

## **EUnited Competitiveness Review Dinner Debate 2016:**

### **The digital manufacturing revolution and what it means for the machinery & equipment business**



## Key points from the debate

‘During his keynote address, Futurist **Gerd Leonhard** used the term ‘Megashifts’ to describe the huge evolutionary steps for society that feel gradual at first but have a sudden impact. He foresaw a “tsunami of automation” that would bring enormous opportunities for manufacturing businesses. The end result would be a “completely new way of doing things”.

It was all to play for and EUnited President **Wilfried Eberhardt** suggested that the EU could be instrumental in developing the necessary framework that brought together IT skills and the ‘Internet of Things’ (IOT). But there would be no free lunch; he stated that it would mean implementing radical changes to improve existing business models.

Eberhardt had declared that while the USA was dominating the commercial Internet, there was no winner so far in the battle for the industrial Internet. Looking at companies, EUnited VP **Lars Gjødsbøl** said the winners would be those who had “the guts to get on the train”.

All of the panellists were in agreement that there should be no delay in moving forward but Strategy Consultant **Robert Madelin** said the general public had a “fear of the unknown”. He wanted a “courageous conversation” as the business world had to be “clear upfront and engage”. On a practical point, Gjødsbøl argued that the starting point had to be standards – on a global scale - so that SMEs would be confident in going forward.

Leonhard’s final advice for the audience was to proceed with caution, embracing technology without being overwhelmed by it, while ensuring that the drive for evermore efficiency did not happen to the detriment of civilisation.

There had been much discussion about Europe’s core values – innovation, skills, leadership, regulation, ethics – playing a part, but **Dr. Nicola Tomatis**, CEO BlueBotics, argued that if further digitalisation was introduced so that it would not be too damaging to society, Europe could lose out.

Eberhardt concluded that manufacturing businesses could not afford to stand still – “it was not simply a question of surviving, but of growing.” At the same time, there had to be a drive to make Europe more efficient and competitive.

## A word from the President

Introducing the debate, EUnited President **Wilfried Eberhardt** insisted that ‘digitalisation’ was a vital subject for Europe as the area was undergoing an exponential technological change. Foreseeing a digital manufacturing revolution, he stressed its importance for the future of the machinery and equipment businesses. With a nod to the turbulent events of recent times, Eberhardt argued that there was a loss of control in the air and that Europe needed stability. This meant that everyone working in the EUnited family of companies had to fight for Europe’s values. All this talk about the “new industrial revolution” was a “great opportunity for Europe” but a framework was required.

The EUnited President suggested that the EU had a role to play in the development of a framework that could bring together IT skills and the ‘Internet of Things’ (IOT). He saw a bright future but it meant implementing radical changes that would improve the existing business

models. Eberhardt concluded that manufacturing businesses could not afford to stand still – “it was not simply a question of surviving, but of growing.”

## Keynote address

Moderating the evening’s debate, Speak-Easy’s **Cathy Smith** maintained that seizing such opportunities meant bringing together processes, products and business models. Action was required, if manufacturing businesses adopted a “wait and see” attitude, it could morph into one of “wait and die”. With that warning, Smith introduced the keynote speaker for the evening, the CEO of The Futures Agency, **Gerd Leonhard**.

A key focus of Leonhard’s address was what he termed ‘Megashifts’<sup>1</sup>. In his book *Technology vs. Humanity*, Leonhard had described these forces combining to create a perfect storm for humanity. In the future, not too-far off, he reasoned robots would be as common as smartphones

are today. There would be a “tsunami of automation.”



As examples of the tsunami, Leonhard stated that of the 72 million people working in call centres today, 98% of them will be replaced by technology. The future would be a world populated by driverless vehicles, 3D printers, renewable energy platforms, growth of the sharing economy, abundant artificial intelligence and the Internet of Things (IOT). Computers with

IQs of 50,000 would be commonplace.

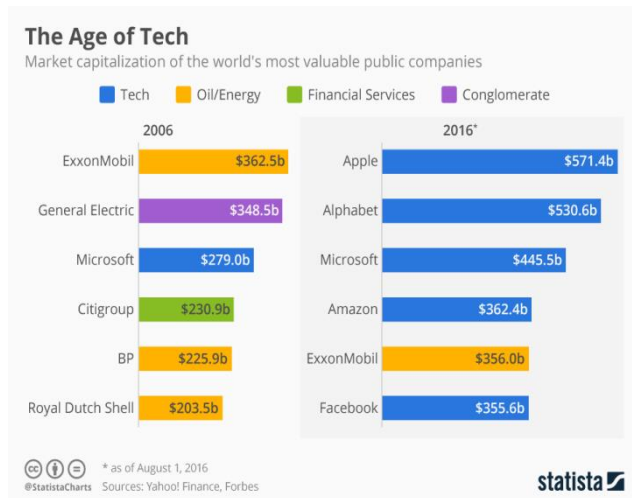
For Leonhard, the future was about observation. He wanted everyone to take the time to look around and think about a future where man and machine would converge. Leonhard wanted people to “assume less and discover more”. He foresaw a future that would bring incredible changes: more in the next 20 years than in the previous 300 years. This would be due to a variety of factors such as global hyper-connectivity, huge advances in STEM (science, technology, engineering and mathematics) and innovations in artificial intelligence and machine learning.

He called this the age of digital ethics where technology, business and thinking would be combined. *Blockchain*<sup>2</sup> was provided as a perfect example of this – an example of the future cognitive era. In that future, programming would be replaced by machines that could think. Routine jobs would be replaced as machines would understand what to do and learn how to do it better. Leonhard also indicated that rather than oil, data was the new king. As an example of this trend, he looked at the two most valuable companies in 2006 (ExxonMobil and General Electric) in comparison to those in 2016 (Apple and Alphabet/Google) – see chart below.

<sup>1</sup> Huge evolutionary steps for society that may seem gradual at first but then have a very sudden impact.

<sup>2</sup> The importance of Blockchain: <http://fortune.com/2016/05/08/why-blockchains-will-change-the-world/>

Given this new world based on machines, data, communication and algorithms, Leonhard reminded the audience that people were extremely good at things that machines cannot accomplish. In this future, it was necessary for societies to provide a secure (man/machine) balance. There would be a “completely new way of doing things”, especially in manufacturing.



Here, Leonhard flagged a warning for society as he had spoken to many CEOs and they had all shown interest in automation that reduced costs by eliminating the need for so many people. He argued that “technology drives society but it has no ethics”, adding “robots don’t understand ethics and a society without ethics is doomed”. With these warnings,

Leonhard asked “who would be in mission control for the future of humanity?” Answering his own question, he argued that the USA (Silicon Valley) and China were leading the way but that this could change; “it is not difficult to build artificial intelligence as it is only code.”

His final advice was to proceed with caution, embracing technology without being overwhelmed by it, while ensuring that the drive for evermore efficiency did not happen to the detriment of civilisation.

## The debate

Joining Leonhard for the debate were EUnited President and CMO of KUKA AG **Wilfried Eberhardt**, Strategy Consultant **Robert Madelin** and VP Nilifisk-Advance and EUnited VP **Lars Gjødsbøl**. Following Leonhard’s wide-ranging and thought-provoking presentation, moderator **Cathy Smith** asked the panellists if they thought that we were at a “tipping point”<sup>3</sup>.

Gjødsbøl admitted that he had found Leonhard’s presentation somewhat overwhelming. However, he argued that the industry had reached not just one, but many tipping points. Gjødsbøl was sure there would be such a revolution and that it would present a challenge for manufacturing. While agreeing there was a role for robots in his business - they could produce equipment in his industry - Gjødsbøl said the winners would be those who had “the guts to get on the train”. He simply wanted to know when it was the right time to step off the platform.

## Europe’s strengths, future partnerships and the way forward

Smith therefore asked what would be Europe’s strengths In the event of a revolution. Leonhard argued that Europe was in a strong position as its businesses cared, unlike those in many parts of the world. This could make Europe a leader and bring huge benefits for the business world. Madelin wanted Europe to make use of its experience in “skills and leadership”, develop a clever approach to I.P. and focus on global partnerships.

<sup>3</sup> Michael Gladwell defined a ‘tipping point’ as “the moment of critical mass, the threshold, and the boiling point”. (<http://www.newyorker.com/contributors/malcolm-gladwell>)



This led Smith to ask Eberhardt if he saw potential in such partnerships. He was excited by the idea but insisted that had to be “equal partnerships” as it was necessary to invest heavily in the future in companies and in people’s skills. Eberhardt reasoned that these partnerships could be with companies who were also competitors.



EU Executive Director **Lionel Platteau** was keen to know about the benefits to be gained in key areas such as recycling and raw materials processing and for details of the way forward. Eberhardt felt that the priority had to be on increasing efficiency together with a reduction in costs, including employment costs. He insisted, however, that the implementation should not be detrimental to society.

Madelin acknowledged that expensive labour was a factor but he wanted an ethical and resilient business solution, perhaps linked to taxes on robots. Eberhardt argued that in the future there may not be enough skilled workers on the shop floor, so robots would be essential.<sup>4</sup> These had to be more intelligent: hyper- sensitive and eventually communicating with the cloud. Leonhard responded that there were already robots that could understand language, images and could even think. He advised manufacturing industries to watch these areas in the next 10 years.

In his address, Leonhard had said that data<sup>5</sup> would be the new oil and Smith asked if this meant that data would be used in a new way, Gjødsbøl argued that this was already the case in the cleaning industry, where many jobs had been automated. For him, a key question remained: how could the various industries move forward in digitalisation?

## Regulation, standards and Europe’s values

**Dr. Nicola Tomatis**, CEO BlueBotics, felt that there was no need for Europe to be scared about the next industrial revolution as greater efficiency was needed. He added that the normal course of events was that the USA would produce a product, the Chinese would copy it and Europe would introduce regulation.

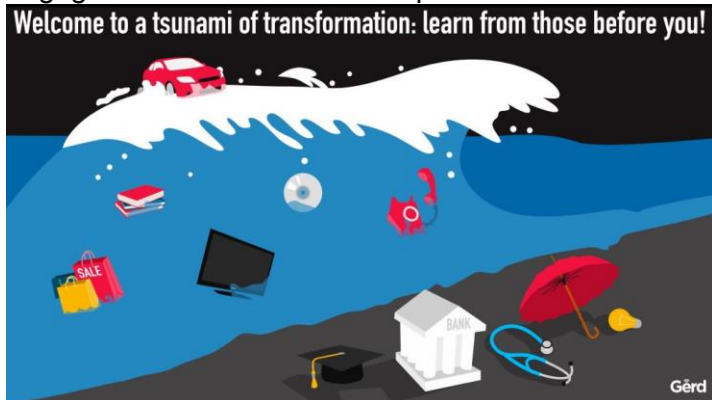
In response, Eberhardt warned against over-regulation, as robots had existed for 40 years. He wanted a harmonised global solution as Europe was not alone. Eberhardt recommended that all interested parties explain the situation in depth and avoid simply talking about robots.

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<sup>4</sup> Eberhardt said there were currently 280,000 robots in Europe, of which only 5% were flexible in terms of the amount of intelligence.

<sup>5</sup> Big Data Analytics in manufacturing is about using a common data model to combine structured business system data like inventory transactions and financial transactions with structured operational system data like alarms, process parameters, and quality events, with unstructured internal and external data like customer, supplier, Web, and machine data to uncover new insights through advanced analytical tools.(Definition from <http://blog.insresearch.com/what-is-big-data-analytics-in-manufacturing>).

In agreement, Madelin said there was a “fear of the unknown”, so there was a need to engage with the people - to have a “courageous conversation”. His message was “to be clear upfront and engage” and not to wait for the politicians. Leonard added the proviso that there was likely to be



disagreement between countries about what could be regulated, e.g. could robots be used to kill by themselves, could ‘super soldiers’ be built, etc.? Gjødbsbøl argued that rather than regulation, the starting point had to be standards – on a global scale - so that SMEs would be confident in moving forward.

**Patrick Schwarzkopf**, Director EUnited Robotics, was not sure that a tipping

point had been reached as productivity gains were slowing down in comparison to those of 20 years ago. He saw slow growth as a problem and mused that we might have underestimated the disruptions of the past. Leonard argued he’d been using numbers from the USA and that these were correct – today’s productivity gains were just as high as in the past.

Tomatis had heard the discussion about digitalisation being introduced so that it would not harm society – fewer job losses or people receiving money when not working – and reasoned that this could mean Europe losing out in what could be an economic war with China and the USA. For Tomatis, the priorities had to be that Europe was more efficient and competitive; this in itself would lead to the creation of jobs. Eberhardt agreed with Tomatis on this point, saying it was not clear how Europe could compete if ‘European standard and values’ were maintained.

### Full speed ahead or barriers to progress?

With Smith asking if the future was, indeed, bright, Madelin argued it could be but only if the European workforce’s potential was released. He added that the ‘project’ needed the support of the middle classes who trusted a future that included extensive use of robotics. On a broader note, Leonard warned that the involvement of Europe, China and the USA could lead to a technological arms race.



**Klas Nilsson**, CEO of Cognibotics AB, was in agreement that Europe had a lot of offer and that its values could be exported on a global scale. He had listened to Leonard’s positive presentation and wanted to know if any of the panellists could see anything on the horizon that could slow this revolution down.

Leonard could not see any hindrances that could stop the transformation of manufacturing processes into a digital age. He felt impelled to add that everything that he had talked about could happen even faster than he had said in his presentation. Gjødbsbøl, however, felt that there might be an inability of the human race to absorb such a rapid rate of change. He

felt the perspectives presented might be too aggressive and that it would not be possible to cope with such a rapid rate of change.

Eberhardt warned that the current wave of populist voting could be factor as they were general not voting for “dramatic change”. Madelin’s answer was to “embrace the speed of change” and accept that it would happen – it was simply necessary to explain the situation to citizens.

### **It’s a wrap**

For her final question, Smith wanted to know where the priorities were so that it could be made to happen. Leonhard wanted humanity to be given priority over efficiency. Madelin and Eberhardt both insisted that the change would happen and the focus had to be on making it a positive experience for all: the business world, the human race and for the sake of the planet. Gjødsbøl said it was not possible to wait so manufacturing businesses had to get involved even if the situation was not totally clear.

**SAVE THE DATE**  
**EUnited Competitiveness Review and Dinner Debate 2017**  
**Tuesday, 28 November**