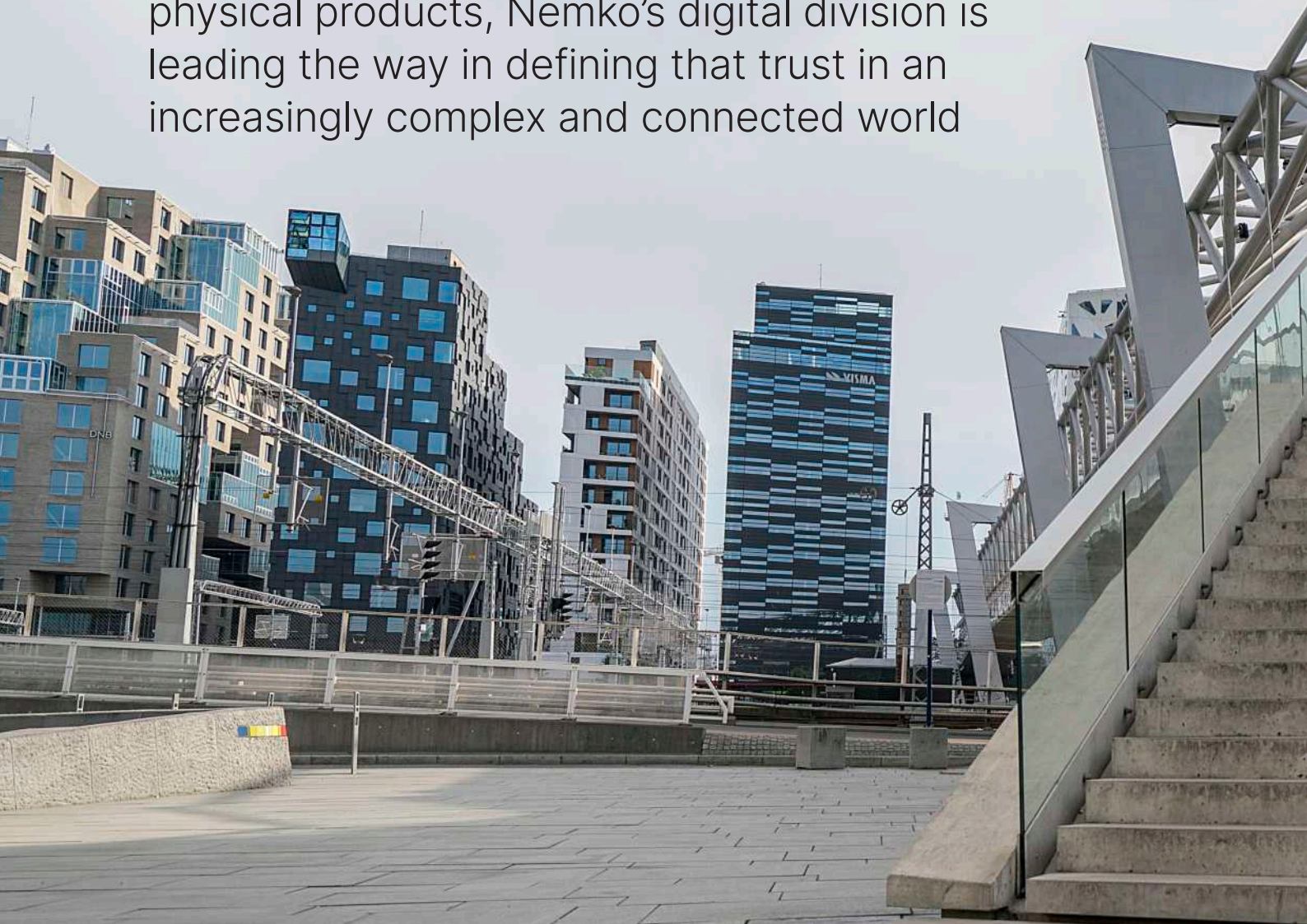




Nemko
Digital

Nemko Digital's Pioneering Approach to **Trustworthy AI**

With more than 90 years of building trust in physical products, Nemko's digital division is leading the way in defining that trust in an increasingly complex and connected world



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In the past five years, the use of artificial intelligence (AI) has grown rapidly. According to Forbes, 83% of companies claim that using AI is a priority. The widespread use of this technology, in part thanks to generative AI tools such as

ChatGPT, has led to a wider conversation about governance.

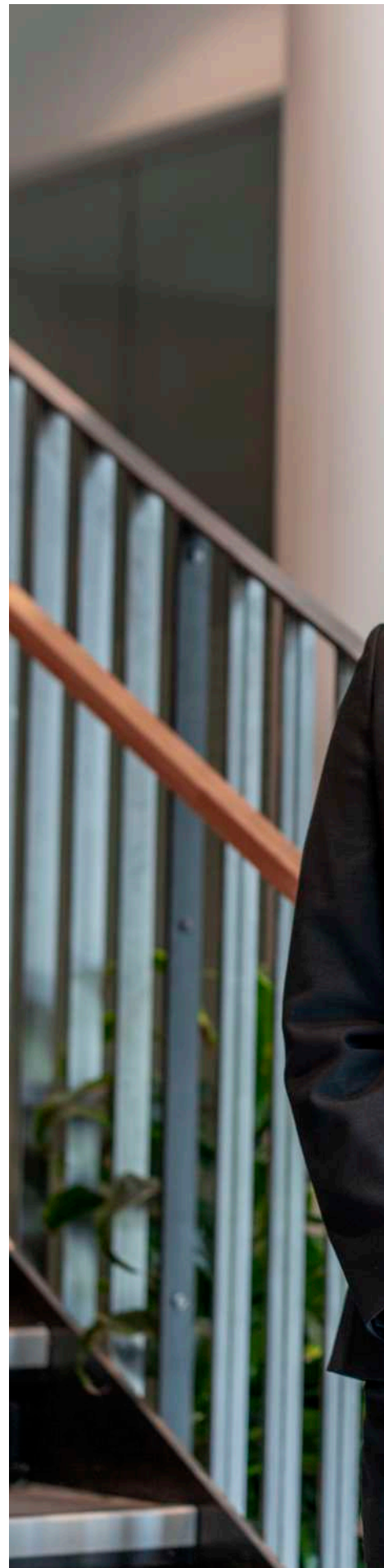
Dr Shahram Maralani joined Nemko, a Norwegian electrical testing and certification company, in 2022. At the time, he focused on the company's digitalisation work. "The goal was to bring the company closer to the customer and improve internal efficiency," he explains.

With the rapid rate at which technology was evolving, Nemko saw an opportunity to expand its business. "I put my hand up to design the strategy for 2024 to 2027," Maralani says. "That project took just under a year, and as a byproduct, we identified seven or eight topics that didn't quite fit into the current business."

Nemko primarily focuses on hardware design and safety for big players, as well as for smaller component manufacturers. With much of this work firmly rooted in certification, testing, and market access for electronic manufacturers, any idea linked to software didn't quite fit.

Maralani and his team saw the opportunity for a broader approach. He says, "After a four-month evaluation, we chose to focus on AI governance and trust. Nemko Digital is the result of that work."

Of course, this isn't Nemko's first experience of working with AI; it understands firsthand what it means to build a system that uses artificial intelligence. Alongside IT consulting and software development company Neologix, Nemko is building its own AI tool. "Neologix has been helping





Shahram Maralani
Managing Director at
Nemko Digital, and
SVP & Group CTO at
Nemko Group

Shahram Maralani is Managing Director at Nemko Digital, and SVP & Group CTO at Nemko Group. He has over two decades of senior leadership experience internationally. He has a PhD in Management, an MBA and a degree in Engineering.

About Nemko

Nemko is a global leader in testing, inspection, and certification, trusted by companies since 1933 to ensure compliance with standards and regulations worldwide. With roots in physical product safety, Nemko has expanded its mission into the digital realm through Nemko Digital, its pioneering division focused on building trust in digital systems and technologies.

Offering services across pre-compliance, product certification, cybersecurity, and functional safety, Nemko helps clients navigate complex regulatory landscapes with confidence. Today, Nemko Digital leads efforts in digital assurance, prioritising security, transparency, explainability, and the ethical use of AI. Backed by decades of expertise and a global team of specialists, Nemko supports organisations in creating safe, reliable, and trustworthy digital products and services.





us with some work on our internal systems,” says Maralani. “One of the specific projects they were doing was to build an AI system for internal knowledge management.”

This naturally led to further joint work with Neologix on AI governance and trust services. “They come with the knowledge of the applications and solutions enabling these AI systems,” Maralani continues, “and we come with the governance and compliance side. Together, we create a wider proposition for the customers we are working with.”

MOTIVATIONS FOR FOCUSING ON AI GOVERNANCE

While AI has been embedded in businesses for some time, people haven’t been discussing it openly until much more recently. This visibility has changed how organisations think about the technology. It also caused a shift in the regulatory landscape, as Maralani explains: “When the regulations started to take shape, we saw that there was going to be a tsunami of change coming in many industries.

“There was the EU AI Act, but we also looked at other regulations and frameworks in other parts of the world. With AI coming to more and more industries, companies need to ensure their AI-powered product features and internal tools are safe and trustworthy.”

As part of this, there’s a focus on ethical AI use. This is where Nemko’s experience comes in. “AI might feel new, but the ethical use of technology is not a new topic. There are a lot of technologies that could be used in the wrong way.”

THE NEED FOR A GLOBAL TRUST FRAMEWORK

For companies putting an AI feature into a product, there may be basic rules they need to comply with. This all depends on the market, but beyond that, things get murky. “The standards and technical requirements



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“AI might feel new, but the ethical use of technology is not a new topic”

– Shahram Maralani Managing Director at Nemko Digital, and
SVP & Group CTO at Nemko Group

for AI are still being developed,” Maralani says. “Companies don’t really know what exactly is coming.” This becomes even more complicated for organisations working globally. The regulatory approach in Europe is more stringent than in other parts of the world, but some other markets are still in the process of trying to define their regulations.

“This is really challenging,” explains Maralani, “because it is evolving so fast. People are a bit lost on what to use to show that they are taking a safe, ethical, and reliable approach to AI.”

With no global framework to help companies benchmark themselves when producing AI features, Nemko Digital stepped in. Its AI Trust Mark is a way for organisations to demonstrate that their approach to the technology is safe and ethical.

NEMKO DIGITAL’S AI TRUST MARK

Much like similar industry marks, the AI Trust Mark isn’t a guarantee that a product is 100% safe. Instead, it shows that a company has been through the necessary due diligence. Depending on the organisation, the framework can cover ideation and concept development, model selection and training,

data sourcing, supplier relationships, privacy practices, cybersecurity, and ethical considerations.

Obtaining the AI Trust Mark signals to customers that the product is trustworthy and that its development processes align with key regulatory frameworks, including the EU AI Act, ISO/IEC 42001, and NIST’s AI Risk Management Framework.

While safety and reliability are important, the ethical use of AI is also key. The EU guidelines on ethics in artificial intelligence state: “The human-centric approach to AI strives to ensure that human values are central to the way in which AI systems are developed, deployed, used and monitored, by ensuring respect for fundamental rights.”

Obtaining the AI Trust Mark shows a company is taking AI governance seriously and backing that up with internal processes. “It tells stakeholders that this isn’t just a company claiming to add AI without really understanding what they are doing,” says Maralani.

Part of the assessment criteria is establishing whether AI is necessary for the use case. Beyond this, it all comes down to the specific application. “We examine how that use case translates into technology

choices,” explains Maralani, “the standards being followed, and how the company ensures third-party vendors are aligned with the same principles.”

In electronics, this is often much more straightforward as the technology only needs to be assessed once. With an AI-powered tool, it's not that simple, as Maralani explains: “You cannot bring it for annual inspection. You need to have continuous monitoring and testing of your AI system. Our job is to ensure that the company has the process in place to constantly assess the safety and reliability of the technology.”

CHALLENGES IN PROGRAMMING ETHICAL DECISION-MAKING

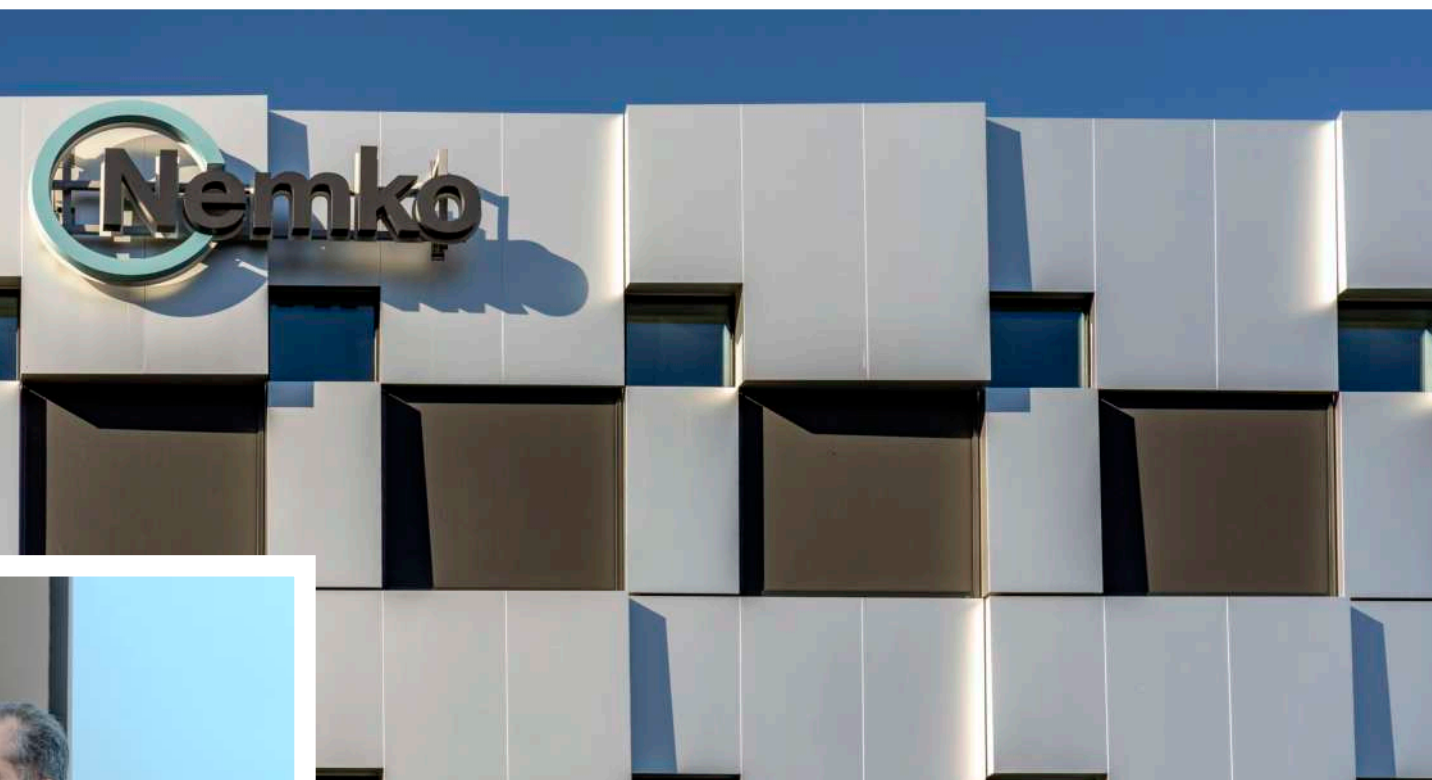
As generative AI took off, the conversation around how AI made decisions suddenly shifted to how it created content. There have been tragic cases of AI chatbots that have given harmful advice or used discriminatory language. There was also the bizarre case of a user who convinced an airline's chatbot to give him a free ticket by playing on the way the AI had been trained to understand and respond to human emotion.

“Two years ago, we thought the answer would be to build software to check these tools for safety and reliability,” says Maralani. “We quickly learned that's not the right path. The tech is evolving so fast that the solution you build today might be obsolete in six months.”

Maralani uses the memory feature from OpenAI - the company behind ChatGPT - as an example. He says, “What kind of risks does that introduce? If you're in AI or data science, you can think of hundreds of these examples.”

This is a feature that was rolled out quickly to all users. For companies using OpenAI's API, this could impact how their





tools work. Without the right understanding of AI and the internal processes in place to monitor changes, potential issues could go unchecked.

“That’s why I believe this space needs to be left to people deeply embedded in the tech,” says Maralani. “If you’re advising clients, that’s one thing. But building software in this space without a deep tech foundation is risky. Right now, I think the companies closest to the core of technology are the ones that will succeed.”

LOOKING TO THE FUTURE

Nemko was established in 1933 as the Norwegian authority for electrical safety. When harmonisation happened in the early nineties, the company saw this as a chance to go beyond country-specific oversight,



and it's been adapting to those changing trends ever since.

The integration of AI into our daily lives is just another shift in the technological landscape. Nemko Digital carries forward the same vision as its parent company and applies it to AI trust and governance. "We want to be one of the top five players in this space," Maralani explains. "Our goal is to make the world a safer place. As we grow, we are helping more citizens across the world choose products that are safe and reliable."

With its AI Trust Mark and AI Maturity services, Nemko is focused on the ethical use of AI as it stands now, as well as in the future. With the rapid evolution of these

technologies, those implementing AI into those products must understand how to keep users safe through continuous monitoring.

As AI becomes an even more integral part of our lives, the technological landscape will grow more complex. This is especially true amid the development of different AI standards across markets. Maralnai says: "Five years down the line, it's going to be significantly different, not only for Nemko Digital, but also the whole industry."

"We are going to see companies that are doing assurance and trust of AI services; maybe in ways we are not even thinking about at this moment."

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everyday products, the pressure on organisations to address ethics and security will only intensify. With users growing more AI-literate, they will start to ask tougher questions - about how systems are trained, how their data is used, and whether these tools are truly keeping them safe. Add in the wave of new regulations, and many companies will be forced to rethink their approach to AI, not just to stay compliant, but to maintain trust.



“All digital technology carries some kind of risk, but AI has more societal and ethical considerations. That’s not something people can ignore,” Maralani concludes. ■