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EVENT REPORT
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The third edition of the EIT Digital Conference took place in Brussels on 11 September, featuring a range of experts in the digital world from high-ranking political officials to deep-tech entrepreneurs.

The event offered participants the chance to take part in hands-on demos, giving them an insight into the technologies that will shape the digital future of Europe. These innovative workshops covered the fields of digital wellbeing, infrastructure, cities, industry and finance.

Interactive thought leadership sessions were also on the agenda and participants were able to hear from industry experts on wide-ranging issues facing Europe, such as the future of digital education, the future of digital platforms and scaling up digital businesses.

This Event Report covers the highlights of the EIT conference and sheds light on some of the future innovations dawning on Europe's tech horizon.

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Innovation funding and digital skills crisis: More can be done, says EIT Digital CEO

By Samuel Stolton | EURACTIV.com

[EPA-EFE/RITCHIE B. TONGO]

"Are you surprised that the leading software companies dominating the world today are American platforms?"

These are the words of EIT digital chief Willem Jonker, speaking at the EIT digital conference 2018 in Brussels on Tuesday (11 September), where he highlighted a lack of digital skills in the EU as well as the need for more funding in innovation across the continent.

A central theme in Jonker's opening speech was the fact that Europe is at risk of lagging behind global competitors if it does not bridge the funding gap that exists between Europe and the rest of the world.

"Our GDP is world class. However, Europe is not really a leader in e-commerce." Jonker said.

"A majority of the digital trade happening in Europe is not coming from EU platforms. With the right investment, we can perform better."

Jonker's announcement comes after the commission's proposed budget plans up to 2027 that see an increased investment in digital innovation through the Horizon Europe programme as well as an additional €9 billion outlay for the Digital Europe project.

Horizon Europe is the commission's 7-year scientific research initiative meant to succeed the current Horizon 2020 program, while the Digital Europe programme is a funding commitment designed to increase the EU's international competitiveness as well as develop and reinforce Europe's strategic

digital capacities.

Tuesday's conference also drew attention to the digital skills gap that exists across the EU.

"Europe's education is world class. We generate many doctorates." Jonker said. "But, if you look at the number of graduates in science, technology, engineering and mathematics, China leads the way. We lack an enormous amount of people with digital skills."

Research carried out by the European Commission shows that 9 out of 10 jobs in the not-too-distant future will require digital skills, while around 44% of Europeans aged between 16 and 74 years of age don't have the basic digital skillset required to perform in the future jobs marketplace.

However, some of the most striking figures come from the gender gap in the digital sector. A 2016 study concluded that there are four times as many men than women in ICT-related studies, and the share of men working in the digital sector is 3.1 times greater than the share of women.

Speaking at the conference, Director-General for Education, Youth, Sport and Culture at the European commission Themis Christophidou paid heed to the challenges presented by the digital skills gap, together with the fact that women are disproportionately underrepresented in the industry.

"Today, many Europeans lack the appropriate digital skills in the jobs market," she said.

"There is clearly an ICT mismatch in Europe. Thousand of vacancies remain unfilled. Moreover, fewer women are interested in the digital sector. No one should be left behind."

The hurdles likely to be presented in the future with regards to the digital skills gap are further exacerbated by a lack of training programs offered to younger students in the educational system.

Christophidou drew attention to the alarming vision that "most people entering primary school today are likely to work in jobs that at the moment don't exist."

"In an age of polarisation, radicalisation and disinformation education must protect our democracies. Technology should be embraced as a method of teaching," she added.

EURACTIV spoke to Tuomas Syrjänen, founder of the digital services company Futurice, to chew the fat over how Europe can meet the challenges of attracting more people to work in european tech.

"What I'm really concerned about is how we can retain our workers who are trained in Europe and are then tempted to leave for the US and occasionally, China," he said.

"I think it would also be really interesting to consider the methods by which we could attract workers back to Europe who have previously left for America. We need them to inspire the next generation of tech entrepreneurs who will eventually go on to be the innovators of tomorrow."

But for the EU to compete with the US and China in digital skills, does it need to have a greater degree of centralisation in terms of its tech industry?

EURACTIV spoke to Sorbonne University's Professor Jean-Michel Dalle, who has been working with EIT Digital since 2014 in the area of innovation and entrepreneurship.

When pressed on the lack of a central hub for technology innovation in Europe, Dalle was clear that it may just not be in the European makeup to have a concentration of one particular industry in a particular geographical location.

"In Europe, we have a polycentric culture. Its architecture has been defined by a long history, but that does not prevent us from adopting strategies that are in line with our competitors," he said.

"It's too late for us to build a single digital hub akin to Silicon Valley in California or Shenzhen in China, but that doesn't mean that innovation across the continent has to suffer."
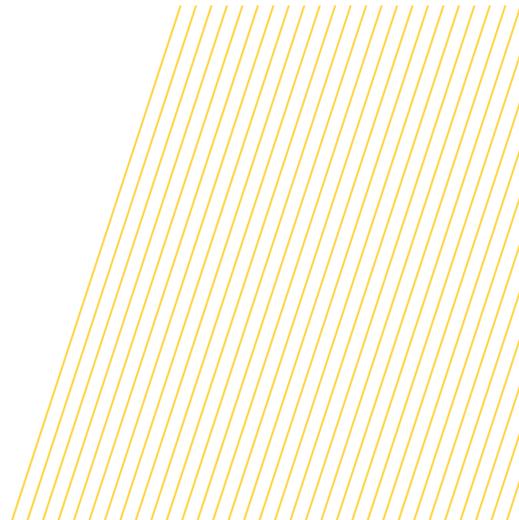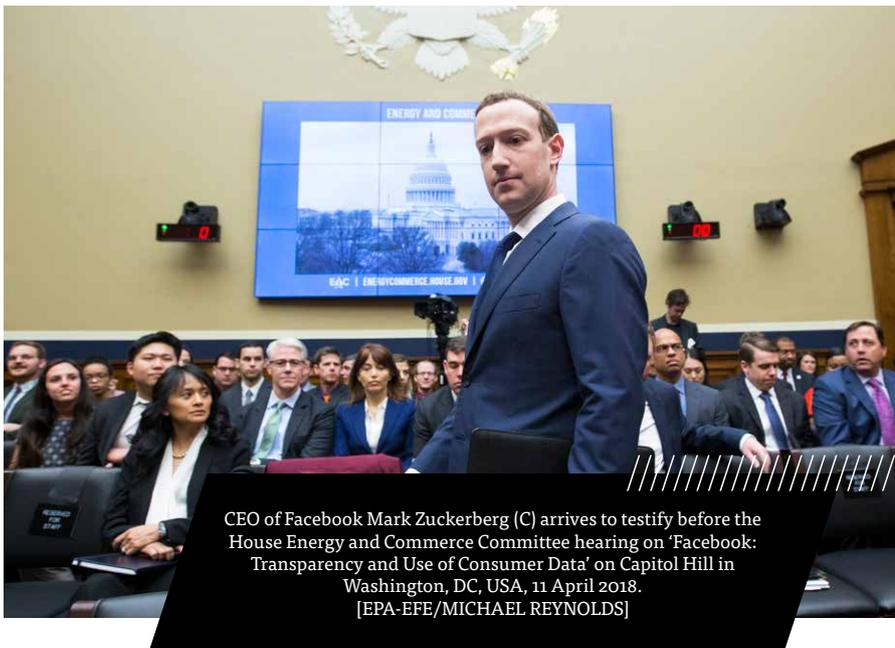
INTERVIEW

EIT Digital chief:

"With no serious competitor to Facebook, the situation is not good"

EURACTIV.com

CEO of Facebook Mark Zuckerberg (C) arrives to testify before the House Energy and Commerce Committee hearing on 'Facebook: Transparency and Use of Consumer Data' on Capitol Hill in Washington, DC, USA, 11 April 2018.
[EPA-EFE/MICHAEL REYNOLDS]

Europe needs to develop competitors to tech giants like Facebook instead of introducing more regulation of the tech industry, EIT Digital CEO Willem Jonker told EURACTIV in an interview.

He said the next EU budget should focus on helping home-grown European companies use the continent's research in areas like artificial intelligence to compete on a global scale.

Looking at the Juncker Commission and the European Parliament term winding down next year, how does that in political terms affect EIT Digital? What are your priorities now?

If you look at the Commission's innovation research programme and Horizon Europe you see that for EIT Digital the situation looks very good. First of all, for EIT, there's a growing budget, there's much more emphasis on innovation. And we see outside Horizon Europe an additional €9 billion for digital, in particular around artificial intelligence and cybersecurity.

All in all, I think compared to previously, digital is much more exposed in the plans of the Commission, so that's very good news. Although I still think that the impact of digital is not always very well understood. We're making enormous progress, in the popular press digital topics are quite prominent.

Nowadays privacy, Facebook-Cambridge Analytica, and cybersecurity are of course much bigger topics. And digital finance and digital currencies, bitcoin and the underlying technologies like blockchain, have a lot of mystery around them. Driverless cars, AI, you see that the digital topic is really all over the place.

Nevertheless, if you look at investments in Europe and compare it to the US, we still have a bit to go. We're working on the digital single market, and that should go much, much faster. If you see the time it took to have roaming charges off the table, I think by that time everybody was using Wifi and WhatsApp. No

one was using normal calls anymore anyway.

Do you see EIT's focus on specific technologies shifting now or in the coming years?

The big topics are the digitisation of our industry, cybersecurity is always a hot topic. Digital finance is an emerging area. Digital currencies have a lot of promise but on the other hand, nobody wants to use them only overnight so you have digital currency fluctuation. You see those areas becoming very prominent. The other area is the maker industry and Europe will have to reinforce that.

You see protectionism going on, you see society being torn between the workers that see threats in technology and the part of society that only sees opportunities in a lot of technologies. Such a divide leads to an unstable government. The Brexit discussion is a sign of that, the American presidency is a sign of that. We see instability rising and our governments will have to find an answer to that.

Social cohesion is really important for economic wealth, they reinforce each other. Those are the topics that are ahead of us and for us as EIT Digital, we contribute to the digitisation of industry big time. Robots are not a threat but an opportunity. That has to do with education, with awareness creation, that also has to do with building the factual picture rather than just spreading fear.

We are acting in those areas. I see cybersecurity expanding, I see digitisation of the industry expanding. Our education system is under pressure. In the Netherlands, universities don't have the capacity to have enough AI students. Our education system needs to be more flexible, more open and also itself use digital technologies to be able to

quickly scale courses in case there is a growing demand.

Public outrage has increased in recent years over how certain technologies affect privacy or how automation could potentially replace human jobs. Should politicians address this anger directed at technology companies?

Technology can be used in a constructive way but it can also be used in a destructive way. The feeling I have is that the current discussion misses the ethics element in the development, and it misses the technical discussion when it comes to the argument you see being made in public. Because it's a lot about opinion, it's a lot about prediction, it's a lot about speculation and it's little about facts.

That being said, every technological revolution or transformation has met resistance. As such, that is not new, resistance has to be taken seriously because in the end technology has to land in the society and society has to accept and embrace technology. Otherwise technology will be a divider, but it can also be a uniter. I see those fears, I see those arguments, I think some of them are right.

The dominance of single parties in certain markets is by definition not good, whether it's a technical domain or any other domain. As long as there is no serious competitor to Facebook, the situation is not good. But that's a general principle that would be the same if it had to do with a municipal oil company or a single hospital or what have you. It doesn't have much to do with technology. It has to do in this case with the fact that the digital world develops very fast.

Legislation has difficulties to catch up, understanding it is also difficult because: can you translate physical world rules to the digital world? We're still struggling with that. That's why we're now in a situation where

things are turbulent because they go very fast, people are sometimes taken by surprise and don't understand the consequences.

There shouldn't be a dominance of single players. That's something that has to be addressed maybe by breaking up companies. The focus is too much on technology regulation and trying to stop companies from technological development. I don't think that's the way to do this.

Is it EIT Digital's role to help support competition in Europe and develop competitors to these American tech giants like Facebook?

If you look at our budget, it would be a little bit too optimistic to think that we can immediately compete with them. What we can do is plant the seeds that can grow to a more serious presence of European companies in the digital world. That's what's currently lacking.

The way we do that is we attract talent to Europe, we are seeking this talent not only with technical skills but also with entrepreneurship skills. We help them to flourish in an ecosystem where we stimulate them to be entrepreneurial within existing companies or to create their own companies where we help them to scale.

There are certain periods in their lives where they need some help. And one of the periods is the scaling phase. Starting a company in Europe is not that difficult, you can raise your first investment money from angels, friends, family. However, when you need €5 or €50 million, there's a kind of gap.

If you're only on the radar of the big investors, you can get upwards of €50 million upwards because you more or less have proven yourself as an interesting investment. But with a bit of hand-holding some can be led to bridge that gap.

OPINION

DISCLAIMER: All opinions in this column reflect the views of the author(s), not of EURACTIV.COM Ltd.

Successful data innovation starts with enthusiastic curiosity, rather than technology

By Neil Crockett | Rolls-Royce PLC

A strong focus on staff engagement, empowerment and collaborative innovation are the three pillars behind Rolls-Royce's digital transformation. [Rolls Royce]

Turning innovation into business success requires, first and foremost, an organisation that actively seeks and embraces a digital-first mind-set and culture, writes Neil Crockett.

Neil Crockett is Chief Digital Officer at Rolls-Royce PLC. He will speak at EIT Digital's upcoming conference "The Future of Europe's Digital Innovation" on 11 September in Brussels.

Rolls-Royce is moving fast, transforming our business from an engine manufacturer to a technology led company. We consolidated our markets to concentrate on Civil Aero, Defence and Power Systems and are focussing on Electrification, Data Innovation and a Digital First Culture as key parts of our "Pioneering the Power that Matters" strategy.

Developing such culture successfully is all about creating a movement, a bottom up approach where everyone becomes curious and active around digital. We are developing a digital Rolls-Royce, not just a Rolls-Royce digital strategy, where enthusiasm is perhaps the most important word.

Despite the pace of digital technology, delivering successful data innovation within Rolls-Royce has more to do with applying our expert knowledge across an increasing expanse of data than any technological intervention. In light of this, turning innovation into business success requires, first and foremost, an organisation that actively seeks and embraces a digital-first mind-set and culture, one that drives purposeful action throughout our business.

This is a bold proposition and can only be realised by ensuring we truly engage, excite and enable our people to experience the transformative power, data innovation can have for both themselves and Rolls-Royce. To achieve this, a variety of methods, tools, practices and support mechanisms have been introduced to help cultivate and accelerate the digital first mind-set and culture,

helping to driving community-led movements, not just top down digital strategies.

At Rolls-Royce we have developed the Digital Academy; an internal global community and resources ecosystem that is focussed on promoting lifelong learning through sharing and learning digital skills, raising digital awareness and establishing a digital first mind-set throughout the company. Offering a variety of self service, online learning solutions developed or recommended by our own employees, the Digital Academy aims to cater for anyone looking to grow their level of digital capability in the direction and pace that suits them and their future aspirations.

To complement the Digital Academy, we are also establishing a set of specialist guilds, consisting of expert practitioners in fields such as advanced analytics, data engineering and artificial intelligence. These groups help advance the skills, self-serviced tools and methods to ensure our data innovation capabilities keep up with the relentless pace of technology and enthusiasts feel they are part of a wider team of likeminded colleagues which offers learning and career progression.

To help enable and sustain the digital-first mindset and skills being amplified within Rolls-Royce, we have started to accelerate collaboration through multifunctional cells, where domain teams from across Rolls-Royce operations work closely with data experts in multifunctional data innovation "sprints" to tackle specific problems based on hypothesis that indicate specific real financial value – often with an "in year" horizon.

This cell structure enables people to be empowered and develop their ideas in a highly relevant business framework, follow them through and have the focus and capabilities to complete their mission and realise the business value. It also provides an environment where external capability can help influence thoughts. We work with small companies and universities to stimulate ideas and help get people excited. Once you have people engaged and working on innovative projects, a collective enthusiasm around digital possibilities can be developed and teams naturally work together to make it happen.

Make no mistake, Rolls-Royce is focussed and determined on embracing a digital-first mind-set and see this as a substantial change to our corporate culture. Traditionally Rolls-Royce had a strong engineering background, where our projects are run through business cases that show what will be achieved, and once approved we move forward, build and deliver. But digital is not like that, it is not a linear thing. Digital is more fluid, it can take you down many paths. You have to get into that mindset of trying and learning as you go, moving forward and continually being agile.

Rolls-Royce also has a history of excelling in building things ourselves. We are proud of our strong engineering heritage and pedigree, when we needed to acquire additional capability we have been successful in either partnering through structured JVs or through supplier contracts. Yet to be a successful digital company you have to think differently, you need a more flexible approach to develop the latest cutting-edge technology solutions. So to empower Rolls-Royce's digital strategy and delivering value from data innovation – we needed to build a network of external, as well as internal, innovators.

That's why Rolls-Royce's data innovation team R2 Data Labs has been committed to collaborative innovation, building an ecosystem of digital partners that harnesses the latest thinking and technologies from a wide community of innovators. One example of this is our growing collaboration program with tech start-up accelerators. These partnerships help us to engage with technology innovators who can challenge our ideas, bring us new technical insights or ideas for Customer proposition and encourage our employees to get a broader perspective on the possibilities of data innovation and share in their pace, inventiveness and energy. At the same time, we also help these innovators grow. It's a win-win situation: we're giving exciting start-ups access to a bigger data innovation stage, while tapping into their potential, so we can accelerate the value we create for Rolls-Royce and its customers.

Our strong focus on staff engagement, empowerment and collaborative innovation has already proven crucial in unlocking the most undiscovered hard business value from data. These three pillars are success factors behind Rolls-Royce's digital transformation from engine manufacturer to a technology company.

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