TEN SECTION

Innovation in the digital era

Reinventing our economy

Proceedings of the conference on 21.04.2016
European Economic and Social Committee and Confrontations Europe

European Economic and Social Committee

CONFRONTATIONS EUROPE

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Table of contents

2016 Digital Day:
Innovation in the digital era: reinventing our economy

The European Economic and Social Committee and Confrontations Europe held a Digital Agenda Conference entitled "Innovation in the digital era: reinventing our economy" in Brussels on 21 April 2016. With nearly 300 participants, well-known and high-level speakers, interactive debates with the audience, and the participation of representatives from the Dutch Ministry of Economic Affairs, a member of the French Digital Council, EESC members and Commissioner Oettinger, this event was undoubtedly a huge success.

Opening remarks

Pierre-Jean Coulon, President, TEN section, European Economic and Social Committee

In his opening remarks, Mr Coulon, President of the EESC's TEN section, welcomed participants and said that everyone should feel at home at the EESC – the home of organised civil society in Europe, where we hold discussions and exchange ideas in pursuit of the fundamental objectives of the European Union, and above all the well-being of our citizens. He stressed that internet and digital technologies and their impact on our work and European citizens' daily life was one of the most important TEN section topics, as they could make an important contribution to achieving economic recovery and combatting unemployment. Mr Coulon added that Confrontations Europe was particularly welcome at the EESC as it was a specific think tank, focusing not just on research, but rather on the needs of European citizens and the day-to-day lives of people.

Marcel Grignard, President, Confrontations Europe

Mr Grignard said that Confrontations Europe was considered to act as a bridge between civil society and the institutions that worked to ensure the well-being of European citizens.

The digital revolution was disrupting our way of life, the way we worked, produced, consumed, etc. The way we lived would change. This could bring both opportunities and risks; Europe should make sure it transformed risks and anxiety into opportunities for everyone.

Companies were developing strategies to meet digital challenges, and so were Member States. The EU was now proposing a European Strategy. How could we be sure that we would have a common approach involving all players and generating added value? Such work required huge amounts of cooperation; and it called for a cross-cutting approach. The digital revolution could contribute to democratic dialogue. These were the societal changes facing us today. The involvement of all stakeholders and players would guarantee the best results.

Keynote speech

Paula De Winter, representing Oscar Delnooz, Manager of the Digital Economy, DG Enterprise and Innovation, Dutch Ministry of Economic Affairs

"Why is the digital economy so important? Digitalisation can change our lives, and 20 years ago we could hardly have imagined what it would do. Mobile phones are a good example of this evolution. Digitalisation can help us in tackling social challenges, from climate change to health care to transport systems, and it can aid our economy as well. In agriculture for example, in the Netherlands, milking machines are combined with data analysis systems, so that the care regime for each animal is properly tailored. This improves the animals' health and life expectancy, and it also results in a 30% increase in milk production and a more sustainable supply chain. Digitalisation helps governments to engage better with their citizens and businesses. For example, in the Netherlands, when a company submits its tax report online, this covers several of the company's obligations (the "once only principle"). Digitalisation made it possible for the Panama Papers to be disclosed to a very wide audience. There is more transparency.

However, not everyone is moving forward as fast as we may need to, so how can we speed up the digitalisation of industry and public services? To improve Europe's position, strengths and weaknesses should be identified. Where does Europe excel? For example, it has world-leading universities and research facilities, which make Europe a great place for knowledge-intensive digital start-ups. Having a digital single market, which is not yet the case, would give Europeans one big field laboratory of 500 million consumers who can use new applications. What sets Europe apart, and how can we capitalise on this? EU privacy laws could create a market for secure online products and services. The European regulatory climate means that consumers know that European businesses make high-quality and safe products. However, things could be learned from competitors. What are other countries doing to speed up the digital economy? What makes a company expand its business overseas instead of in Europe? And finally, action is needed wherever and whenever businesses and consumers tell their regulators what needs to change. For example, the commitment to the digital single market, to allow businesses and consumers to buy, sell and access their digital products and services across all Member States without borders, needs to be strengthened.

Urgent and coordinated action to make the digital revolution work is needed. This digital revolution should be industry-led, but there is a clear role for policy makers to lay the groundwork to achieve its potential. Creating open standards, ensuring trust, security and privacy, developing EU regulation and driving the single market forwards are priorities. Debates on the ethical aspects of these developments are necessary. In the Netherlands, public-private partnerships are often used. Europe needs to ensure that all action on digitalisation is developed and delivered through partnerships with industry, research communities and other stakeholders, through public-private partnerships. It is only through partnership that policy makers can strike the right balance between economic and social interests, fostering growth and innovation while ensuring privacy, security and consumer protection. It is a challenge to digitalise industry and services; it is a challenge to reach out to small companies. Many new start-ups have been able to grow and scale up. For instance, a Dutch start-up, using the new block chain technique, is able to encrypt documents and, more importantly, to ensure that those documents are selectively distributed.

Its application to the health sector is very interesting. Another example is a big data programme for knowledge and innovation, launched with industry, research and government.

Policy makers need the private sector and civil society to tell us where policy makes a difference in helping Europe to be at the forefront of the digital revolution. Skills are vital: everyone should be on board. Having a lost generation that does not have the right skills for digital jobs, that feels left behind and that cannot reap the benefits of a digitalised world, should be avoided. All people, including senior citizens, need to have the same access to healthcare (including remote healthcare) and to be able to buy products online, as younger generations do. In this respect, together with the ITC sector and based on industry needs, the Netherlands has launched the Human Capital Agenda in order to tackle the shortage of ITC professionals. The involvement of industry is crucial here.

Therefore, we need to bring dialogue out of the lab and into board rooms, factories and our homes. All businesses should consider how they can benefit from digitalisation, address emerging risks, such as cyber security, and seize opportunities for cooperation and innovation by diving into the digital community around them. Members of the public should do the same.

Speeding up the digital economy requires action on the part of all Member States, both in national policy and at EU level. This is why the Netherlands has included digitalisation of industry and future regulation among the priorities for its presidency. The European Commission Technology Package is welcome. But there is much more to be done - this conference has tackled the right topics. Human capital is one of these: developing the right skills, retraining our current workforce and adapting our education systems so that digital skills are seen as a basic need, are key issues. Secondly, we need futureproof regulation that can adapt easily to rapidly evolving techniques for fostering innovation, whilst protecting the public and the environment. And thirdly, collaborative innovation ecosystems should be created, so that industry can connect with academia, entrepreneurs can access the support they need, and SMEs can partner with big businesses and each other.

The digital revolution is happening, at a pace and a scale that will affect everyone. Europe should act urgently in order to be at the forefront of this revolution and to tap the economic and societal benefits of the digitalised economy. To achieve this objective, cooperation is key. A clear timeframe and swift action are needed in order to determine what action is needed and to step up together, make it happen and ensure success for Europe."

Opening debate

Tobias Kollmann, President of the German "Young Digital Economy" Advisory Board (BJDW)

The digital waves from the United States hit us very hard, and the next digital tsunami for Europe was coming. Mr Kollmann illustrated this with an analysis of "unicorns". Unicorns were firms that were not yet listed but which had company valuations of more than USD one billion. Many of them can be found within the digital economy and currently numbered 161, although unfortunately not in Europe. 93 unicorns were from the USA, 38 from Asia and only 15 from Europe. Of those 15 from Europe, four were located in Germany (Delivery Hero, HelloFresh, Auto1 and Home24), four in the UK (such as TransferWise or Shazam), two in Sweden (Klarna, Spotify) and one in France (Blablacar). This was simply not enough.

He concluded that Europeans were not really present in global online competition, especially considering that the listed "Digital-big-5" from the USA had a higher market capitalisation than all listed German DAX-Thirty companies combined. A **digital "made in Europe" did not yet exist**. Therefore, there was one central question facing us all, whether we were present in the B2C or the B2B sector: "*what innovative digital business process or digital business model would enable a start-up from Silicon Valley – with considerable venture capital on board – to disruptively change the next industry*?" The answer was: "do it yourself!" Having the courage and trying to build up the appropriate platform on your own is the bottom line. We needed to take action ourselves and open ourselves up to online competition, as quickly as possible. Why?

"Digital transformation" was important for every industry, because innovative digital business models also attacked traditional industries. No industry could escape this trend, due to two phenomena:

- On the one hand, small but very aggressive start-ups had tried to tackle single blocks of the value chain. They did this with superior digital business processes and took bites out of the market. This was- for example - what Fintech-start-ups were doing in the banking industry and what Mr Kollmann called the **piranha effect.**
- On the other hand, he noted that the big digital players used their market power to leave their original fields of business and enter new markets. They trampled everything in their way with their digital market power. Mr Kollmann called this the **elephant effect**.

He went on to give a few examples. Google had trampled the insurance industry by getting an insurance license for the European market via London. Netflix had tried to kill linear television. AirBnB was already a game changer in the leisure and travel industry. Amazon had just started its same day delivery in Germany, putting huge pressure on companies such as Saturn and Media Markt and on the food industry, which was already suffering from Amazon Fresh or Amazon Pantry. Google had attacked the

automotive industry and tried to convince customers by offering digital services inside cars. Action was needed – immediately.

The old rule whereby the big ate the small no longer held true. The new rule in the digital world was that the fast ate the slow.

There were three solutions that could bring a halt to this extreme trend:

1. We needed to **build up innovative start-ups** with the potential to become the next generation of global market leaders in Europe.
2. We needed to **shift our traditional industries and small and medium enterprises into the age of digitalisation** so as to retain as many firms as possible.
3. Because neither option 1 or 2 was going to happen any time soon, we needed to bring both sides together and to **foster cooperation between start-ups and traditional industry or SMEs**. Start-ups represented digital innovation, and traditional industry companies represented market access. This was likely to create a win-win situation for the digital economy in Europe. This was especially true for the B2B-Sector. **Cooperation between European industry and European start-ups would enable our continent to become a digital player**.

<u>Amal Taleb, Vice-President of the French Digital Council (CNNum)</u>

Ms Taleb welcomed the "Digitise EU" communication released by the European Commission. She acknowledged the importance of issues such as data centres, the European cloud, and 5G, as well as standards and certifications, which would help us develop a competitive advantage for industry.

Quotation by Brutus: There is a tide in the affairs of men.
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of their life is bound in shallows and in miseries.
On such a full sea are we now afloat,
And we must take the current when it serves,
Or lose our ventures.

She referred to these digital developments as a tide. She stressed the urgent need to make this tide work because the next one was already on its way and would focus on new types of computers, blockchains and other issues that would shake the foundations of our political and social structures. She believed that what the European Commission had proposed help to make sure that European industry was in a position to make use of those new technologies.

She put forward some key ways to make the most of these current and upcoming tides:

First, she addressed **education and skills**. Too few people had a proper grasp of all these technological issues so we **needed to make sure that we pooled all our knowledge in Europe**. People should be taught about electronic issues. In other words, coding was very important, but it was also crucial to make sure that people were aware of broader issues related to maths and history. She called for higher education authorities and academics across Europe to cooperate in order to help develop the digital sector.

Secondly, she addressed **funding** and ways **to fund and develop businesses**. She pointed out that, in Europe, we created our businesses on the basis of debt and not on the basis of our own resources, meaning that our companies were dependent on the traditional banking sector and so were not yet in step with our culture's technical developments.

Thirdly, she called on public authorities **to set up a legal framework to develop confidence, which needed to be clear, readable and properly applied across territories.** To do so, she stressed the need for standards that could be readily used by companies and that would enable them to develop in Europe. Praising a European legal approach, she said that it might be a good idea to challenge non-European actors and force them to align with European standards, especially with regard to personal data protection, infrastructure, identification rules and other security issues. All of this would allow European companies to grow in a legally certain environment so it was a competitive advantage. She also addressed developing confidence in platforms. Looking at B2C relationships with platforms, she said that European consumers did not have confidence but they nonetheless had to use non-European platforms. In this regard, she stressed the need to think how European businesses might be able to communicate among themselves and choose their partners in Europe solely on the basis of merit. She also called on the EU and Member States to think about the impact that the digital transformation was going to have on jobs and work.

Questions and answers:

- *Knowledge was still kept in silos. For example, if someone was researching diabetes, he would not usually be in contact with the person responsible for drawing up school menus. Perhaps in a world of more effective digitalisation, it might be possible to enable such contact. This was also a cultural issue.*

Tobias Kollmann

"On the platform question: I would agree if we had general digital competence on the customer side but we don't. The average time needed to click on the Terms of Services/Terms of Use (TOS) is 1.2 seconds. Customers are not really interested in legal circumstances. They want the added value generated by the platforms for their daily lives and there is no European alternative. We don't have the competence on the customer side to know what happens to the data if we put it on the platform; on the other hand, we don't have any alternative European platform that might provide customers with higher data security because they don't ask for it. Returning to the education aspect, what we can do is make Europeans aware of general competence regarding digitalisation. This could be the answer. We need to

take a broader perspective as regards use of digital technology and what it really means for people's daily lives.

On the first question, it illustrates that ultimately, any kind of digital task is a European task. The digital market of each Member State is too small. We need a broader, European perspective, especially in the field of digitalisation. In this respect, we welcome initiatives by the European Commission. But we don't have a political structure in each country to support this. We don't have a ministry for digitalisation in each country. Discussions in Germany will start after the elections next year."

Amal Taleb

"On the first question: the seeds have been planted. It's quite common to find cross-disciplinary laboratories where we bring together specialists from different areas: tech experts, philosophers, economists, nutritionists, etc. For instance, the Saclay University in Paris brings together legal experts and other researchers who have expertise in tech matters. We need to pool this knowledge at European level.

On the second question, when you accept TOS you have no idea what's written there, you don't read them. Consumers don't know what they are signing. We have a role to play vis-à-vis traditional consumers. We also need to make sure that we look at this from a digital economy point of view: we need to make sure that people have readable contracts. That's why I was talking about a stable and secure framework at European level. Then we'll have tools at our disposal to help create synergies between various economies and digital ecosystems."

Moderator: ***Carole Ulmer****, Director of studies, Confrontations Europe*

ROUND TABLE 1

The digital economy at the heart of EU competitiveness: the role of public policies as a tool to foster economic growth and new business models

- What regulatory framework and European initiatives are needed to enable a new industrial policy 4.0?
- To what extent could the digitalisation of EU industry strengthen its leadership?
- What is the right policy approach for unleashing the potential of innovative services?
- How can public authorities keep pace with digital technologies that disrupt sectors and markets and have an impact on our business models and policies, as well as the way we produce and consume?

Speakers:

- **Holger Kunze**, Director of the European office, German Engineering Association (VDMA) (DE)
- **Khalil Rouhana,** Director, "Components & Systems", DG CONNECT, European Commission
- **Jenny Taylor,** Manufacturing policy, Advanced Manufacturing & Services, Department for Business, Innovation and Skills (UK)
- **Joost Van Iersel,** President, ECO Section and rapporteur of the EESC Opinion on "Industry 4.0 - The way forward" (still ongoing), European Economic and Social Committee

*Session moderator: **Antonio Longo**, EESC member and President of the Permanent Study Group on the Digital Agenda*

Antonio Longo, EESC member and President of the Permanent Study Group on the Digital Agenda

The first panel analysed the Commission Strategy on Industry 4.0. Mr Longo said that all industrial sectors were concerned by the digital revolution. It would involve winners, losers and costs. Therefore, the cumulated competitive gaps had to be bridged.

This round table focused on two series of questions: do you think the rules and regulations will be sufficient? What European initiatives are needed to enable a new industrial policy 4.0? What is the right policy approach to unleash the potential of innovative services? How can public authorities keep pace with digital technologies that disrupt sectors and markets and have an impact on our business models and policies, as well as the way we produce and consume?

Khalil Rouhana, Director of "Components and Systems" Unit, DG Connect, European Commission

Industry was one of the pillars of the European economy – the manufacturing sector in the European Union represents 2 million enterprises and 33 million jobs. Recent studies estimated that digitalisation of products and services would add more than €110 billion of revenue for industry per year in Europe in the next five years.
Delivering on its strategy to create a Digital Single Market, on 19 April 2016 the European Commission launched its first industry-related initiative. The aim was to mobilise around €50 billion of public and private investment by 2021 to help manufacturers catch up in the global race for the fourth industrial revolution.

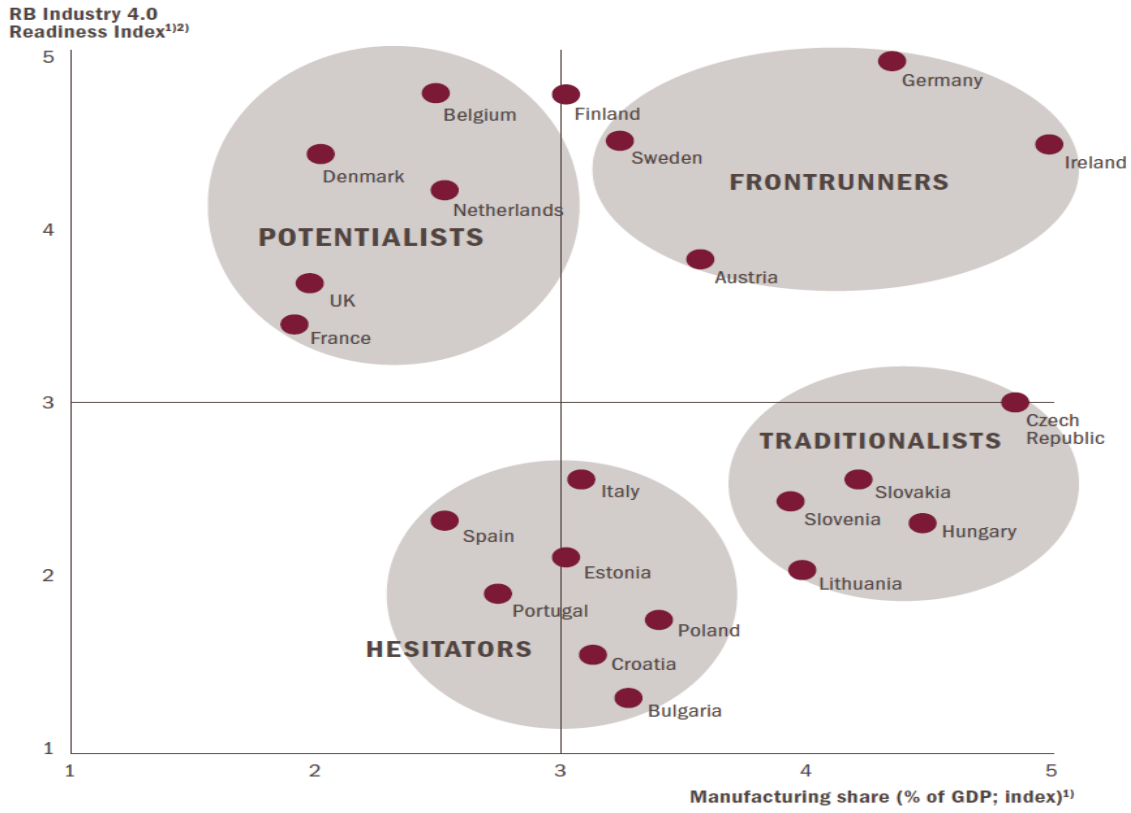
The "DigitiseEU" package was composed of four communications outlining measures. The Digitising European Industry initiative was the umbrella initiative that had put forward a set of EU-level measures to support and link up national initiatives for the digitalisation of industry. The package also comprised other initiatives, namely: the European cloud initiative to develop cloud-based services and a world-class data infrastructure to ensure science, business and public services reaped the benefits of the big data revolution; measures to speed up standard-setting processes to boost digital innovation; and a 2016-2020 *e*government Action Plan to boost the public sector's role in stimulating demand for digital solutions.

What was at stake with digital innovation? Digital value chains were critical for the competitiveness of all sectors. Three dimensions of value creation from digitalisation could be highlighted: innovations in products of all types (new or more efficient products), digital transformation of processes, and radical/disruptive changes in business models, blurring the boundaries between products and services. All these effects profoundly reshaping value chains all around the world. That was why it was crucial to think digital when designing a new product, a new process or new business plans.

Technologies were driving change: the Internet of Things (embedded software, sensors, connectivity, etc.), Big data (analytics, storage, cloud, etc.) and artificial intelligence (robotics, automation, machine learning, self-driving, etc.) were at the heart of this revolution.

Where did Europe stand? Europe had strong digital strengths and solid professional and vertical markets in the automotive, industrial, medical, aerospace and defence fields, as well as leading companies in those fields. However, not all sectors were concerned.

Mr Rouhana said that Europe also faced many challenges. **Despite strong digitalisation in high-tech industries in some Member States, there was slowness and disparities in adopting digital solutions in SMEs and non-tech sectors**. Less than 2% of SMEs used advanced digital technologies. Moreover, they still did not use digital solutions to innovate their own products. There was therefore a gap between high-tech companies moving forward, and many other firms still lagging behind. The economy as a whole had to move forward. Europe also faced fresh competition from the non-EU internet/web industry. A fragmented landscape of standards and lack of interoperability (there were around 30 national initiatives on "Industry 4.0"), a strong need for digital skills and re-skilling of the workforce as well as legislative and regulatory issues were also challenges that the EU had to tackle. He also stressed that Europe still encountered strong disparities in terms of digitalisation readiness: while Germany and Ireland were frontrunners, Spain and Portugal were hesitant.



What to do about it? There were three prerequisites: an effective digital single market – the Commission launched its strategy in May 2015, dealing with platforms, copyright issues and e-commerce – world-class digital infrastructures (not only telecom, but also cloud and data infrastructure) and easy access to finance.

Mr Rouhana stressed the need to step up our digital innovation capacity. The main objective should be to ensure that any industry in Europe, big or small, wherever it was located and whatever the sector, could benefit fully from digital innovations to upgrade its products, improve its processes and adapt its business models to digital change. Member States were active on Industry 4.0, but we needed a framework to avoid fragmentation and allow for efficient coordination and scaling-up of these initiatives. A comprehensive policy initiative would enable us to combine various policy instruments (financing, legislation and coordination) and steer bottom-up innovation as well as support for targeted measures. Addressing the whole value chain across Europe and opening up new opportunities for start-ups and SMEs in a real DSM was key. To that end, fostering public-private partnerships for leadership in digital value chains was an important tool. Furthermore, prioritising and speeding up industry-driven standardisation was a central point of such a comprehensive strategy. Mr Rouhana acknowledged that legislation sometimes needed to be adapted to the digital age, so the European Commission should closely analyse what should be done in terms of data ownership, security and liability. He also said that Europeans were not yet ready for the digital age and so preparing them − through education, training and re-skilling − was critical, and involved initiatives aimed at rethinking the workplace more globally. Finally, this comprehensive strategy should tackle the issue of pooling resources.

Holger Kunze, Director of the European office, German Engineering Association (VDMA)

H. Kunze and J. Taylor

Holger Kunze represented the German Engineering Association (VDMA), a strong German industry of machine builders with millions of employees and firms that were market leaders. This was the case of a typical successful industrial sector facing the digital revolution. This transition was called Industry 4.0 in Germany. Companies were very engaged in the process of adapting to this transition. Although there was no blueprint for each and every firm, everyone was trying to find their own way.

The Commission communication was a good starting point, showing that work was being done on an EU framework for Industry 4.0. Mr Kunze said that VDMA was slightly disappointed with the Digital Single Market package: the whole industrial dimension was lacking, with the focus on the consumer side.

However, he said that further steps still had to be taken.

First, he called for an Industry 4.0 Digital Single Market - i.e. a single market for digitised products - stressing the risk of fragmentation given the many different strategies in each Member State on the digital revolution. He said that a debate at EU level on the necessary legal framework was essential. He focused on the legal uncertainty that some firms felt regarding data issues. Who owned the data? Who had the right to use which data? These questions were being asked increasingly frequently and we had

no answers. A debate on those issues was needed to determine whether the current framework was correct.

Secondly, Mr Kunze underlined his concerns about skills. He said that firms did not need IT nerds but rather people who were familiar with production technologies, who knew how to deal with customers and who had a good understanding of IT. Although the EU Commission had limited competences in this area – this matter was in the hands of the Member States – it was supportive of good communication and coordination on this key topic.

Jenny Taylor, Manufacturing policy, Advanced Manufacturing & Services, Department for Business, Innovation and Skills

The UK welcomed the Commission communication and its coordination role which was beneficial both nationally and internationally. Ms Taylor said that the UK had worked - and would continue to do so – with the Commission in this process and that dialogue should continue to spur on all Member States to learn from each other throughout this collaborative process. She also underlined the key role that industry had to play in this process and strongly welcomed this industry-led and broad-ranging initiative.

How was the UK dealing with this topic? The UK was working on a national innovation plan to be published in the summer. One of the main challenges to be addressed and discussed at EU level was assisting the great innovations being developed in academic or technical institutions to jump into the markets so that they could be used.

The UK was strongly committed to creating the right conditions for growth for our firms. The UK strongly believed that cooperation with industry was key and that the level of discussion should be global.

Joost Van Iersel, President, ECO section and rapporteur for the EESC opinion on "Industry 4.0 - The way forward" (still ongoing), European Economic and Social Committee

Mr Van Iersel began by calling for silos in our thinking to be smashed. For instance, all EESC sections should engage in discussion on the digital revolution. He felt that there had been a clear paradigm shift with the digital revolution: the horizontal dissemination of opportunities brought with it a totally different outlook for industry as well as for governments. A change of mindset was needed in businesses but also on the public side.

He said that competitors all over the world were moving forward rapidly, especially the US with the huge amounts of funding devoted to this process, the contribution from the Pentagon to civil projects or the important venture capital market. All these elements showed that the EU still had a long way to go.

Speed, scale and unpredictability of production; reorientation of value chains and fragmentation risks; new relationships between research institutes, higher education and the private sector; new business models; links between small and big firms, new ways of working and adapting skills; clearer links between businesses and users: all these aspects needed to be analysed and evaluated in light of the new context. This was clearly a bottom-up approach, but there was a strong role for the public sector. He also

said that the only relevant level at which to tackle those issues was the European level, as critical mass was needed.

Mr Van Iersel warmly welcomed the DigitiseEU communication. He said that the EU Commission had the following key missions: building a single market; coordinating all national initiatives into an EU framework for Industry 4.0; fostering dialogue and exchanges of best practices; engaging in the implementation process and monitoring it closely.

However, he stressed that some challenges remained. The huge discrepancies between countries should be dealt with so that everybody was on board; the focus should be directed towards SMEs and adjustments in the way we dealt with social dialogue were needed.

Questions and answers

- *How are interoperability and natural monopolies addressed?*

- *Data are today more or less the property of social networks, but these data are very valuable for our companies. What should be done about the issue of ownership?*

- *How is the reskilling of workers being addressed?*

- *What is the future of the European social model?*

Khalil Rouhana
Regarding social dialogue, Mr Rouhana pointed out that Europe should try not to be too defensive, and instead adapt its model to the new players and situations. He argued that it would and should be a gradual process. He said that there were good examples in some Member States of fruitful discussions.

Regarding monopolies, he said that monopolies were not a problem; abuse of a dominant position was the problem. The Commission was very sensitive to such abuse.

Regarding platforms, he said that the Commission would release a communication on 25 May to launch discussions on these key points.

Holger Kunze
Regarding platforms, he stressed the need not to fully compare the B2C and B2B markets. As regards the B2B market, specialised platforms *were* emerging for now but this might change.

Regarding the free flow of data, he stressed the need not to open everything to the public as there are many trade secrets that could otherwise be lost.

Ms Taylor stressed the need to engage in a fruitful dialogue with the private sector.

Mr Van Iersel
"History is work in progress; all models are also works in progress. This means that everybody should be aware of their responsibilities. Social dialogue is not only about rights and obligations; it is also about how the world is evolving and how we move with it. Dialogue is crucial. The German initiative on Industry 4.0 – built on a consensus – along with the Dutch initiative, is quite remarkable in that sense."

ROUND TABLE 2

The voice of civil society: digitalisation transforms business models across industry and services

- How can "traditional" businesses of all sizes take the digital revolution in their stride and upgrade their business models?
- What is slowing them down and what allows them to speed up?
- What do they need to drive the digital transformation and to succeed in this?
- What do they expect from public authorities – European, national and regional?

Speakers:

- **Arnaud Chatin**, Head of EU Representation office, Michelin
- **Luc Hendricks,** Director of Enterprise Policy and External Relations, UEAPME
- **Laurence Hontarrede**, Chief Strategic and Marketing Officer, BNP Paribas Cardif
- **François Nicolas,** Vice President, Head of Diabetes & Cardio-Vascular Integrated Care, Sanofi
- **Marta Zoladz,** EU policy adviser, European Round Table of Industrialists (ERT)

*Session moderator: **Gundars Strautmanis**, member of the European Economic and Social Committee*

Gundars Strautmanis, member of the European Economic and Social Committee

Mr Strautmanis opened the round table with two main questions:

- How can traditional businesses of all sizes take the digital revolution in their stride and upgrade their business models?
- What is slowing them down and what allows them to speed up?

Marta Zoladz, EU policy advisor on digital for the European Round table of Industrialists (ERT).

Ms Zoladz explained that the ERT was a forum of over 50 European CEOs representing European industry – everything from the telecom sector to steel makers, a real cross-sectoral approach to EU industry. Digital had been at the heart of our discussions for the last two years, since it was really the only way forward if Europe wanted to stay competitive compared to the US and China. The ERT had been working closely with the European Commission on the package published a few days before, with frequent meetings with EU officials about what they felt were the tools needed to facilitate the digitalisation process for industry. Not only had they been engaged at EU level, they had also been very engaged with Member States, making sure that there was cohesion and that information was shared between the EU and Member States. The ERT welcomed this package, particularly the discussion on innovation hubs. Industry has been doing a lot to invest in R&D and implementing many programmes with national stakeholders to share knowledge and make sure that universities, policy makers and the private sector were communicating. However, she said that industry could not do that alone, so they definitely needed the European Commission to become involved and push for these innovation hubs to be used. That was only one aspect – of course, they also considered the skills gap and the fact that workers, both in the future and right now, needed to be engaged and reskilled. Their concern now that the Commission had produced this package was to ensure that it was actually implemented. Ultimately, these were only communications and strategies, they were not binding. So how would the Commission make sure that they worked with industry and in partnership with the ERT to ensure that things were implemented and that these different tools were in fact used? Industry was investing heavily and working with Member States and EU policy makers, but a two-way approach was necessary. So they needed to make sure that the Commission would be monitoring the situation to ensure that the tools were used, encouraging universities and Member States to implement these tools nationally, and ensuring that dialogue took place. Once it was in place, they would be able to find ways for information exchange flows to operate correctly. If not, Europe would lag behind. Ms Zoladz said that Europe was already lagging behind. Many people who had the

right skills to help businesses digitalise had left for Silicon Valley or other parts of the world. So there was definitely a skills gap, because the people with the skills needed did not see any future in Europe and moved away. She said that industry was ready, that there was a lot of investment but a European approach to addressing digitalisation was needed. The ERT therefore called for the Digital Single Market to be finalised, making sure that there was innovation-friendly regulation in order to encourage investors to invest in digital in Europe, and the right people with the right skills.

Francois Nicolas, Vice-President for Integrated Care, Sanofi.

Mr Nicolas began by defining integrated care as services or devices as a complement to drugs - a kind of "digital plus" on top of the human care services still needed.

Why had Sanofi been investing in integrated care and new business models for some time? In healthcare, digital had the potential to significantly improve many processes, especially as regards creating new solutions for integrated care to improve patient outcomes. As a pharmaceutical company, Sanofi's traditional role had been to develop medicines for physicians to prescribe, but with diseases like diabetes much more than medicines would be required. People suffering from diabetes need much more than a drug to control their disease. They needed to change their behaviour and to make many decisions on a day-to-day basis, for instance about what they ate, how they exercised, the impact of their disease and how they monitored their glucose, so Sanofi realised that it needed to provide a comprehensive solution to this. Sanofi felt that such a solution had great potential to help society cope with a disease like diabetes, which was epidemic in proportion and which absorbed more than 10-15% of healthcare systems' spending.

Mr Nicolas explained that Sanofi had established a partnership with Verily (formerly Google Life Sciences) to contribute to the advancement of diabetes management. This new company would produce solutions that could improve diabetes care by bringing together sensor devices, data, analytics and patient-reported information. Digital technologies could make diabetes care simpler for patients and healthcare providers. Making care less complex could contribute to a shift from reactive to proactive diabetes management and make living with this disease easier, which could help patients achieve better outcomes. He said that this partnership was a very well balanced relationship which would spur on Sanofi's work in this field.

There were both internal and external challenges. Internally, the need for a **cultural shift** could be an initial barrier to digitalisation. It was difficult to switch from a business model where the focus had been on developing medicines over long periods of time to a model where companies provided creative, integrated solutions for shorter periods of time. Moreover, the pharmaceutical industry would have to acquire the **skills required for a digital transformation.** Data scientists, people with a broader knowledge of technology and employees who understood consumers would all be needed, working hand in hand with experts to develop medicines. Moreover, and as appropriate, digital could provide companies with

a direct interface with patients and caregivers. To overcome the challenges associated with digitalisation, Sanofi had entered into several partnerships with technology companies.

In terms of external challenges, trust was key. Companies would need to ensure that trust was developed when delivering their new services, something the industry could not do by itself. A clear regulatory framework needed to be established, and the larger question of what type of regulatory environment could be most appropriate, including societal concerns, would need to be addressed.

A second external challenge, specific to the EU situation and Sanofi – a French-based European company with a global footprint – was that considering investments in the US compared to those in Europe, there were two huge markets, but whereas the US market was moving quite fast and was ready for innovation, in Europe there were more challenges. However, these challenges could be turned into opportunities. Europe had considerable expertise in managing health care systems in terms of making sure that the costs were controlled, something that the US was only now starting to do. Europe also had centralised systems, meaning that once a system had been changed, whole populations could be affected quite efficiently. Mr Nicolas called for Europe to build on its strengths.

Luc Hendricks, Director for Enterprise policy and external relations

UEAPME was the employers' organisation representing the interests of European crafts, trades and SMEs at EU level. It was also a recognised European social partner. In total, UEAPME represented 12 million small and medium-sized enterprises in 35 countries, with 65 member organisations. Mr Hendricks said that 99.9% of all enterprises in Europe were small or medium-sized.

50% of all enterprises in Europe, meaning 10-11 million, were one-person companies – companies without any employees. Mr Hendricks stressed the huge diversity between frontrunners and traditional enterprises, pointing out that the main problem for most enterprises was their size. He emphasised the situation in SMEs: the owner who was also the manager had to do everything, and worked not 38 but 65 hours a week. He said: “When you are the owner of an SME and have to rethink its strategy every day, you are also a little bit reluctant when you have to introduce new technologies like digitalisation because it is a risky thing, and it’s with your own money”.

Mr Hendricks felt that the main problem was the lack of information. Information on the most basic issues concerning digitalisation was a problem. The entrepreneur himself had to look for digital solutions, which were not always easy to find. He also had to implement them and check if this new technology was compatible and interoperable with other existing tools or software, and this was a huge problem when you had to do it on your own. In recent years, UEAPME had carried out a project on how to introduce the cloud in small and medium-sized enterprises: it showed that there was a huge lack of transparency, for example with regard to SLAs (service level agreements). Many of these were fixed contracts, so it was not really possible to negotiate. For instance, if a cloud provider offered you a contract and said that there was 99.6% availability over the year, you would think it was fantastic - but in reality, this meant that for two, three or four days a year the cloud was not available. This could be a problem. So SMEs needed considerable information on digitalisation. Therefore, Mr Hendricks stressed the need for transparency in contracts.

Arnaud Chatin, Head of the Brussels office, Michelin.

Michelin had not discovered the digital world recently; it had digitalised all its maps in the 90s. The Michelin service on the Internet had been available for over 20 years. Michelin had experience on the margins of its core activity – which was to develop, manufacture and sell tyres. It now worked in the business to business area, and had launched an "efficiency tyre", which helped it manage its clients' fleet of traders. The use of sensors and data on those tyres showed that there was a problem with traders' rate of use – many traders were not used at all and the ratio at which they were filled was quite low. That meant that CO_2 was being emitted for nothing. It also showed problems with the tyres regarding pressure or premature usage. Michelin tried to offer some sort of solution to improve mobility and aimed to ensure sustainable mobility which would lead to a significant reduction in costs.

This efficiency tyre solution corresponded very closely to business to business models and required B to B data. Mr Chatin argued that there was no need for specific regulation. The main issue regarding digitalisation was the compartmentalisation of information. People might book restaurants through our applications and buy tyres on the internet, but we might not be aware of that because everything was compartmentalised, said Mr Chatin. Ultimately, it came down to one single client who was working with different parts or Michelin services but the information was still too compartmentalised. The challenge of digitalisation was to try to collect data in order to have a mix of personal and professional data while ensuring that personal data were protected. Mr Chatin described what Michelin was doing in terms of digitalisation acceleration. Michelin often discussed new ways of doing business, and had therefore bought Black Circle, one of the leading online tyre sites. Michelin also worked on BlaBlaCar. Michelin tried to move forward as quickly as possible by looking at how people were doing business. Michelin also tried to select specific innovative ideas from the start. The company had therefore selected a number of projects, the best of which were turned into incubators. These incubators also offered services and products to consumers, and Michelin often worked closely with other companies from other sectors, as well as with SMEs and start-ups.

In terms of what might be holding us back, Mr Chatin emphasised the cultural change. Michelin was an old-fashioned business and not necessarily compatible with digitalisation. However, reactivity, initiatives and risk-taking were important. He stressed the need to make sure that we had a framework which would allow these initiatives to be consistent. It was not possible to live in chaos. He stressed the need to focus on those issues. If we did not focus on this area, we would not come up with the right tools and the right offers, we would not be moving at the right speed, and this might actually lead to additional costs.

Laurence Hontarrede, Chief Strategic, BNP Paribas Cardiff

Ms Hontarrede said that the first wave – to come back to this term – was when BNP Paribas tried to acquire digital assets. The second wave was when it really had to experiment: with social media,

networks and all the interconnections. One of the main issues it had to tackle was how to cope with a culture which might be keen on developing expertise, particularly in specialist areas such as insurance, but which was not terribly willing to share skill sets. There was perhaps a tendency to focus on hierarchical structures operating in ways where key information was kept to the highest levels. All of this was changing, and BNP Paribas wanted to try and further this by working as closely as possible with start-ups - primarily in Europe. BNP Paribas did not want to impose any particular model on these start-ups: it tried to see where they were, and obviously looked for people close to its own area of activity, but this could be fairly wide-ranging because insurance affects health, transport, cars, many jobs, and so on and so forth. So BNP Paribas started various types of partnership.

One was already three years old, with a company called Telegraphy in France, which was trying to find algorithms to help people who were vulnerable at home. BNP Paribas had been working with them for a number of years now, and was learning a great deal with them.

There was another system involving BNP Paribas and l'Atelier, to identify start-ups which would be operating in fields with an affinity with BNP Paribas's own, such as a company which guaranteed operations between people selling cars. BNP Paribas was interested in car insurance for borrowers so it had been working with an incubator and helping them to develop, because it was convinced that this type of service was very important. It also worked with collaborative insurance platforms, perhaps not an approach with which its executive board would have been very happy even just a few years before. The idea now was to help these companies and keep the IP rights that they might develop with BNP Paribas. By doing so, BNP Paribas was learning to operate differently. Ms Hontarrede said that the prerequisite for further development was to move away from silos, from preconceived ideas and from prejudices, for instance about young people. BNP Paribas was trying to develop a different type of governance based on cooperation and collaboration.

The moderator then asked the speakers what they needed to drive the digital transformation and to succeed in that, and what they expected from EU, national and regional authorities.

Marta Zoladz. Industry's concerns and what was needed from the different levels had already been mentioned. As had already been said, the drivers of digital transformation were start-ups, working more with start-ups, and encouraging start-ups to develop in Europe. She emphasised two points in answer to what was needed to drive change. Firstly, the need to change mindsets. It was true that many industries employed very old, traditional European business models, which were very safe. However, she pointed out that various CEOs said that people in Europe were afraid of trying and not succeeding. Acceptance might be greater in the US – if you failed, you learned from it and went on to build something better. In Europe, people would rather stay safe than fail, so they kept to the model. She stressed the need to change Europeans' mindset as well as that of the next generation, so that the jobs of the future were held by people who thought outside the box and outside the very static models built in Europe over the ages. Secondly, she argued that Europe was very heavily regulated, so there might not be sufficient flexibility for SMEs. The ERT would like to partner with SMEs to see how we could move forward, develop and learn from them how to shift from very static models to something new and more flexible.

Regarding what to expect from authorities, she emphasised the need to share knowledge, for authorities to be an effective monitoring body and ensure coordination, and to make sure that a genuinely European approach was adopted, because it was only at the European level that we could be more competitive vis-à-vis the other parts of the world.

François Nicolas

Mr Nicolas put forward two points in terms of where public players could help. One was **data**. The clearer the framework and the more harmonised it was within Europe, the better. Healthcare had to deal with personal data and personal health data, quite another category. The key point was to ensure that trust was developed between all players by making this clear. The next challenge was the change of business model. It was not going to be easy to change the business model in healthcare − for start-ups or established companies. However, business model changes would have a major impact on the different players, including public and private insurers, and on the way healthcare providers were paid. **Europe needed to take the lead** and try to move the agenda forward, for the benefit of all patients and to reduce healthcare costs. Public **authorities should work to ensure that this issue was considered at European level** − the only relevant level if the region was to remain competitive vis-à-vis the rest of the world.

Luc Hendricks said that the challenges were enormous. He stressed the importance of ensuring that the European level took the lead. Regarding public authorities' role, he said that they should have to ensure transparency in the market and raise awareness about these challenges among small and medium-sized enterprises and business organisations. Another point was the regulatory framework. We should only legislate when necessary, and legislation should be flexible, simple and futureproof. On the other hand, he said that in some fields we would need additional legislation such as in B to B or B to C. He especially stressed the example of accessibility of data, referring to the automotive market and digital repair (repairing cars remotely). Independent service providers would not have access to certain information, and if we did not want to exclude those independent service providers then the public authorities certainly had to intervene. For many sectors where digital repair was feasible, free access to data was very important. Another role for the public authorities was guaranteeing security. People were increasingly dependent on the internet so cybersecurity was a huge problem that had to be tackled. As previously mentioned, information and data protection were very important for everyone and it was important to learn from best practices. For example, the French Commission for the Protection of Privacy had done a good job in providing small and medium-sized enterprises with guidance on how they should deal with privacy and the cloud. Before, most of the information was kept in the company itself. Now, with teleworking, for instance, people took their laptops outside the company and the risks were greater. These are things that should be tackled. E-governance was also very important, and UEAPME strongly believed that through good e-governance and the application of the only-once principle, the administrative burdens on small and medium-sized enterprises could be reduced dramatically.

Arnaud Chatin:

The success of the Digital Single Market was absolutely vital and an indispensable prerequisite. Talking about incubators, he said that in the digital sector this type of work often involved establishing partnerships with people from different countries. He did not have extensive knowledge of it, but referred to the system of aid for start-ups established by the French state which had proven to be quite

effective. He believed that it would be helpful to have something similar at European level. He called for public aid for companies and start-ups as they develop.

Laurence Hontarrede.
For the insurance sector, the most important challenge was economies of scale. She flagged up three main issues. She stressed the need to look at the individual characteristics of each country, which was very difficult for insurance. She cited the example of digital identity. This had to be legally secured not only to get clients' consent but also to deliver contractual and pre-contractual documents. Currently, there were different rules in different countries. A second issue was the circulation of data and how data were stored, whether health data or data on people holding insurance policies. The third issue was simplifying rather than making things more complex. Obviously, security for clients, especially when they purchased insurance, was key but the client would not understand more just because they were given more documents to fill in. Insurance companies were therefore simplifying the products being offered to consumers. Ms Hontarrede firmly believed that simplification along those lines would boost competitiveness and help consumers to identify a broader spectrum of offers, as well as enabling us to share across countries more effectively.

Questions and answers

Q: *Diana Kockoro from Open Forum Europe wanted to address hearing all these encouraging ideas for supporting SMEs and start-ups and UEAPME initiatives, and to flag up all the efforts to close down initiatives such as Uber in many countries, or inadequate support for Airbnb-type initiatives. She asked whether it was contradictory to ask for support for start-ups while blocking disrupters in the new technology market.*

Luc Hendricks. Mr Hendricks began by stressing that in Europe there were rules that had to be upheld. UEAPME had always said that if legislation was in place, it should be applied to everybody. He said that from the moment anyone launched a commercial activity they had to comply with the rules. If society felt that those rules should not be upheld, then the rules should be changed for everyone, not only for people trading using digital methods. Mr Hendricks argued that this was a question of fairness. Our companies paid taxes so start-ups or alternative players should also pay taxes, and comply with legislation on consumer protection, and so on. He did not see a problem and certainly not a contradiction.

Q: *Someone pointed out that in France, there was considerable agitation regarding start-ups because there were laws on capital gains and yet start-ups managed to get around the taxes on capital gains. Following this question on rules and regulations, he said that since regulation in Europe was very diverse, the French government, for example, had been able to organise this discretionary area for this particular part of the economy, these particular economic agents. To the participant, it seemed that this aggregation would result in chaos. Whether national or European, chaos was still chaos.*

Arnaud Chatin *answered by quoting Francois Michelin, who used to say "disorder is life!" Procedures were needed to maintain high-quality products and so on, but untidiness was part of life. Mr Chatin said that at least in the initial phases, there might be a certain level of disorder and untidiness, because without that, it was impossible to be creative and to make any headway.*

ROUND TABLE 3

Boosting e-skills, facilitating job conversion and rethinking labour

- How can businesses upgrade workforce ICT skills and ensure a smooth transition to the digital world? How can European economic and social stakeholders cope with the shortage of digital skills in Europe?
- What can the EU do to ensure that everyone takes full advantage of new digital technologies?
- What are the opportunities and challenges for workers in the digital era?
- What are the new forms of employment? What are the labour market implications? How can the public authorities accompany this change? Is a new regulatory framework needed?

Speakers:

- **Gilles Babinet,** Digital Champion for France, European Commission
- **Laure Batut,** Rapporteur on "Enhancing digital literacy, e-skills and e-inclusion", Group II "Workers", European Economic and Social Committee
- **Benedikt Benenati,** Vice-President Digital Communications, Renault
- **Sandrino Graceffa,** Managing Director, SMart (BE)
- **Ala'a Shehabi,** Senior Researcher, The Work Foundation, Lancaster University (UK)

Session moderator: ***Louise Decourcelle****, policy officer, Confrontations Europe*

Louise Decourcelle, policy officer, Confrontations Europe, introduced this round table which focused on

the conversion of skills and jobs in the digital era. Ms Decourcelle said that the digital transformation was an unstoppable process that would affect all sectors, so preparing the labour force for the EU's needs was a key challenge. Europe could face a shortage of up to 900, 000 skilled ICT workers by 2020 according to the Commission. According to a Roland Berger study, a number of jobs would have disappeared by 2030 and so it had to be asked whether the productivity gains resulting from the digital economy would create more jobs than they destroyed. She said that some existing jobs were becoming obsolete, others would change completely and new ones would emerge, requiring new skills. The session would address the following issues: How can we ensure that this new sector will be a real benefit for the economy and benefit everyone? How can we reskill our workers to make up for the current lack of skills?

Gilles Babinet, Digital Champion of France, European Commission.

Mr Babinet said that skills were a key sector for the future of Europe, but there had not been sufficient debate on changes in the labour market and the need to adjust human capital to meet industrial and anthropological challenges. At the moment, the debate was focusing on distortions in labour suppliers as opposed to the need for labour and by 2020, there was a risk that there would be a shortfall of 900 000 essential skills. So 900 000 jobs with high added-value, representing a certain percentage of points of GDP, would be missing if we did not take care. Digital champions had also noted that the Member States had different strategies for dealing with this shortfall. In Europe, in higher education, only 20% of all types of education included a digital component. It was not mandatory to have some kind of digital education but for instance, someone studying sociology would find that building up digital technology skills would enable them to research and cooperate more readily. Looking at start-ups, he said that they had great difficulty recruiting (CDO, CPO, CEO or data scientists) because there were no or insufficient training programmes in these areas. He stressed the need to underscore the importance of proper education and training.

The digital revolution was also going to cause far-reaching changes in the way we worked. 20th century companies would soon be as outdated as 18th century forges. Companies in the digital sector had no hierarchical structure, even when they grew very large. He argued that management and education had to be overhauled. Top management schools should think more about start-ups' future needs and stop thinking in a horizontal, static way. He called for teaching methods and the content of higher education courses to be completely changed. However, he said that it was not enough to say that "*we are entering a world where we can no longer fill people's brains: we have to teach them to search, to take risks*". Mr Babinet said that this was crucial if we wanted a continent happy to engage with the 21st

century. He called for a holistic approach allowing us to redesign and restructure an education designed after the Second World War to meet the needs of the second industrial revolution. The education we needed to disseminate would not necessarily be what was needed in the labour market because the world was undergoing increasingly rapid cycles of innovation. People had to learn throughout their lives and to think in terms of teaching vehicles such as MOOCS and SPOCS and the digital sector's capacity to think of forms of low-cost education which could meet the needs of millions of Europeans.

These were key issues. Mr Babinet urged everyone in their Member State, association and company to be aware of these profound waves of change. Europe needed to take advantage of every opportunity to help people disseminate these new skills across Europe.

Laure Batut, rapporteur for "Enhancing digital literacy, e-skills and e-inclusion", Group II "Workers", European Economic and Social Committee

Laure Batut focused on people. The EESC's stance could be summarised as follows: "*we want access and accessibility for all, security and rights for everyone, and education, education, education*". She said that work and employment were not necessarily the same thing. Innovative services and new company structures were being made possible because of the digital revolution, with new services, new productivity gains and multiple choices for consumers in terms of cross-border access to all sorts of goods, but this had an impact on the labour market and the organisation of labour. It also led to a rise in inequality of innovation revenue and in certain cases there was a fragmentation in the way labour was organised, resulting in reduced access to mainstream social protection. The digitalisation of services and employment therefore required the highest level of political attention: this was a technical issue, a management issue and above all a political issue. All levels had to be involved: the European level, the national level, the local/regional levels, companies, schools, etc. She acknowledged that the EU was trying to prepare itself to play an active and strategic role, but regretted that the human dimension had not been sufficiently taken into account until now, whether in the digital agenda, the 2015 action plan or the latest text on digitalisation of industry. She regretted that these documents were all highly technical but overlooked men and women who were at risk of losing their jobs and certainly might lose their rights. Considering the possible "Uberisation" of all services, there was a serious risk that working conditions could be dragged down.

She said that European society was facing major changes and major risks. She also underscored the need to ensure that the wealth potentially produced in Europe was not concentrated in monopolies or oligopolies, with potential abuse of dominant position. Taking the example of AirBnB, she said that the money was going to a bank in San Francisco while AirBnB held the new currency: data. She also flagged up another potential risk for Europe: if domestic demand collapsed, social protection would not be able to act as an economic stabiliser.

There was an urgent need for new inventors and new European rules. She highlighted the need for rules on the use and organisation of the market, contracts, security, liability, conflict and signatures, as well as on the consequences of the destruction of jobs and working conditions. She stressed the urgent need for education and training. The changes (demographic, digital and energy transition) were increasing the challenges that everyone would have to face. Everyone would have to develop the skills for productivity and growth to meet the needs of society.

Regarding the huge disparity in Europe regarding digital skills, she said that Europe to encourage the renewal of methodology and allow all Member States to move ahead together. However, she said that the EU only had supporting powers in education so it would be difficult for Europe to act as a driver here. She took the example of Estonia which had recently announced a programme to teach coding to all students, stressing the need to create these new jobs sources. The labour market was helpful for maintaining digital skills, and special infrastructure had to be set up to reach the poorest people.

Benedikt Benenati, Renault, Vice-President Digital Communications, Renault

Benedikt Benenati said that **digitalisation was primarily a human challenge**. He argued that there was much talk about the impact of digitalisation on people but nothing much was being done about it. Companies had to adapt to the digital transformation but this was not limited to the digitalisation of cars – it included data clients and factories (predictive issues, crash testing, factoring and data lakes). Recruiting data scientists and big data specialists was of course a priority for Renault, but for the digital transformation to be successful such skills were not enough. We needed to change the way we worked because the way we worked, particularly in large organisations, was not in line with the world of the 21st century.

Many people were talking about collaboration, fluidity, entrepreneurship and the spirit of initiative. Silos needed to be smashed and people had to be willing to take more risks. Today, large organisations were not agile enough. He said that "*Love doesn't exist; there is only the proof of love*". In other words, he called for people to move from words to action. Going forward, leaders would play a key role in encouraging collaboration and cross-functionality in a traditionally hierarchical and vertical system. The challenge lay in giving employees an opportunity to learn from first-hand, structuring experiences of sharing, peer-to-peer networks, crowdsourcing and open innovation. This could not be done through a top-down approach. Producing a tool or defining a process was not the real problem; motivating and inspiring people was much more difficult, and could not be achieved by issuing orders. Teams could not simply be asked to abandon their silos or be more creative. Very few people would naturally move out of their comfort zone – change was scary. The challenge was to move towards a horizontal approach where people were encouraged to want to change and it was the manager's new job to do so, encouraging teams to move forward and therefore helping them grow, and if this also secured long-term business all the better.

Renault had decided to launch a series of initiatives, to move from words to deeds, in order to create the right conditions for this change to actually take place. Renault-Nissan was a very good tangible example of cooperation. Renault had also been working for some months on the scrum approach, an agile approach adopted by Google. It was a flexible and holistic product development strategy where a development team worked as a unit to reach a common goal, challenged assumptions of the traditional, sequential approach to product development and enabled teams to self-organise by encouraging physical co-location or close online collaboration of all team members, as well as daily face-to-face communication among all team members and disciplines involved. For Renault, it meant not entering a tunnel and having a car at the end of it but rather having intermediate stops. Renault was trying to adopt a more cross-functional approach - with its "fablabs" in Romania for instance - and to work in such a way as to encourage start-ups and ensure good will and sufficient space to develop something different.

Mr Benenati underlined the need to deal with digital innovation, stressing the importance of leadership. He said that you could have all the skills and data but without the right leaders, progress would not be achieved. He said that there should not be only one person to deal with digital issues: everyone should be competent. Bosses who understood that innovation went hand in hand with a degree of risk-taking were willing to let go. The digital transformation began in a manager's head. To overcome these new challenges and ensure a certain agility, they realised that they needed to trust their teams, and encouraged and speeded up cross-functional cooperation and the co-creation of new solutions. A true leader wanted followers, not to be a general with troops. Without 4.0 leaders there would be no digital transformation, so community facilitators were as necessary as data scientists. General Electric CEO Jack Welch was therefore right: "*the soft stuff is the hard stuff*". It was difficult to manage the digital transformation from the point of view of people, attitudes and mindsets. Good will and more self-confidence were needed to have more confidence in others. Regarding the 900 000 potential job losses, he would not be so pessimistic, stressing that a certain amount of disorder was needed and this should be seen as a challenge and an opportunity.

Ala'a Shehabi, Senior Researcher, the Work Foundation, Lancaster University (UK)

Presenting the findings of the last Lancaster University study, Ms Shehabi addressed the future of work and policy challenges for Europe.

She did not have a particular view of the future of work since academic literature was currently strongly polarized: (i) According to the Osborne and Fraz study looking at the impact of automation and which jobs were going to be made redundant, 45% of European jobs could disappear over the next 10-20 years; (ii) on the other hand, David Autor said that we could only know what we could tell. Without taking any particular position, she stressed the need to consider both scenarios and to prepare for all scenarios.

In terms of jobs, **digitalisation would create new jobs**: data scientists and new types of engineers who would create robots and new jobs that currently did not even exist. She said that we would see job

increases as people would have to work alongside robots. She said that digital skills would be needed to use technology and work within your home and workplace and for various aspects of daily life.

She addressed **job fragmentation** through the gig economy where the labour market was divided. For instance, people could drive their Uber in the morning and work for Task Rabbit in the afternoon. It matched the idea that everyone could work for themselves and decide when to work, giving people some autonomy.

Another risk to be addressed was that **jobs were going to be moved offshore**. With digitalisation, there was more demand for people with higher and lower skills but demand for people with **middle skills was disappearing.** Lower skilled jobs would increase, moving offshore and being outsourced, and there were not enough people with higher skills to meet market needs.

The worst case scenario was job losses with mass job displacement. For instance, Amazon could decide to hire 3 000 000 robots for its warehouses. The future was uncertain. Which scenario would come to pass? Probably a combination of all three.

At the same time, given that we knew the dynamics taking place in the labour market, we also knew the digital divides in Europe: urban/rural; young people/women/ageing people; high skill/low skill; wealth inequality. These were structural problems that Europe was dealing with and digitalisation would exacerbate them. She said that Europe's digital economy was stalling. Europe was in digital recession according to the Tufts study published last year that showed that only three of 15 countries were considered to stand out in terms of digital development and nine were at the bottom. This was a challenge for Europe's digital ecosystem. The EU aspired to be the European social model with 75% employment and 3% R&D spending, but the reality was that Europe was failing to meet these targets. Europe 2020 was around the corner, yet the employment rate across Europe fell from 70.3% in 2008 to 68.4% in 2013 – a disappointing fall further away from the 75% target. R&D spending rose from 1.85% of European GDP in 2008 to 2.02% in 2013, but this was still far from the 3% target – and well behind the United States' 2.8%. Worryingly, Europe's private sector R&D spending of 1.3% of GDP compared poorly with that of the US (1.8%), Japan (2.6%) and South Korea (2.7%).

She put forward five policy recommendations for a coherent strategy for Europe.

1. **Re-centre Europe's mission around employment by putting the future of work at the centre of a digital strategy supported by an overarching and integrated EU-wide work programme on digital jobs**

- Digital work and quality jobs need to be included in the Digital Single Market strategy.
- Prioritise human capital investment in Europe's Investment Plan. Build on the success of the Grand Coalition for Jobs by turning it into an EU-wide integrated digital work programme.
- Anticipate future labour market demands e.g. cyber-security

2. **Nurture a resilient workforce fit for the future**

- Encourage schools and colleges to embed digital, cognitive and problem-solving skills into the curriculum
- Focus on access and affordability of training and supporting alternative provision such as MOOCs (mass online open courses) and COOCs (community open online courses)
- Develop life-long learning schemes and digital up-skilling strategies to keep pace with changing needs

3. **Meet the skill needs that are here and now: attracting global talent**

- Digital is a global marketplace. For start-ups, the world is your potential market. Need easier access to global talent, from Asia, India and the US to meet the skills of today. Challenges of demand need to be met.

4. Share the wealth from innovation and digitalisation more effectively through collective ownership and stronger welfare systems

- Study the possibility of "social innovation" funds
- Share value: work with businesses to understand models and benefits of co-ownership and corporate profit-sharing
- Strengthen the welfare system to raise crucial revenue needed to absorb the impact of low-skilled job losses

5. Square the circle: putting security back in the flexicurity models to address the future of work and the technologically displaced

- EU should meet its Europe2020 targets on employment and R&D and adapt its flexicurity model
- Support workers in the "gig" economy
- Learn from the ongoing Dutch and Finnish experiments on the universal basic income and its impact on digital jobs

Ms Shehabi said that Europe could become a global model by having the virtual model of innovation and social good. She underscored the need to make sure that digitalisation was inclusive and led to the sustainable growth that Europe needed.

<u>Sandrino Graceffa, Managing Director, SMart BE</u>

- **History of SMart**

SMart was the "*Société Mutuelle pour Artistes*", a mutual society for artists. It enabled artists to have basic contracts so that they could be remunerated in a stable legal framework.

When it was set up, artists did not have a clearly defined status. Wages for most workers in the arts sector were uncertain and undeclared. The aim was to establish a contract so that these workers could be paid officially. The concept evolved to a "shared company", since workers did not only want a labour contract and developed their own activities. The idea was to create a kind of mini company for every artist which would be part of a larger structure with a mutual structure.

Sandrino Graceffa said that SMart was the opposite of Uber which transformed employees into self-employed workers whereas SMart transformed self-employed workers into wage-earning employees ("*statut social de salarié").* Becoming a wage earner was a pragmatic rather than an ideological choice. Artists were a very precarious workforce so they needed more social protection. SMart offered something which seemed to run counter to the main developments today, especially in terms of labour or jobs linked to specific platforms.

- **The SMart model**

SMart developed outside institutional structures so they had to invent our own method, terminology and vocabulary. The term "freelancers" was not appropriate, so they adopted "**free workers" or "autonomous worker"**. They wanted to keep the term "workers" for a simple reason: even though they sought out their own clients and were free to organise their work these were not people who created a company in order to create wealth and live on the profits. Their only motivation was to earn a living from their work.

The second difference compared to traditional work and traditional companies was that they needed the right environment to do their work properly. This was very important and why they liked the terms "autonomous worker" or "free worker". Some people would say that being a wage earner was old fashioned but Mr Graceffa would not totally agree with that. Although it was still possible to distinguish between work and employment, he did not think that employment was dead and buried. There were many situations in which the social protection of the wage earner was crucial and needed to be kept up. A category still needed to be invented between traditional workers − whose social labour contract was based on an exchange of subordination and protection – and individual entrepreneurs who had no specific hours, people with talent. There were policies in Europe promoting individual business creation but this did not correspond to the real life of the thousands of people they met through SMart. They did not see themselves that way; they just wanted to earn a decent living from their work, which was completely different from setting up a company.

Mr Graceffa said that they offered something different from the trend prevailing in many Member States: the very fragmented, individualistic micro-company. For instance, in France more than 1 million people had registered as individual companies where there was no longer any effort to participate in a social protection system. Gradually, all of these workers were leaving our basic social protection system. They believed that there was a third way between traditional work and the self-made business man, to be based on the social rights floor. The obstacle here was that the institutions and government policy focused on individual entrepreneurship with regard to unemployment rights.

The other experience was the cooperative mutual societies to which they belonged: they were trying to invent a new model. However, the problem they encountered was that institutions and established structures did not understand their model. Aid for start-ups or companies required a registered number, and so people wanting to create work in an old-fashioned company did not fit into this category. Another example, as they were a shared company, was that people who came along with projects often used their company registered number to obtain economic aid. Then, however, they were faced with the problem of de Minimis aid which limited the public subsidy applicable to an entity such as SMart.

These were the obstacles which needed to be overcome. He put forward a number of specific suggestions:

1- This change needed to be experimental - just like tech innovation - so that ideas could be tested before being rolled out. **Social innovation** should take place in a special framework so that **new rules could be tried out**. This should be done with all institutional players (such as trade unions

and social security entities) which should all be involved in trying out new ways of doing business. A social experimental model could avoid wasting money and time.

2- **All types of work needed to be aligned with this concept of social protection.** The European social protection model was really strong so they needed to invent something new: a universal European social protection system. People over 50 who became seriously ill and needed chemotherapy, had the same needs whether they were traders, professionals, self-employed or in any other type of employment. He stressed the need for a universal approach to basic needs.

3- **Create platforms allowing for mutual structures wherever possible,** such as for insurance, accounting and everything useful for setting up a business. Everything they did in SMart could be done for others by a shared platform.

4- He agreed with Michel Boens who was behind the peer-to-peer approach and who said that **it was possible to develop platforms which used a different model than the model used currently.** They could imagine platforms where data was owned collectively by users. It was possible to imagine platforms that generated savings which were redistributed fairly. He called for Uber to be "uberised". It was important to have an Uber cooperative, an Uber that belonged to all its active members along the lines of Wikipedia.

Questions and answers:

Q: *In your view, what is the role of the trade unions in the representation of these autonomous workers?*

S. Graceffa: For a long time, the role of the trade unions was very weak because by their very nature these were not traditionally the natural clients of trade unions. These new forms of employment (part-time and autonomous workers) were not fully addressed or targeted by trade unions. SMart aimed to become the trade union of autonomous workers while at the same time organising their activities. Mr Graceffa said that they had gradually switched from this to working with trade unions to persuade them that it was in their interest to factor in the needs of these workers as well. SMart was now beginning to engage constructively with major trade unions, which were beginning to understand how the world was changing. For a long time, they had not counted this as a major pool of labour that also needed to be protected.

Nicole Alix spoke on behalf of the cooperative of commons, which was working on the future of social protection, given all the changes in employment and a world that focused on individual responsibilities. She did not ask a question, instead explaining that very few people really understood what was meant by a social protection system. Discussion was needed on how to develop the cross-generational social protection which was at the heart of the European model. However, some people were not really considering this intergenerational dimension, not because they were focusing on the past but rather because they were focusing on the future using the young digital agenda approach. They were not worried about how to protect themselves from these dangers. She called on people to try to understand the cumulative effort of past generations to build the social protection model that enabled us to have schools and hospitals. She underlined the need to consider this in relation to the new types of jobs.

ROUND TABLE 4

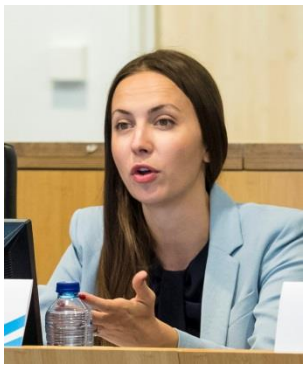
Looking ahead: new prospects for innovation

- How can we support profitable cooperation between big businesses and start-ups?
- How can we optimise the network between universities, businesses and investors, create public and private programmes, and develop incubators and ecosystems as well as hubs and clusters of competitiveness?
- How can we develop and maintain an approach to innovation that is both multidimensional and involves all stakeholders? And what would be the optimal market regulations and industrial European policies for supporting these initiatives?
- How can we transform the digital revolution into a competitive advantage?
- How do we ensure innovation goes hand in hand with social progress?

Speakers:

- **Claire Bury**, Deputy Director-General, DG CONNECT, European Commission
- **Alain Schlesser, General Manager of the Regional Chamber of Industry and Commerce, Pays-de-la-Loire**
- **Aymeril Hoang** Director for Innovation, Société Générale
- **Eva Paunova,** MEP, member of IMCO committee, European Parliament

*Session moderator: **Carole Ulmer**, Director of studies, Confrontations Europe*



Eva PAUNOVA, MEP Innovation is one of the topics that have been driving the European Parliament during the past couple of months. Ms Paunova sought to provide more optimism and indicate where Europe should be heading in terms of competitiveness. Ms Paunova sees innovation not only as a way to reinvent the EU economy but also as a way for Europe to become more competitive and prosperous and therefore to have a successful economy. Arguing that innovation was the EU economy's lifeblood, she said that the EU economy was actually digital so we should not distinguish this from the regular economy. Arguing that innovation was the EU economy's lifeblood, she said that the EU economy was actually digital so we should not distinguish this from the regular economy. She made the same point with regard to the Digital Single Market (DSM), saying that our single market was digital. However, she explained that we did so in order to have a clearer view of how we wanted to develop Europe, its regions and cities and in order for them to be competitive and fit for the digital age.

Jumping to the topic of the round table, Ms Paunova said that looking ahead for new prospects for innovation was exciting but also very challenging. She stressed the difficulty involved in predicting what was going to happen. It would be difficult for someone to say that what you were saying was probably incorrect - but unfortunately politicians were very fond of doing this. She also stressed the need to have clear goals and to work out ways to make them a reality.

First, she answered the question on how to have regulation that fostered innovation. She strongly believed that the EU should not regulate everything and supported regulation that fostered innovation. She suggested a number of things that regulators could do to foster innovation:

1. Firstly, she addressed **education**, saying that this was probably the foundation for Europe to grasp the digital revolution. She said that education systems were unable to provide the skills needed for the 21st and 22nd centuries. **Education should encourage young people's creativity and imagination, and develop the digital skills needed to work with digital technology, critical thinking and complex problem solving**. She stressed the need to steer the debate in this direction. She said that she had met with one of Richard Branson's advisors who had said that universities should be abolished because they did not provide the right skills. She would not necessarily go that far, but she said that we could aim for an education that taught the right skills to prepare people for the jobs of the future and gave people the skills that could make us the innovators of tomorrow.
2. She called for **the red tape involved in starting a business to be cut**. Start-ups complained that the excess of bureaucracy meant that they had to dedicate time to dealing with that rather than thinking how to push their business ahead. She called for good governance and good regulation that reduced the administrative burden and helped people allocate more time to innovative ideas. She argued that smashing administrative barriers would help more companies to become competitive and stressed that more competition meant that existing players would work on innovating. She cited the example of the antitrust legislation enacted in recent years in the

telecom sector. She said that this had been a marked success because it allowed new companies to access the incumbent operators' networks and enter the market throughout Europe.

3. **She stressed the importance of implementing and enforcing current legislation strictly and effectively.** She said that much of European legislation was not implemented or enforced in the Member States. She also said that legislation was being challenged by stakeholders. In the 90s in California, automobile companies producing gasoline-powered vehicles were asked to start offering their customers electric cars because the government knew that they had the means and technology but were not doing so because it was very costly. As they were very unhappy about this, they challenged the legislation and said that they did not want to be forced. The US government had to give up the legislation and electric cars were destroyed, some of them ending up in museums. She called on policy makers to be aware of the fact that legislation often came with challenges and that many people would not necessarily agree with the legislation being pushed forward.
4. Legislation could also help with transferring **technology from universities to industry,** thereby facilitating the implementation of innovative ideas through acquisitions and the transfer of those innovative ideas from universities to the private sector. She said that patterns could foster ex ante innovations: people could consult them and then were triggered to produce new innovative models.
5. She also said that innovation could be a coincidence. In order for this to happen, **financing** was necessary. She praised Horizon 2020, which was the biggest programme for financing innovation and helping innovation and research. She stressed the need to do even more to help this sort of environment and to set the right priorities. She felt that working in this way would be beneficial, but acknowledged that people's priorities depended on which European Parliament committee they sat on.

Concluding this first part, she said that she believed strongly that by working on current legislation and removing further barriers – just like the legislative proposals planned with the DSM – it was possible to foster innovation to connect the dots between countries and make Europe much more competitive.

She said that the EU had to shape the digital revolution so as to constitute a competitive advantage. She pointed out that very often, Europe was compared to the work taking place in the US in the innovative and digital sphere. Nonetheless, Europe could work effectively with its US partner. European industries were very strong but the US was very good at the tech part. Given this situation, she believed that we should not necessarily aim to produce and run new social media that would revolutionise the social media space because that was not our strong point. Instead, we could **push our industry forward and make our regions even stronger in the way they communicate with one another and exchange information, data and research projects**. We needed to foster cooperation on open innovation. Very few people took advantage of existing programmes.

She concluded by being very positive about the potential to make Europe more competitive. She said that MEPs needed to understand the need to **make swift decisions and move faster**. She welcomed the European Commission proposals but pointed out that the legislative process was too lengthy and might end up with legislation which was outdated before it was even implemented.

Aymeril Hoang, Head of Innovation, Société Générale

- **The future was uncertain**

Silicon Valley appeared to embody technological progress, and for European players it was tempting to try to replicate the US's achievements, as well as the ways in which innovation had been brought about in that country. However, Europe already had good innovation assets, such as its diversity, hubs and diversified ecosystems. Rather than focusing too much on what was done across the Atlantic, we should seek to develop these existing resources and structures.

Many players and internal relations made up the individual ecosystem of Silicon Valley, but at the same time the Valley was quite isolated from other American ecosystems. Before deciding to create a European Silicon Valley – or deciding which direction we should go – we needed to try to understand what type of future lay before us. This was a major challenge: it was currently very hard to predict how things would evolve, making it complicated to shape the future world for regulators, entrepreneurs and individuals.

FNC chips, which could be implanted under the skin, were a good example of the uncertainty of the future. These chips could replace staff canteen passes, transport passes, credit cards, passports, house keys, etc. This type of innovation raised important concerns and forced us to ask key questions. It was difficult to determine whether the ethical and legal problems associated with certain new technologies would make us reject inventions such as FNC chips. We might also refuse to use the chips for other, more mundane reasons, as people did with Google's Google Glass.[1] Or would we all have FNC chips implanted in ten years? Could we reach a collective decision that this type of progress was something we wanted, and would we be capable of resolving the inherent issues?

FNC chips were only one example. Alongside the chips, many other new inventions could illustrate how the transition from today's society to the world of tomorrow involved rapid technological development but also a considerable degree of uncertainty. Forms of artificial intelligence more advanced and far-reaching than FNC chips were being developed and would soon force us to face new challenges.

- **Cognitive friction was needed**

How should we face this uncertainty to make the most of future opportunities? A key feature of the so-called digital economy was cross-cutting applications, requiring the participation and contribution of many different stakeholders at the same time. Working in silos was no longer an option, especially since the ongoing data revolution meant that all sectors would be affected by the increasing access to personal data. The best way to obtain a comprehensive picture of what was going on was for

[1] When they were launched in San Francisco, there were fights because people did not want to be photographed wearing them.

stakeholders to work together. Start-ups and large groups could not stay isolated: they had to exchange knowledge in order to understand the environment and be able to move forward.
The French government had adopted a cooperation-based approach in its recent work with the French Tech. The initiative and project managed to break down some of the walls that had been isolating stakeholders from one another. It engaged players such as large groups, start-ups and local institutions, and encouraged them to them meet and work together. In an environment where silos had been dominant, the project was an important step forward. In order to participate, these players had to identify themselves, get to know each other and then get together physically.
Physical spaces constituting platforms for players to meet were blossoming. In the French city of Lille, the buildings of *Euratechnologie* brought together researchers, start-ups and large groups. Centres for cooperation between stakeholders had also been established in Paris. It was important to stress that this development was not always dependent on public initiatives. There were private centres such as *La Paillasse* in Paris, an open space created by biology researchers who wanted to work with people with other types of profiles. These examples, and other projects encouraging cooperation between players, had proved that cognitive friction generated new knowledge, ideas and know-how – assets that were needed to cope with the future.

- **What could large groups such as Société Générale do to allow for and enhance cognitive friction?**

The first step was to start working in a more cross-cutting manner. The hierarchical structure common among large groups could easily hinder cross-cutting work. Second, large groups should look beyond their core activities and interest themselves in other economic ecosystems. In this regard, Société Générale had concluded a number of partnership agreements with innovation centres, which could bring about cognitive friction. The partnerships made it possible for Société Générale's employees to work at innovation centres such as *Le Liberté, Le Player* and *Make sense*, sharing their own knowledge, learning and gaining know-how from people from other organisations and areas of expertise, and putting innovation at the centre of their work.
An open innovation approach was beneficial for society as a whole. Some start-ups, such as *La Paillasse,* sought to generate positive social impact. Last year, *La Paillasse* launched a competition to create a lake of health data to be used to find ways to combat cancer. Société Générale supported such initiatives and was trying to contribute to the common good. This was not pure philanthropy: it allowed Société Générale to benefit in terms of learning for its own area of interest, while also supporting such projects and contributing to a better society in the long term.
Finally, an important issue with regard to the creation of efficient ecosystems was that innovation was often tied to specific geographical areas. In larger cities such as Paris, Lille and Bordeaux, it was easy to pinpoint where innovation players gathered and could be found, but the situation was more complicated in other types of environments and it was harder to know where to go to meet innovators. One role for the public authorities should be to help players find each other and meet.

Alain Schlesser, General Manager of the Regional Chamber of Industry and Commerce, Pays-de-la-Loire

Mr Schlesser began by saying that Pays de la Loire had 3 million inhabitants with large cities − such as Nantes with 600 000 inhabitants − and was very well equipped. In this regard, he was very happy with the ecosystem created there.

Commenting on the creation of the ecosystem, he said that this was the result of a long history of public policies and a centralised state. He went through all the innovation tools: research and technological innovation called technopoles; ecological hubs; clusters and *sociétés d'accéleration technologique*; incubators; private accelerators; IRT; competitiveness clusters and more recently "French tech labels". Many of these tools had disappeared but some were still active. He said that the latest tools such as French tech labels or competitiveness clusters were meant to help a group of companies that wanted to work together to open up a cluster or technological site in order to compete for national funds with other regions and receive a French Tech label. He praised this approach that allowed regions to build up qualification points, earn a label and compete with other regions every 5 years to try to keep their label.

In this regard, he called on policy makers **to avoid recreating or artificially maintaining structures that were no longer relevant.** He supported natural selection, saying that some clusters were no longer relevant. He stressed the need to stay agile, especially in the digital environment, arguing that only the network was crucial, unlike advanced production technology which needed heavy equipment. He was also delighted to see that many of these ecosystem initiatives were no longer financed by public authorities. For instance, for the IoT city in Angers (French tech label), a private entity had put together several industrialists from the sector and set up a FabLab on smart things. Another example was the Palace start-ups which had been active for several months in Nantes, a kind of accelerator for digital start-ups and a private initiative. All of these showed that **the ecosystem had to be responsible, agile and responsive**. In this respect, he doubted that **public authorities were sufficiently flexible to keep up. He pointed out the two main aims** of the CCI Pays-de-Loire.

- First, he stressed the need for **large-scale intervention** in this revolution − which was both digital and energy-oriented − to make companies fit for purpose. In this respect, he praised the 3rd industrial revolution strategies advocated by J. Rifkin. The aim of the CCI Pays-de-la-Loire was to make the 200 000 enterprises in the area agile and flexible, so that they could really take

ownership of digital and energy innovations and the new types of economy such as the sharing economy, circular economy and efficient economy.

- The CCI's second aim was to encourage 3000 local enterprises to blossom on the territory as unicorns one day. It wanted **SMEs to be cutting edge in their own sector**. He stressed the need to work with all of these and not to try to avoid progress, saying that it was better to ride the new horses and try to get lead enterprises emerging on their territory.

He concluded by saying that **training** was still one of their biggest issues. Parisians always refused to come to Nantes because they were aware that if they brought their best digital specialists, these would soon be poached by other companies. On the other hand, if they stay in Paris, they knew that there were sufficient pools of specialists. He therefore stressed that even a city like Nantes did not manage to train enough people in the digital sector. He agreed with Gilles Babinet and pointed out that the integration of the digital component in only 20% of all types of education was too low.

Claire Bury, Deputy Director-General, DG Connect

Ms Bury agreed with Eva on the need to keep moving. She then put forward four points to develop innovation and ecosystems.

1. **Ms Bury stressed the need to take a broader approach to ecosystems and what they meant in terms of business and how companies innovated**. She said that big companies were often surrounded by small companies on which they relied to provide competition and maybe to provide innovative capacity outside their own structure (and for potential acquisition). This was happening in FinTech. She underlined the need to be aware of, encourage and try to accelerate this if we wanted smaller businesses which were really at the centre of what we did but which needed to be able to scale up. She stressed the need to grow bigger businesses which needed the right ecosystem in terms of having small businesses as well.
2. How could the existing network be optimised? She said that several national initiatives were already in place to promote start-ups and tech companies (more than 30) and **these initiatives had to be linked to learn and identify the best ones.** She also referred to the need to **promote digital innovation hubs**. The aim was to create competence centres which could be in local universities or research organisations which would then link up with SMEs and give them facilities, advice on funding, etc. Through these digital hubs, it would be possible to promote and mainstream the right digital skills.
3. **Diverse sources of funding**. Ms Bury said that this week's communication also covered blending funding and ensuring it was properly focused. She mentioned the EFSI but asked what steps could be taken to ensure it was investing and blending properly in the digital sector. She asked how the Structural Funds could be targeted towards innovation. She stressed the importance of PPP which were at the centre of what was being done in the IT area. All of this showed that the key aspect in all this financing was to identify the most important sectors on which efforts

needed to be focused. From the European Commission's perspective, the priorities were 5G, cybersecurity, etc. She said that the aim was to link up and focus these aspects.

4. **Research.** She said that if Europe was going to become a centre of excellence and engineering as well as a global player in a platform-based economy, we needed to make sure that our businesses could grasp these opportunities by **having better data infrastructures and the ability to process the data**. She called for high-performance computing and investing and for action to be taken to ensure that Europe had leading centre of excellence. She argued that this would have a trickledown effect.

Carole Ulmer asked the panellists about their expectations of European authorities.

Aymeril Hoang

Mr Hoang explained that their biggest concern was **how optimum use could be made of data.** He flagged up two main issues.

- Firstly, he said that **far too few start-ups were using data in Europe** and that we were lagging behind in terms of project financing in this area. He asked whether European rules were too restrictive on privacy and data protection: more restrictive rules meant less innovation. Therefore, he stressed the need to ask whether that was really what we wanted. We had to face up to this reality and accept that others were going ahead.
- Secondly, he pointed out that there was no level playing field in the EU, especially as regards data. He cited the example of a German start-up which enabled a customer to open up a bank account in eight minutes with a smartphone, which was legal in Germany, Greece and Italy but not in France where legislation prevented people opening a bank account online. He held that since everything was crosscutting, all these sectoral silos were distorting competition and making things too complicated. He explained that if every sector (such as health and banking) was unsure about their own rules, this did not foster cross-fertilisation of ideas. **He called for a level playing field for data over all sectors to foster innovation**.

Eva Paunova underscored two priorities.

- **Skills**. She stressed the need to work on necessary skills at a young age (business education, coding, etc.) and lifelong learning to that everyone was able to use everything that surrounded them.
- **Finance and investment**. She said that Europe needed to strengthen this aspect to allow start-ups to launch their ideas in Europe and not elsewhere. To do so, Europe should find ways to blend existing sources of funding and push them in the right direction. She underlined the importance of investing in infrastructure, in places where innovation could happen and in ways of growing businesses. In this respect, she praised the EFSI, which enabled big and small projects to get very good funding and credits. Nonetheless, she stressed the need to start working as a matter of urgency on CMU, venture capitalists and places where people could come and put forward their ideas and others could decide to invest in them. She called on the European Parliament to enforce this legislation much more quickly and to deliver on their commitments in order to rekindle confidence in Europe.

Alain Schlesser:

Mr Schlesser also welcomed the **EFSI initiative** which provided funding for the "valley of death". He also called for local platforms to be set up to finance projects, arguing that this would be easier than using the Structural Funds.

Regarding the Structural Funds and cross-funding, he said that it was now nearly impossible to convince businesses to respond to calls for tenders under Horizon2020 because they were too complex.

Claire Bury:

- **Regarding funding and priorities**, she acknowledged that there were not enough ICT projects in the pipeline and that steps should be taken to encourage more.
- **Regarding data**, she said that the new GDPR would make it easier for companies to operate more one-stop shops. The real problem was drawing the line between personal data and non-personal data and who owned them. The European Commission was looking into this. She claimed that regulation might not necessarily be the answer, but the right balance needed to be struck for companies to grow.
- **Regarding open platforms, standards and interoperability**, she stressed the need to make sure that companies could invest in technologies that they could plug in and roll out across the EU.

Concluding remarks

Günther Oettinger, European Commissioner for the Digital Economy and Society

Mr Oettinger began by saying that we were going through a digital revolution. The European Commission had been working on a range of projects and legislation to make sure that Europe stayed competitive in the digital age as well as to improve people's quality of life and employment. In the past, the digital sector had been one sector among others. We could no longer hide from the key fact that the Americans were far ahead of us in digital technology, as regards social media, platforms, cloud services, big data and other new services.

The Commissioner argued that the digital sector had changed, becoming horizontal and cross-cutting and affecting all sectors of our economy, society and industry. The Americans had a clear strategy, focusing on digitalisation of industry and society as a whole. We were focusing on European industry and had to bear in mind the changes that had happened, for example in the media sector. In the past, newspapers earned a lot of money, whereas now there was a raft of online media and blogs. This had put the publishing sector in a difficult situation. The banking sector was another example. People often did not need banking services, just a smartphone for online banking. Paypal did this and so did banks such as ING or Deutsche Bank. Then there was the insurance sector. Google was about to start offering insurance. People using Google Search were in much closer contact with them than with Allianz or other companies. Then there was the issue of mobility in the future with Tesla, Uber and Apple. They would be responsible for organising mobility and we needed them. We had seen the use of data and sensors (rain, light) and how people could develop these services. It had to be remembered that Google would be able to accumulate vast amounts of information by equipping vehicles all over Europe with sensors, and so could provide a weather service, among others.

In the future, more data would be collected, saved and used. More and more data had been saved and used than ever before. He stressed that it made sense to have a digital strategy at European level in order to make sure that our industry stayed competitive and that we did not put employment at greater risk than it already was. In order to do that, we worked with all our DGs on the "**Digitise EU package**".

With regard to **research,** he said that in Horizon 2020 there were more digital projects than ever. The European Commission had been working on robotics, developing very high-tech digital robots and sensors able to collect data. In the future, people might be able to wear jackets containing very useful sensors (e.g. digital safety bracelets directly connected to their daughters). This would be a great improvement for people's health.

He raised the key issue of **data protection,** arguing that Europeans were very sensitive. In terms of cloud services, we were a long way behind, so we needed to develop a **research cloud,** a platform for research in which very important research data would be stored and accessible to everybody.

Supercomputing was another key topic. President Obama wanted to invest in high-performance computing. We also needed to invest in these areas, although many projects were outside Europe. Over the next three to four years, we would be spending billions from the EU budget on making sure that we were able to develop HPC in Europe, 5G and general connectivity. Digital infrastructures were also crucial. He stressed the need for **high-performance pan-European digital infrastructure** to ensure that we were able to work with 5G and allow the fast transmission of data. He also identified all the data gaps in Europe.

The **roll-out of 5G** was crucial. He promised smart regulation, systems that enabled us to cooperate and invest in 5G broadband. He stressed the need for connectivity and to develop digital standards to deal with issues related to cybersecurity, IoT and Industry 4.0.

Standardisation was crucial. He stressed the need for **European standards** and a system which would give European standards a chance in the globalised world.

He concluded with the most important point on skills and qualifications. Regarding IT specialists and looking at the European labour market, Mr Oettinger said that 160 000 more IT specialists were required. He argued that we did not have enough places in our higher education institutions to cover these needs, so he pledged **to create more**. He stressed the need to encourage people to study IT, physics and electronics and to make it clear to people that they would have jobs opportunities. He also addressed the fact that there were far fewer women studying these subjects than men. He argued that young people were using many online applications but were not turning hobbies into a profession. He stressed the need to **think about the role of universities** and to make it clear to people that if they studied hard at school, and if they studied IT, this would be useful for them in the labour market. He claimed that we did not all need to be able to write software but we all had to understand what social media really was, what it had to offer, and how we could work with it. 90% of our jobs would be digitalised in the coming years or might even disappear. He therefore called for **lifelong learning to make sure that people were retrained with the right skills**.

TEN SECTION

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