Günther Oettinger, Commissioner for Digital Economy & Society

PAPERS PRESENTED AT THE EUROPEAN FORUM FOR MANUFACTURING ROUNDTABLE & DINNER DEBATE

DIGITISING EUROPEAN INDUSTRY

The core of a sustainable industrial policy for Europe

WEDNESDAY 7 SEPTEMBER

Members' Salon

European Parliament - Brussels

DIGITISING EUROPEAN INDUSTRY : CORE OF A SUSTAINABLE INDUSTRIAL POLICY FOR EUROPE

On 7 September 2016, the European Forum for Manufacturing Roundtable & Dinner Debate: 'Digitising European Industry' was held in the European Parliament, chaired by Reinhard Bütikofer, Rapporteur and Member of the Industry, Research & Energy Committee, Greens/EFA-Germany.

The objective of this Dinner Debate was to discuss the balanced approach announced by the European Commission between "boosting Europe's digital innovation capacities" and "boosting digital innovation in all sectors across Europe".

The Roundtable focussed on two main topics

- Data, Speed, Security and Use
- The right regulatory framework for data

Contributions from the European Parliament were led by Markus Pieper MEP, Cora Van Nieuwenhuizen MEP, Henna Virkkunen MEP, Angelika Mlinar MEP, Theresa Griffin MEP, Massimiliano Salini MEP, Clare Moody MEP and Maria Spyraki MEP.

Commissioner Günther Oettinger, DG Digital Economy & Society and Tomas Kakula, Head of Unit, Internal Market & Industry at the Slovak Permanent Representation led for the European Commission and Council Presidency respectively.

Manufacturing companies were led by Ericsson, Siemens AG, NXP Semiconductors, Fastems Group / Orgalime, Weidmüller Holding AG & Co.KG, GE Europe, Gemalto.

Orgalime, The European Engineering Industries Association sponsor for the Roundtable Dinner, also made presentations.

The highlights from the presentations are included below.

1. DATA, SPEED, SECURITY & USE

Saskia VAN UFFELEN, CEO – Ericsson Belux

- Digital transformation:
  - All connected in 2020
  - The consumer leads!
  - Dare to test new business models
- Too much regulation slows down the technology progress
  - Regulation is not equal to defining standards
- As a sector: Be positive in communication and manage the downside
  - Trust the future
- Digital integration in the educational system
  - Economy will change – 65% of the jobs we have today will not exist anymore in 2020 – new jobs will be created but challenge for middle class
  - WE are responsible to retrain our workforce

Dieter WEGENER, Head of External Cooperation at Corporate Technology – Technology & Innovation Management – Siemens AG

Mr Dieter Wegener, Head of External Cooperation at Corporate Technology – Siemens AG, highlighted the industrial meaning of connectivity, between people, the economy and the internet. In particular he mentioned three aspects of importance regarding connectivity:

1. The Digitalization of work chains

· Digital platforms should grow by market conditions (process shouldn't be interfered by politics)

2. The Digitalization of Products (smart products)

· Should pay special attention to the communication between machines

· Also between machines and smart phones

3. Smart Data

· Security and safety issues should be regarded separately

· Safety is related to products and machines (already regulated by legislature "EU machine directive")

· Security is where legislation and regulations are needed (f.e. hacker attacks)

Eva SCHULZ-KAMM, Head of Political Affairs & Public Co-Creation – NXP Semiconductors

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Dear Members of the European Parliament, ladies and gentlemen,

I would like to thank Orgalime and the European Forum for Manufacturing for giving me the opportunity to speak to you tonight.

NXP is the global leader in security solutions for personal identification, contactless payment, authentication, data transport and application processing. We secure more types of end equipment than any other company in the world. From the edge of the network to the gateway to the cloud, our broad portfolio of secure microcontrollers, high-performance multicore communications processors, applications processors, middleware and software ensures the devices you design and use are protected.

The Internet and Mobile revolutions have transformed our world. Today 2.9B people are online. That means 40% of the world's population.

Until 2020 we expect about 50B connected devices being in the market.

With all the benefits coming with the use of connected devices, also the threats from data manipulation, data theft, and cyberattacks are rising.

5,700 computers are infected every day. That are 68.000 per month. Attackers use malware to lock down clients and systems preferably of businesses, but also hospitals and public administrations. In 2015, European enterprises had at least a 1 in 5 chance of losing data through a targeted cyber-attack.

Even more serious: There is a severe risk that the European economy is falling behind to tap the promising emerging IoT markets. The lack of trust into smart and connected devices from businesses and consumers is a barrier to growth and jobs.

What we are seeing today is a market failure for cybersecurity: Trusted solutions are more costly for suppliers. Buyers stay reluctant to pay a premium for security and privacy.

And, we experience to a certain extent a cyber wild-west. If you are buying an IoT device – be it a simple one like a smart thermostat or a highly complex like a smartphone– you do not know: Is this secure and what is happening to your data?

But : If we want to create a free and prospering European Digital Single Market, trust in the connected world must become a key concern. Protection of companies' and consumers' data and anonymity must be placed at the heart of the connected world.

Currently there is no basic level, no level zero defined for trusted connected and smart devices we can refer to. This is why minimum requirements for security and privacy must become effective in the networked architecture and value chain as a whole: From components of simple IoT-devices up to complex IoT-Systems like Connected Cars and Factories.

NXP believes in the necessity to define European baseline requirements for security and privacy that minimize risk, are neutral in technological terms, and remain open to innovation.

A certified EU Trust Label for all kinds of IoT devices – as proposed by the European Commission – is the right way. It must be comprehensive and innovation-friendly, but at the same time clearly defined and certified by our proven Certification Bodies.

As European innovation leader with years of expertise in the secure connections market, NXP is advocating a change of perspective: one which places data protection and the security of end customers and businesses at the heart of the networked world.

Industry in Europe has all credentials to build on leadership in autonomous driving, smart infrastructure, the internet of things, robotics and factory automation. But we need to build a joint foundation of trust for businesses, private users, and citizens.

NXP has recently co-founded ECSO, the European Cyber Security Organization led by Industry. ECSO is set up as European Public Private Partnership on Cybersecurity (cPPP): now, Industry, politics and science – must work towards one common goal.

We need to set-up a cybersecurity equal level playing field. Let's make sure that we move forward let economic growth and jobs be built on trust.

Thank you for your attention!

Cora VAN NIEUWENHUIZEN, Member of the European Parliament – Shadow Rapporteur

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In Europe, technological innovation is too often being taken for granted. While some say that the fourth industrial revolution has erupted, EU-policymakers seem to be unaware of the speed with which entire sectors are changing. They are not answering to the need for adapting policies to the much-promising developments within the field of artificial intelligence, cyber-physical systems and robotics: technologies that combine data exchange with automation. These developments will empower industry to fundamentally improve production processes and therefore stimulate our economy and competitiveness.

It is for that reason that I was surprised to read the robotics report of the Legal Affairs (JURI) Committee of the European Parliament, which is currently under debate. It regards robotics from an intrinsically negative perspective. Worse: it instills fear into the reader, starting with a reference to 'Frankenstein's monster' and mentioning the need to 'ensure the survival of the human species'.

This summer, I was in Sillicon Valley together with a delegation of the European Internet Forum, EU40 and Knowledge4Innovation, to learn from the largest innovation ecosystem in the world. I wanted to see with my own eyes what it is that drives European tech companies to move there and take their economic potential with them. One of the answers to that question is Silicon Valley's entrepreneurial culture, in which new technological inventions are recognized quickly and business deals are made accordingly. A professor at Stanford University warned our delegation that if we don't act quickly, Europe will surely lose the global race in Artificial Intelligence (AI), just like we were not on the forefront of the development of the operating systems for PC's. He told us that the most promising European AI companies had already been bought by players in the United States, meaning a huge loss of economic potential for Europe. His main lessons for Europe were that we should educate more people with practical software skills such as encoding, and most importantly: that we should act quickly.

With this in mind, how can we take our European ambition of growth and jobs seriously, if the European Parliament publishes a 'Frankenstein report' on robotics? In this respect, there are three main concerns. First of all: the need for speed. Advocating a "gradualist, pragmatic and cautious approach" would be detrimental, because if we want to profit maximally from the new possibilities of the

Digitisation of Industry, there is no time to lose. Second, the frequently heard concerns about the 'dehuman' character of robots, for example when they are deployed to work with people. In this regard, an interesting example can serve as rebuttal. It concerns a Dutch caring institution for people with Alzheimer's disease. After an experiment with care robots, the patients were asked whether they preferred human nurses or robots. To the surprise of many, the robots won for the simple reason that they never got tired answering the same question. Third, the perception of robots as independent entities with an isolated function. Considered from this perspective, it is perhaps easy to think of automated devices as 'having an agenda of their own'. This is, however, a 1960's perception of the future. Instead, we should look at it from the perspective of robots that are applications used in combination with other components of the manufacturing process. The

resulting cyber-physical systems can seriously improve the human life, for example by mass producing personalized products, that are in line with the needs of individuals.

Now, let's consider some options for the best possible way forward. The public sector should create the right preconditions for digitisation of industry to be laid out as fast as possible. In which areas should we do this?

For me a key precondition is connectivity. Digitisation of industry goes hand in hand with the internet of things: connecting a massive number of objects with each other. Therefore, we should make sure that different elements can interact in real-time, such as the computer architecture of a digitised factory with the different physical components of its production process, or a connected car moving fast on a highway with the cars around it and with the satellites in the sky. Using the existing network infrastructure, it will be impossible to benefit from ground-breaking developments like self-driving cars. That is why it should be our goal to develop the 'Gigabit Society' as fast as we can. The main elements of this should be the development of European 5G coverage and the lay-out of a (fiber) network by the private sector.

We should also invest in mass data storage and High Performance Computing (HPC) capabilities. The growing internet of things means a steep increase in data flowing over the network. To cope with this amount, we need to improve data storage facilities. Apart from that, the data (often coming from sensors), needs to be mined, analysed and protected in an efficient way, which requires progress in HPC.

Interoperability is another precondition for stimulating EU-wide digitisation of industry, because systems, devices and cloud services need to be optimally adaptable to each other. The International Organisation for Standardisation can play a role here, as it is important to open up our economy to the rest of the world, instead of merely focussing on Europe. Also, we have to close the skills gap we currently have in Europe: Forecasts are that we are facing a shortage of up to 825.000 ICT professionals by 2020. This poses a serious problem for our industry, which has already voiced concerns over a lack of skilled people on the labour market.

Furthermore, we need modification of liability standards and re-thinking of ethical principles. Now is the time of cross-overs, for example between innovators and the social sciences. New technologies impact our society in a large variety of ways and we need to break out of our silos to come up with joint answers to fundamentally new questions. Highly automated driving can serve as an example. When an accident involving a connected car becomes unavoidable but a choice is still possible between crashing itself into the roadside or hitting a bus with schoolchildren, is the autonomous vehicle authorised to make that choice?

In conclusion, adapting our society to a digitised industry is one of our main current challenges. Reindustrialisation was a promise of the European Commission, but unfortunately it seems to be low on the list of priorities of policymakers in Brussels. That is why all European stakeholders should come cooperate to enable digitisation to create a prosperous future for our manufacturing industries.

Henna VIRKKUNEN, Member of the European Parliament

Accelerating the digitalisation of industry is crucial for boosting job creation and growth in Europe and it concerns all sectors of the economy, from industry to service, education and the public sector.

There is a lot of regulation that have to be modernised and harmonised to bring Europe to the digital era and to form one, unified digital European area. In many cases EU wide legislation would make it easier for companies to be aware of the rules and regulations on data security and the use of data. This would also make it easier for every citizen to know their rights concerning personal data.

Data

The demand for mobile data traffic is growing by 60-100 % each year. At the moment 4,5 billion out of world's 7 billion people have a mobile device. It is easy to predict that the number will rapidly grow.

It has been estimated that there will be 50 billion devices connected to the internet by 2020 and basically all the devices are producing real-time data into the network almost all the time. Already now people upload for example to YouTube 400 hours of content every minute. By 2020 over 90 % of new vehicles will include telematics packages.

Big data

Big data (large data sets) is valuable asset for economic growth and new innovations. It has lots of potential to benefit both industry and citizens.

For example, in automotive sector 90 % of the CEOs and in health sector 89 % of the CEOs think that data and data analytics have quite high or very high value for their organisations. Connected cars and autonomous vehicles are a big opportunity for the European industry, as well as e-health.

94 % of all the CEOs whose companies have adopted robotics say that it has helped their company to increase productivity.

Open data

Europe has to be open for the new business models that the digitalisation brings along to be competitive and to keep up with the speed of development. Open data has enabled many new innovations and new business models. The public datasets should be opened more widely to foster new ideas.

Speed

The rapid development of mobile data traffic requires fast and reliable connections. Therefore, it is crucial for Europe to ensure investments in infrastructure, especially in new broadband (fibre, 4G, 5G). Also the allocation of spectrum plays a major role ensuring the best capacities and high speed. It has to be remembered that the capacity of today won't definitely be enough for the future services.

Good ICT infrastructure is a key to ensure that European industry is globally competitive and that Europe is an attractive place to invest. Europe needs to be able to compete with the United States and Asia on digital markets. It is also important to create an eco-system that actively encourages innovation and innovative ideas. Open and non-discriminatory access is the basis for innovation to happen.

Net neutrality

Net neutrality is an important measure for ensuring that both businesses and consumers have open internet access. When equal types of traffic are treated equally, it guarantees fair competition for businesses and enables new services without unfair restriction. Any web-based service is useless, if the speed and quality of internet is not sufficient. For example, many new services, including e-health, e-learning and e-administration require reliable and fast connection.

Security

Europe needs to find a balanced approach between security and openness, the balance between regulation and flexibility. Freedom and security are not in conflict with each other, vice versa they can support the same goal: fostering the digitalisation of industry and services. The regulatory framework has to guarantee data security, data protection and consumer protection, but at the same time guarantee the free flow of information. Europe has to be the leader for establishing a global regulatory strategy that helps to protect civil liberties and to work together on more secure internet.

Cypersecurity

Cybersecurity is a major challenge for the EU, its member states and the European companies. The number of threats is rising alarmingly and the cyberspace is becoming a platform also for organised crime.

The NIS Directive (Network and Information Security Directive) is an important step in preparing to the threats that are targeted both at businesses and at consumers, and to secure the minimum level of data protection in all member states. Especially important this is on those sectors that are critical for the society, for the economy and among those actors that deal people's personal data.

Europe can also take a leading role on cybersecurity businesswise. The market potential is huge. It has been estimated that the need of cybersecurity services is doubled by 2020. The rise will remain steady also after that, for example considering the future needs of the Internet of Things.

Use

To get the full potential out of the digitalisation, people have to have sufficient ICT skills, both as employees and as users of the different services.

The Commission has estimated that by 2020 Europe will have a shortage of 900 000 qualified ICT-skilled employees. Already at the moment 90% of companies indicate that they lack digital skills. Even out of those workers that use office software every day, 40 % don't have sufficient skills use the software effectively. Not to mention the jobs where more complex ICT skills are required.

However, only 46 % of companies invest in development of digital skills. Fostering the e-skills of citizens requires that companies put effort in keeping the skills of their employees up-to-date, but of course also that ICT skills are included in all the teaching and training from the early school years to higher education and vocational training.

At the same time, it has to be remembered that although 250 million Europeans use internet daily, there are millions of Europeans that have never used internet and don't have an access to digital services. Closing the digital gap is possible by strengthening the infrastructure with the ambitious goal of full internet coverage and strengthening the trust on digital services.

Digital products and services have to be treated equally with their traditional counterparts and the principal of technology neutrality should be taken into account in all the rules and prices.

Angelika MLINAR, Member of the European Parliament

Ladies and Gentleman,

Thank you for inviting me to speak at this very interesting event tonight.

I would also like to say a few words on the digital transformation of the industry from a policymaker's perspective:

As we all know, we are in the middle of a digital revolution, which changed and is still changing the way people communicate, consume, do business or work. Especially for companies, the digital era has brought many positive changes: it has led to the development of new and innovative business models, the creation of platforms and the expansion of the market for most industries, especially facilitating access for small companies.

But not only innovative and new business models shape these changes: 75 percent of the value added by the digital economy comes from traditional industry. Here, however, integration of digital technology remains weak: For example, only 1.7 percent of businesses in the EU make full use of advanced digital technologies and 41 percent don't use ANY of them. Especially small companies are slow to change and are not investing enough in new technologies.

All of this clearly shows us policymakers that we urgently have to set the right framework for digital change. A framework, which is both flexible enough to adapt quickly to the changing digital environment and which makes sure that traditional businesses, especially the small ones, successfully manage the digital transformation.

But not only the right framework, also the right speed is crucial: the ONE thing we have to avoid at all cost, is to do too little too late. We can already see that individual Member States are taking steps to implement their own national measures. In my view, avoiding regulatory fragmentation between Member States has to be a top-priority at EU level.

If we just take the example of advanced robotics, a topic that we are also dealing with in ITRE at the moment, we can see how important it is to keep legislation up to speed: Robotics play a key role in improving the competitiveness and productivity of the EU-economy and with a share of more than 25 percent of supply and use, we belong to the top players. But innovation in robotics and artificial

intelligence require digital infrastructure as well as interoperability between the different systems, which enables real time data flows. This means we will need an open environment - open standards, innovative licensing systems, open platforms and transparency. In addition, we will need access to data and an open and free flow of data, while at the same time providing high levels of data security.

Robotics is just one example - we see the same challenges in terms of connectivity, data flows, data security and interoperability when it comes to autonomous driving and the internet-of-things in general. And if we don't act soon, we will no longer be competitive when it comes to Industry 4.0.

Therefore, the creation of a data-driven economy has to be at the core of the Digital Single Market strategy. We need to improve conditions for the integrated use of data in the whole European economy, especially for SMEs, while ensuring high level of data security.

To conclude: Managing the fourth industrial revolution successfully, means for me creating the regulatory conditions to help companies innovate, collaborate, invest and grow. We need a market-based approach, which removes barriers without creating new ones. In other words - we have to legislate to enable and not to punish and weigh down innovation and new technologies.

Thank you for your attention!

Theresa GRIFFIN, Member of the European Parliament

I am a MEP for the North West of England, the birth place of the first industrial revolution, where manufacturing is crucial to our economy, as is retaining our research and development function to enable us to develop the advanced manufacturing of the future.

If we all take a moment to reflect upon our jobs, how many of us could imagine operating at full capacity without the help of our smart phones? The technology behind telephones has existed for decades, so why is it that now we cannot and would not want to work without a smart phone: it is due to data.

Data has enabled us to be constantly connected to our work and indeed is providing us new ways of managing our work; from cloud storage of files to the creation of new products by creatives that knows no borders. My one reference to Brexit - Manchester and Liverpool voted to remain.

So why should the manufacturing and industrial sector be any different? Europe has a proud industrial heritage which is increasingly facing the pressures and opportunities of a globalised world. In all of our Member States we face citizens who are unemployed due to industry closing down and relocating abroad.

Tonight, this debate is about "the core of a sustainable industrial policy for Europe". The very heart of any sustainable policy is the people. This is also the area where Europe is falling behind. Approximately 40% of Europeans do not have the skills required for the increasingly digital nature of work. Not only does this leave Europe behind competitively, but there is a developing digital divide between those who are ready to engage with the digital world and those being left behind by it.

It is our duty to ensure that no-one is left unable to transition to new digital ways of working due to affordability, gender, demographic, disability or geography. If Europe is to embrace the digital revolution then we must do so together.

Consequently, here we have three main issues:

1. the need to train, retrain and upskill our workforce and young people to empower them to work in our increasingly digital world

2. the need to create quality digital jobs - we do not want people working in increasingly automated roles, but engaged in meaningful employment

3. the need to create the infrastructure across Europe to facilitate job creation - without super-fast broadband roll-out and the coordinated use of spectrum to enable the use of 5G, Europe will not be in the technological position to compete globally.

So how do we address these three issues?

Firstly, we focus on the skills that our digital economy will need. The Commission announced the New Skills Agenda for Europe in June, and we will be working closely on that. There is also a role for industry and manufacturers and social partners, to feed into this and to keep policy-makers informed so that we can better anticipate the support workers will need in the future and ensure that training is forward looking and industry relevant.

Secondly, and this builds upon the first point, we need to keep and create high-quality, skilled industrial jobs in Europe. We do not want a race to the bottom for cheap labour, nor do we want repetitive and demoralising work for our citizens.

Thirdly, a core element to achieving high-quality work is having the technological infrastructure which empowers job creation and innovation. Superfast broadband and 5G rollout will allow our citizens to be connected as never before. It will foster regional cooperation and bring new life to 3 rural economies. It will enable industry and manufacturers to work seamlessly.

Debates, such as tonight, are an important opportunity to bring together a range of stakeholders who can work together to clearly identify how we plug this gap between our workforce and the skills needed to digitise European industry. The entire nature of working is being revolutionised by data and its management; we need to work together to ensure that Europe remains as competitive in this new digital world as it always has been. Crucial to this is the efficient and relevant digitisation that leaves no citizen behind.

I look forward to hearing more of this debate.

Thank you

Tomas HEDENBORG, CEO, Fastems Group, President, Orgalime

Tomas Hedenborg thanked Commissioner Oettinger for his speech and for the time he committed to the meeting.
Below the key messages of the Engineering Industry

- We are growing: 2014 – 2015:
- output 1800 bn € > 1900 bn €
- employment: 10,9 million people = plus 1 %
- This is because we are constantly evolving and changing
- Industry 4.0 is already main driver of our industry today and will be so for coming decades
- Our industry is born in Europe and we want its future to be in Europe

What we need from you? Rules that stimulate innovation and investment

- Concrete example: Fastems for the successful transformation of "traditional" industry
- Summary – what do we need from legislators

- Allow innovation to happen – we don't compromise on safety but sometimes the precautionary principle is overdone: It is often impossible to ultimately prove that non existing dangers really don't exist.
- Allow innovation in time – other economies get rid of outdated legislation faster – example: self-driving cars are getting common in California, Singapore, but not Europe.
- Don't regulate when it's not necessary – the use of data in the B2B context is at an early stage. Please don't kill the hen before the egg is hatched – help us to make sure the hen is safe in the nest.

Tomas KAKULA, Head of Unit, Internal Market & Industry, Sloval Permanent Representation to the EU, Slovak Presidency of the EU Council

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Modernization of Industry

Supporting the principles of the Smart Industry concept

Communications of April 19th – focus on 4 areas: 1. coordination, 2. skills, 3. investments, 4. regulation (data privacy, standards, cyber security)

National (SK) Strategy to be adopted (October)

Supporting DSM Proposals (700 MHz, Cyber security Resilience Communication, 2nd Copyright framework, Free flow of data, Digital Skills)

Standards (signature of JIS, working party)

Informal Council 17-18 July (investments, skills, digital compass)

Working level (working party on advance manufacturing and FOF, CCAs)

Events (in Bratislava):

The transition towards a green economy; 5-7 September
Conference on IoT; 19 September
Digital Assembly (DEI, IoT, Gigabit Society,); 28-29 September
e-Skills for Jobs 2016 High level Conference; 18 October
Re-Industrialization of the EU Conference (reineu2016.eu); 26-28 October
TATRA Summit (Smart Industry panel), 27-28 October
SME Assembly; 23-25 November
SET Plan Conference + side events (Smart Energy); 30. November - 2. December

2. THE RIGHT REGULATORY FRAMEWORK FOR DATA

Martin AHLFELD, Syndikus, General Counsel Weidmüller Holding AG & Co.KG

Policy papers to come

Hendrik BOURGEOIS, General Counsel European & Vice President European Affairs, GE

As we all know, the integration of complex machines with networked sensors and software, collecting industrial data, analysing it (generally in real time) and using it to adjust operations, generating efficiency and productivity of capital intensive assets is transforming many industries. This is producing ground-breaking benefits not only to the economy but to society and prosperity levels.

Let me give you two examples that we are very familiar with at GE. In the Healthcare area, Industrial internet based technologies allow for much more personalized treatment, collecting clinical data beyond the occasional patient-doctor visits, detecting earlier and proactively treating disease progression, finding more effective cures for a range of otherwise intractable conditions. Second, Industrial Internet technologies are also making wind power generation more efficient. GE offers IoT-based solutions which use data produced from across the wind farm in real time. The technology allows individual turbines to communicate directly with each other, sharing data about the real-time wind conditions. Drawing on this information, turbines can adjust blade angles and turbine settings so as to maximize their degree of efficiency.

So the Industrial Internet of Things ("IIoT") is one of the game-changers in the 21th century. Provided that additional and adequate measures are taken to improve their capacity to absorb IIoT technologies and increase IIoT investment, our economies, and the EU economy in particular, can benefit from a staggering growth prospect.

There are undoubtedly a myriad of issues and measures that are necessary to enable this economic growth and that, together, should constitute an effective and sustainable industrial policy for digitizing the European industry. But two of them merit particular attention. First, IIoT originated economic growth will require unrestricted flow of information across national borders. Second, do we need a regulatory framework for data ownership and use in the industrial sector?

With respect to the first point a key prerequisite is indeed free flow of data on a global scale. But in recent years, governments have been erecting borders in cyberspace, resorting in particular to data localization requirements and other restrictions. To justify restrictions to cross-border data flows, governments offer a variety of reasons, in particular, privacy, security and domestic growth.

Yet, like most protectionist measures, such limitations bring only small gains for a limited number of local companies and workers. It is important therefore that an "European Industrial Policy" that takes

account of the impact of digitization in all parts of industry and of the B2B economy does not promote measures to curb cross-border data flows. This would be misguided as it would increase costs for the majority of European based businesses, particularly due to reduced economies of scale. Furthermore, such measures would deprive local actors of access to global services that might improve productivity and enhance innovation. Finally, localization requirements may compromise international trade in goods and services, which nowadays critically hinges upon the unconstrained transfer of data.

Rather, given the critical importance of free cross-border data flows for the IIoT, governments and other stakeholders should join forces to remove obstacles that exist in that regard, while taking legitimate concerns about data privacy and security into account. This is what the EC is, I believe, proposing within the EU with a 'free flow of data' policy initiative. But this is a global issue. Accordingly, international trade agreements constitute appropriate additional instruments to introduce relevant rules, and policy makers should explore the possibility of developing a plurilateral digital trade agreement at WTO, including a horizontal discipline to deal with all data-related aspects of trades in goods and services.

Regarding the second question, some are arguing that we need governments (or the EU) to address the sometimes conflicting claims of different firms along the value chain in the data produced. But do we really need a regulatory framework for industrial data ownership and use today? Proponents will argue that such a framework is necessary to deal with the uncertainty on how benefits flowing from data collection and usage are distributed along the value chain. Arguably, such uncertainty creates a disincentive for many businesses to embrace digitization. I would argue the contrary. It is too early to establish a new sui generis pan-EU legal quasi-property right over technical data generated by machines.

First, IIoT is a young field. Big data analytics has only begun emerging now on a widespread basis because multiple different technologies that required for collecting and analysing large data sets have only recently become available and/or affordable. As a result, the commercial uses for data are only just emerging and are expected to rapidly evolve as companies explore the possibilities with heretofore unavailable technologies. New rules at this juncture therefore may have an outsized and unexpected impacts: they could stifle innovation in nascent data markets by imposing a single set of business models on today's diverse environment. They could also set a precedent for countries outside of Europe to enact similar rights and exceptions.

Second, today, rights in machine-generated industrial data are governed primarily by contracts – agreements that are, as a general rule, heavily negotiated by sophisticated parties who have a deep understanding of the data involved and how it will be generated, used, exchanged and accessed. The data involved may also be protected by trade secrets, an area where Europe has only recently developed new rules, or by other IP rights in certain scenarios.

Third, if markets may fail and if these contracts lead to inefficiencies or monopoly rents– and there is no evidence of such failure today – there are other regimes that are relevant, such as competition law.

In sum, the existing framework is working well under the current circumstances. There is significant innovation and healthy competition in Europe in sectors reliant on the production, use and analysis of industrial data. The incredible growth we see in data systems and analytics – and the explosion of new services fuelled by data are today's reality, and have occurred based on today's legal framework. In light of this, I don't see a strong policy justification for supplementing or replacing today's regime with a new sui generis ownership right in industrial data, in a "one size fits all" solution.

Thomas WEISSHAUPT, Global Account Manager, Smart Energy, Gemalto

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Dear Mr. Bütikofer, dear Member of Parliament, dear guests from industry side

It is an honor to speak to you on behalf of Gemalto today. Gemalto is the world market leader in mass market security solutions – providing the operating Software for products like SIM Cards, Credit Cards, Passports etc. We ship more than 2,5 Bln in one way or another connected devices per year - all these devices serve as trust anchor in their dedicated ecosystems. Gemaltos global market success is also the result of a European success story on the way we see regulatory needs around privacy, security and data handling. What sometimes is not seen is that Gemalto is also one of the major players in Machine to machine communications which nowadays raises a broad public attention under the wording of IoT.

In our nearly 20 yrs experience in connecting devices and securing Data we can underline that designing and maintaining connected devices comes at a cost and IoT is not happening by nature - Fortune 500 companies have according to a study of Accenture in Fortune 500 companies three main motivators to invest in connected devices:

Operational efficiency – production/logistics/products/Services etc. can be offered with lower cost. For sure today the most common purpose of projects. ROI cycles usually are expected to be below 1 year. There is no need to encourage these kind of investment through additional regulation.

Moving from Product to Service business – this is a strategic decision on how the company would like to earn money in the future. Car sharing models of OEM are an example. A major challenge here is to – on the one hand – maintain a steady revenue stream over the lifecycle of the product (…and not only the product used by the consumer – also Tier1 etc. are interested in keeping track of their components and so being part of the service economy. Be it on B2B or as well on B2C level. We see a rising number of projects that are triggered by this strategic shift. Revenues are shifted and expanded in the existing business domains. From a regulatory point of view, we see – as already mention by the other speakers - a reliable contract law for the single digital markets and standards for IP Protection and Cybersecurity as crucial. The NIS directive and the planned communications around the Digital single market are guiding the way here.

Creating unconventional revenue stream – this is the most discussed topic when it comes to the opportunities of IoT and Industry 4.0. Uber and Aribnb are frequently cited examples in the consumer world of companies who created these kind of revenues.

Here – I personally see that these models only work because citizen who invested in Assets like cars or flats can now add additional income through providing data about their resources. The data that manufacturers and OEMs generate in all their processes and products can in future be used to enable revenue streams that don't exist today. Example is the Smart Grid where distributed Solar installations, Batteries and other assets can be provided as a (paid) resource to the energy system – here Europe still has the best starting position to set standards and rules. Demand Response is an excellent example of a secondary use of data that is generated by connected devices.

Analyzing these motivators and thinking of how we can foster and increase investment in data driven businesses, we see – as mentioned from NXP beforehand - Trust between players in ecosystems as a key trigger. I would even be more concrete – players must be able to trust data deriving from connected assets and components in a way that the manufacturer or service operator can – during the lifecycle of the product monetize on the use of the data. The one who invests should be protected in a way that free flow of data does not mean data for free.

Here I close the loop with an example on how – from a citizen perspective the exposure to data and business models change. Take the act of fuelling a car today and charging a car tomorrow. Today all is clear – the gas station mostly has CCTV, the car cannot be tracked, the OEM does not get any personal data etc.

Charging an eVehicle is very much a data challenge – the grid operator, the charging station operator, the energy supplier etc. are all requiring data from different sensors in the car, on the grid etc.

Now – new business models come into play that are not necessarily supported by regulation as of today. And questions should always be asked around the potential money streams – how can I share a charger with my neighbour – how can he/she be billed if the energy comes from my rooftop? What data can be used coming from grid operators? etc. Today we have 28 different and very individual ways of how data in the energy system is handled. And in most cases is nearly impossible to monetize on the provisioning of Assets that citizens invest in – because rules do not allow it.

Also in regulation – especially in energy and in parts transport regulation – we need to break the silos in order to make us the leading region when it comes to the opportunities to monetize on data for the one who invests in it.

Ladies and Gentlemen, Mr. Bütikofer, in cybersecurity, we often talk about security by design which is very well reflected in the commissions' idea to support certification and IoT trust label. On data protection we talk about Privacy by design – which technically goes hand in hand with Security measures.

I would like to encourage you to implement data regulation by design – meaning identifying barriers and adjusting sectoral barriers that enable those who invest in IoT to monetize. Or to say it in short – enable trust and confidence between actors cross-sectoral and – very important – cross border.

Thank you

Massimiliano SALINI, Member of the European Parliament – Shadow Rapporteur

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The future of the European industry is founded on two pillars: manufacturing companies and digital economy. As a member of the European Parliament Committee on Industry, Research, and Energy (ITRE) I can look from a privileged point of view at where the world is heading and how the EU can compete with the other major global economic powers. As mentioned by the European Commissioner for the Digital Economy, Günther Oettinger, Europe has a very competitive industrial base and it is a leader in important areas, but this driving force can be maintained only with a digitalization that is both rapid and successful. Industry 4.0 can reverse the decline in industrialization and help to meet the target of increasing the manufacturing share of total value added in EU to 20% by 2020.

According to the World Economic Forum, the Internet-based business activity will reach 4.2 trillion dollars in the G-20 countries by 2016. The digital economy is growing faster (about 10% per year) compared to the economy as a whole, while in emerging markets it is growing at a rate of 12-25 % per year, with significant results in social and political terms, as well as economic impact. The digital challenge is also crucial for the European Union countries to promote inclusive and sustainable economic growth.

In this regard, I proposed an amendment to the 2017 European budget, approved by the ITRE Committee, for the digitalization of small and medium sized enterprises (SMEs). The amendment foresees the allocation of 1.5 million euro to launch a pilot project in many SMEs and start-ups across Europe so that experts (digital enablers) can help them to discover and apply suitable digital technologies, to explore new opportunities in terms of innovation, to enhance the capacity of entering new markets, intra and extra-UE. The unlimited possibilities offered by digital technologies should be reachable for every enterprises, in whichever sector, wherever situated, and no matter of what size.

While adapting to the digital industrial change is primarily a matter for business, a targeted public policy can play an important part in creating the best conditions for that to happen in all sectors. The European Union should coordinate the different experiences at regional and national level to facilitate access to finance and promote the digital revolution, avoiding increasing the fragmentation of the single market.

Reach the critical mass together with common standard and interoperable solutions are going to attract the right level of private investment. The further digitisation of industry brings challenges that can only be solved through a collective EU-wide effort.

As shadow rapporteur of the EP report on "Digitising European Industry Reaping the full benefits of a Digital Single Market" we will work on many aspects in this regard: standardisation for the interoperability of machines, systems and software; an appropriate up-to-date regulatory framework and promote and developing the necessary skills for the digital transformation.

In the light of the Better Regulation REFIT programme, the first step should be check if the current legislation fits with the new requirements and in case adjust it. It is also very important to constantly monitor the evolution of digital requirements and be always ready to react as soon as possible.

Trust in digital services is essential to incentive business to innovate, citizens and public administration to benefit from them. Who owns what industrial data, how data are used and stored and by whom, are important questions to be answered to clarify roles and responsibilities and to protect business and citizens. Legislation must enable, not prevent, the digital transformation, striking the right balance between data and privacy protection and facilitating the free flow of data in the digital single market and on the global level (Privacy Shield).

Copyright is another key aspect in the digital economy. Strike the right balance among (unjustified) geoblocking, creative industries, cultural diversities, innovative services will be one of the main challenge.

E- Commerce offers new opportunities for companies, in particular SMEs, to sell worldwide. At EU level is still behind expectations mostly due to the lack of trust. Clearer and harmonized consumer protection rules will improve the confidence of the customers. On the companies side digital economy and e-commerce have risen many question on taxation, VAT rules and audits, which should be address. In addition, a fairer price competition and transparency on parcel delivery legislation will encourage the on- line purchase, as underline in the communication of the EC on e- commerce last May.

Sharing economy, cloud computing, digital platforms are issues also strongly debate nowadays, with many players representing different points of view. The role of the EU institutions is to strike a balance with the aim to boost the digital transformation.

Competition law should be design to tackle potential regulatory asymmetries in order to ensure a level playing field where the fair competitions among industries will foster innovation.

European citizens and business must be ready to seize the potentiality and the advantages of the digital economy. The right regulatory framework and the reduction of the administrative burden play an important role in promoting the digital economy and the investment needed to support it. Moreover, European Union institutions need reduce disparities between large companies and SMEs, avoid creating too many rules and excessive administrative burdens. At the same time, it is essential to ensure that existing rules are effective, properly enforced and timely adapted to the new challenges.

As you can see form my speech there are many issues and challenges coming out for the next months and a lot of work to do. We have to be ready to listen to everyone to connect the needs and the expectation form industries, customers, businesses, citizens. The initiatives as the one of tonight are a good moment of debate and exchange of views, so I would like to thanks the organisers to invite me to be part of the discussion.

Clare MOODY, Member of the European Parliament

Policy papers to come

Maria SPYRAKI, Member of the European Parliament

Policy papers to come

3. THE WAY FORWARD

Reinhard BÜTIKOFER, Member of the European Parliament – Rapporteur

Adrian HARRIS, Director General, Orgalime

Antony FELL, Secretary General, European Forum for Manufacturing EFM

We wish to thank most warmly both Commissioner Oettinger and MEP Bütikofer for the time they devoted to this very important meeting.

We would also like to thank Orgalime for the sponsorship of the evening as well as all MEP's and company speakers who have respectively contributed to tonight's discussion.

The next European Forum for Manufacturing Roundtable & Dinner Debate will be on **"Promoting Advanced Manufacturing in the Regions".**

This will take place in the European Parliament on **Wednesday 12 October from 18h00 to 22h00**.

We have timed this Forum in the Parliament at a date when the regions are present in Brussels for the 14th European week of Regions and Citites.

The meeting will be chaired by Michael THEURER MEP and it is jointly organised with Cecimo, the European Association for the Machinery Tool Industries.

We will be looking at Promoting Advanced Manufacturing across Europe's regions and their achievements in respect of the Vanguard Initiative.

To register, please contact my colleague Chloé Matagne at cmatagne@euromanuforum.com and for more information about this event.

Thank you again to all for your presence this evening.