Senior Development Scientist and Sustainability Leader at DuPont (Luxembourg), about how polymers could evolve from a climate problem into a tool for carbon storage and sustainable innovation.

Plastics are essential to everyday life. Why are they now considered a major climate issue?

I guess the majority of us would agree that in the modern world, plastics have become inseparable from our present-day way of living – starting from food and goods packaging, textiles, sportswear, toys, other consumer commodities to transportation and construction, and so on. It is also well known that their production is still heavily dependent on fossil fuels such as crude oil and natural gas. This makes them a significant contributor to climate change. Today, plastics account for roughly 4% of global greenhouse gas emissions, and this figure is expected to grow as consumption rises [1].

The issue has become global and requires urgent actions from all nations across the globe. Recently, the United Nations were negotiating an international plastics treaty to address not only waste and related plastic pollution, but also the broader environmental and health impacts of plastics. Unfortunately, no final agreement was reached, and negotiations will have to continue to come to a final agreement.

Indeed plastics are everywhere, and how did polymers earn their reputation as "miracle materials"?

Plastics and polymers, hailed as miracle materials since their rise in the 1950s and 1960s, revolutionized modern life with their malleability, flexibility, and ease of shaping. Initially embraced by their lightness and durability, they quickly found applications in every corner of daily life. From car tires to water bottles, shopping bags to synthetic clothing, polymers became indispensable. Personally, I have my own reason to be grateful - during recent heart surgeries, several of my implants are made from well-known plastics like ePTFE, Dacron, and Prolene. These materials are now literally part of me, and they've helped save my life.

If plastics are so useful, where does the climate problem come from?

The main issue lies in how they are made and disposed of. Most conventional plastics are produced from petrochemicals (fossil resources), and their extraction, refining, and polymerization release large amounts of CO_2 (carbon dioxide) and other greenhouse gases like CH4 (methane), N2O (nitrous oxide, also known as laughing gas), and some others.

Moreover, at the end of their life cycle, many plastics are either incinerated - mainly without carbon capture technology - or discarded improperly, creating both emissions and plastic waste pollution. It's a system that urgently needs rethinking.

[1] A New Plastics Economy is Needed to Protect the Climate | UNFCCC https://unfccc.int/news/a-new-plastics-economy-is-needed-to-protect-the-climate

So you propose seeing polymers in the future as an opportunity for carbon storage. What does that mean?

That's right. There are several ways to answer this question. One vision is to see polymers directly as carbon storage materials - especially if a polymer is made from CO_2 that has been taken out of the atmosphere or captured directly from industrial processes. In this case, we are either removing CO_2 from the air or preventing its release by capturing and transforming it into CO_2-based plastics. This can happen through synthetic industrial processes, or even through photosynthesis when a polymer is made from biogenic raw materials that captured CO_2 during their growth.

Alternatively, we can look at this question through the lens of post-consumer recycled, or PCR, plastics. If we valorize post-consumer waste - whether by making equivalent products, containing PCR feedstock, or by upgrading or downgrading materials - we are extending the life of the carbon already embedded in those plastics or to say simply giving them another life. When the final product made from recycled material is designed for a long-term use or with a circularity in mind, we effectively avoid CO_2 emissions that would otherwise come from the end-of-life. In that sense, we're offsetting those emissions and keeping the carbon locked within the material for years to come or we are closing the loop by recycling the product again and again. The latter circular pathway would be possible through chemical recycling or physical (dissolution) recycling [2].

At the same time, by reusing existing plastics to produce equivalent products made with PCR, we reduce the need for new raw materials - which, as I mentioned earlier, are still largely fossil-based.

Regardless of which pathway one focuses on – CO_2-based polymers or post-consumer recycled plastics – the key idea is the same: we need to move away from short-lived, disposable products that are incinerated at the end of life and shift toward circular and durable applications. These include areas such as construction, transportation, and renewable-energy infrastructure, where materials remain in service for decades. For example, polymers used in buildings, road materials, wind-turbine blades, or solar-panel housings can remain in use for many years, effectively locking in carbon while replacing more energy- and emission-intensive materials like steel or concrete. Equally important, however, are circular products that may be single-use yet circulate within a closed-loop system – such as packaging, hygiene materials, medical disposables, or technical textiles – where the material is efficiently recovered and reprocessed to create new products of equal quality.

With that in mind, let's look across the full innovation landscape... Are there promising innovations emerging in the form of CO_2-derived polymers?

Exciting innovations are emerging in the form of (sustainable) CO_2-derived polymers, which utilize captured carbon from the atmosphere or industrial processes. These potentially carbon-neutral or in the best case carbon-negative materials, if converted via low carbon routes, can be turned into useful products like polycarbonates and polyurethanes, which are already widely used in construction as thermal insulation, glazing and roofing panels, safety and security windows.[3] By chemically locking CO_2 into solid, stable structures for decades, these applications hold the promise of net negative greenhouse gas emissions. Certainly, only as long as CO_2 is sourced sustainably and the processes for making these polymers are low-carbon or zero-carbon ones.

[2] Recycling Options - VinylPlus, State-of-the-art of industrial PET mechanical recycling: technologies, impact of contamination and guidelines for decision-making - RSC Sustainability (RSC Publishing) DOI:10.1039/D4SU00571F https://pubs.rsc.org/en/content/articlehtml/2025/su/d4su00571f

[3] Processes to make polyurethanes and polycarbonates utilizing CO_2 already exist at large scale. https://www.covestro.com/en/sustainability/what-drives-us/circular-economy/alternative-resources/co2-as-a-raw-material

To give a sense of scale, the global plastics market is currently around 450 to 500 million tonnes per year. Assuming that population growth may push demand up, while recycling efforts and circular systems could offset this by reducing the need for newly produced plastics made from new raw feedstocks. As a result, the total market volume might remain roughly stable. Now, if we consider that about 80 to 90 percent of CO_2 emissions, which is roughly 32 to 36 billion tonnes per year out of the current total estimated at around 40 billion - could be avoided through electrification and hydrogen, the idea of turning the plastics value chain into a CO_2 use and storage pathway becomes really interesting. If all polymers were made from captured CO_2, that could store somewhere around 1.4 to 1.6 billion tonnes of CO_2 each year. This comes from the fact that typical polymers are about 85 percent carbon by weight, and one tonne of carbon corresponds to roughly 3.67 tonnes of CO_2. Compared to the 4 to 8 billion tonnes of emissions we probably can't avoid, this shows that plastics could play a meaningful role as a carbon sink while still providing the materials we need.

As one may ask, what if we cannot make certain polymers directly from CO_2?

From my perspective as a scientist, that's a fair question, especially for such common polymers as polyolefins (e.g. polypropylene and polyethylene), but I believe technology evolves faster than we often expect. What feels out of reach today can become a breakthrough tomorrow. I already see promising possibilities: producing common fossil-based polymers from recycled materials, from biomass, and perhaps even directly from CO_2 eventually allowing for materials with net negative GHG emissions. Potential pathways include **CO_2-to-feedstock** converting CO_2 into chemicals like methanol, syngas, or low-carbon naphtha, then using standard processes to make polyolefins which could open the door to sustainable polymer production without relying on fossil feedstocks.

Of course, for any of these ideas to succeed, they must make economic sense and offer clear value to industry - because innovation only truly matters when it can be adopted at scale and keep businesses profitable.

What role can post-consumer recycled plastics play in this vision?

That's a very important question - and one that should sit right at the center of the conversation. Post-consumer recycled plastics represent a second wave of opportunity. Instead of depending only on new, fossil-based, or even CO_2-derived polymers, we can take the plastics already in circulation and give them a new life - one that's built around long-term use.

Mechanical recycling often gets dismissed as being too limited or too low quality, but that's not necessarily true. Yes, it can be challenging to get consistent quality, especially when the waste stream is mixed or contaminated. But when sorting and collection are done well - and when products are designed with recycling in mind, using fewer material types, simplifying structures, and thinking about how things can be taken apart and reused - mechanical recycling can deliver very good materials. These can then be used again as raw materials to make durable or circular products, giving clear end-of-life pathways, like long-use applications or closing the loop rather than simply shifting the burden. Every time we do that, we keep carbon locked away in useful forms and reduce the need for energy-intense alternatives or for extracting new raw materials to make these types of products.

Of course, chemical and physical (dissolution) recycling both have an important role too. They can handle the mixed or degraded waste that mechanical recycling can't. In addition, this gives an opportunity to create ever-recycled products that could circulate in the closed loop for very long time. But rather than seeing one approach as better than the other, it's about the balance - using mechanical recycling as far as it can go and then bringing in physical (dissolution) and/or chemical recycling where it makes sense.

In the end, it's about changing how we see waste. Post-consumer plastics aren't just a problem to solve - they're a resource we already have in our hands. If we treat them that way, design better, and build systems that keep in mind circularity and durability, we take a real step toward a resource-efficient and lower-carbon future.

What are the main barriers to scaling up post-consumer recycled plastics, and how can they be overcome?

There are several significant challenges. One of the main ones is feedstock contamination. Another is the difference in plastic types and the variety of additives used to stabilize plastics during processing and use-phase. Product design also matters a lot - mono-material plastics are simpler and much better for recycling because they make sorting easier and lead to higher-quality recycled materials.

Recycling complex or mixed waste streams also takes a lot of energy, which adds to the cost and environmental footprint. On top of that, there's still a lack of updated standards and not enough acceptance for products made with post-consumer recycled materials in certain applications.

To overcome these challenges, we really need to start from the bottom-up approach. Better sorting and collection infrastructure is essential. It would also help if we could standardize additives for specific plastics - so they still deliver the required performance but reduce the huge variety that different manufacturers use today. Whenever possible, products should be designed in a simpler way to make recycling easier. Using low-carbon energy in recycling plants is another step in the right direction.

We also need clear standards for durability and safety, and stronger procurement incentives that favor verified recycled and low-carbon materials. Right now, sustainable materials often cost more than virgin (non-recycled) ones, which makes it harder to convince customers, especially in a difficult market environment.

It's also important to acknowledge that some application areas - like medical and food packaging - are very challenging. In those cases, regulations around material purity are strict, and it's definitely for some very good reasons. This means that using post-consumer recycled plastics in such areas will take more time, more research, and a careful and innovative approach.

If you could summarize one key message for the future of polymers, what would it be?

Decarbonizing the polymer industry is essential. That means developing low-carbon production methods, improving recycling technologies, and prioritizing long-lasting, high-value applications.

Polymers are not inherently the enemy of the climate. When designed thoughtfully and sourced responsibly, they can become powerful allies - transforming from a source of emissions into a means of carbon storage.

With innovation, we can make polymers part of a climate-positive and resource-efficient future.

focus

FEDIL Study Trip: From AI Labs to Industrial Champions - strengthening ties in South Korea

In late October 2025, a high-level delegation led by FEDIL traveled to South Korea for the 13th FEDIL Study Trip, dedicated to artificial intelligence and innovation. Over four days in Seoul, the delegation engaged in a program of strategic dialogues with business federations, leading technology companies, industry leaders, renowned research institutes and ecosystem enablers. The mission focused on concrete exchanges with Korean counterparts, exploring the future of industry and forging new partnerships in innovation.

South Korea stands among the world's most advanced industrial and technology hubs, globally recognized for its leadership in AI, digital infrastructure, and manufacturing excellence. Its rapid evolution from manufacturing powerhouse to innovation leader makes it a natural partner for Luxembourg's industry. Seoul offers a dense network of established tech-driven companies, innovative SMEs, and public partners ready to co-innovate. Against this backdrop, the delegation set out to deepen ties and explore pragmatic cooperation in areas such as advanced manufacturing, digital transformation, artificial intelligence, and energy transition

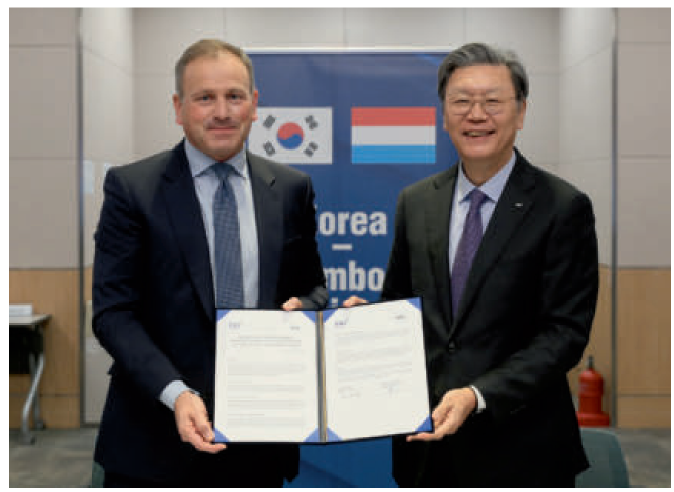
Day 1

FORGING NEW PARTNERSHIPS FOR THE FUTURE OF INDUSTRY WITH THE FEDERATION OF KOREAN INDUSTRIES (FKI)

The delegation's first official engagement in Seoul took place at the headquarters of the Federation of Korean Industries (FKI), a cornerstone of Korea's economic landscape. Founded in 1961, the FKI is a private, not-for-profit business organization dedicated to economic development and international cooperation based on the principle of free enterprise. FKI serves as the representative voice of Korean business. Its mission is to foster the development and advancement of the national economy by promoting major industries and international economic exchanges, unifying business perspectives and ensuring they are reflected in government policy.

The highlight of the session was the signing of a Memorandum of Understanding between FEDIL and FKI, establishing a practical framework for ongoing collaboration. This agreement is designed to facilitate direct business dialogue, joint initiatives in sectors such as advanced manufacturing, energy, logistics, and future industries, and regular exchanges of economic and regulatory information.

Dr. Tae Kyu Lee from the Korea Economic Research Institute (KERI) offered a frank overview of Korea's economic situation, highlighting that the country faces short-term challenges such as weak domestic demand and slow construction, set against a backdrop of global uncertainty and moderate growth. However, there is cautious optimism for recovery, as government-led investments in AI are expected to boost productivity and help counteract the effects of an aging population. Korea is undergoing a fundamental transformation, shifting from traditional industries to high-tech sectors like semiconductors, AI, and green technologies. To sustain growth, Dr. Lee stressed the urgent need for structural reforms, regulatory modernization, and diversification of both products and export markets. He also emphasized the importance of investing in R&D, education, and digital inclusion, as well as ensuring reliable energy resources, to support Korea's transition to an innovation-driven economy.



The meeting also addressed the regulatory and societal dimensions of digital transformation. Mr. Keun Woo Lee, from Yoon & Yang LLC, began by highlighting the transformative potential of artificial intelligence and the urgent need for robust governance frameworks to ensure that technological progress benefits society as a whole. He presented Korea's policy plans for AI development, focusing on the recently adopted AI Basic Act, positioning the country as a pioneer in AI regulation alongside the European Union. Unlike the EU's risk-based model, Korea's framework is designed to be innovation-friendly, emphasizing safeguards for high-impact AI, promoting R&D, and encouraging sector-specific public-private collaboration through sector-specific guidelines. The discussion underscored the shared values between Korea and Europe; transparency, accountability, and human oversight; while also highlighting the importance of ongoing dialogue to harmonize standards and address global challenges in AI.

This high-level exchange at FKI set the foundation for a pragmatic, forward-looking partnership between Luxembourg and Korea's industrial ecosystems. The MoU provides a framework for concrete collaboration, knowledge sharing, and joint advocacy on global economic issues.

ADVANCED PRECISION TOOLS AND AI TRANSFORMATION IN INDUSTRY AT SHINHAN DIAMOND INDUSTRIAL

The delegation's industrial itinerary in Korea included a visit to Shinhan Diamond Industrial, a leading manufacturer of a wide range of diamond tools serving both traditional industries like construction and advanced sectors such as semiconductors. Over the years, Shinhan has become a global supplier, offering specialized solutions that position it as a key player in global value chains.

Shinhan's team shared their vision focused on globalization, sustainability, innovation, and ethical management, highlighting that the company's growth is driven by continuous investment in R&D and a strong commitment to quality. They emphasized their proprietary ARIX technology, which allows for precise placement of diamond grits in tools, resulting in faster, more stable, and more efficient cutting performance tailored to specific applications. This innovation not only improves efficiency and product lifespan but also reduces energy consumption and enhances product quality. Shinhan has successfully applied this expertise to the semiconductor sector, developing advanced solutions where precision and durability are essential.

The Korean Institute of Industrial Technology (KITECH) presented the Manufacturing Artificial Intelligence Transformation Alliance (M.AX ALLIANCE) and the AI Factory initiative, a government-backed collaboration designed to accelerate the adoption of artificial intelligence across industries. With significant national funding and ambitious targets for economic impact by 2030, the AI Factory acts as a central hub for developing, texting and deploying AI-driven solutions. The initiative not only aims to drive technological advancement and new business models but also places strong emphasis on ethical and sustainable AI practices to benefit both businesses and society.

These initiatives demonstrate Shinhan's commitment to embedding artificial intelligence within its manufacturing processes, especially through the creation of AI-powered autonomous production lines in semiconductor fabrication. The alliance's objective is to fast-track the digital transformation of manufacturing by harnessing AI to optimize operations, boost quality, and increase efficiency throughout the entire value chain.

Following the presentations, the delegation toured the Shinhan Diamond headquarters factory. This visit provided a first-hand look at Shinhan's advanced manufacturing capabilities and its commitment to continuous improvement through innovation and technology partnerships.

This visit offered the delegation valuable insights into how a Korean industrial champion is embracing digital transformation and global best practices to remain at the forefront of both traditional and next-generation manufacturing.

PIONEERING KOREA'S AI INFRASTRUCTURE AT SKT AI DATA CENTER TESTBED

The final visit of the first day brought the delegation to the SKT AI Data Center Testbed, a pioneering facility at the heart of SK Telecom's "AI Infrastructure Superhighway" strategy.

The delegation visited the AI Data Center Testbed's cooling room. This facility, unique in Korea, is designed to conduct rigorous tests on cutting-edge AI infrastructure featuring advanced components such as Nvidia's latest chips, SK Hynix High Bandwidth Memory, and to trial all three major next-generation liquid cooling solutions: direct-to-chip liquid cooling, immersion cooling, and precision liquid cooling. These advanced systems, developed in collaboration with partners, are designed to dramatically improve energy efficiency, a critical factor as AI workloads and data center demands continue to surge.

The SKT AI DC Testbed serves as a hub for innovation, bringing together the expertise of the SK Group and a network of domestic and international partners. Its purpose is to develop, test, and verify advanced technologies that will underpin future hyperscale AI data centers in a collaborative environment. The insights gained here are instrumental for SKT's plans to roll out GPU-as-a-Service (GPUaaS) offerings and to lead the next wave of AI infrastructure development.

In essence, the visit provided a glimpse into the future architecture of AI data centers, with a strong emphasis on energy efficiency, advanced cooling, and hardware optimization. The SKT AI Data Center Testbed exemplifies Korea's commitment to building a robust, scalable, and sustainable AI infrastructure to meet the growing demands of the digital era. The group was given a firsthand look at the technologies shaping the future of AI data centers in South Korea and beyond.

Day 2

LEADING AI DATA CENTER INNOVATION WITH SK TELECOM

On the morning of the second day, the group from Luxembourg was welcomed into the headquarters of SK Telecom (SKT), a company that stands at the very forefront of Korea's digital transformation.

SK Telecom is rapidly transforming from a traditional telecom operator into a leader in artificial intelligence and digital infrastructure, with a clear focus on business impact. The company is investing heavily in next-generation data centers, cloud computing, and digital services, aiming to set new standards not only in Korea but also internationally. With eight advanced data centers already operational in Seoul and ambitious plans for global expansion, SKT is positioning itself as Korea's top data center operator.

During the visit, SKT's leadership outlined a strategy that places AI at the core of all operations. Their "AI-ready" data centers are designed to handle the most demanding AI workloads, featuring high-density GPU clusters, distributed power systems, and advanced liquid cooling—all managed through an integrated platform for real-time optimization. The delegation was introduced to the "Haein" cluster, Korea's largest GPU cluster, which exemplifies SKT's commitment to building sovereign AI infrastructure capable of supporting both national and international innovation.

SKT's software ecosystem is equally advanced, with platforms that enable efficient management, scaling, and transparency of AI workloads. Their Integrated AI DCIM platform uses digital twin technology for comprehensive oversight, while GPUaaS allows flexible resource allocation. Additional tools like AI Cloud Manager and AI Cloud Radar provide end-to-end solutions for AI development and operational efficiency. For business leaders, SKT's approach offers a compelling model for leveraging AI and digital infrastructure to drive growth, efficiency, and global competitiveness.

Beyond the technical prowess, the meeting also underscored the growing partnership between SK Telecom and Luxembourg. The relationship, already strengthened by the signing of a Memorandum of Understanding on quantum technologies in October 2023, is now poised to enter a new phase, with both sides exploring collaboration in AI, data centers, and digital innovation. The SKT executives expressed a clear interest in building on this foundation, highlighting the potential for joint projects and knowledge exchange that could benefit both economies.

The delegation's tour of the T.um ICT experience center provided a fitting conclusion to the visit. Here, members were invited to immerse themselves in a world of autonomous vehicles, drones, virtual and augmented reality, and the Internet of Things. T.um, short for "Technology, Utopia, Museum", serves as a testament to SKT's commitment to connecting people, data, and ideas in ways that were once the realm of science fiction.

As the Luxembourg delegation departed SK Telecom's headquarters, the sense was clear: this was not just a meeting, but the beginning of a deeper dialogue between two innovation-driven economies.

AT THE HEART OF KOREA'S RESEARCH EXCELLENCE AT THE ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE (ETRI)

The delegation's journey through Korea's technology landscape reached a new milestone with a visit to the Electronics and Telecommunications Research Institute (ETRI), a cornerstone of the nation's scientific and industrial progress. This visit highlighted the institute's pivotal role in driving Korea's technological and economic progress. ETRI stands out as a powerhouse for innovation, with nearly 2,000 researchers and a remarkable track record in digital technologies, including 5G, advanced batteries, and micro-LEDs. The institute's work has generated significant economic impact and positioned Korea as a leader in global innovation.

During the visit, the delegation explored how ETRI's research is shaping the future of smart cities, digital health, and autonomous mobility, with artificial intelligence at the core of many projects. ETRI's multidisciplinary teams are developing practical AI solutions for real-time data analysis, robotics, cybersecurity, and industrial automation - areas directly relevant to business transformation. With a global network of partners and a strong commitment to open science and technology transfer, ETRI offers valuable opportunities for international collaboration, including with Luxembourg, to accelerate digital innovation and business growth.

The ETRI visit not only showcased the depth and breadth of Korea's research capabilities but also opened new avenues for partnership and knowledge exchange.

ACADEMIC POWERHOUSE AND ENGINEERING THE FUTURE OF INNOVATION WITH KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)

Following the visit to ETRI, the delegation continued its mission at the Korea Advanced Institute of Science and Technology (KAIST), South Korea's leading research-driven university and a global benchmark in science and engineering. Established in 1971 as a national development project, KAIST now counts over 14,000 students and 1,600 faculty members, with alumni shaping Korea's innovation ecosystem.

KAIST combines academic excellence with strong industry partnerships, a global vision and commitment to societal impact. Its strategy rests on three pillars: advancing science and technology to tackle global challenges, sharing expertise with developing nations, and fostering peace and prosperity worldwide through innovation.

At the core of this vision is the Institute of Technology Value Creation (ITVC), which bridges research, intellectual property, startups, and industry, creating a "technology-based virtuous ecosystem".

The Industrial Liaison Platform (ILP) connects KAIST's research and talent with industry needs and further strengthens ties with industry, offering tailored technical consulting and technology transfer to major corporations like LG Electronics and SMEs as well as.

A highlight of the visit was the lab tour, where the delegation attended live demonstrations of KAIST projects in engineering, robotics, and computer science, including advanced autonomous robotic systems. This illustrated KAIST's expertise in integrating AI with mechanical engineering to address real-world challenges. The demonstrations underscored the university's role as a driver of next-generation technologies.

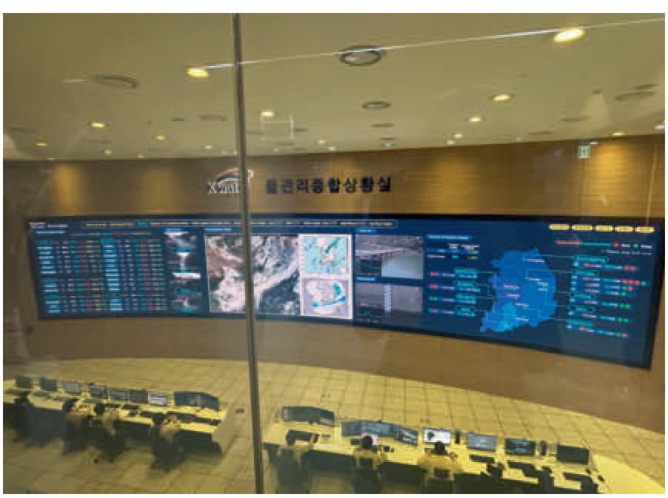
ADVANCING WATER MANAGEMENT THROUGH AI AT K-WATER

Founded in 1967, K-water is Korea's premier public organization specializing in water resources management, both domestically and internationally. K-water has built a reputation for preventing water disasters and providing clean water through innovative technologies and integrated water resources management. Today, it oversees the entire water cycle, from flood control and water supply to renewable energy and smart city development, supplying over half of Korea's national water needs and leading the country in renewable energy production.

K-water's new vision is shaped by the accelerating global water crisis, driven by climate change, aging infrastructure, and the demands of high-tech industry. The organization is fast-tracking innovative solutions such as seawater desalination, ultrapure water, hydrothermal energy, green hydrogen, tidal power, and floating solar PV. These technologies are combined with digitalization and AI to enhance climate resilience and ensure sustainable water management.

K-water is setting new standards in smart water infrastructure through advanced digital and AI solutions. Its Digital GARAM+ platform creates a virtual twin of dam operations, enabling real-time monitoring, simulation, and data-driven decision-making. The organization is pioneering AI-powered water treatment plants with autonomous operation, intelligent energy management, and video-based safety systems, leveraging robotics and AI to deliver efficiency and eliminate human error. Complementing this, the Smart Water Network Management platform uses AI and IoT for predictive leakage detection, water quality control, and pressure optimization, ensuring rapid response to flooding and pollution risks.

K-water's expertise extends beyond Korea, with operations in 48 countries and 181 investment and ODA projects. The organization is expanding its global R&D network, including partnerships in Luxembourg and other regions. K-water's AI Data Center, currently under construction, will further advance its capabilities in superintelligent water management systems.



Day 3

BEYOND INDUSTRY: LUXEMBOURG DELEGATION'S VISIT TO THE DEMILITARIZED ZONE (DMZ)

Beyond industrial meetings, the Luxembourg delegation visited the Demilitarized Zone (DMZ) to gain insight into Korea's complex history and security environment. Starting at Imjingak Park near Paju, the group explored symbolic landmarks such as the Freedom Bridge and Peace Bell, reminders of the Korean War and aspirations for reunification.

The program included the North Korea Experience Hall, featuring interactive exhibits and a live Q&A with a defector, offering a rare perspective on life under the regime. Delegates also toured the DMZ Theater, the 3rd Infiltration Tunnel - built for potential incursions - and the Dora Observatory, overlooking North Korean territory and the city of Gaeseong.

This visit provided a deeper understanding of the geopolitical realities shaping Korea's development, underscoring the link between historical context and the country's economic and technological progress.

PIONEERING GENERATIVE AI FOR INDUSTRY AND SOCIETY AT LG AI RESEARCH CENTER

After a morning immersed in the history and symbolism of the DMZ, the delegation turned its attention to the future, visiting the LG AI Research Center, serving as the group's dedicated think tank for artificial intelligence, with a mission to enhance LG's capabilities, solve complex business challenges, and set ethical standards for AI development. This meeting offered a privileged look into how one of Korea's most influential conglomerates is harnessing artificial intelligence to drive transformation across sectors, from manufacturing and materials to finance and healthcare.

Established in 2020, the center has rapidly scaled to over 300 experts, filed 200+ patents, and published 150+ papers, positioning LG as a leader in industrial and consumer AI applications.

LG's vision "AI for a Better Life" drives transformation across manufacturing, materials, healthcare, and finance. The center's eight labs focus on advanced machine learning, multimodal AI, materials intelligence, and bioinformatics, delivering solutions such as predictive battery analytics, AI-driven drug discovery, and automated quality control.

A highlight was EXAONE, LG's proprietary large language model - the first bilingual, multimodal generative AI in Korea and now in its fourth generation. Open-sourced and globally recognized, EXAONE powers applications from compliance and document analysis to customer service and product innovation.

LG also showcased its commitment to responsible AI, with ethics principles embedded in every project and tools like NEXUS, a compliance agent ensuring data transparency and legal risk management.

The session concluded with a breakthrough in financial AI: the AI-Powered Equity Forecast Score, developed with London Stock Exchange Group (LSEG). The solution combines deep learning and large language models to deliver explainable, data-driven insights for asset managers. By integrating structured and unstructured data, such as real-time news, analyst reports, and company filings, the system generates daily forecast scores and commentary for thousands of US equities. Back-testing revealed portfolios using this tool outperformed benchmarks by over 35 percentage points, with improved risk management and transparency. Already powering products like the LQAI ETF on NYSE, this innovation signals new opportunities for Luxembourg's financial sector in predictive analytics and risk management. The combination of predictive accuracy, explainability, and speed aligns perfectly with the needs of European asset managers navigating volatile markets and stringent regulatory environments.

As the delegation left LG Science Park, the message was clear: artificial intelligence is not just a technological trend for LG, but a strategic pillar for growth, competitiveness, and societal benefit.

SOUTH KOREA – LUXEMBOURG NETWORKING RECEPTION: BUILDING BRIDGES FOR INNOVATION

The final evening in Seoul featured a high-level networking reception at the Grand Hyatt, bringing together the FEDIL delegation, Korean business leaders, and key public and academic stakeholders. Against the backdrop of Seoul's skyline, the event reinforced the strategic importance of Luxembourg–Korea cooperation in digital innovation, advanced industry, and entrepreneurship.

In his opening remarks, Jacques Flies, Ambassador of Luxembourg to the Republic of South Korea, emphasized the role of international partnerships in driving long-term growth. FEDIL Vice-Chairman, Alex Schumann echoed this vision, highlighting shared ambitions in technology, sustainability, and responsible innovation.

The reception marked the culmination of a week of productive meetings and technology showcases, underscoring Luxembourg's commitment to building bridges with Korea across business and research.

FEDIL expressed its gratitude to the Ambassador and the Luxembourg Trade & Investment Office for their exceptional support and organization, which enabled a rich and insightful program showcasing Korea's dynamism and innovative spirit.

Day 4

BEYOND REALITY, SHAPING THE METAVERSE OF TOMORROW AT LOTTE CALIVERSE

On the final day, the delegation met with the leadership of Lotte Caliverse, a flagship of Lotte Group's digital transformation strategy. Presented at CES 2025, Caliverse is an advanced metaverse platform designed to merge commerce, entertainment, and social interaction in a creator-driven ecosystem.

The platform offers immersive shopping experiences using digital twins and realistic avatars, enabling virtual product trials before purchase. Beyond retail, Caliverse integrates interactive entertainment, including concerts, gaming tournaments, and global music events such as Tomorrowland Planet, which recreates iconic festival stages for digital performances.

By blending online and offline realities, Lotte Caliverse is redefining user engagement and opening new opportunities for virtual commerce and experiential marketing - positioning itself as a leader in next-generation digital ecosystems.

A highlight of the visit was the demonstration of Caliverse's cutting-edge 3D technology. Built on Unreal Engine 5, the platform delivers hyper-real visuals, merging 3D environments with real-life characters in real time. The delegation experienced firsthand how Caliverse's 3D screen protector transforms an ordinary smartphone into a vibrant hub of lifelike, three-dimensional content, no glasses required. With the Caliverse AI app, users can instantly convert their own photos and videos into 3D experiences, while also enjoying world-class entertainment such as K-pop performances directly from their devices. The demonstration of Caliverse 3D left a lasting impression, showcasing how advanced graphics, AI, and user-driven content can converge to create truly awe-inspiring digital experiences.

As the delegation concluded its visit, it was clear that Lotte Caliverse is not just building a virtual world, but pioneering a new paradigm for digital interaction, creativity, and commerce.

LUXEMBOURG INNOVATION ON THE GLOBAL STAGE: DATA DESIGN ENGINEERING AT KES 2025

The delegation concluded its mission at Korea Electronics Show (KES) 2025, the country's largest electronics and IT exhibition, showcasing global leaders like Samsung and LG alongside innovative SMEs and startups. This year's themes including Smart Life, Mobility, Metaverse, and Sustainability, set the stage for forward-looking technologies.

A highlight was Data Design Engineering (DDE), a FEDIL member, whose booth attracted strong interest. Fresh from winning the AI Innovation Excellence Award in Luxembourg, DDE partnered with Gosung Engineering and GRADEL to present its AI Drone and demonstrate advanced autonomous solutions. The showcase featured ON Device Swarm AI, enabling drones, robots, and smart chairs to interact offline without internet access. Visitors experienced real-time scenarios, such as fire detection and emergency response, powered by a Vision-Language-Action (VLA) model.

DDE's compact indoor drone impressed with its GPS-denied navigation, relying solely on vision-based object recognition and self-generated coordinates, a breakthrough for environments where GPS is unavailable or jammed. With exclusive business rights in Korea and Asia and plans for outdoor applications, DDE is positioning Luxembourg as a key player in AI and robotics.

The visit to KES underscored Luxembourg's ability to compete globally in digital innovation and advanced engineering, closing a week of strategic exchanges and partnerships between Luxembourg and Korea.

Key Takeaways

1. Federation of Korean Industries (FKI)

- The signing of the MoU between FEDIL and FKI lays the groundwork for sustained bilateral cooperation in advanced manufacturing, energy, logistics, and future industries.
- Korea's economic transformation is driven by innovation but faces challenges such as demographic shifts and the need for regulatory reform.
- Korea's new AI Basic Act demonstrates a pragmatic, innovation-friendly approach to AI governance, emphasizing transparency, accountability, and human oversight.

2. Shinhan Diamond Industrial

- Precision manufacturing is being revolutionized by proprietary technologies like ARIX, enabling tailored performance and sustainability.
- Integration of AI into manufacturing processes (CMP, semiconductor tools) is accelerating efficiency and product quality.
- The M.AX ALLIANCE and AI Factory initiative illustrate Korea's commitment to ethical, scalable AI adoption in industry.

3. SKT AI Data Center Testbed & SK Telecom

- Korea is investing heavily in next-generation AI data centers, with SKT's "AI Infrastructure Superhighway" and sovereign GPU clusters.
- Advanced cooling and energy efficiency are central to future-proofing AI infrastructure.
- The partnership between SK Telecom and Luxembourg opens new opportunities for collaboration in AI, data centers, and digital innovation.

4. Electronics and Telecommunications Research Institute (ETRI)

- Fundamental research at ETRI translates into market-ready technologies through mission-oriented programs and close academia–industry collaboration.
- ETRI's multidisciplinary teams are driving advances in smart cities, digital health, and autonomous mobility, with a strong commitment to open science and global standards.

5. Korea Advanced Institute of Science and Technology (KAIST)

- KAIST's "technology-based virtuous ecosystem" bridges research, startups, and industry, supporting deep-tech innovation in robotics, semiconductors, and biotech.
- The university's global vision and societal impact are reflected in its support for developing countries and its leadership in patent filings.

6. K-water

- Digitalisation and AI are underpinning smarter, more efficient water management - from predictive maintenance to real-time operations.

- Korea's approach to utility management demonstrates the potential of AI for sustainability and operational excellence.

- K-water is actively engaged in an international collaborative project to strengthen climate resilience and advance digital water management, leveraging satellite and AI technologies. The initiative brings together partners from several European countries, including Luxembourg, with a local organization playing a coordinating role.

7. Demilitarized Zone (DMZ)

- The DMZ visit provided historical and geopolitical context, highlighting the enduring legacy of conflict and aspirations for peace and reunification.

- Understanding Korea's history is essential for appreciating the broader context in which industrial and technological progress unfolds.

8. LG AI Research Center

- LG's EXAONE model and AI-powered solutions are driving transformation across manufacturing, finance, and healthcare.

- Responsible AI development, with robust ethics and compliance frameworks, is a strategic priority for LG and a model for international collaboration.

- Generative AI is reshaping financial markets, offering predictive accuracy and transparency for asset managers.

9. Lotte Caliverse

- The rise of immersive content and metaverse experiences is creating new vectors for customer engagement and digital commerce.

- Lotte Caliverse's platform demonstrates the convergence of advanced graphics, AI, and user-driven content, pioneering new paradigms for interaction.

10. Data Design Engineering at KES 2025

- Luxembourg's innovation ecosystem is showcased on the global stage, with DDE's AI Drone and Swarm AI technology leading advances in autonomous robotics.

- The demonstration of GPS-denied autonomous flight and ON Device Swarm AI highlights the potential for collaboration in AI and robotics between Luxembourg and Korea.

Article :
CÉLINE TARRAUBE
Adviser Digital & Innovation at FEDIL
celine.tarraube@fedil.lu

Actualités de la FEDIL

CERCLE DES CHEFS DU PERSONNEL

15 octobre 2025

La première session du « Cercle des chefs du personnel » organisée par la FEDIL en 2025 s'est tenue le 15 octobre à la Chambre de Commerce. Au cours de cette rencontre ayant réuni près d'une centaine de participants, l'accent a été mis sur le contexte économique et social actuel.

Ont ainsi été abordés, d'une part, le projet de loi 8586 prévoyant de nouvelles dispositions visant à faciliter l'accès au marché du travail pour les ressortissants de pays tiers et, d'autre part, les conclusions à tirer des tables rondes sociales qui se sont tenues en juillet et septembre 2025. Le travail des seniors et la pérennité des pensions figuraient parmi les points exposés lors de cette session. Dans ce contexte, deux projets de loi visant à maintenir les salariés plus longtemps dans l'emploi ont été présentés et des réflexions sur l'adaptation du cadre législatif ont été soulevées.

Des représentants externes ont également participé à cette session riche en contenu à savoir, d'une part, l'Office des signalements qui est revenu sur la procédure de signalement interne en matière de lanceurs d'alerte et, d'autre part, l'UEL, la fr2s et la FES pour présenter le 3e baromètre de l'emploi avec un focus particulier sur l'emploi des seniors.

La session s'est clôturée par un moment convivial autour d'un verre de l'amitié, propice aux échanges informels.

La FEDIL remercie les intervenants externes et les participants pour leur engagement. Ensemble, continuons à faire évoluer le cadre social et économique du Luxembourg !

ÉDITION 2025 DU PRIX DE L'ENVIRONNEMENT DE LA FEDIL

27 novembre 2025

La cérémonie de remise du Prix de l'Environnement de la FEDIL a eu lieu le 27 novembre 2025 à l'auditorium de la Banque de Luxembourg, partenaire de l'événement. La remise des prix s'est déroulée en présence de Serge Wilmes, ministre de l'Environnement, du Climat et de la Biodiversité, ainsi que de nombreux invités, membres du jury et lauréats de la promotion 2025.

Pour cette 19e édition du Prix de l'Environnement de la FEDIL, 16 projets avaient été soumis, parmi lesquels le jury, composé d'experts issus des secteurs public et privé, a décerné quatre prix, à savoir :

- Prix de l'Environnement 2025 dans la catégorie « Gestion » : Carrières Feidt S.A. pour le projet « Renaturation des carrières »
- Prix de l'Environnement 2025 dans la catégorie « Procédé » : Paul Wurth S.A. pour la technologie « EASyMelt »
- Prix de l'Environnement 2025 dans la catégorie « Produit » : Husky Technologies pour le projet « PET Closure »
- Prix de l'Environnement 2025 dans la catégorie « Produit » : ArcelorMittal pour le projet « XCarb® Recycled and renewably produced steel »

Ces quatre projets satisfont pleinement aux exigences du règlement du Prix de l'Environnement, notamment l'intérêt écologique, l'innovation, le développement durable et la faisabilité concrète. Les gagnants ont reçu leurs diplômes accompagnés de films spécialement créés pour l'occasion, mettant en valeur chaque projet.

Après l'accueil des invités par Pit Linster, Head of Entreprises & Entrepreneurs à la Banque de Luxembourg, Georges Rassel, président de la FEDIL, a souligné que le Prix de l'Environnement a pour objectif de récompenser les acteurs innovants œuvrant pour la transition écologique au bénéfice de la société. Cette distinction s'inscrit dans une stratégie qui encourage l'élaboration de politiques cohérentes et ambitieuses, ainsi que l'investissement dans les technologies propres. Georges Rassel a ajouté que la transition doit être juste et équitable afin de préserver la compétitivité, l'emploi et la viabilité économique face aux enjeux climatiques. Il a enfin salué la qualité des projets soumis, témoignant de l'engagement des entreprises dans une démarche responsable en faveur du climat et de l'écologie.

La soirée a aussi été marquée par une conférence de Domenico Franceschino d'Axpo Benelux intitulée « Economic Sustainability of the Energy Transition ». Il y a montré que, pour exploiter pleinement les énergies renouvelables, il est essentiel que les projets soient à la fois écologiques et financièrement solides. S'appuyant sur des exemples concrets venus de toute l'Europe, l'intervenant a exposé les principaux risques de marché susceptibles de déterminer la réussite ou l'échec des projets renouvelables. Il a souligné en particulier le rôle important que peut jouer le fournisseur d'énergie pour contribuer à limiter ces risques.

Dans son message, le ministre Serge Wilmes est revenu sur la COP30 à Belém, rappelant que les engagements mondiaux n'ont d'impact que lorsqu'ils sont mis en œuvre localement. Selon lui, cette distinction souligne que l'industrie luxembourgeoise travaille activement à des solutions innovantes, essentielles pour une transition en accord avec les objectifs environnementaux et climatiques, et démontre que l'innovation, la compétitivité et la durabilité peuvent aller de pair.

PRIX DE L'ENVIRONNEMENT 2025 DANS LA CATÉGORIE « GESTION »

Carrières Feidt S.A. - « Renaturation des carrières »

Carrières Feidt, qui exploite six carrières au Luxembourg et une dans l'Eifel près de Bitbourg, s'engage dans une démarche exemplaire de renaturation, redonnant vie à la nature après l'exploitation de ses sites. Une fois la phase d'excavation achevée, débute une seconde vie pour la carrière : la renaturation. Ce processus vise à restituer à la nature ce qui lui a été emprunté, en créant des espaces propices à la biodiversité animale et végétale. La renaturation ne commence pas à la fin de l'exploitation, mais s'anticipe dès les premiers travaux, selon un concept clair et durable, élaboré en collaboration avec des experts. Chaque étape est guidée par la volonté de laisser derrière soi une nature intacte.

Carrières Feidt privilégie deux approches complémentaires. La première consiste à recréer des habitats naturels : lacs, biotopes, zones humides, haies, arbustes et arbres. Ces aménagements favorisent l'installation d'une faune et d'une flore variées, accueillant notamment des espèces rares d'oiseaux, de lézards, de crapauds, de papillons et d'insectes. Les lacs servent aussi de halte aux oiseaux migrateurs, grâce à la qualité de l'eau et à la diversité piscicole.

La seconde approche laisse la nature reprendre spontanément ses droits, permettant aux écosystèmes de se régénérer librement. Ainsi 500 arbres fruitiers ont été plantés sur 12 hectares et un mur à cavités a été construit pour abriter des nicheurs rares comme les hirondelles de rivage.

Chaque carrière bénéficie d'un projet de renaturation adapté, avec pour objectif commun de préserver et enrichir la biodiversité locale, tout en assurant un héritage naturel durable pour les générations futures.

Découvrez le projet en vidéo :

PRIX DE L'ENVIRONNEMENT 2025 DANS LA CATÉGORIE « PROCÉDÉ »

Paul Wurth S.A. - « EASyMelt »

Paul Wurth, leader mondial dans le domaine de la métallurgie et de l'ingénierie, a développé EASyMelt, une solution innovante visant à réduire considérablement les émissions de carbone dans la production d'acier. La technologie EASyMelt répond au besoin urgent de décarboniser l'industrie sidérurgique, responsable de 7 à 8 % des émissions mondiales de gaz à effet de serre. Les méthodes de production traditionnelles par la filière du haut fourneau reposent largement sur l'utilisation du charbon, ce qui rend impossible la réalisation de nouveaux objectifs climatiques. EASyMelt offre une solution flexible et évolutive qui permet de moderniser les aciéries existantes, évitant ainsi la nécessité de construire de nouvelles infrastructures d'envergure.

EASyMelt convertit les gaz résiduels des aciéries en gaz de synthèse, un combustible plus propre utilisé dans le processus de fabrication de fonte. Cette technologie, combinée à un chauffage électrique avancé soutenu par des torches à plasma, réduit les émissions de CO_2 de plus de 50%, avec un potentiel pouvant atteindre 70%.

La technologie a franchi plusieurs étapes de développement, depuis les recherches initiales et les essais en laboratoire jusqu'aux démonstrations à l'échelle pilote. La flexibilité d'EASyMelt lui permet d'utiliser diverses sources d'énergie, notamment l'électricité renouvelable, l'hydrogène, l'ammoniac, le gaz de cokerie ainsi que le gaz naturel, ce qui rend la technologie adaptable aux futures transitions énergétiques.

EASyMelt favorise non seulement la durabilité environnementale, mais améliore également la viabilité économique des producteurs d'acier. En réduisant la dépendance au charbon et au coke, le procédé diminue les coûts d'exploitation et augmente le retour sur investissement. La compatibilité de cette technologie avec les systèmes de capture du carbone renforce encore son potentiel pour atteindre la neutralité carbone. Enfin, la technologie EASyMelt de Paul Wurth positionne le Luxembourg comme un leader de l'innovation industrielle verte, permettant aux producteurs d'acier du monde entier d'atteindre leurs objectifs climatiques grâce à une solution rentable et fiable.

Découvrez le projet en vidéo :

PRIX DE L'ENVIRONNEMENT 2025 DANS LA CATÉGORIE « PRODUIT »

Husky Technologies - « PET Closure »

En tant que leader dans le domaine des machines de moulage par injection et des moules, Husky Technologies est à la pointe de l'innovation en matière d'emballage des boissons. Les bouchons pour boissons disponibles sur le marché sont généralement fabriqués à partir de polyéthylène haute densité (PEHD) ou de résine de polypropylène (PP). Bien que ces matériaux offrent un haut niveau de performance pour un poids léger, ils sont généralement recyclés dans des applications sans contact alimentaire, telles que les seaux, les meubles de jardin et les jouets pour enfants.

Pour compléter le cycle de recyclage des bouteilles en PET, Husky a mis au point des bouchons en PET conçus pour être fabriqués à partir de PET vierge (vPET) à 100%, de PET recyclé (rPET) à 100% ou d'une combinaison des deux. Cette avancée majeure permet de créer un véritable emballage mono-matériau, dans lequel la bouteille et le bouchon sont fabriqués à partir du même matériau.

Les avantages environnementaux du bouchon en PET sont considérables. Grâce à l'approche mono-matériau, il n'est plus nécessaire de procéder à un tri supplémentaire lors du recyclage, et le rendement des balles de rPET est augmenté. De plus, les propriétés rigides du PET permettent d'alléger considérablement le poids, réduisant ainsi la quantité totale de matériau utilisée pour l'ensemble de la bouteille. Cela renforce à la fois la durabilité et les performances tout au long du cycle de vie.

L'un des atouts majeurs du bouchon PET de Husky réside dans sa capacité à offrir un niveau d'inviolabilité inégalé grâce au nouveau système HyCAP SecuRE+. Cette technologie innovante applique avec précision une source de chaleur sur la bague d'inviolabilité. La chaleur provoque une déformation contrôlée de la bague autour de la collerette, assurant ainsi une couverture à 360°. De plus, ce bouchon PET fournit une expérience sensorielle supérieure, avec un signal sonore et tactile net lors de la rupture de la bague d'inviolabilité.

Le bouchon en PET est sur le point d'établir une nouvelle norme dans l'industrie de l'emballage des boissons, en accord avec les objectifs mondiaux de durabilité et les préférences des consommateurs pour les produits respectueux de l'environnement.

Découvrez le projet en vidéo :

PRIX DE L'ENVIRONNEMENT 2025 DANS LA CATÉGORIE « PRODUIT »

ArcelorMittal - « XCarb® Recycled and renewably produced steel »

En 2021, ArcelorMittal, leader mondial de la sidérurgie et de l'exploitation minière, a lancé son initiative XCarb® Recycled and renewably produced steel. Cet acier à faibles émissions de carbone est fabriqué à partir d'un taux élevé de ferraille dans un four à arc électrique (EAF) alimenté entièrement par de l'électricité renouvelable produite par des centrales solaires et photovoltaïques récentes connectées au même réseau que les usines de Belval et de Differdange. Ce processus réduit considérablement les émissions de CO_2. L'acier recyclé et produit de manière renouvelable XCarb® peut avoir une empreinte carbone aussi faible que 300 kg d'équivalent CO_2 par tonne d'acier fini, lorsque 100% de ferraille est utilisée dans le processus de fabrication. Ce chiffre est nettement inférieur à la moyenne globale de l'industrie sidérurgique, qui est d'environ 2,3 tonnes d'équivalent CO_2 par tonne d'acier. L'utilisation d'électricité renouvelable par le biais de garanties d'origine (GoO) est certifiée par un organisme externe.

L'initiative XCarb® répond à la demande croissante de produits à faibles émissions de carbone de la part des principales parties prenantes, notamment les clients, les autorités publiques et les maîtres d'ouvrage, dans toute l'Europe. Non seulement l'acier XCarb® a un impact environnemental nettement inférieur, mais il répond également à des normes de qualité et de fiabilité élevées, ce qui en fait un choix idéal pour les projets de construction et d'infrastructure. À ce jour, plus de 500 000 tonnes de matériaux recyclés et produits de manière renouvelable XCarb® ont été livrées dans le monde entier.

Par rapport à l'acier produit de manière conventionnelle, les avantages environnementaux de l'acier XCarb® sont particulièrement significatifs en termes d'émissions de carbone et de consommation d'énergie. Ce produit soutient les principes de l'économie circulaire et contribue à l'améliorer la qualité de l'air et à réduire l'épuisement des ressources. De plus, l'acier XCarb® est entièrement recyclable, ce qui s'inscrit dans les stratégies de développement durable des entreprises et renforce l'engagement en faveur d'une production d'acier à zéro émission nette. À l'avenir, la poursuite des investissements dans les technologies de nouvelle génération permettra de réduire encore les émissions et d'élargir la gamme de produits XCarb®.

Découvrez le projet en vidéo :

Article :
LAURENCE KAYL
Head of communication at FEDIL
laurence.kayl@fedil.lu

Photos :
ANN SOPHIE LINDSTRÖM

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Statut au 1 décembre 2025

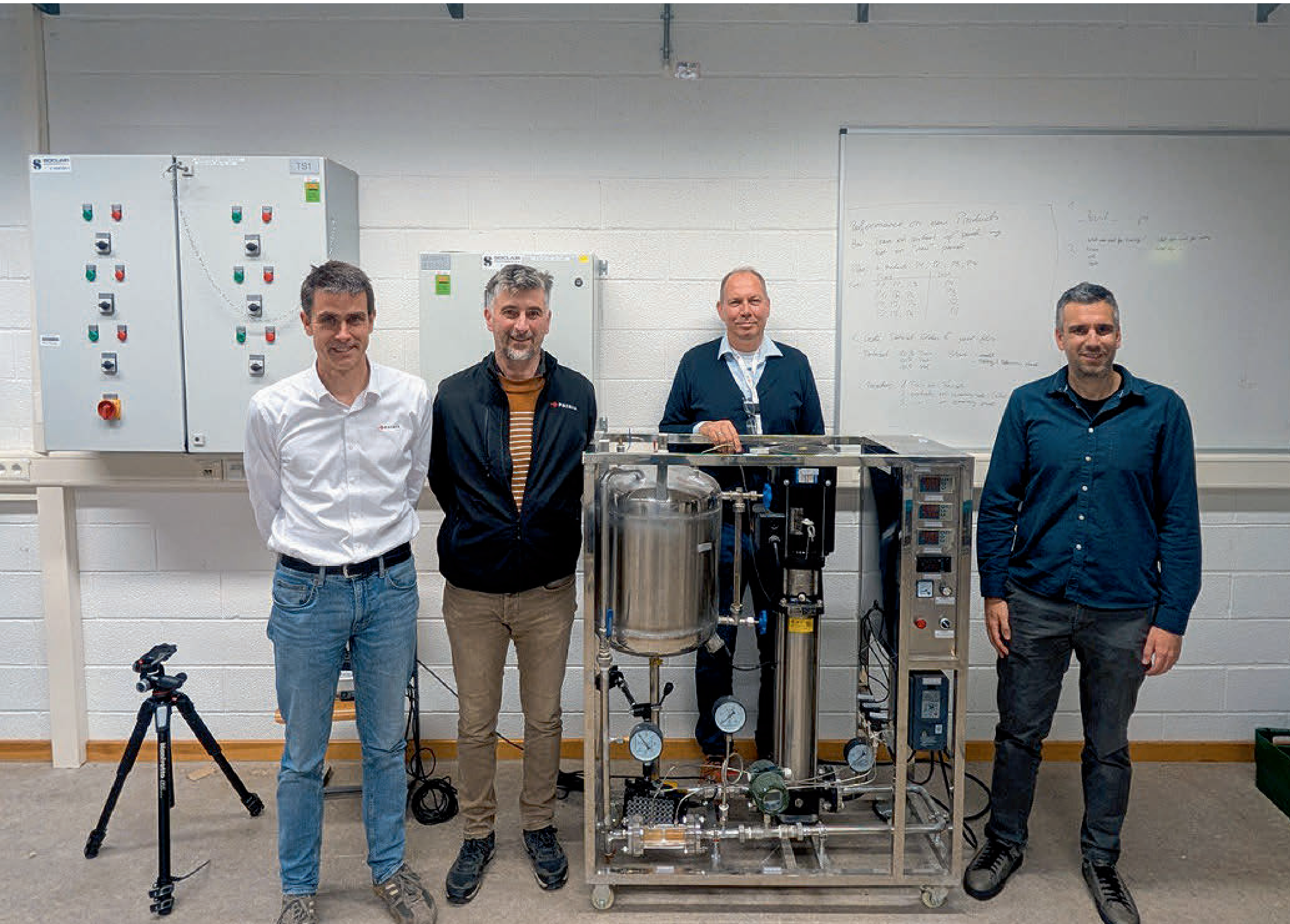
BOLD INNOVATION

DIRECT2: University of Luxembourg and Phinia explore cleaner fuel technologies in Luxembourg

Cutting CO_2 emissions is urgent, and renewable fuels like methanol and ethanol are getting increasing attention. This is especially true for heavy-duty transport, where switching to electric options isn't straightforward. These fuels show real promise - but they also bring an unexpected challenge. Conventional fuel injectors, designed for diesel or petrol, don't always behave well with such alternative fuels. Early tests revealed enhanced cavitation in the nozzle of the injectors: tiny vapour bubbles forming inside the injector caused by the pressure drops. Left unchecked, this can wear components faster than expected, shortening the injector's lifespan.

GETTING TO GRIPS WITH CAVITATION

To tackle this, the University of Luxembourg and PHINIA Inc., a global leader in automotive fuel systems, electrical systems and aftermarket solutions, launched the DIRECT2 project. Their approach combines digital simulations with hands-on experiments, covering pressure waves, cavitation, and thermal hydraulics. "It's about seeing the invisible," says Prof. Stephan Leyer.



The research began small. Venturi tubes and orifice channels let the team observe how bubbles form and evolve - even when using water as a stand-in for fuel. “Even the simplest experiments threw surprises,” Dr. Stefanitsis recalls. These early observations highlighted which injector designs could handle stress, and which fuel blends might be tricky over time.

From there, the team scaled up to full injector models, testing water–ethanol blends under realistic operating conditions. The results revealed how cavitation behaves in the real world and helped predict which designs will last. “We’ve learned a lot about how these fuels flow,” Dr. Stefanitsis notes, “but there’s still plenty to explore, including optimising injector designs and performing real injector measurements to verify our simulations.”

LOOKING INSIDE WITH NEUTRONS

Next on the agenda is neutron beam imaging, a technique that allows researchers to observe fluid flow inside metal injectors in real time. Unlike conventional cameras, neutrons can pass through metal and detect light elements like hydrogen, showing how cavitation bubbles and fuel move. The insights from this method are already guiding the design of injectors that are more durable and reliable.

FUELING A CLEANER FUTURE

Methanol and ethanol are steadily proving their worth for heavy-duty transport - but getting them road-ready isn’t simple. DIRECT2 is tackling one of the trickiest challenges: injector wear. By combining simulations, experiments, and innovative imaging, the team is uncovering what really happens inside injectors and how to make them last. Step by step, their work is helping turn lab experiments into solutions that could soon hit Luxembourg’s roads, making transport cleaner, more efficient, and more sustainable.

Article :
LARA PUNT
University of Luxembourg

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OFFRIR UN VÉRITABLE
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Carte blanche

Luxembourg and Ireland – working together at the heart of Europe

The end of any year is always a time for making lists: usually a stock-take of achievements from the twelve months past, and a "To Do" list for the year approaching. From an Irish perspective top of our "To Do" list for 2026 will be delivering a successful, impactful EU Presidency in the second half of the year.

Although defined Presidency priorities will only be confirmed next year, the broad contours of some of the issues that will undoubtedly be on the Council agenda are already clear: security and defence, negotiating the EU's budget, discussions around EU enlargement, and of course the EU's competitiveness challenge.

This Presidency - the eighth in Ireland's history - comes at an unprecedented time of geopolitical uncertainty for the EU and its Member States. As our Taoiseach (Prime Minister) Micheál Martin said at a recent Trade Conference in Dublin *"Economically, socially, culturally, politically – long held certainties are disappearing. The challenges of this moment have many clear risks – for our economy, for our security, for our society and for our very way of life."*

Sobering words indeed.

And there can be little doubt that as small countries with open economies, both Ireland and Luxembourg are particularly vulnerable to external developments. Both Ireland and Luxembourg have greatly benefited from the returns of international trade and the EU Single Market, as well as strong international relationships. However, it is also this openness that can leave us exposed during challenging times.

For Ireland, membership of the European Union and the close engagement that this brings with likeminded partners such as Luxembourg, is at the heart of our response to these challenges.

For us, future progress, and the protection of our businesses, workers and consumers alike, is only made possible through cooperation with our partners around the European Union table.

During my two years as Irish Ambassador in the Grand Duchy it has been heartening to see our bilateral relationship going from strength to strength - even allowing for the healthy competition between us in certain sectors. At the highest political level, that has meant visits by Prime Minister Frieden to Dublin in 2024, and a visit by the Taoiseach to Luxembourg this July. As a complement to this, there have been many engagements at ministerial, municipal and official levels, as well as at industry level with a visit by FEDIL to its sister organisation IBEC in Dublin earlier this year. All of this close engagement underlines the many political and economic priorities shared by Luxembourg and Ireland. These range from an unwavering commitment to democracy, the rule of law and the international rules based system, to a high level of ambition for the future direction of travel for the EU's Single Market, and an enthusiasm to pursue bilateral cooperation in new and exciting areas such as supercomputing.

It is in this spirit of cooperation, that we have cause to remain hopeful. Yes, the evolving international trading environment certainly brings challenges for the EU and its Member States, but it also presents opportunities.

In order to successfully leverage those opportunities however it is essential that the EU remains agile and responsive. In line with the Draghi and Letta recommendations, the European Council and the European Commission have placed a strong focus on simplification and administrative burden reduction at EU level, and the European Council has called for a "simplification revolution".

Ireland and Luxembourg have been two of the strongest voices around the EU table in supporting the EU's simplification agenda as well as the need to focus on reducing the regulatory burden – in particular for SMEs – while maintaining high ambitions in terms of environmental protection and other standards.

Domestically, Ireland's approach to strengthening competitiveness relies on a business-friendly ecosystem and support for innovation, skills and access to finance. Our Government recently published an Action Plan on Competitiveness and Productivity which does not shy away from acknowledging the urgency of this task. The Plan sets out what we can do and must do – across the whole of government – to help businesses adapt and remain resilient in these challenging times. Emphasis has been placed on issues around international trade, engagement with the EU Single Market and Market Diversification, as well as legal and regulatory reform, cutting "red tape" for businesses and enabling regional growth. Again, all of these are issues where we have common cause with Luxembourg.

A second Government policy, the Action Plan on Market Diversification, commits to making the Irish economy more resilient while also strengthening and expanding our diplomatic relationships in key regions. This dovetails with the widely-held view across Europe that the EU needs to act with urgency to build on our market strengths and to diversify our markets. Yes, new trade agreements are part of that – and Ireland supports the EU's ambitious trade agenda – but crucially we also need to actively look at where we can do more with existing and trusted partners including Luxembourg. In this regard, a recent visit to Luxembourg by Enterprise Ireland – the State Agency responsible for supporting Irish businesses to scale, develop capabilities and expand their global footprint – was particularly useful: this is a pro-business, and enabling environment with the potential for many bilateral economic and business opportunities to thrive.

So as we all draw up our end-of-year lists, let's do so clear-eyed about the challenges ahead, but on a note of optimism. The relationship between Luxembourg and Ireland is very strong, with shared values at its core, and a sense of common purpose and drive around the EU table to maintain our hard-won peace and prosperity to the benefit of all.

Athbhliain faoi mhaise daoibh – Happy New Year to all

Article :
JEAN MCDONALD
Ambassador of Ireland, Luxembourg

Photo :
ANN SOPHIE LINDSTRÖM

Europe's competitiveness at a crossroads: the search for a balanced industrial strategy

A SHIFTING GEO-ECONOMIC REALITY

Europe finds itself at a historic turning point. For decades, the EU has championed open markets, convinced that free trade and rules-based competition are the best foundations for prosperity and innovation. Maintaining openness is essential for small, export-oriented economies such as Luxembourg, and is one of FEDIL's key pillars, ensuring access to global markets and fostering innovation. This vision has shaped European economic policy and contributed to a remarkable period of industrial development, export strength, and global integration. Today, while this commitment to openness remains essential – and while the Single Market still holds untapped potential, as highlighted by the Letta and Draghi reports – the EU must confront a transformed global landscape that requires targeted adjustments and a more strategic use of its policy tools.

The world around Europe has changed dramatically. The United States has shifted toward industrial patriotism, combining significant industrial subsidies with rising protectionism. China continues to deploy a state-controlled economic model, producing overcapacities that spill over into global markets. Geopolitical tensions and the weaponization of supply chains have created a new era in which trade policy cannot be separated from security, climate objectives or technological leadership.

Europe is now facing a wave of imports, particularly from China, arriving at prices below European production costs. Steel, aluminum, solar panels, batteries, and even electric vehicles are entering in volumes that European producers struggle to match. At the same time, production costs in Europe have risen sharply due to higher energy prices, the EU Emissions Trading System, and substantial investments required for industrial decarbonization. The result is a profound sense of vulnerability and a fundamental question: can Europe defend its industries while remaining true to its identity as an open, rules-based economy? And will protective tools make Europe stronger – or simply buy time while deeper competitiveness challenges remain unresolved?

THE NEW EU DEFENSIVE TOOLBOX: TARIFF-RATE QUOTAS, EU PREFERENCE AND POLICIES TO STRENGTHEN ECONOMIC SECURITY

In response to mounting competitive pressures, the European Commission has prepared a series of defensive interventions. Tariff-rate quotas, for example, shield the EU steel sector from global overcapacity by allowing duty-free imports up to a set limit and applying higher tariffs to imports above that quota. This marks a clear departure from past hesitancy: Europe is now willing to act when industries face existential threats.

Alongside these industrial protection tools, the Commission is testing the concept of EU preference, which remains under consultation. The idea is to explore whether, in specific and well-defined circumstances, public procurement or other public-support instruments could temporarily favor European production to address clearly identified market failures or strategic vulnerabilities. Such interventions would be strictly limited in scope and duration and subject to stakeholder consultation to ensure proportionality and minimize potential trade frictions.

The toolbox also includes policies aimed specifically at economic security, such as screening foreign investments, coordinating export controls on dual-use goods, assessing risks of EU investments abroad, and securing reliable access to critical raw materials like lithium, cobalt and rare earths - essential inputs for advanced technologies, renewable energy and defense.

THE RISKS OF PROTECTIONIST TOOLS

While defensive tools provide options to counter global pressures, they must be used with great care. Tariff-rate quotas, such as those applied to steel, give limited protection by allowing some imports at low duties while taxing excess quantities. However, they raise costs for downstream industries, reduce incentives to innovate, and can provoke retaliation from trading partners. While less blunt than full tariffs, TRQs remain a temporary, partial fix that does not address Europe's deeper competitiveness challenges.

A broad "Buy European" agenda could trigger retaliation from trading partners such as Switzerland, the UK, or Japan, and potentially violate existing trade agreements. For an export-oriented economy like Europe, alienating allies could reduce market access and undermine long-standing commercial relationships. Additional challenges include defining what counts as "European" production, avoiding substitution rather than true resilience, maintaining legal certainty, and managing the complex monitoring such a scheme would require – complexity Europe has deliberately sought to avoid in other regulatory areas, such as the CSDDD. Attempting to localize entire production chains is unrealistic in high-tech sectors, where global cooperation and rapid innovation cycles are essential. Crucially, without clear expiry dates or sunset clauses, EU preference risks evolving into a structural protectionist regime, ultimately undermining Europe's long-term competitiveness.

A COHERENT EUROPEAN TRADE STRATEGY

A successful EU trade strategy begins by strengthening the internal market and using defensive tools wisely.

Completing the Single Market, particularly in services, finance, and telecom, is essential. The International Monetary Fund estimates that remaining barriers are equivalent to tariffs of roughly 45 % for goods and 110 % for services, underlining the cost of fragmentation. Simplifying administrative procedures, streamlining regulations and prioritizing strategic sectors such as green technologies, digital infrastructure, and critical industries to enhance competitiveness and innovation.

Defensive tools, including tariffs, investment screening, and export controls, should be precise, targeted and proportionate. Blanket protectionism risks eroding competitiveness and credibility. Properly designed, these tools can safeguard strategic interests without isolating Europe from global trade or provoking unnecessary conflicts. However, they can provide only temporary relief. Without parallel reforms, EU preference or other protectionist tools risk substituting for genuine competitiveness improvements, ultimately weakening Europe rather than strengthening it.

Europe faces structural challenges – high energy costs, regulatory complexity, fragmented research and venture capital markets, slow technology uptake, and demographic pressures – that cannot be solved by tariffs or procurement rules alone. Europe must address these foundational issues to remain competitive in sectors with fast-moving innovation cycles. A confident, open, and competitive Europe is within reach, but it requires courage, clarity of purpose, and reforms that go far beyond defensive tools. Transformation must be the guiding principle.

Some countries are beginning to develop comprehensive diagnostic tools to evaluate economic and industrial resilience. For example, the United States has introduced a supply-chain assessment tool to identify vulnerabilities and inform policy decisions. Europe has lacked a comparable system, relying on incomplete, sector-specific snapshots, but the Commission's newly announced Economic Security Information Hub is intended to fill that gap. Better diagnostics would allow for targeted, evidence-based strategies rather than reactive, broad-brush measures.

CONCLUSION: BALANCING OPENNESS AND STRATEGIC MEASURES

Preserving an open and internationally integrated economic stance remains a core value for FEDIL, even as selective measures are currently needed. While the use of certain interventions from the protective toolbox slightly shifts Europe's economic identity, it does not fundamentally alter it. In practice, Europe need not choose between naive openness and indiscriminate protectionism. It can be open where possible, protective where necessary, and always focused on strengthening competitiveness at home.

Protection can offer temporary relief when necessary, but its long-term effectiveness depends on how Europe uses that space. Indeed, Europe cannot protect itself into becoming more competitive: defensive tools may slow the impact of global distortions, but they cannot replace the structural reforms.

The ultimate goal is to bolster fundamentals for both Luxembourg and Europe, including affordable clean energy, streamlined regulation, innovation ecosystems, and the completion of the Single Market. Strategic partnerships with like-minded countries, rather than isolation, are key. Europe should not aim to shield itself indefinitely from competition, but to ensure it can compete successfully on its own terms.

YVES GERMEAUX
Head of Trade and
International Relations at FEDIL
yves.germeaux@fedil.lu

Reclassement interne : jusqu'où va la protection contre le licenciement ?

Même si le reclassement professionnel interne procure une protection contre le licenciement, cette protection ne vaut que pour le licenciement avec préavis et ce jusqu'à 12 mois après la notification de la décision de la Commission mixte [1].

Ainsi, un salarié reclassé en interne peut faire l'objet d'un licenciement avec effet immédiat en cas de faute grave dans son chef rendant immédiatement et définitivement impossible le maintien des relations de travail pendant la période de 12 mois visée ci-dessus et même être licencié avec préavis après cette même période.

Dans l'affaire [2] en cause, la salariée engagée en qualité d'agent d'entretien reclassée en interne avec une réduction du temps de travail a été licenciée avec effet immédiat le 15 février 2020 pour refus de travail. Elle s'est pourvue en justice pour voir déclarer son licenciement abusif au motif que l'employeur n'aurait pas rempli les obligations lui incombant alors qu'elle aurait été déclarée inapte à son poste de travail par le médecin du travail.

Le Tribunal du travail a déclaré le licenciement abusif en soutenant qu'eu égard à la décision de reclassement interne du 21 décembre 2018, à la déclaration d'inaptitude définitive du médecin du travail du 5 décembre 2019 ainsi qu'à la décision de la Commission mixte du 24 décembre 2019 de maintenir les conditions du reclassement professionnel décidé antérieurement, l'employeur aurait dû réaffecter cette dernière à un nouveau poste de travail tout en faisant constater l'aptitude à ce nouveau poste par le médecin du travail compétent suivant les dispositions de l'article L. 551-1 (3) du Code du travail.

Dès lors, pour les juges de 1re instance, l'éventuel refus de la salariée de réaliser des travaux de nettoyage « *en restant assise sur une chaise* » n'est pas d'une gravité suffisante pour justifier le licenciement avec effet immédiat.

Le raisonnement du Tribunal s'étant avéré erroné, c'est donc à juste titre que le jugement a été réformé en appel. Avant tout progrès, la Cour d'appel a rappelé que la salariée n'a pas exercé de recours contre les deux décisions de la Commission mixte qui, à deux reprises, n'a pas suivi l'avis du médecin du travail suggérant un reclassement externe de cette dernière.

Ensuite, la Cour a tenu à expliquer que : *« À la suite de la décision de la Commission mixte du 21 décembre 2018, un avenant au contrat de travail de la salariée a été conclu en date du 14 janvier 2019 et l'aptitude de celle-ci au nouveau poste de travail a été validée par le médecin du travail en date du 5 février 2019.*

Dans la mesure où la Commission mixte n'a pas rendu, en date du 24 décembre 2019, une décision de reclassement professionnel, mais s'est limitée à maintenir les conditions du reclassement professionnel décidées antérieurement, de sorte que les tâches à effectuer par la salariée n'avaient pas à être adaptées, l'employeur n'était pas tenu de faire constater à nouveau l'aptitude de [la salariée] au poste lui assignée, suite à la décision du 21 décembre 2018. En effet, les dispositions de l'article L. 551-1 (3) [3] du Code du travail ne s'appliquent pas dans l'hypothèse où, suite à une réévaluation des capacités résiduelles du travailleur, les conditions d'un reclassement professionnel interne antérieurement décidées sont maintenues. Il ne saurait davantage être reproché à [l'employeur] de ne pas avoir tenu compte du rapport du médecin du travail du 5 décembre 2019, faisant état d'une inaptitude au poste de travail préconisant un reclassement externe, ainsi qu'une réorientation professionnelle, dès lors que la décision de la Commission mixte prime celui-ci et que l'employeur se devait uniquement de respecter cette décision. »

[1] *Article L. 551-2. (2) du Code du travail*

[2] *Arrêt de la Cour d'appel du 15 mai 2025, n° CAL-2023-00799 du rôle*

[3] *L'obligation de faire contrôler l'aptitude au nouveau poste de travail*

La Cour d'appel conclut que l'employeur a suffi à son obligation suite à la décision du 24 décembre 2024 et était donc en droit d'affecter la salariée à un poste d'agent d'entretien tel que validé antérieurement par le médecin du travail.

Pour ce qui est de la salariée, la Cour a jugé qu'elle : *« n'était pas en droit de refuser toute mission de nettoyage en invoquant son état de santé et l'avis du médecin du travail, non entériné par la Commission mixte. Se sentant en incapacité d'exercer les tâches correspondant au poste validé par le médecin du travail en 2018, il lui aurait appartenu d'exercer un recours contre la décision du 24 décembre 2019 auquel cas son contrat aurait été suspendu jusqu'au jour où le recours aurait été définitivement vidé, conformément à l'article L. 551-10 (1) du Code du travail. »*

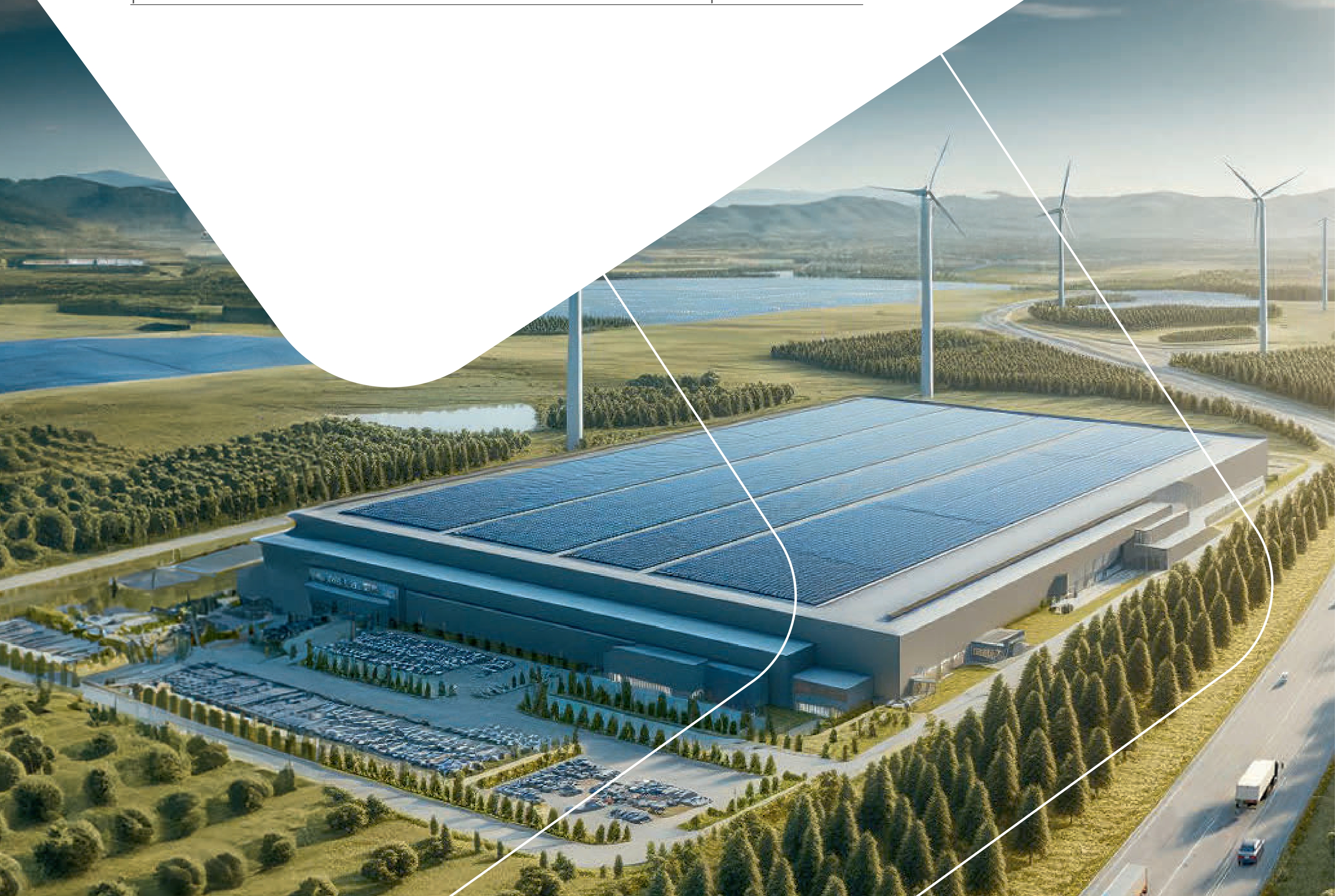
La décision du Tribunal du travail dans cette affaire ayant été construite sur des fausses bases, nous saluons le fait que l'employeur ait fait appel de ce jugement. Il est évident, comme l'ont si bien mentionné les juges du second degré, que la position du médecin du travail ne lie pas la Commission mixte qui est seule compétente pour décider d'un reclassement externe ou interne et de ses conditions.

ELLA GREDIE
Conseillère affaires juridiques et sociales auprès de la FEDIL
ella.gredie@fedil.lu

DREES & SOMMER

LA CONCEPTION INDUSTRIELLE INTÉGRÉE – LA CLÉ D’UNE INDUSTRIE RÉSILIENTE ET DURABLE

Face aux défis mondiaux tels que le changement climatique, la rareté des ressources et les perturbations des chaînes d’approvisionnement, l’industrie doit repenser ses modèles. Drees & Sommer démontre comment les entreprises peuvent assurer leur avenir grâce à la conception industrielle intégrée, à la numérisation et à la durabilité. Le cabinet de conseil développe des solutions de production et de logistique qui, grâce à la robotique intelligente et à une planification précise, permettent de créer de la valeur de manière économique et durable.



QU'EST-CE QUE LA CONCEPTION INDUSTRIELLE INTÉGRÉE ?

La conception industrielle intégrée englobe tous les corps de métier d'un site de production – du développement du terrain aux bâtiments, en passant par les technologies de production. L'objectif est de créer des usines flexibles, efficaces et durables, capables de s'adapter rapidement aux évolutions du marché.

DU PRODUIT À L'USINE VIRTUELLE : UNE NOUVELLE APPROCHE DE LA PLANIFICATION

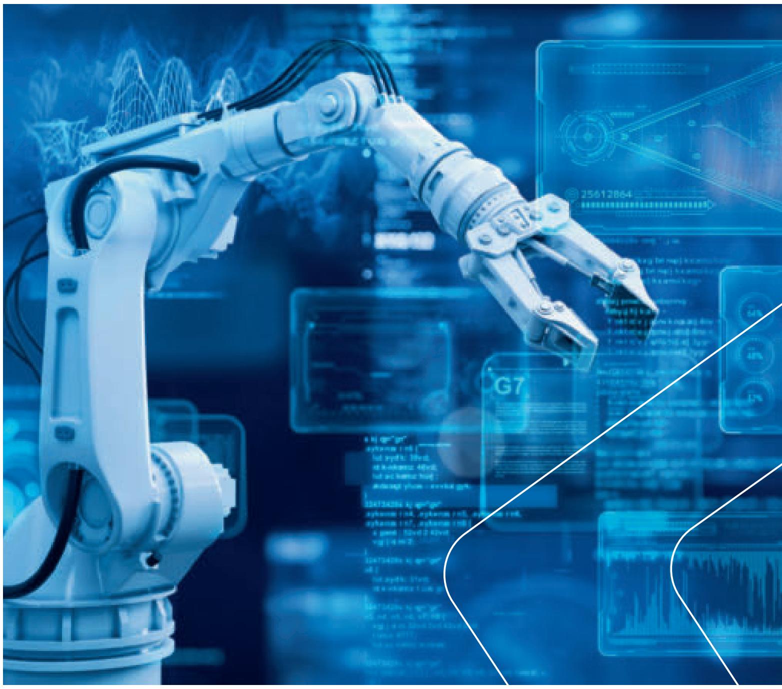
La planification commence par le produit. Les technologies de fabrication, les flux de matériaux et les implantations sont conçus en tenant compte de ses caractéristiques. En parallèle, un jumeau numérique est développé – une réplique dynamique et basée sur les données de l'usine – qui accompagne la planification, la réalisation et l'exploitation. Il permet de simuler les processus, d'identifier les difficultés et d'optimiser les implantations avant même le début des travaux.

Bien plus qu'un modèle 3D, le jumeau numérique intègre le BIM (Building Information Modeling) – une méthode de modélisation numérique collaborative des bâtiments – ainsi que l'IoT (Internet of Things), c'est-à-dire la collecte de données en temps réel via des capteurs connectés. Il devient ainsi un outil central de pilotage. En phase d'exploitation, il permet le suivi, l'optimisation de l'efficacité et la simulation virtuelle des modifications. Les décisions sont ainsi mieux fondées et les ajustements anticipés.

DURABILITÉ, NUMÉRISATION ET AUTOMATISATION : DES PILIERS FONDAMENTAUX

Ces trois principes intégrés dès la phase de conception, sont essentiels. Les objectifs écologiques et numériques sont pris en compte dès le départ, tout comme les conditions nécessaires à l'intégration de systèmes robotiques intelligents et de solutions d'automatisation.

Un environnement sensoriel est essentiel pour la robotique intelligente. Des capteurs détectent en temps réel les positions, les environnements et les interactions. Les robots peuvent ainsi agir de manière sûre, précise et adaptative – par exemple via la détection d'obstacles ou la planification dynamique des trajets. Cela améliore l'efficacité et l'autonomie dans la production et la logistique.



FACTEUR DE SUCCÈS : INTERDISCIPLINARITÉ ET PARTENARIAT

La conception industrielle intégrée repose sur la collaboration. Architecture, logistique, IT et expertise en durabilité interagissent en parallèle. Le partenariat repose sur des objectifs communs, une responsabilité partagée et une communication transparente. Drees & Sommer mise sur des relations durables avec ses clients et partenaires technologiques – car l'innovation ne peut réussir qu'en équipe.

EXEMPLE PRATIQUE : PARTENARIAT AVEC T-SYSTEMS ET NVIDIA

En collaboration avec T-Systems et NVIDIA, Drees & Sommer déploie des jumeaux numériques basés sur la plateforme NVIDIA Omniverse dans l'industrie. Les premières applications dans le secteur automobile montrent que l'interaction entre humains, machines, bâtiments et processus peut être simulée numériquement. Les collisions et les difficultés sont identifiées à l'avance – évitant ainsi des interruptions coûteuses dans la réalité. Grâce à des plateformes de données centralisées, la collaboration est plus efficace, les délais de réaction sont réduits et les émissions de CO_2 diminuent. Fruit d'une alliance entre expertise technologique et savoir-faire interdisciplinaire, cette approche constitue un véritable tournant pour l'industrie.

LES AVANTAGES DE LA NUMÉRISATION

Un environnement de production numérisé offre :
- Une surveillance en temps réel de l'état de l'usine
- Des flux de matériaux automatisés et des systèmes logistiques intelligents
- Une adaptation flexible aux nouvelles variantes de produits
- Une gestion intelligente de l'éclairage, du climat et de l'occupation des espaces
- Une réduction de la consommation d'énergie et des coûts d'exploitation grâce à des durées de processus plus courtes

La numérisation rend les objectifs de durabilité mesurables et renforce l'attractivité des sites industriels – tant pour les investisseurs que pour les collaborateurs.

Pour plus informations, visitez le site web :
dreso.lu ou contactez :
Maximilien.Ast@dreso.com

Digital sovereignty and sustainability: The hidden backbone of Luxembourg's industrial competitiveness

As Luxembourg's industrial landscape accelerates its digital transformation, the demand for secure, sustainable, and highly reliable digital infrastructure has become a national imperative. LuxConnect stands at the intersection of these priorities – empowering industries with sovereign and resilient data hosting solutions that strengthen the country's economic fabric.

In today's hyper-connected economy, industrial competitiveness no longer depends solely on physical assets or production capacity – it relies increasingly on digital infrastructure. From smart manufacturing to automated logistics, every process now generates and depends on data. Yet, behind the scenes of this digital evolution lies an essential, often invisible foundation: robust and sovereign data infrastructure.

Luxembourg has long recognized that digital sovereignty is a prerequisite for economic resilience. This is where LuxConnect plays a decisive role. As a state-owned company, LuxConnect provides Data Centers and connectivity solutions that ensure the highest standards of security, sustainability, and availability – three pillars that define the country's approach to digital sovereignty.

LuxConnect's Data Centers are designed with environmental responsibility at their core, using advanced energy-efficient cooling systems and 100% renewable energy sources. This commitment aligns perfectly with Luxembourg's national sustainability goals and the broader European Green Deal. Beyond sustainability, LuxConnect ensures neutral and resilient connectivity, linking the country to major international hubs while maintaining local control over critical infrastructure.

Reliability is equally crucial. Through predictive maintenance technologies and constant monitoring, LuxConnect guarantees continuous availability, a necessity for industries where downtime can mean significant losses. This level of reliability allows Luxembourg's manufacturers, logistics operators, and research institutions to innovate confidently, knowing their data operations are secure and uninterrupted.

Despite these advantages, many industrial players still choose to manage their IT infrastructure on-premises. However, maintaining such systems requires expertise in security, power management, cooling, and network connectivity – areas far removed from their core business. By outsourcing these functions to a trusted specialist like LuxConnect, companies can redirect valuable resources toward innovation, production, and strategic growth rather than infrastructure management.

In an era defined by data, LuxConnect combination of sovereignty, sustainability, and reliability doesn't just support Luxembourg's industries; it strengthens the nation's long-term competitiveness on the European and global stage.

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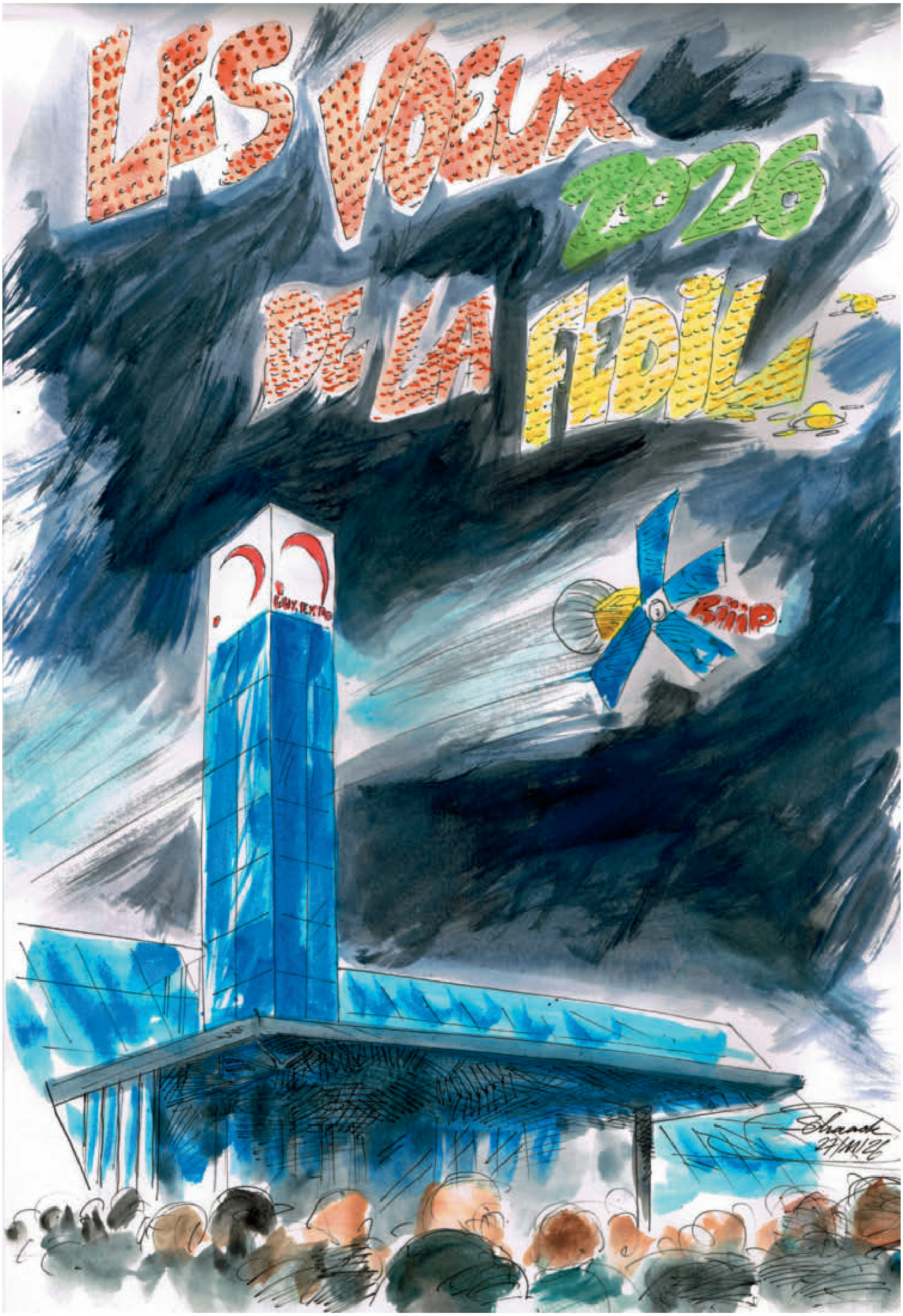

La FEDIL se réjouit de vous accueillir le 15 janvier 2026 à Luxexpo pour la Réception du Nouvel An des entreprises

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FEDIL – The Voice of Luxembourg's Industry

7, rue Alcide de Gasperi
Luxembourg-Kirchberg
B.P. 1304
L-1013 Luxembourg
echo@fedil.lu

Service publicité :
regie@ic.lu
(+352) 48 00 22 – 1

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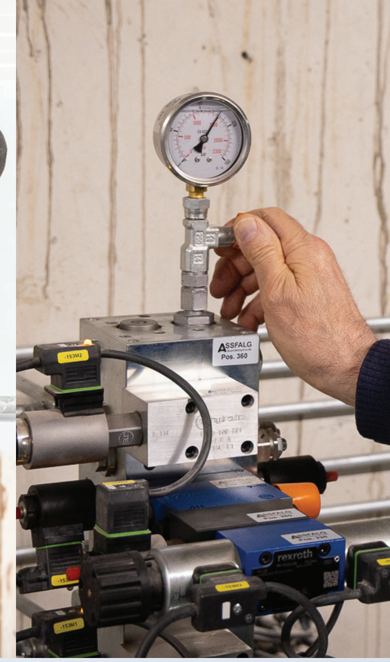

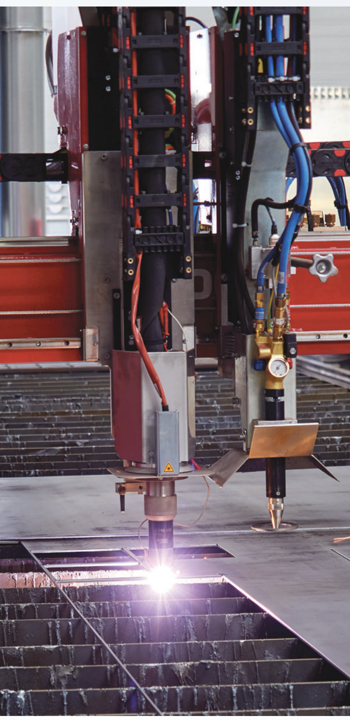

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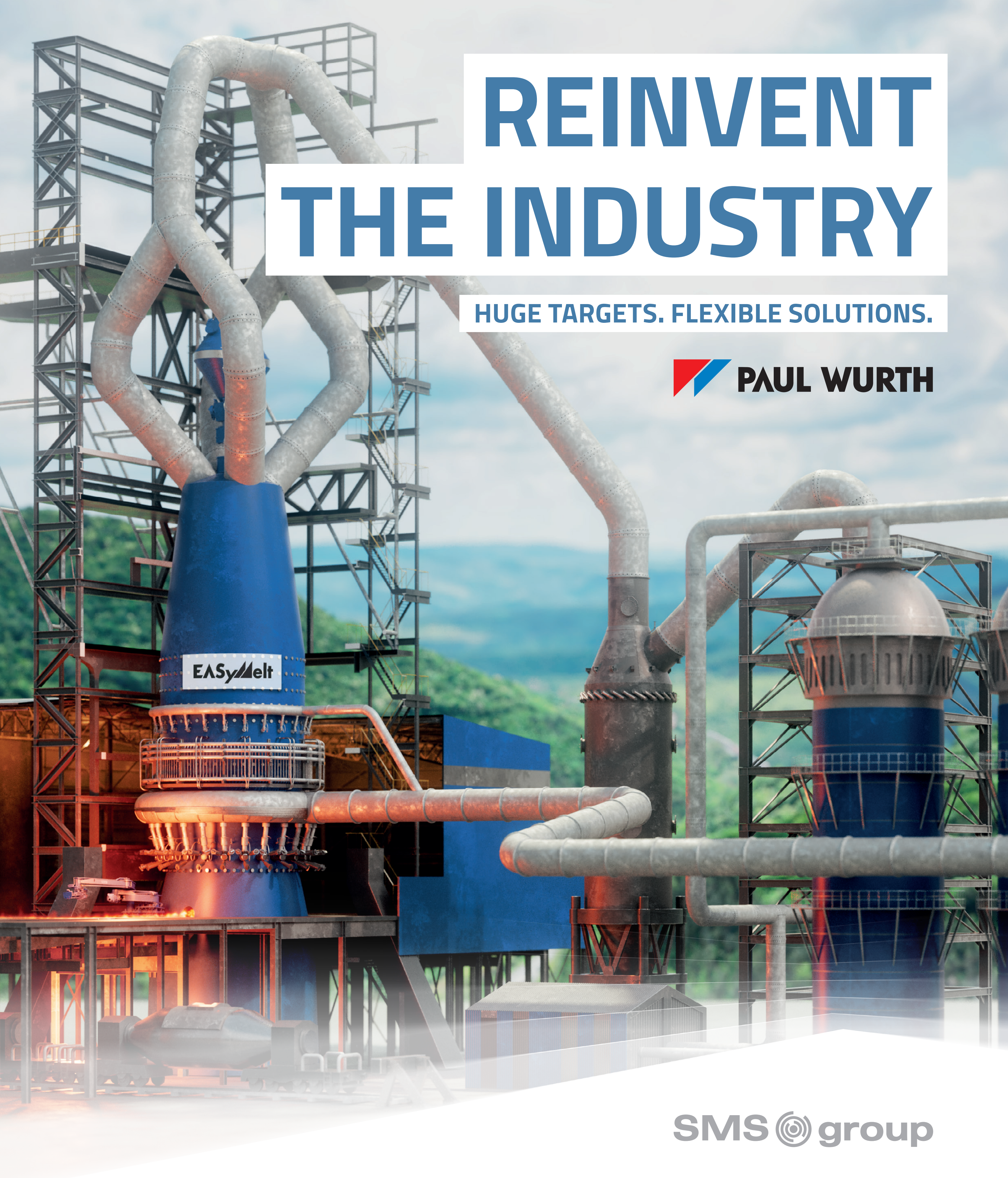
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