

the Voice of efca



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Big projects ahead as new roles emerge in the engineering sector

Speaking for the first time to the Voice, new EFCA President Kevin Rudden – CEO of Garland Consultancy, Ireland – commented on NLingenieurs centenary and the future of the industry. “Over the past decade and across Europe, several national engineering consultancy associations have commemorated their centennial, thereby demonstrating their social relevance and the contributions they made to improve the built and natural environment in which we live.” In the case of The Netherlands everyone will remember the tremendous achievements the country made in water management.



“While thinking about the past we need to contemplate the future” Kevin Rudden continued. “As Engineers in the modern world, we are facing a technological revolution. A revolution in the way we design, construct, operate and manage our infrastructure. The speed of the current



Jacolien Eijer

We need a return to the big and bold engineering projects of the past, those that changed national landscapes and enshrined the culture of a people. Jacolien Eijer, director of the Dutch association of independent engineers, NLingenieurs, is not daunted by the huge technical and social challenges we face today, from climate change and energy transitions to digitisation and a fully networked society, which once again require bold thinking. But to solve them, she says, all parties – clients, engineers, contractors and investors – must recognise that their roles have changed and they need to co-operate in a new way.

Ms Eijer has been looking back at 100 years of engineering in the Netherlands and remains in awe of a Government’s vision and capacity that built, for example, the 32 km dam of Afsluitdijk which holds back the North sea from the inlet-laden coast of Holland. “Government engineers were powerful people and created huge change for a country,” she says. “That compares with Governments today that are having a sort of identity crisis.”

“They have come from a situation where, a few decades ago, they went into great detail and directed grand infrastructure projects,” she continues. “Recently, they’ve been taking a step back, which fits with the networked society we are building, but actually they’re not needed as they once were. People can find each other and connect and don’t need that sort of government anymore.”

We need a destination point on the horizon

As the Dutch Government passes much of its previous role in project development to the market, Ms Eijer is clear about what its new job should be – setting a course for the country and providing stable conditions for the market. “We need that point on the horizon to sail towards,” she says. “Making long-term choices is an important task. Our Government has to learn that – and others too.” The pressure is already on from private companies. “We all hope it will happen,” Ms Eijer says, “so we can stay on top of the big changes we face.”

Setting a destination is also an important role for the EU. “The public sector in general should be deciding what kind of countries and continent we want to be,” she says. “With these major transitions, there are many different directions possible and it’s better to choose. It doesn’t matter so much what you choose, but without a plan it is difficult for the private sector to invest. Governments must be making choices where its interesting for companies to get a return.”



breakthroughs has no historical precedent. The components we use are transforming. The way we design is transforming. These dynamics affect every single business, every industry, in every country and frankly every human being on the planet in one form or another."

Pointing to the future, the President referred to a recent publication written by one of the EFCA Board members, Maurizio Boi and his sister Patrizia. "Maurizio and Patrizia demystify the technological revolution unfolding before our very own eyes; artificial intelligence, robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, quantum computing and evolving organisational structures. The utter uniqueness of this book is highlighted by how these new concepts directly impact on the operation of a modern-day engineering consultancy business. They further integrate these concepts with the practical management of works on site and explore technological innovations in restoration."

Kevin is sensitive to all these developments as today the only constant is change. He therefore established a Future Trends working group at EFCA level. "As a sector we need to keep abreast of all new technological and organisational developments impacting on our business with a view to service our member associations and hence the engineering consultancies within our membership", the President concluded.

"Engineering", Engineering the Future or the Future of Engineering?" the publication by Maurizio and Patrizia Boi is for sale on-line at <https://payhip.com/b/7em1> for € 10.



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Thinking, designing and engineering – taking the initiative

It's the growth of 'integrated contracts', using the market to do much of what the Government used to, that have forced what could be the most significant change for independent engineers. "The Government continues to push down on price," Ms Eijer explains, "and has let go of the 'thinking, designing and engineering' elements of big projects. Contractors now have DNA that's primarily fixed on cost-optimisation. That's excellent, we need it, but not at the expense of everything else. In the meantime, we have lost the part that used to 'think in value'. Independent engineers can fill that gap."

It's not just new skills that are needed in engineering companies, it's new perspectives and a willingness to step out of character. "Twenty years ago, it was very effective to be unremarkable when advising clients," says Ms Eijer, "and that's what we did, we responded to questions the Government posed. Now they're not asking questions because they don't know how. It's up to us to take the initiative."

"We have a lot of answers"

"We have huge social issues and challenges: climate change, energy transitions, circularity, digitisation, and a networked, fully connected society that can actually do a lot on its own. It's a world in flux. We really don't know what will happen and I think our industry has a lot of answers. We can progress but only if we work together, as an industry. That is our new role – to rise to the challenges with big ideas in a more co-operative way."

"Sometimes engineering companies hold on to what they think is a golden egg, believing it will make them a lot of money, but in the end no one wins," bemoans Ms Eijer. "Today's major issues are not for tackling alone. We are starting to recognise this."

Attracting new talent

Draining the polders, creating new land, were a massive Government task and brought benefits not just to the Netherlands but to the wider world as the reputation of Dutch water engineers spread. Ms Eijers is inspired by such a past and adamant it's possible for her industry to foment inspirational projects for the future. "If we show we are interested in major transitions," she says, "we will attract the kinds of engineers we need. That's just a matter of time. We also need to position our industry, to move from the diffuse picture we have of ourselves, and to raise our profile."

More power and impact working together

The EU is one player that is already playing its role well, at least in Ms Eijer's own field of water management. She sees the Water Framework Directive as a great enabler. "If we had to work alone it would cost too much to create water projects across our borders. We could invest a lot of money, for little effect. In fact, it's not possible for us to work in water quality, safety, air pollution or energy transition if other EU countries are not working with us."

"Horizon 2020 and the R & D programmes are bringing people and countries together. They are doing a lot," she says "and this is good for us. We are too small to work at that level on our own and by working together we can have more power and impact in the world."

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EFCA has member associations in 26 countries, and is the sole European federation lobbying on behalf of engineering consultancy and related services, a sector that employs around one million staff in Europe. EFCA contributes with a strong and cohesive input to legislative actions of its national associations on issues affecting market conditions. Furthermore, the organisation works as a Europe-wide platform for national associations and their member firms to gather relevant facts and discuss issues with their counterparts.