eit Manufacturing

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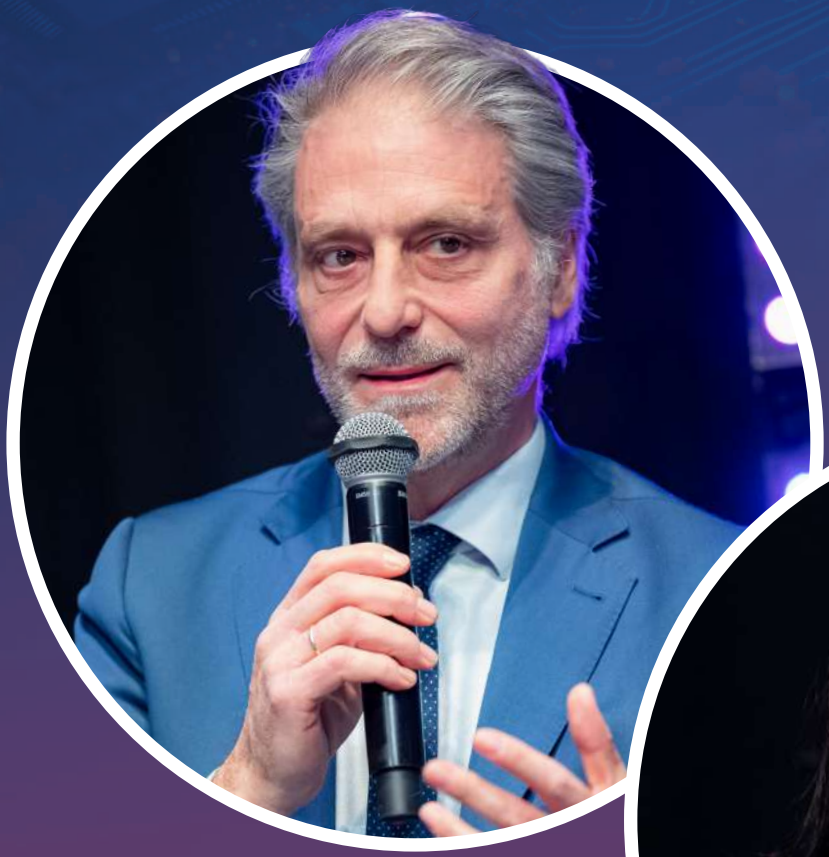
InnoHive 2025

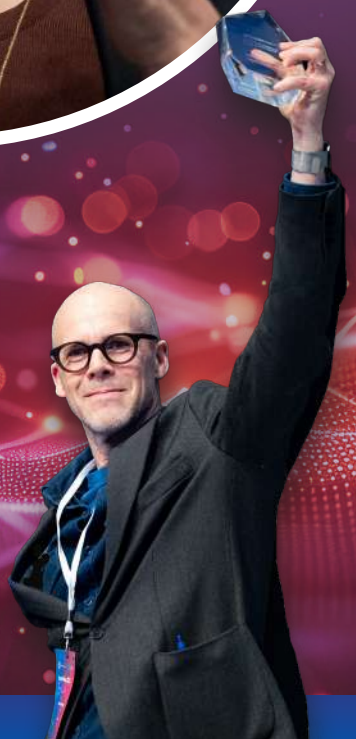
Executive Summary



Interviews

Professor **Johan Stahre**, **Raya White** and **Shaun Rein**

Rebuilding Europe's competitive edge



EIT Manufacturing
Innovation Award 2025

Contents

Foreword

Caroline Viarouge, CEO, EIT Manufacturing

Welcome to this Executive Summary of InnoHive 2025

It's hard to overstate the importance of this moment for European manufacturing. As we gathered in Brussels for our flagship event, it was clear that we stand at a critical crossroads. From shifting geopolitical alliances to the urgent global race for technological autonomy and clean energy leadership, the world around us is evolving rapidly – and the manufacturing sector must evolve with it to sustain Europe's industrial competitiveness.

InnoHive 2025 was not just a convention; it was a moment of convergence. Over three days, we brought together leaders from industry, research, education and policy to connect, to collaborate and to co-create. The energy in the room was palpable – an exciting exchange of ideas, bold visions and concrete steps towards shaping a more innovative, inclusive and sustainable manufacturing future.

A number of recurring topics ran through our discussions: the need for speed and agility, the urgency of reindustrialisation, the promise of digital transformation and AI and the critical importance of talent – reskilling and upskilling our workforce for the challenges ahead. In a time of complexity and uncertainty, we saw a community come together, unafraid to face hard truths and committed to finding real, practical solutions. Europe has the knowledge, the infrastructure, the industrial legacy and the talent to lead. But it is the mindset – open, ambitious and collaborative – that will determine whether we succeed. The next few years are pivotal. If we hesitate, we risk being left behind. But if we act, boldly and together, we can shape the future on our terms.

At EIT Manufacturing, we are committed to supporting this journey. We are looking for the visionaries and builders, those ready to co-create the solutions Europe needs in strategic areas like clean tech, the circular economy, cybersecurity, robotics and green manufacturing. The goal is to bring these cutting-edge solutions on to Europe's shop floors and into the hands of our talented and skilled workers.

This Executive Summary highlights what took place at InnoHive 2025 – the core ideas, the emerging themes and the shared commitment to move forward. These are the key takeaways for you to revisit as needed and share with those who could not attend, ensuring the conversation continues.

To everyone who participated, contributed and helped bring InnoHive 2025 to life: thank you. Let's carry that spirit with us as we continue building, innovating and transforming European manufacturing.

See you next time — stronger than ever.

> **InnoHive 2025 provided an exciting blend of ideas, bold vision and concrete steps towards shaping a more innovative, inclusive and sustainable manufacturing future.**

Chapter
ONE
Rebuilding Europe's competitive edge

At a time when the global industrial landscape is shifting faster than at any point in recent history, Europe stands at a pivotal crossroads. Pressures from geopolitical volatility, technological disruption, climate urgency and a rapidly changing labour market are mounting – and the future prosperity of European manufacturing is in the balance.

At InnoHive 2025, industry leaders and innovators engaged in several unflinching discussions about where Europe stands, where it is falling short and, most importantly, what it must do next. And a clear consensus emerged: Europe's manufacturing comeback is possible, but only through decisive, collective action.

The challenges

Europe's manufacturing sector, once the engine of its prosperity and social cohesion, now faces dual threats: external competition and a sluggish response to emerging challenges. Despite a rich tradition of technical excellence, it has struggled to convert research leadership into industrial dominance. Without manufacturing competitiveness, Europe risks losing not just economic power, but also the foundations of its social model.

As **Caroline Viarouge,** CEO of EIT Manufacturing, pointed out: "Europe accounts for 17% of global patents, but only one-third get converted into market innovation." Consensus soon formed that this problem isn't a lack of ideas; it's a failure of integration, the fragmentation of markets and a regulatory environment that stifles growth at scale. Startups and small and medium-sized enterprises (SMEs) often struggle to move across borders or access capital, undermining Europe's capacity to turn invention into growth.

Meanwhile, Europe's admirable prioritisation of sustainability has come with economic costs: higher energy prices, complex regulations and slower project approvals. As **Željko Pazin**, CEO of EFFRA, warned, overambitious sustainability must not become Europe's economic Achilles' heel – "we need competitive industry to fund healthcare, education – all the pillars of our society.

Geopolitical volatility

A major thread running through many of the discussions at InnoHive 2025 was Europe's growing vulnerability in a volatile world. Tariffs, shifting alliances and supply chain disruptions are exposing Europe's dependency on single suppliers and fragile trade links. **Pazin** was blunt: "Diversification is no longer optional. It's strategic."

While Europe remains heavily tied to US markets, many urged the need to rebalance the European economy towards emerging economies – those in Africa, Latin America and Asia. The days of relying on familiar partners are over; future resilience will come from new, broader partnerships.

Supply chains were another key consensus. Europe's economic model, long reliant on global openness and stable trade flows, is now under direct threat from rising tariffs, supply chain shocks and the strategic industrial policies of major powers like the

Rebuilding Europe's competitive edge

US and China. Dependencies once considered manageable, for semiconductors, rare earths and energy, for example, have become visible points of vulnerability.

In a world where control over technology and resources increasingly defines power, Europe's ability to secure its industrial base will be central to maintaining its autonomy and way of life.

Yet vulnerability also opens new opportunities. As **Shaun Rein**, Founder and Managing Director at China Market Research Group, pointed out, while the US flips between its strategic goals and domestic politics, China remains "heads-down, building." Europe, in contrast, has the chance to carve out a distinct third path – one based on sustainability, high-quality production and democratic values.

Anastasiia Vereshchynska, Director at the European-Ukrainian Energy Agency, described Ukraine's rapid, market-driven reconstruction efforts, which offered a glimpse of what agile, resilient rebuilding can look like even in the harshest conditions. **Vereshchynska** highlighted: "Ukraine's business-led reconstruction, launched in the midst of war, shows what resilient, opportunity-driven rebuilding can look like – even under constant threat. It's not donations that build a stable economy, but investment, adaptation and strategic collaboration."

It is clear that Europe must not retreat into protectionism or defensive postures. As **Pazin** put it, "we need to build new bridges – reliable, long-term partnerships that don't hinge on any one geopolitical relationship." Instead, Europe must diversify its trade partnerships, invest strategically in emerging regions and turn resilience into a competitive advantage. **Rein** underlined the need for long-term thinking amid global volatility: "Business will continue, regardless of politics. The key is to think long-term and build where others are distracted." That will require clear priorities, as **Viarouge** reminded delegates: "Europe can't do everything. We must prioritise sectors and technologies."

> **The pace of technology is outstripping the pace of upskilling**

AI and digitalisation

Technology, particularly artificial intelligence (AI), offers Europe its best chance to leap ahead. Yet a cautious mindset and regulatory hesitations threaten to leave Europe on the sidelines of the next industrial revolution.

The evidence is there: AI can cut costs, accelerate product development, improve sustainability and create better workplaces. Yet action must replace endless pilots and cautious whitepapers. "Europe cannot afford to wait for perfect conditions – it must build leadership through experimentation, scale and courage," said **Raya White**.

That leadership will require more than isolated success stories – it needs systemic support. Organisations like EIT Manufacturing are helping industry-wide AI integration and the development of a skills base by providing targeted funding and support. "We need coordinated, continental action, linking AI implementation with resource strategy, education and industrial investment," said **Viarouge**.

The automotive sector

Perhaps nowhere is Europe's industrial crossroads clearer than in the automotive industry. Employing 13 million Europeans and representing 7% of the EU's GDP, the sector sits at the centre of technological, environmental and geopolitical shifts. The transition to electric vehicles, competition from Chinese brands, supply chain vulnerabilities and the race for critical raw materials – all demand urgent reinvention.

Speakers from Volvo Group, Ford, SKF, Mercedes-Benz and STILFOLD presented a vision of an industry embracing collaboration, circularity and innovation. As **Lina Moritz**, Senior Leader Public Partnerships at Volvo Group, explained: "We often describe the transformation to zero emission vehicles using an equation. If any of the five key factors – product, cost, infrastructure, green energy or value chain – is missing, the whole equation fails."

Jonas Nyvang's STILFOLD innovation, which is tool-less origami-inspired manufacturing, offered a glimpse of Europe's new competitive model: combining design, engineering ingenuity and sustainability to outpace rivals not on volume, but on value. However, the sector's success depends equally on human capital. "In order to keep up with the pace of technological development, up-skilling and re-skilling are very important," warned **Burak Yelken**, Manufacturing R&D Leader at Ford. Without massive, proactive investment in workforce reskilling, the auto sector risks being slowed by talent shortages at the time it must sprint.

Europe's future

Across all sessions focused on Europe's competitive edge, one truth emerged: Europe has the ideas, the people and the technological capacity to lead, but it needs to move faster, think bigger and act together. This future won't be delivered by waiting for perfect conditions or ideal global markets. It will come by embracing the assets Europe already possesses – deep industrial expertise, innovative SMEs, commitment to sustainability – and connecting them with the speed, unity and ambition the times demand.

Key takeaways

1. **Talent first:** Bring reskilling and workforce development into the heart of industrial policy, treating talent as the first critical raw material of the future.
2. **Bold adoption:** Accelerate bold AI uptake by empowering workers with these tools, not replacing them.
3. **Strategic resilience:** Diversify markets and supply chains to maximise global opportunities and ensure European autonomy.
4. **Focused investment:** Prioritise sectors where Europe can lead and shape global standards – clean tech, advanced manufacturing, defence and automotive and aerospace.

Interview

Raya White, Futurologist, SPATIALx

Futurist and AI strategist **Raya White** delivered a memorable speech that cut through much of the jargon and hype around AI to lay out an urgent call to action for European industry. "Let's be blunt," she said to a room full of policymakers, industrial leaders and technology innovators. "The biggest risk right now isn't AI. It's the hesitation that's in this room to use it."

White's message was both clear and challenging: Europe must overcome its cautious, often bureaucratic approach to artificial intelligence or risk being sidelined in the global economy. "The AI conversation is happening between the US and China," she warned. "Europe? Too often, it's watching from the sidelines."

A wake-up call

Unlike many AI evangelists, **White's** talk wasn't about speculative futures – it was grounded in tangible examples and industrial pragmatism. She pointed to Haier, the Chinese manufacturing giant, as a company that's leveraged AI not just to improve logistics planning – cutting a four-hour weekly task to a single click – but also to empower its workers. "It meant staff could go home on time, not stay up late wrangling Excel," **White** explained. "That's a human outcome, not just a technical win."

Back in Europe, she highlighted the example of Solvay, which has repurposed its 76-year-old facility in La Rochelle into a rare earth magnet plant. The move, which is part of the EU's broader effort to secure strategic autonomy, signals that the continent can lead in AI and industry, but only if bold decisions are made.

"Reserves are not access and supply is not sovereignty," White said, emphasising the geopolitics of AI supply chains.

EIT Manufacturing's crucial role

Throughout her address, **White** stressed the need for coordinated, continental action – linking AI implementation with resource strategy, education and industrial investment. She applauded initiatives from EIT Manufacturing, which supports industry-wide AI integration and skills development across Europe's manufacturing base.

"We need these complimentary moves," she urged. "Not just software, but hardware. Not just policy, but plants. EIT Manufacturing is pushing for it and that matters. Because leadership without infrastructure? That's just talk."

Crucially, **White** tackled head-on the fear that AI will replace human workers. "AI is not here to take your job," she said. "It's here to take your repetitive tasks, to give you better tools and to give you your time back." She cited Tata Steel as a prime example. Facing pressure from low margins and high energy costs, the company trained more than 200 internal employees – engineers, technicians, managers – to run AI pilots that eventually saved the firm EUR 50 million annually.

"Who knows steel better than the people who

already work with it every day?" **White** asked. "AI didn't replace them. It empowered them."

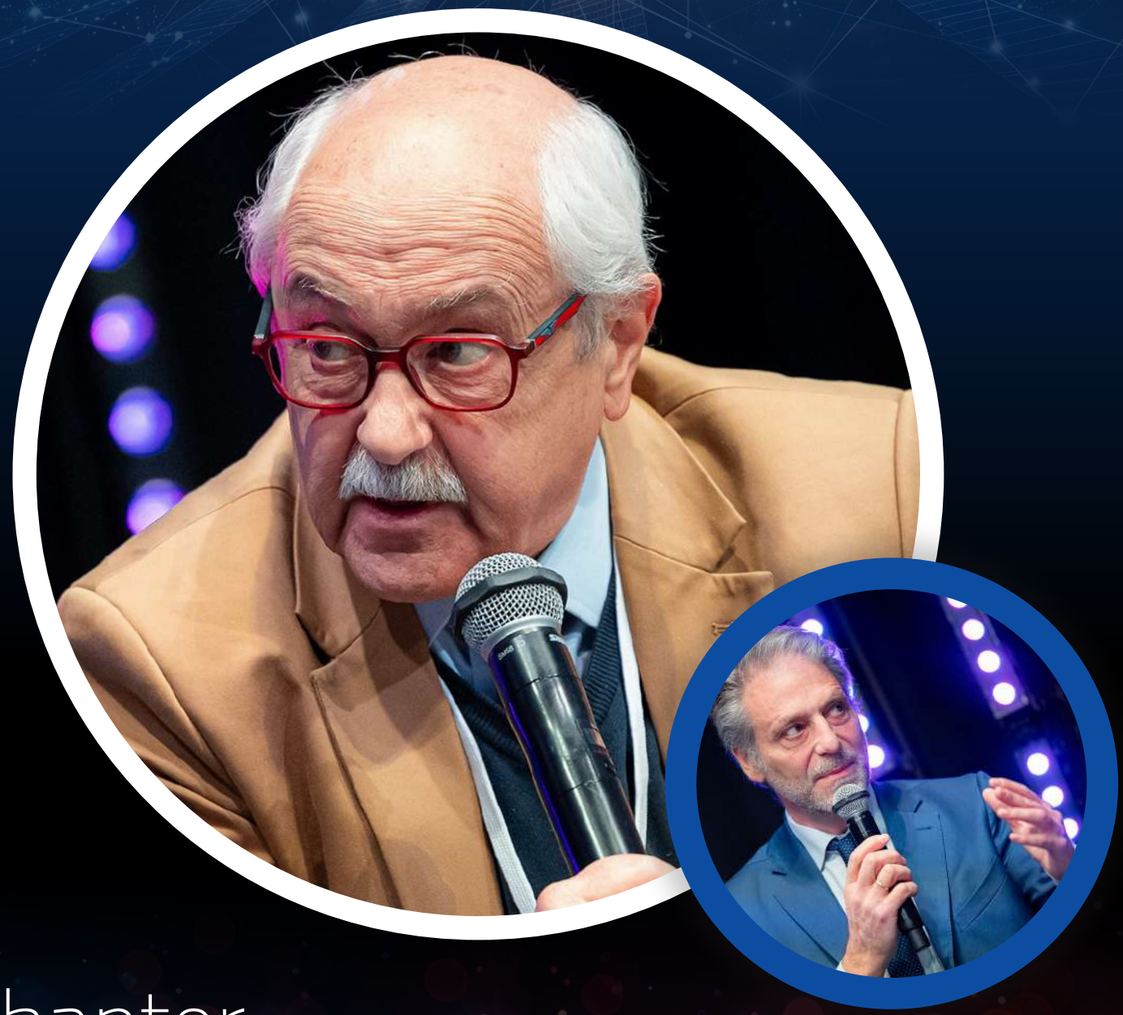
The case studies kept coming. At Schaeffler, a German manufacturer, AI-powered predictive maintenance and AR glasses have enabled remote support and global knowledge transfer, halving service costs. At Mercedes-Benz, a legacy Berlin plant was turned into a "Digital Factory Campus," using robots, AI chatbots and digital twins not to eliminate jobs, but to orchestrate smarter workflows. "The future of manufacturing isn't machines replacing humans, it's humans directing machines. It's orchestration, not automation."

White repeatedly returned to the need for mindset change. "Most companies are waiting," she said. "Waiting for the technology to be perfect, for the board to approve or for someone else to go first. But the future isn't built by people who wait. It's built by people who move."

In a nod to European perfectionism, she quoted the French proverb, "Perfection is the enemy of the good." The core of her message: act now. Run pilots. Start small. Learn by doing. "The winners aren't the believers," she insisted. "They're the experimenters."

As her keynote closed, **White** made a final appeal – not to the machines of tomorrow, but to the minds in the room. "AI doesn't start with tech," she said. "It starts with clarity. Then courage and then action." Europe, she argued, still has the chance to lead in AI-powered manufacturing. The skills exist, the infrastructure is within reach and the people are ready. "But we must move – or we will be moved."

> **"The future isn't built by people who wait. It's built by people who move.**



Chapter TWO

From dual-use to aerospace innovation frontiers

Amid growing geopolitical tensions and major announcements of rises in defence spending across Europe to 3-3.5% of GDP, a clear message resonated at InnoHive 2025: dual-use innovation – the development of technologies with both civilian and military applications – is no longer optional. It is now central to Europe's sovereignty, resilience and economic competitiveness.

Speakers from manufacturing, AI and defence circles stressed: if Europe is to thrive in a volatile global landscape, it must embrace dual-use innovation – not cautiously, but boldly and systemically.

The concept of dual-use technologies is not new. Yet for decades, Europe has maintained a cautious distance from defence-linked innovation, unlike the US, where agencies like the Defence Advanced Research Projects Agency (DARPA) have spearheaded the development and commercialisation of groundbreaking defence technologies, from the internet to GPS. Europe's research focus, meanwhile, has remained largely civilian, often deliberately separating defence from broader research efforts.

But that world has changed. Russia's invasion of Ukraine, the fragmentation of global supply chains and the threat of cyberattacks have shattered old assumptions. As **Thibauld Jongen**, Director at the AI Data Robotics Association (ADRA), put it: "We've had generations in Europe that believed peace was permanent. Rebuilding defence capabilities means rethinking values and preparing for future threats in a systematic, sovereign way."

Fabrizio Gagliardi, Senior Advisor at the Barcelona Supercomputing Centre, reminded the audience how different things were in Europe's postwar institutions: "When CERN was founded in the 1950s, dual-use research was forbidden, as in most of its member states," he said. "Now, Europe is rethinking this policy. New solutions for civil applications can result from defence innovations. Ukraine is using AI on the battlefield in real-time – proof that urgency accelerates innovation."

The theory is simple: mission-driven innovation, motivated by urgent, society-wide challenges, does not merely benefit defence. It catalyses advances across civilian sectors too, from mobility and energy to healthcare. In today's climate, dual-use is not just about defence, it is about creating a stronger, more resilient Europe.

Where the opportunities are emerging

The global context is stark. The US continues to invest heavily in defence-driven technologies, with massive public-private partnerships accelerating progress. This position is exacerbated somewhat due to shifting relations between the US and Europe, making the need for united European investment in defence and critical infrastructure imperative. Europe already produces advanced defence technologies but risks falling behind unless it takes decisive steps to bolster its defence capabilities. Meanwhile, China is integrating commercial technologies into its defence capabilities as part of a national policy, through the Military-Civil Fusion strategy.

Europe's next industrial revolution

Europe's next industrial revolution

Panellists identified key areas where innovations are particularly hot:

- **Cybersecurity:** Defending digital infrastructure against attack benefits governments, businesses and civilians alike.
- **AI and robotics:** From battlefield drones to automated factories, advances in autonomy are rapidly crossing sectors.
- **Supply chain resilience:** Technologies that secure supply chains are critical both for national security and industrial competitiveness.
- **Advanced materials:** Composites developed for aerospace are now finding their way into automotive and energy sectors.

As **Benjamin Wolba**, Co-Founder of the European Defense Tech Hub, said: "Cheap drones are taking down million-dollar tanks. That's not theory, it's reality. The battlefield is now a proving ground for startups."

Critically, defence is not just a risk – it can also be a path to scale for innovators. Ukrainian startups that pivoted from agricultural drones to mobile reconnaissance units demonstrate how defence can open commercial doors.

Funding, data, regulation and culture

While the opportunities are vast, real obstacles remain. Funding and scale are a real challenge, but vital now, and there is money on the table – more than EUR 1 billion in EU defence and dual-use innovation funding, according to **Raya White** from SPATIALx.

Data and IP management are also crucial factors to consider. Data is the lifeblood of both aerospace and AI-driven manufacturing – but trust barriers block its full potential.

As **Paul Byrnes**, CEO of Mavarick AI, argued: "We need a data standardisation framework. Encrypted data sharing without giving away the crown jewels."

This is, of course, where regulation plays its part. For Europe, it was seen as a double-edged sword in the dual-use debate: Europe's reputation for regulatory leadership can be both a blessing and a curse, with a tendency for overregulation risking holding back emerging industries before they scale. As **Egle Markeviciute,** Head of Digital and Innovation Policy at Consumer Choice Center, put it: "We have good ideas on paper, but implementation is the hard part."

As **Rudiger Frickenschmid**t, AI Sales & Ecosystem Lead at Fujitsu, succinctly put it: "The EU tends to over-regulate markets that don't even exist yet."

A new model for innovation

If there was one consensus across the discussions, it was that Europe needs a new model of innovation — one that is mission-driven, cross-sector, pragmatic about risk and, crucially, rooted in human collaboration. The technologies exist, but real transformation depends on breaking down barriers between sectors, mindsets and institutions.

At the heart of this shift is trust: the willingness to share knowledge, co-develop solutions and take collective risks. **Claudia Romero Jones**, Ecosystem and Project Manager at EIT Manufacturing, highlighted that the gap between startups and large industrial players is not simply about technology readiness – it is about building

relationships: “Small pilots and step-by-step wins are crucial. Trust builds when companies engage in manageable, transparent collaborations.”

In the highly sensitive world of dual-use, where intellectual property, sovereignty and national interests are at stake, trust becomes the key enabler – or the fatal bottleneck. **Fabio Esposito**, R&D Manager at TEC Eurolab, put it even more starkly: “It’s about people. One open person at the proposal stage can change everything.”

This idea echoed across sessions. Whether transferring advanced aerospace technologies into manufacturing or scaling AI for both civilian logistics and military operations, progress hinges less on technical barriers and more on human ones – openness, willingness to collaborate and the ability to see beyond immediate sectoral or national interests.

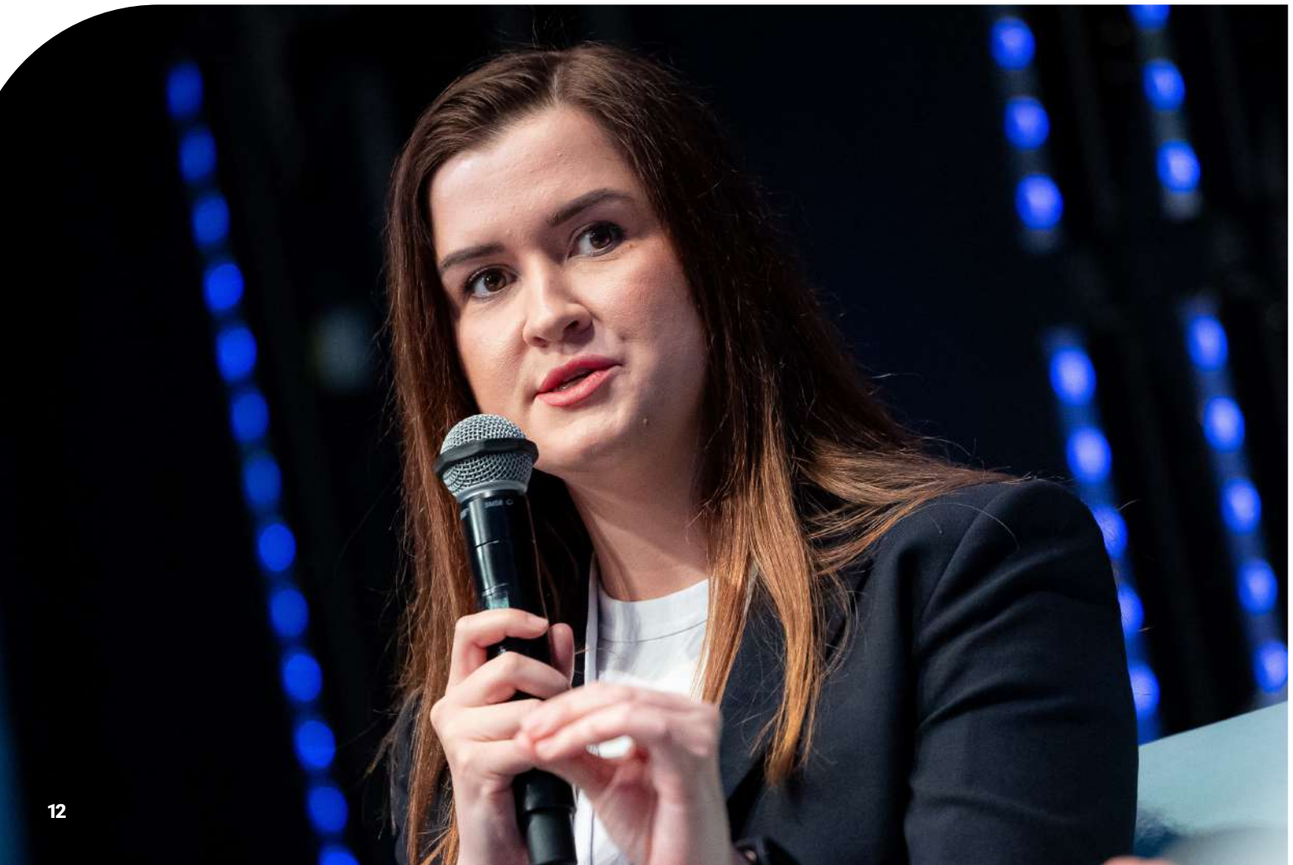
This cultural shift towards transparent partnerships, shared risk and mutual respect for each other’s core business models is what will ultimately determine Europe’s ability to scale dual-use innovations. It also requires a rethink of how risk is approached.

As speakers noted, not every initiative can succeed and not every pilot will reach market maturity – but speed and boldness are critical. “Some areas need to be highly regulated, yes,” said **Bosse Rothe**, Founder and CEO of Holy Technologies, “but others, especially early pilots, need space to breathe.”

A new model of innovation must move beyond technical excellence alone. It must be people-powered, trust-driven and mission-focused – a model where partnerships are built for the long term and where failure at early stages is seen not as a liability but as an essential part of scaling breakthrough technologies.

Key takeaways

1. **Strategic priority:** Dual-use innovation must be part of Europe’s mainstream industrial strategy.
2. **Technology shift:** Europe’s strength in aerospace should be applied in broader manufacturing to drive competitiveness.
3. **Enabling conditions:** Unlocking dual-use potential needs coordinated funding, shared data and purpose-built regulation.
4. **Cultural shift:** Overcoming fragmentation requires trust, strategic collaboration and those willing to take risks.



Breaking silos in the aerospace industry

The conversation on dual-use also shone a spotlight on the traditionally siloed aerospace manufacturing. Aerospace has long been the home of cutting-edge technology – yet commercialisation beyond its narrow markets has been slow.

In a session aptly titled **The Earth Race**, aerospace leaders highlighted how their sector’s innovations in composites, autonomy and precision manufacturing are ripe for wider manufacturing use.

But integration is not automatic. **Rothe** warned of the complexity: “Aerospace has a unique environment, so tech transfer isn’t always straightforward.”

Yet the prize is enormous. If aerospace’s high-precision technologies can be translated into mainstream manufacturing, it could vastly enhance Europe’s industrial competitiveness – across automotive, energy and beyond.

The convergence is already happening. Lightweight composites, first perfected for satellites, are now appearing in electric vehicle (EV) chassis. Aerospace standards for autonomous systems are influencing smart manufacturing protocols.

The race is not just geopolitical — it is against standing still and doing nothing. As **Rothe** put it: “We must be bold and that is scary, but we need to be part of this opportunity.”

Interview

Professor Johan Stahre, Chalmers University of Technology, Sweden

“The future of a competitive European manufacturing industry hinges on one thing – skills”

“The future of a competitive European manufacturing industry hinges on one thing – skills,” says **Johan Stahre**, Professor of Production Systems at Chalmers University of Technology in Sweden and founding member of EIT Manufacturing.

“You simply cannot scale innovation without the right skills,” he states bluntly. In a fiercely competitive and rapidly changing global landscape, the ability to upskill Europe’s workforce is not just important – it is a matter of survival.

EIT Manufacturing was established to bridge the gap between knowledge creation and industrial application. One significant achievement of the organisation is the EIT Deep Tech Talent Initiative, which surpassed the European Commission’s expectations by training one million people in just two years – a full year ahead of original plans. The success exposed existing urgent needs for comprehensive, continuous education in Europe. It provides both new entrants and experienced workers with deep tech skills needed for an increasingly digitised and globally competitive industrial landscape.

Professor Stahre emphasises the demographic reality that we cannot ignore. Europe is an aging part of the world, while countries like India, with young, ambitious and increasingly well-educated populations, are emerging as powerful competitors. To remain competitive, a 55-year-old European engineer must match the skills and agility of a 25-year-old graduate from India. “We have to compete and collaborate with them in the same markets, with similar products – then we need similar skills,” he stresses.

This reality is driving new EU initiatives like the Union of Skills, seeking to build holistic skills ecosystems across Europe – securing base education as well as upskilling capabilities and making qualifications portable across European borders.

The challenge of upskilling: Fear, motivation and middle management

Achieving this ambition, however, is far from straightforward. **Stahre** identifies some deeply rooted challenges.

First, there may be individual anxiety. Workers, particularly those with decades of experience in traditional manufacturing roles, can feel challenged by rapidly emerging technologies like AI and advanced robotics. “Learning new things takes time,” says **Stahre**, “and if you haven’t continuously exercised your training muscles, it can be daunting.”

Second, the business structure itself can impede progress. While top management may recognise the strategic need for upskilling, middle management, responsible for day-to-day operations, sometimes resists. “Who will do the work while employees are away training?” is a common concern. Middle management may also fear personally that newly trained staff might outpace them through new training.

Critical role of AI

One convenient solution for professional learners is modular education. Instead of daunting three-month university courses, EIT Manufacturing and national initiatives like Sweden’s “Engineer 4.0” programme offer compact, intensive training modules. These are one university credit per module, equalling around one week of education. Workers can realistically complete several modules alongside their jobs.

Additionally, AI can play an increasingly critical role here. Skills assessment and skills-matching has historically been a time-consuming, manual process. But, with AI-driven skills mapping and gap analysis, companies and individuals can identify precise training needs much faster and match workers with the right opportunities. This breakthrough could make widespread reskilling achievable at scale.

However, **Stahre** stresses that much better collaboration between universities and industry is needed. Today, they often operate in separate silos, with little direct interaction after a student graduates. New models, like the Chalmers Upskilling Academy, are building seamless connections between company learning management systems and university offerings, creating an ongoing exchange of skills and knowledge.

Financial realities: Who pays for upskilling?

Training is essential, but also expensive. For small and medium-sized enterprises (SMEs), which make up over 90% of Europe’s companies, losing even a few workers to training programmes for a week can be a very real challenge. Meanwhile, financial support mechanisms are inconsistent and fragmented across Europe. “There is an ongoing argument about who should pay: the government, the company, or the individual,” says **Stahre**.

“Without clear, harmonised policies and incentives, progress risks being slow and uneven across Europe – especially in regions where SMEs dominate the industrial landscape.” He notes the political complexities involved: education departments frequently view upskilling as an industrial issue, while industry ministries, on the other hand, see it as an educational one. “The responsibility gap must be closed,” he says. “Otherwise, the workforce will fall through it.”

Rethinking manufacturing

Beyond skills, **Professor Stahre** emphasises that Europe must rethink manufacturing as a cornerstone of strategic autonomy. Supply chains have become vulnerable and access to critical materials and technologies can no longer be taken for granted. In today’s volatile geopolitical environment, manufacturing capability is a matter of national and continental survival. “It’s not just about the EU Green Deal or climate goals anymore,” he says. “It’s about the ability to produce what we need ourselves – from ventilators to semiconductors. Without strong manufacturing, we are exposed and dependent.”

He argues for a new framing: “Manufacturing for society – not just for profit, but for resilience, security and prosperity.” In this view, upskilling is not just a private good for companies but a public good for Europe’s future. The good news? Europe still has a vibrant industrial base – 30 million people work in manufacturing across 2.2 million companies (Eurostat). With the right upskilling strategy, this foundation can be expanded and renewed.

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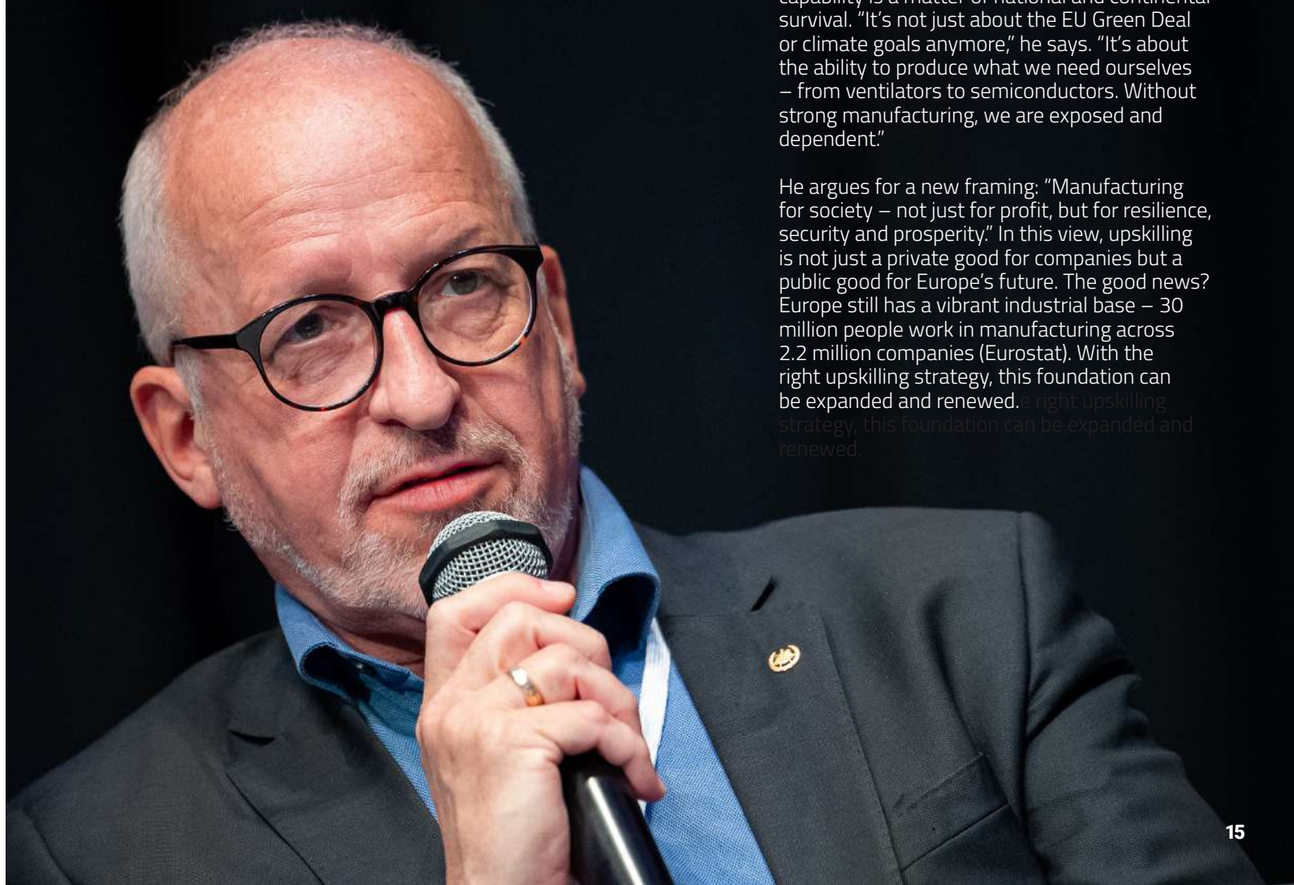
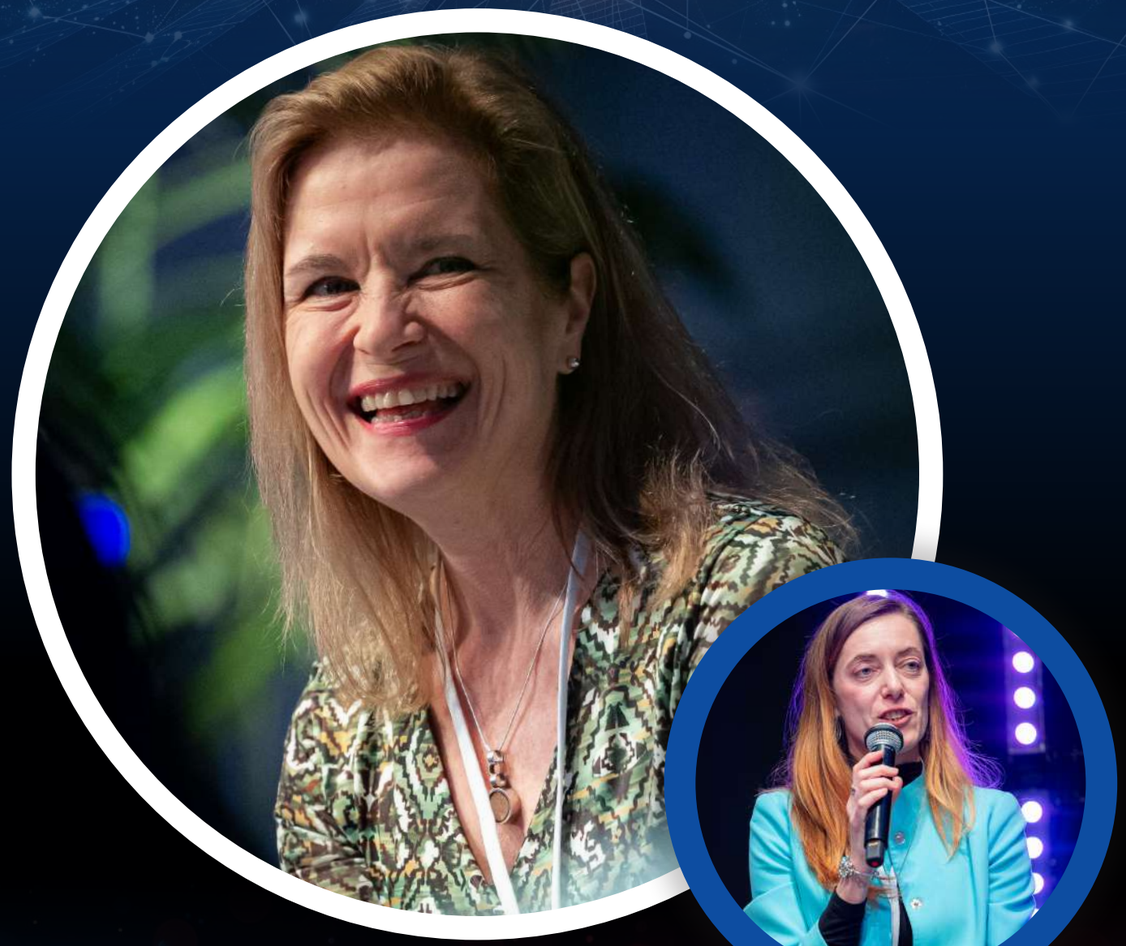




Chapter

THREE

Circularity provides a competitive edge

Circularity and sustainability

At InnoHive 2025, circularity and sustainability in manufacturing emerged not only as one of the dominant themes but as a call to action. Across panels, workshops and keynote discussions, industry leaders, policy advisors, entrepreneurs and sustainability experts converged to explore how manufacturers can comply with Europe's ambitious green agenda – while turning compliance into a catalyst for transformation, innovation and growth, rather than a regulatory hurdle to overcome.

This focus on sustainability is no coincidence, as the EU Green Deal and the Corporate Sustainability Reporting Directive (CSRD) reshape the industrial landscape.

Sustainability is no longer a moral add-on or a regulatory burden – it is the strategy.

Reframing compliance as opportunity

The session "ESG & CSRD in Manufacturing – From Compliance to Competitive Edge", led by **David Kames**, Innovation Lead at EIT Manufacturing, tackled head-on the growing expectation for transparency and accountability. ESG and sustainability reporting, he argued, are fast becoming core business disciplines and far from being bureaucratic hoops, they offer frameworks to:

- Improve risk management.
- Secure green finance.
- Identify inefficiencies.
- Strengthen supply chain trust.
- Position manufacturers at the front of future-proof markets.

Kames's workshop underscored that the EU's twin transition – digital and green – is deeply interlinked. As well as helping industry optimise manufacturing processes, digital tools, from AI to digital twins, are also critical enablers of sustainability reporting. "It's not about collecting more data," he noted. "It's about making that data visible, actionable and aligned with your decisions."

A systemic approach to circularity

This narrative deepened during the plenary session **"Industrial Evolution: Strategies for a Sustainable and Circular Future",** a high-level panel that brought together several voices from across Europe's innovation ecosystem to assess what's working, what's missing and what must happen next. Moderator **Karin Helmstaedt** opened the panel with urgency: "We're here not just to talk about ideas, but to understand what's being implemented – and what still needs to change." It was a call to action that the panel embraced with gusto. **Riikka Virkkunen**, Professor of Practice at VTT, argued that sustainable manufacturing must be approached through a systems lens. "It's not just about cleaner production," she said. "It's about redesigning entire business models and redefining how we measure value." She emphasised the importance of early-stage product development in shaping downstream sustainability outcomes and called for circular thinking to be embedded at the design phase.

Konstantinos Chatzfotis, EU Affairs Manager at Motor Oil Group, provided a powerful case study of transition in a legacy sector. Describing a EUR 4 billion energy transformation strategy that includes green hydrogen, sustainable aviation fuels (SAFs) and circular carbon capture, he spoke candidly about the tension between perception and reality in traditional energy. "As an energy leader in South-East Europe, we are now pushing the transition forward while enhancing energy security and providing innovative products to our customers", he added.

Elina Pihlajamaki, Policy Advisor in E3G's Clean Economy programme, delivered a policy perspective, outlining four key levers for the success of Europe's Clean Industrial Deal:

1. Establish lead markets for low-carbon products using procurement and labelling.
2. Expand grid capacity to support electrification.
3. Strengthen EU-level funding to ensure cross-border competitiveness.
4. Improve coordination across EU and national levels.

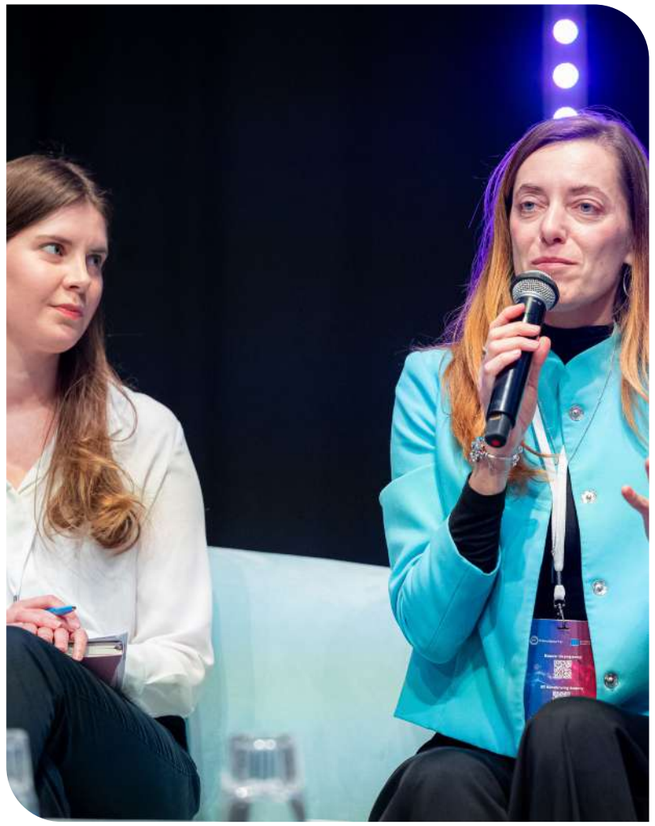
Startups provided a reality check. **Susanna Partanen**, CEO of cleantech startup Woamy, shared her frustration with slow corporate onboarding timelines.

"We've gone from lab to pilot machine, but in order to reach commercial scale, we need both more capital and customers – and one depends on the other. We need faster paths to certification and a more predictable path to customers."

Closing the session, **Partanen** added:

"In five years, I want to see more cleantech initiatives and startups driving economic growth."

Jana Budkovskaja, CEO of Beamline Accelerator, echoed this, highlighting that impactful innovation must deliver value beyond compliance. "The most successful cleantech solutions save companies time, money and emissions. That's what makes them stick." She also stressed the importance of deeper interconnectivity across the European innovation ecosystem, between corporates, regulators, funders and startups, highlighting a successful geothermal project in Estonia that thrived due to grassroots collaboration and quick communication between all parties. "The challenge now is: how do we replicate that agility across the EU?"



Circularity in action: Mindset shifts and practical steps

In the energised workshop **"Inverting realities – Rethinking manufacturing for circularity",** participants were led through the practical, sometimes uncomfortable, process of understanding their own assumptions and opportunities related to circularity and their own businesses. Circularity specialists Innoboost used a small steel door handle producer as a live case study to demonstrate how even SMEs, currently outside direct CSRD scope, are being pulled into sustainability obligations through customer and supply chain demands.

Attendees learned how core circular strategies – reduce, reuse, rethink, regenerate, recycle – could be applied to product design, sourcing, logistics and market differentiation. The emphasis was on agency and action.

"Your minimum requirement is compliance," said workshop co-organiser **Christiaan Kraaijenhagen**, Innovation Strategist and Circular Entrepreneur at Innoboost. "But your competitive advantage lies in going beyond it, offering added value, anticipating change and enabling your ecosystem to do the same." Summarising the strategy businesses should adopt to tackle the challenges they face with this approach, **Sandra Horlings**, Managing Partner at Innobost, added: "Start by listing the opportunities you see, then list the risks and identify the assumptions behind both. From there, choose your most significant risk or biggest opportunity and design a small experiment to test it.

"It's about acting, not just planning. Is your new idea feasible, viable, desirable and impactful? Run small experiments, learn and adapt. That's how you prepare for the future – step by step."

It seems, whether navigating geopolitical volatility, digital transformation, or climate disruption, the question remains the same: How do you future-proof your business? For manufacturers, the answer is becoming clear — start now, start small and think circular.

As **Xavier Baillard**, Director of Inno2Market EIT Manufacturing, reminded attendees, "Circularity isn't just a recycling issue. It's a question of infrastructure, design, logistics and business models."

Key takeaways

1. **Systemic integration:** Sustainability must be embedded from design to delivery.
2. **Digital motivation:** Digital transformation enables real-time decision-making and scalable reporting.
3. **Regulatory momentum:** Regulation is accelerating change and adopting it proactively will bring advantages.
4. **Scaling pathways:** Startups and SMEs need clear routes to grow, with support from corporates and policymakers.
5. **Collaborative action:** No single actor can succeed alone – partnerships are essential.
6. **Cultural foundation:** Culture, communication and leadership are as important as the tools on the factory floor.

Interview

Shaun Rein, Founder and Managing Director, China Market Research Group

The China dilemma: Challenging Europe's assumptions at InnoHive 2025

As Founder and Managing Director of the China Market Research Group, a well-known expert in articulating Chinese business dynamics and one of the most sought-after voices on the future of global economics, **Shaun Rein** was not at InnoHive 2025 to soothe European ears in Brussels. He was there to provoke.

"This is my first time back in mainland Europe since COVID-19," he told the audience. "And it's no coincidence that I'm here now. Because now is the moment for all of you to seriously think about what is happening in China."

So began a keynote that did more than dissect and explain global economics in the context of shifting geopolitical tensions. It challenged the very foundations of how Europe sees China, sees America and sees itself in a world sliding into new alignments and global anxieties. With the spectre of a United States tariff war with China and other global players looming large, **Rein** emphasised: if Europe is to remain a relevant global player, it must embrace strategic pragmatism — potentially including engagement with China.

Fear and misunderstanding

Rein was unapologetically direct as he tackled the first elephant in the room: fear — of China's growing influence, of potential geopolitical repercussions and of the uncertainty surrounding an increasingly polarised global landscape.

"Fear doesn't help," he said. "The next three to six months are going to be critical — for your careers, your companies, your strategies. So I want you to look at what's really happening in China. Look at real data, not misinformation."

It was more than just a call for a shift in what he clearly sees as a negative China mindset, a rebuke of what he sees as Europe's risk-averse posture toward the country. China is a nation, he argues, reawakening from a three-year COVID-induced slumber, hungry to innovate, invest and engage globally.

But his candour cut both ways. "Let's be honest, though" he continued. "China's economy is weak right now. Youth unemployment is high. Real estate is in crisis. Families are pessimistic. For the first time, Chinese parents don't believe their children will have better lives than they did."

The pandemic was very tough on China and on the Chinese people, an experience for many that transformed consumer sentiment there into one of caution and conservatism. Consumers are saving. They're trading down. The optimism of the 1990s and early 2000s has ebbed.

"And this is exactly why it's the time to engage," he said with a knowing smile.

The shifting global order

In one of the most surprising turns of his talk, **Rein** shared an observation that probably surprised many in the room: "A lot of Chinese people prefer the current American administration," he said. It wasn't a political endorsement. It was insight. **Rein** explained that the transactional approach is seen in China as something to work with. Europe, he argued, should take note.

China wants clear rules and is playing the long game. Chinese firms are willing to invest abroad, but only with the assurance that they will not be forced out after a few years by a sudden turn towards protectionism. Long-term market access, over a horizon of 10 to 15 years, is the price of their capital.

It's also about reciprocity. "Invite Chinese companies to invest in Europe — but require them to engage in joint ventures. China did it with BMW and Volkswagen in the 1990s. That's a fair ask. The Chinese will accept it."

Innovation in the shadows

While Western headlines focus on China's demographic challenges and property meltdowns, **Rein** pointed out something else: resurgence. In recent weeks, China quietly released a generative AI model, developed and launched on the market for just USD 4–5 million — that's just 10% of the cost of its Western equivalents, most notably ChatGPT. And it's just as powerful, **Rein** claimed. "This was a moment of real national pride. Despite everything the West has thrown at them — tariffs, isolation, suspicion — they built something equal or better."

Innovation has helped lift China's middle class, fuelling economic growth and social change. Around 90% of lower- and middle-income Chinese are experiencing upward progression, with the rest close behind. This emerging consumer class has already reshaped China's economy and the transformation is far from over. For Europe, this is a market too big to ignore.

The case for realignment

Rein did not sugarcoat the geopolitical complexities that will make any collaborations more difficult. He acknowledged that Chinese-European relations have cooled in recent years. Chinese firms haven't felt welcome. European executives worry about political backlash.

But he sees that as precisely where the opportunity lies.

"China is bullish on Europe. Not because of ideology, but because Europe is seen as open to deal-making again." Europe, he argued, must take a strategic, not sentimental, approach. "You don't have to agree with China's system to respect its people and it as a nation."

This, perhaps, was the heart of his thesis: respect, not reverence. Engagement, not endorsement.

A final challenge to Europe

"Don't write off China," **Rein** said, ending as he began by challenging the InnoHive 2025 audience. "Think strategically. Think long-term. China still has the infrastructure, the scale and the growth potential. This is your opportunity."

Whether or not European leaders take that opportunity may depend on whether they're willing to challenge their own perceptions — of China, of the US, and of their own place in the emerging global order.

As the applause faded at the end of his keynote, the murmurs in the room grew louder. These were notes not necessarily of agreement in what had been said, but of reflection — and this was exactly what **Shaun Rein** came to provoke.

Chapter

FOUR

Talent and skills for the future

With an ageing population, traditional education systems and rapidly advancing technology, the skills gap has evolved into a systemic threat.

"The situation of skills shortages has evolved over the past decades," said **Delphine Rudelli**, Director General of CEEMET. "The issue has shifted from a straightforward skills gap to a more complex crisis of both labour and skill shortages. What was once a workforce issue has become a pressing challenge to overall European competitiveness." This double crisis – too few workers and too few of them equipped for an increasingly digitised and technology-driven manufacturing sector – was highlighted across many discussions.

"More than 75% of EU companies report difficulties in finding workers with the right skills — particularly in sectors critical to the green and digital transitions," said **Oscar Pasquali**, CEO of Generation Italy. Finding talent with the right mix of technical, digital and soft skills is a challenge. In a conversation with SKF, they shared how launching the Future Factory initiative — focused on Industry 4.0 tools like Manufacturing Execution System (MES), Industrial Internet of Things (IIoT) and Artificial Intelligence (AI) / Machine Learning (ML) — quickly revealed the limits of traditional project-based staffing. Rapid ramp-ups strained teams and attempts to adopt new delivery models revealed another constraint: legacy financial models that couldn't keep up with the pace of digital transformation.

This is just one example of the broader mismatch. "Over 20 million people in the EU are unemployed or inactive but willing to work, especially among youth, women and migrants." To address this, "bootcamps and micro-credentials can help turn this paradox into an opportunity by bridging the gap between labour market demand and untapped talent," said **Pasquali**.

A system in need of reform

Several voices at InnoHive 2025 urged for Europe to reimagine how it prepares its workforce. **Professor Johan Stahre** of Chalmers University described the European Commission's Union of Skills initiative, which looks to ensure that education and training systems are equipped to meet the rapidly evolving demands of industry and society, as a "turning point". It aims to unify reskilling and upskilling efforts across borders and provide a highly skilled and adaptable workforce. "But policy alone won't solve the crisis," he added.

Diana Filip, Deputy CEO and Chief Development Officer at JA Europe, made a case for early intervention: "We can't wait until university. If we don't engage young people at school, it's already too late." Her organisation is expanding its Tech Talent Initiative with the goal of reaching 100,000 students. The key, she argued, is to reframe manufacturing as exciting, high-tech and impactful – particularly for younger generations who are increasingly driven by a sense of purpose for what they do and sustainability.

Magnus Wahlgård, Delivery Manager at SKF, shared that traditional HR frameworks are designed for conventional roles. They need to be adapted to support Information Technology (IT) / Operational Technology (OT) talent. In SKF's case, their strong industrial brand lacked visibility within digital talent circles. To address this, they adopted a Build-Operate-Transfer (BOT) model, partnering with a specialist vendor to build a dedicated digital team, operate it within SKF's environment and transfer it in-house once capabilities were established. As a result, the team grew from 30 core members to over 90 members within 18 months.

> **"We can no longer rely on just 'buying' talent from outside the company. We have to upskill our existing staff to remain competitive.**

Academia must play its part and it must adapt and work with industry. **Pasquali** reiterated, "Supporting people in developing the skills needed to navigate a fast-changing labour market is a challenge too great to be tackled by any single actor alone. Public, private and philanthropic sectors must align resources, capabilities and incentives to identify, test and scale effective solutions."

One of the clearest takeaways was that theory alone won't equip the next generation of workers. Real-world learning must become the norm. **Audrey Stolze**, Director of Education and Training at EIT Manufacturing, championed experiential education models like the Teaching Factories Competition, which pairs student teams with actual industrial challenges. "Competence isn't built just through lectures," **Stolze** said. "It's built through action, reflection and collaboration."

Highlighting the strategic importance of developing internal capabilities, **Professor Johan Stahre** warned: "We can no longer rely on just 'buying' talent from outside the company. We have to upskill our existing staff to remain competitive."

Mirza Pasic, Associate Professor and Vice Dean for International Cooperation at the University of Sarajevo, added that universities must become more agile and responsive. "Jobs aren't disappearing – they are just evolving. Curricula must be continuously updated to reflect that reality." He also highlighted the importance of cross-border cooperation to

share best practices and accelerate innovation. These insights converged in a call for structured collaboration between academia and industry. As **Liga Baltina**, Manager at Fondazione Giacomo Brodolini, noted, "Companies need to be at the table from day one." This includes co-designing curricula, investing in faculty development and using tools like AI-driven skills intelligence to predict future workforce needs.

Untapped potential

Inclusion was also a critical theme. As panellist **Nina Wöss**, Managing Partner at Fund F, starkly reminded the audience: "Only 3% of VC money in Europe goes to all-female founding teams. It's not about capability – it's about access."

For **Mileva Gojkovich**, Girls Go Circular project ambassador, and **Selen Şenal**, CEO and Founder of Algbio, the solution lies in connecting young women with meaningful tech experiences early on and then sustaining that support throughout their careers. Programmes like EIT Manufacturing's RIS LEADERS Competition and the Women TechEU project are helping to close this gap by combining mentorship, visibility and strategic funding.

"When girls care about the problem they're solving, they take ownership. That's when they become leaders," said **Gojkovich**, emphasising the power of emotional relevance in tech education. **Şenal** agreed, adding: "These support programmes don't just offer funding, they give women mentorship, visibility and a route into international markets." Importantly, inclusion was not framed as a matter of fairness, but of economic logic.

Diverse leadership drives better performance. "If women comprise over half the talent pool," said moderator **Claudia La Via**, "then failing to support their rise is not just a gender issue – it's a strategic failure." **Niki Kousi**, Managing Director at EIT Manufacturing South East, added how ecosystems can level the playing field and address this failure. "We don't just fund women innovators – we embed them in real industrial networks. We connect them with mentors, decision-makers and pilot sites." She pointed to success stories from regional competitions, where women-led deep tech startups emerged not just as participants, but as winners and she stressed that women thrive when given both structure and autonomy: "It's not enough to tell women 'you belong.' We must create ecosystems where they can lead without asking permission."

Global pressure

There is a further geopolitical dimension to Europe's skill crisis. As China accelerates its dominance in advanced manufacturing and AI and the US invests heavily in industrial innovation through initiatives like the CHIPS Act, emerging economies such as India and Vietnam are mobilising vast, tech-savvy workforces to compete on scale, speed and cost. Europe, by contrast, is grappling with fragmented systems and slow talent development. With recent cuts in research funding by US President Trump, Europe has an opportunity to become the centre of innovation. 'Choose Europe' aims to advance research in the EU and make Europe a magnet for talent.

David Timis, Global Communications and Public Affairs Manager at Generation, echoed this competitive pressure: "Waiting for governments, employers, or universities to provide up-/reskilling opportunities will leave many individuals behind. Instead, a proactive attitude is crucial if one wants to not only survive but thrive in the age of AI."

From strategy to action

The skills gap is not just a challenge but a call to action. The tools to address it exist – bootcamps, AI forecasting, school programmes, academic entrepreneurship – but they need to be connected through coherent strategies, shared responsibility and sustained investment. Europe has talent. What it needs now is the vision and the will to unleash it.

Key takeaways

1. **Education should be aligned with industry needs:** Structured collaboration between businesses and academic institutions is needed to co-develop future-ready curricula.
2. **Shift hiring practices:** Promote skills-based recruitment and reduce reliance on traditional qualifications. Micro-credentials and competency assessments can open new talent pools.
3. **Invest in early engagement:** Target students, particularly girls, with project-based learning and real-world challenges from primary school onward.
4. **Support open innovation models:** Scale initiatives like Teaching Factories Competition and living labs that enable practical learning and entrepreneurship.
5. **Empower women and diverse leaders:** Provide continuous mentorship, access to funding and visibility for women in manufacturing, not just one-off programmes.
6. **Embed digital and human skills:** Ensure all learners acquire both AI literacy and foundational soft skills like collaboration, adaptability and critical thinking.
7. **Champion entrepreneurial mindsets:** Encourage academic institutions to support startup pathways and alumni engagement to create a culture of lifelong innovation.
8. **Make manufacturing more attractive to new talent:** Rebrand the sector as high-tech, purpose-driven and key to solving global challenges like sustainability and digital transformation.

Chapter

FIVE

Innovation and de-risking investments

Europe has a clear innovation paradox: it is a continent rich in scientific excellence and yet it lags behind in the commercialisation that fuels global competitiveness. Despite Europe's vibrant academic research community, outstanding technical universities and deep industrial know-how, it struggles to provide an ecosystem for startups to scale up.

The ability to turn ideas into global market leaders remains constrained by critical challenges – chronic talent shortages, especially in digital, engineering and STEM fields, followed by red tape, fragmented regulatory frameworks and lack of investment mechanisms for startups beyond the early growth stage.

"Startups need capital and customers willing to develop products with them," said **Synne Sauar**, CEO and Co-Founder of Litech. Without those, she warned, the best ideas "stay stuck in the lab." **Kevin Lenehan**, Director of Investments at EIT Manufacturing, reinforced the challenge: "Manufacturing is an exciting and dynamic sector with strong potential for startups. Active support from leading European manufacturers is critical to bringing startups on the journey to market."

The issue was not a lack of talent or ambition, but a systemic failure to bridge early innovation into scalable, competitive businesses. As **Lenehan** noted, European startups are constrained by the fragmentation of national ecosystems. This limits potential markets and so makes the investment case less compelling. A pan-European approach to developing strategic industries is essential.

Why strategic investment matters

A central theme quickly emerged: investment is the fuel for innovation, competitiveness and growth. Without sufficient strategic investment, Europe risks falling further behind global competitors.

But investment needs to be smarter, more targeted and more accessible. And those investing want less risk in putting their money into early-stage startups.

Andreas Schwarzenbrunner, General Partner at Speedinvest, pointed to the structural differences between Europe and the United States: "The money is here. Europe has the savings. What we lack is the framework to channel it into innovation."

Unlike the United States, where policy reforms in the 1980s allowed pension funds and insurers to invest heavily in venture capital, Europe has remained overly cautious. As **Michiel Scheffer**, President of the European Innovation Council (EIC) Board, explained, "Every year, EUR 600 billion of European savings flows into the United States capital markets. Imagine if even 2% of that was redirected into European startups – that would mean an additional EUR 12 billion for innovation here at home."

The panel underscored several obstacles that continue to stifle broader investment mentality in Europe. **Scheffer** highlighted a cultural sticking point: "Europeans invest their savings in real estate, not in the real economy." The risk-averse behaviour mirrors a mindset that prioritises steady, short-term returns over the patient capital essential for scaling deep tech and industrial innovation.

But the policy alone is not enough. **Lenehan** observed: "The European institutions must encourage a pan-European approach to offer scaling opportunities and reduce barriers." This dynamic – where European capital fuels American innovation rather than Europe's own industrial base – underscores the need for a strategic shift.

Key takeaways

1. **Unlock capital:** Reform pension and insurance rules to free up long-term investment in European innovation, as seen in the US.
2. **Demonstrate long-term value:** Focus investments on sectors with stable, strategic market demand – energy, recycling, materials – to reassure risk-averse institutional investors.
3. **Create specialised vehicles:** Develop targeted scale-up funds that back proven technology sectors, reducing perceived risks for investors.
4. **Showcase success stories:** Highlight European startup successes to build confidence in the sector and demonstrate real-world returns that are vital to European sovereignty and pension sustainability.
5. **Develop risk appetite:** Europe must grow its risk appetite by channelling its abundant capital into homegrown innovation, backing ambitious ventures here, rather than defaulting to investment in US companies.
6. **Harmonise EU market:** To derisk investment and enable startups to scale up, Europe must act as one common market, harmonising fragmented national regulations that currently make every country feel like a separate international expansion. A bold reform like the '28th Regime' or 'EU Inc' is needed to create a single, digital-first market for startups.
7. **Attract talent with new labour laws:** Modernising labour laws across Europe is essential to unlocking talent mobility, enabling startups to attract and retain the skilled workforce they need to compete globally.

Schwarzenbrunner further reminded the audience that a significant share of US venture capital actually comes from European investors. "A lot of the money in US funds is European," he noted. "We just need to invest it here." The implication is that Europe already has the financial firepower; what's missing is the policy alignment and cultural confidence to deploy that capital at home.

Many delegates stressed that Europe must act swiftly to unlock its own financial potential. Without bold reforms, European startups will continue to face the "valley of death" – a term often used to describe the gap between early-stage funding and sustainable growth – and ambitious entrepreneurs will increasingly look to the United States or Asia to realise their visions.

Looking ahead, Europe can become a powerful force for innovation – if the right conditions are created. By reforming regulations, demonstrating the long-term value of high-growth sectors, like clean energy and recycling and building specialised investment vehicles tailored to pension funds and private investments, Europe can unlock billions in capital. This shift could transform Europe from cautious bystanders to key enablers of the next generation of industrial champions.

Build a new investment culture

Yet, unlocking capital is not just about regulatory tweaks; it's also about changing mindsets. "Europe still asks startups when they will be profitable," said **Schwarzenbrunner**, contrasting it with the US, where investors focus first on scale and impact. "Here, if a founder says they need a billion euros to build the next industrial champion, people look at them like they're crazy."

This risk aversion, born out of Europe's more cautious financial culture, stifles ambition at exactly the moment boldness is needed. Moreover, investment should not be spread thinly across every possible sector. Instead, it must be strategically focused on areas where Europe has inherent strengths and long-term market potential – industries like energy, advanced materials, recycling and deep tech. They offer commercial promise and strategic autonomy in an increasingly volatile world.

"Strategic sovereignty isn't only about defence," **Scheffer** reminded the audience. "It's about securing our energy, material and technological futures as well."

> **If a founder says they need a billion euros to build the next industrial champion, people look at them like they're crazy.**

The opportunity in crisis

Interestingly, the current global uncertainty – trade wars, supply chain fragilities, geopolitical tensions – was framed not only as a challenge but also as an opportunity.

"If we get this right," said **Schwarzenbrunner**, "Europe could become the best place in the world to live, work and build a business." Talent flows, he suggested, are increasingly favouring Europe's stability, quality of life and democratic values. Now is the time to turn that latent advantage into an investment boom. **Sauar** agreed, adding: "We are in a crisis, but crises create urgency. They accelerate change. If Europe acts decisively now, it can avoid becoming just a museum of past greatness."

As **Scheffer** summarised: "We need to tell a better story about European innovation and back it with action."

For Europe to become the first and ultimate choice for startups to grow, a pan-European, digitally-first ecosystem is needed. The so-called '28th Regime' or 'EU Inc' will help remove national barriers, which are often associated with additional administrative costs. Harmonising 27 markets will boost cross-border investment, increase access to talent and enable startups to operate seamlessly across member states.

A call for boldness

If Europe is to reignite its competitive edge, it must combine its scientific excellence with strategic investment, focused policy reforms and a willingness to dream bigger.

"We shouldn't complain," concluded Schwarzenbrunner. "We should build. Europe is already a masterpiece – now it is time to create its next chapter."

EIT Manufacturing Innovation Award 2025

There was a real sense of excitement at InnoHive 2025 on the final morning of the conference. Eight ambitious startups, each with a bold vision for industry, were waiting to take to the stage to pitch their innovation to a select panel of judges. The chance to be crowned winner of the EIT Manufacturing Innovation Award 2025 was at stake – an award that could catapult their technology into the industrial mainstream.

Stopping waste with magnetism

First up was **Ibon Iribarren, CEO and Co-Founder of LINQ**, introducing a solution to a long-standing industrial headache: destructive testing. "Industries are scrapping hundreds of thousands of euros' worth of parts every year—per plant—just to test them," **Ibon** said. His company's AI-enhanced electromagnetic inspection systems offer real-time, non-destructive quality control and testing, reducing waste and CO2 emissions while increasing reliability. "One machine can easily pay for itself in under 12 months."

Printing power into the future

Boris Saje, Application Engineer at Kolektor, who presented what he called a "crazy idea" born in a manufacturing lab. His team had figured out how to 3D print rotors embedded with magnetic fields – a process that cuts costs and accelerates prototyping dramatically. "It took us seven months to go from patent to first invoice," he said proudly. The result? A quadrupling of magnetic energy density and a future of motor design that's faster, cheaper and greener.

Folding a new industrial era

Jonas Nyvang, CEO and Co-Founder of STILFOLD, delivered what felt more like a manifesto than a pitch. "We believe the future of European manufacturing is about doing more with less," he declared. STILFOLD replaces traditional stamping and welding with foldable metal components, slashing part counts and material use. A scooter prototype it developed showed the impact: 159 parts reduced to 12, 20 materials used reduced to one. "We're replacing heavy capital with flexible production," **Nyvang** said. "No more moulds, no more waste."

Making logistics speak

Michel Batteux, Software Development Director at Systemic Intelligence, spoke next of the silent complexity behind every warehouse, factory and delivery hub. His startup creates systemic digital twins of industrial logistics networks – living models that simulate, compare and optimise scenarios. He explained that they make systems speak to each other, clearly and transparently. Their modelling language, Stigma, could be the future for supply chain optimisation.

Teaching machines to listen

Alessandra Pennuto, COO of SmartFAB, painted a picture of the modern factory drowning in data. "Unlike tangible assets, data is invisible – and often wasted," she said. SmartFAB's AI system listens to this data, translating it into actionable insights for workers on the ground. With deployment times under a month and real results across multiple sectors, SmartFAB is helping factories become smarter, faster and more sustainable. "We empower people, not just algorithms."

When energy meets intelligence

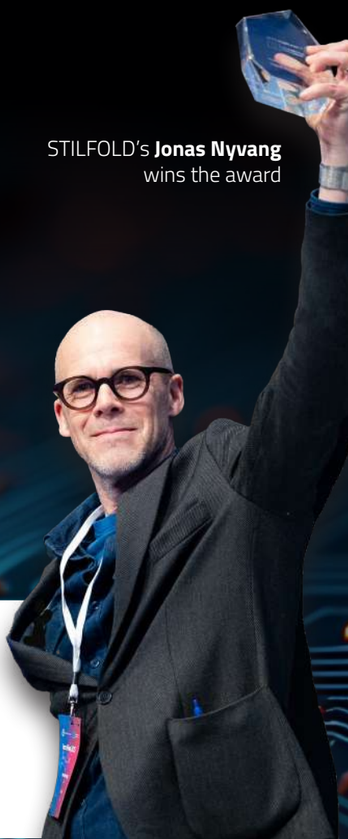
Energy and efficiency took centre stage with **Lindsey van der Lans, Managing Director of Bright Cape,** who introduced Epsilon, an AI tool that synchronises production schedules with energy supply and pricing. "We reduced scheduling time from two and a half days to seven minutes," she said. With renewables integrated, costs down 11% and emissions reduced, Epsilon could become a key ally for manufacturers navigating energy volatility. "We make your factory future-proof," she concluded.

Maintenance with eyes and ears

Christos Manettas, Project Manager at LMS, introduced Myra, an AI-powered predictive maintenance system developed by Greek company CASP. Combining sensor data with augmented reality, Myra monitors machine health, flags anomalies and supports technicians with real-time guidance. Manettas highlighted that maintenance isn't the future – it's the new standard. Already tested with two manufacturers, Myra is designed to reduce downtime and boost responsiveness where it counts most: on the shop floor.

Powering IoT from heat itself

Finally, **Jörg Rehder, Director of Sales and Product Management, TEGnology**, offered a surprising solution to a deeply practical problem: how do you power sensors in underground heating systems where batteries die and wires are expensive? His answer? Harvest the heat. TEGnology's thermoelectric generators convert ambient heat into electricity, running the sensors for 10–15 years without maintenance. "The moment you need to change a battery, our solution pays for itself," **Rehder** explained. Already in production with partners, the system is showing promising traction in the smart cities space.



STILFOLD's **Jonas Nyvang** wins the award

And the winner is... STILFOLD

STILFOLD was named the winner of the EIT Manufacturing Innovation Award 2025 for their clear, forward-thinking approach to reshaping manufacturing. The judges were impressed by the project's focus on practical impact – offering a flexible, scalable model that responds directly to today's industrial challenges. STILFOLD's strength lies in its simplicity, its commitment to sustainability and its readiness for real-world application. It's an approach that reflects the values InnoHive 2025 aimed to highlight: innovation for Europe's manufacturing future.

Views from the floor

Danny Berko
Co-Founder, Head of Project Management, QiERA

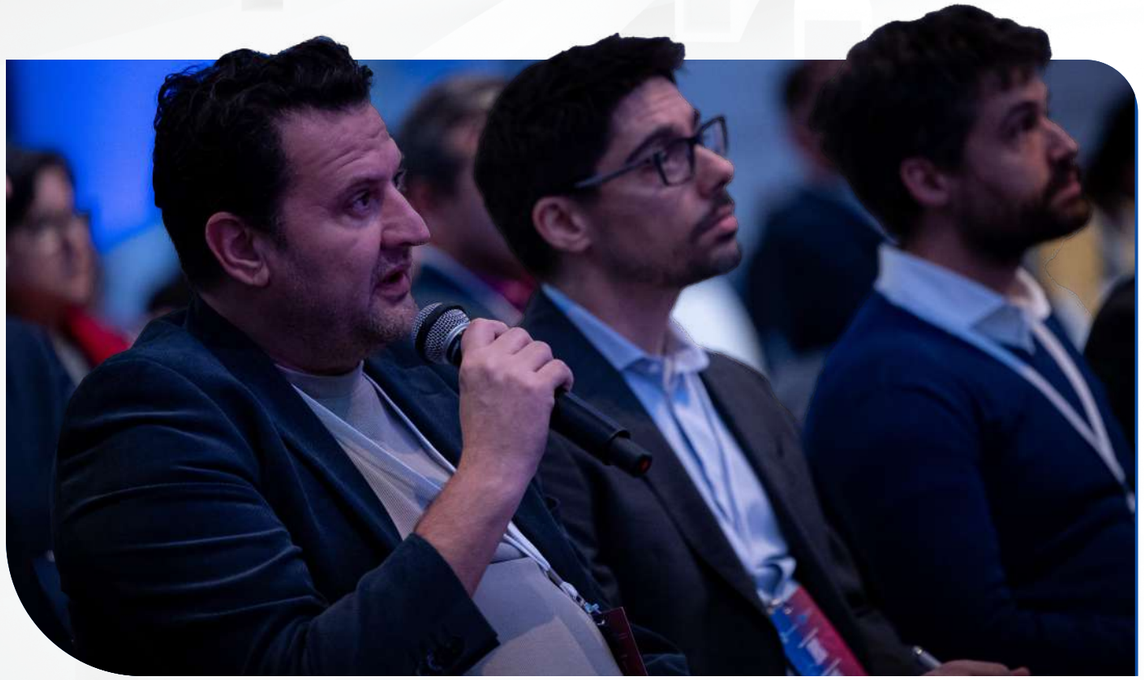
“Digitalisation in manufacturing is no longer optional – it’s an inevitable evolution. As operational technology becomes increasingly reliant on cloud, mobile and other digital tools, traditional European manufacturers are being pushed toward transformation. However, the biggest challenge is the difference in pace. Startups like mine move quickly – we believe in our ideas and want fast decisions. But legacy manufacturers are often slow to change, preferring the status quo, which creates real barriers for disruptive innovation. For a small company, finding the right corporate partner is tough – we don’t have the flashy credentials to stand out. That’s why events like InnoHive 2025 are so valuable: they give us a platform to connect with industry leaders and help accelerate the adoption of next-generation technologies.”

Nicolas Dalloz
Co-Founder, Oraclase

"I believe the future of European manufacturing lies in sustainable solutions, powered by our intellectual property and strong research capabilities. Events like InnoHive 2025 are essential for connecting academia and industry – a connection that’s vital to strengthening Europe’s manufacturing landscape."

Nicoa Pantelelis
Director, Synthesise

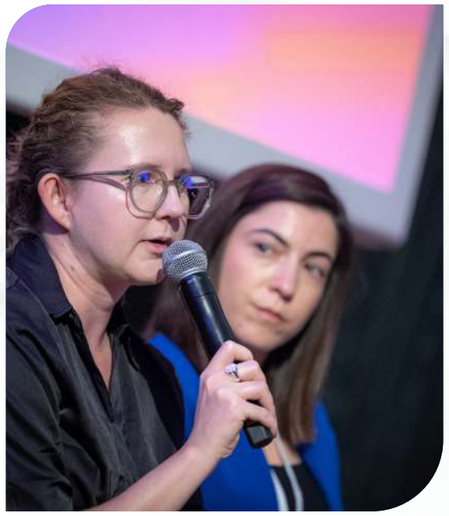
“While we typically rely on potential partners to approach us – preferring not to spend too much time actively searching – we know that if no one reaches out, we have to be proactive. That’s why events like InnoHive 2025 are so valuable: they bring together people from diverse sectors and backgrounds, opening doors to new collaborations. Until now, we’ve mostly been involved in Horizon projects like Horizon Europe and Horizon 2020, but we’re increasingly exploring more industry-focused opportunities. What’s exciting is that these events are helping us not only connect with new partners but also discover potential customers.”



EIT Manufacturing InnoHive 2025 Executive Summary

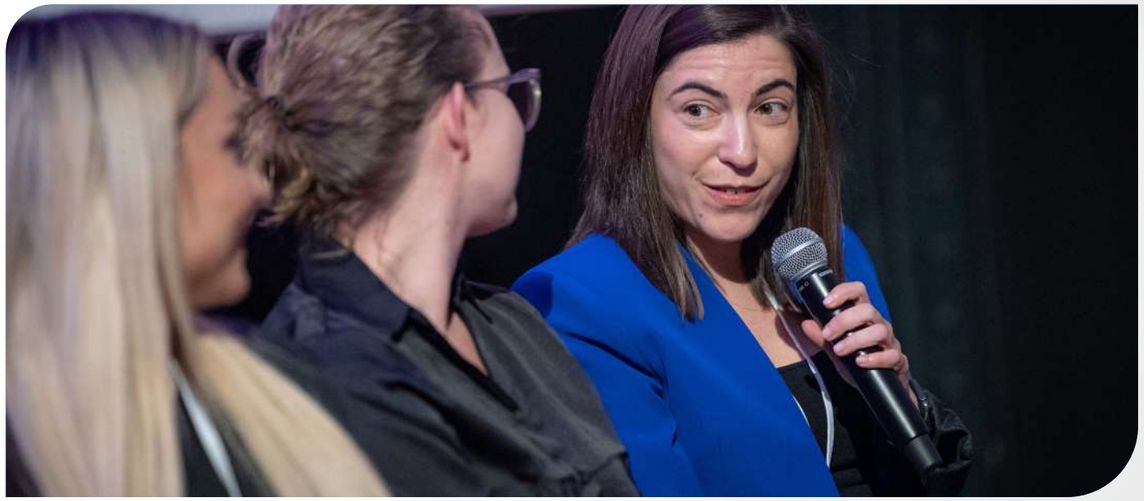
Synne Sauar
CEO and Co-Founder, Litech

"Startups in Europe face real structural challenges – in Norway, for example, the tax system can be so punitive that some founders end up paying nearly all their salary in taxes. It also discourages growth through capital raising and makes it harder to attract international talent due to exit tax rules. That’s why many startups, like ours, seek risk capital beyond national borders. While EU funding has long-term potential, what we need now is investor capital to meet short-term liquidity needs. Events like InnoHive 2025 are incredibly valuable – they showcase European innovation and highlight support models like EIT Manufacturing, which takes a more market-driven, investment-focused approach that startups can actually build on."



Muhammad Shahid Arshad
Scientist, Jozef Stefan Institute

“EIT Manufacturing plays a vital role in bridging the gap between lab research and real-world factory applications. In the lab, we can achieve promising results, but it’s hard to predict how they’ll perform in industrial environments. Since 2022, we've seen how EIT Manufacturing brings these two worlds together, offering researchers a broader perspective on manufacturing and innovation. It’s changed the way I approach product research – moving from a narrow focus on individual components to thinking about entire systems and their market potential. What sets EIT Manufacturing apart is the environment. Events like InnoHive 2025 don’t just present research results – they spark discussions about European strategies and emerging market needs. That perspective is invaluable. As someone who’s spent most of my career in academia, I’m now seriously considering launching a startup, supported by the ecosystem EIT Manufacturing has built. They’ve already helped more than 1,000 startups – and I believe many more will follow.”



Conclusions from InnoHive 2025

There was a real sense of optimism about the future of European manufacturing at InnoHive 2025, mixed with a sensible dose of realism in the face of the many challenges it faces. From the opening keynotes to the final applause for the Innovation Award winner and the concluding remarks by EIT Manufacturing CEO **Caroline Viarouge**, there was plenty of pragmatic reflection about the manufacturing sector's global competitiveness at a critical juncture between transformation and geopolitical uncertainty.

What emerged strongly across all the panels was a clear recognition that this industrial competitiveness depends heavily on new technology and digitisation, but also Europe's unique industrial ecosystem. Whether the topic was AI, digital twins, cybersecurity, sustainability or the opportunities of dual-use innovation, the core message was clear – Europe is very good at developing the right technologies, but that their successful application depends on the right collaborations, the right funding and ensuring the workforce has the right skills.

One of the core themes at the event was the growing importance of dual-use innovation. As Europe faces mounting pressure to strengthen its industrial sovereignty, dual-use technologies – innovations serving both civilian and military purposes – have moved from the margins to the centre of strategic debate. And so it was at InnoHive 2025, where many panellists and delegates saw this as a necessary evolution and a chance for the EU to shape standards and frameworks that will drive security, resilience and economic growth.

A consensus emerged that this reindustrialisation will depend on industrial resilience and so policy to help steer it should now be linked closely with national security, energy independence and technological sovereignty – and with that will come the many opportunities ahead.

There was no doubt in anyone's mind at the event that Europe certainly has the talent to take full advantage of these opportunities, but with industrial transformation, a skills gap in the workforce has also emerged and this is a vulnerability that needs to be addressed.

Sessions on workforce development highlighted how industry must do more than simply upskill, however. It must also rethink how it attracts people and then retains them. Many ideas were discussed, like those from SKF and EIT Manufacturing, demonstrating bold approaches to talent transformation. Diversity and inclusion, for example, are key, not just as nice-to-haves but as core strategies for competitiveness.

As manufacturing becomes increasingly data-driven, interconnected industrial systems become more exposed to cyber threats. Speakers stressed that cybersecurity must be embedded into every layer of digital infrastructure, from sensor networks to cloud platforms and not treated as an afterthought. Several panellists warned of the widening gap between technological adoption and security readiness, particularly in SMEs, where awareness and resources often lag. The need for coordinated European frameworks, shared threat intelligence and investment in cyber-resilient architecture was repeatedly highlighted.

Many stories of startups also stood out around the conference centre and they were both inspirational and instructive. The pitching sessions for the EIT Manufacturing Innovation Award 2025, for example, provided a platform for a new generation of European entrepreneurs, building solutions for circular

battery production, sustainable shipping, intelligent automation and much more. With **Stilfold** picking up the award with its origami-inspired approach to metal forming, we saw how design, sustainability and scalability can all go hand in hand.

If InnoHive 2025 had a final message, it was that of all the questions being asked in the discussions taking place, many of the right answers are now beginning to take shape. There was a sense of optimism amongst the speakers and the delegates that Europe's industrial future, though facing enormous societal and geopolitical challenges, is secure because we have the technological know-how, the people and the political will that will be enough to see us through.

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Co-funded by the European Union

InnoHive 2025

Executive Summary