In the spirit of Ernest Solvay

Founder of the Solvay Schools, Ernest Solvay (1838-1922) was the Belgian industrial chemist and manufacturer who developed in 1861 a new process for making sodium carbonate, the basis of the Solvay company which would become a leading international group.

He also created institutes in natural and social sciences and assisted social progress across the country.

In 1911, he launched a series of international congresses in the fields of physics and chemistry, gathering leading figures -including Nobel Prize winners in these disciplines- and bringing to Brussels scientific stars like Marie Curie and Albert Einstein.

Back in 2005, Gilles Samyn, as President of the Solvay Schools Alumni -a dynamic network counting today some 23,000 graduates from ULB and VUB which extends around the world-, proposed and succeeded to organize on a regular basis this type of high-level scientific meeting in the fields of business.

This is what inspires again this Special Issue, in the wake of the 4th Congress of the Solvay Schools and their Alumni.
Surviving the digital revolution

How can we build trust in the digital ecosystem or control access to our personal data? Why is information a threat to health insurance? Will intelligent softwares and robots create mass unemployment? To adapt to the digital revolution rather than become its prisoners, Nobel Prize Jean Tirole warns, we must anticipate the many challenges ahead.

The Internet of things (smart homes, sensors on watches, smart clothes, Google glasses, etc.) will mean we are always online, whether we like it or not. This future is full of hopes and fears. The acceptability of digitalization rests on the assurance that the information we provide will not be used against us, that Internet platforms respect their contract with us, and that their recommendations are reliable. In short, it is based on trust.

Despite new opportunities for hackers, we have no say in a company’s investment in IT security. Clauses preventing resale of customer data to third parties may also be blurred if, for example, a firm freely transfers this data to subsidiaries. And what happens in case of bankruptcy? As data is a major asset, creditors are eyeing the personal data collected by companies. Another challenge to confidentiality is the complexity of privacy policies. You cannot require users to sift through detailed documents every time they log on.

Data ownership

In future, added value will mainly be in data processing. Will we control access to our own data? If eBay raises prices or provides a poor service, we do not want to move to another platform without the reputation we have painstakingly built on eBay.

It seems natural to distinguish between data that belongs to users of a platform, and the processing of such data, which becomes property of the latter. In practice, the distinction can be unclear.

It is often said that platforms should pay for our data. But because we exchange our data for free ancillary services—such as search engines or online video—or in commercial transactions (in the case of Uber and Airbnb), companies can often claim they have spent money to acquire it.

To create jobs, we need an entrepreneurial culture and world-class universities, as knowledge, data analysis and creativity become central to the value chain.

SOME SERIOUS CHALLENGES AHEAD

We may have a lot of trust in what is going to happen, but at the same time we must anticipate (in these days of populism) what might happen if we don’t do it right.

We have switched from an economy of scarcity—looking for goods and services, for social and personal relationships, we basically had the village or the town around us with a very small supply—to the reverse. There is an endless supply of goods, we benefit from the economics of attention, we don’t know what to choose, we get thousands, millions of offers and we need platforms to help us with this choice. But let’s focus on some of the challenges we are going to know.

EFFICIENCY AND COMPETITION

Anti-trust is going to be a big issue due to the multiplication of very large firms, owning huge networks and gaining from returns of scale. There are more and more monopolies and the issue becomes increasingly one of contestability. There is always a trade-off between efficiency and competition. Take for example Google with Chrome. The company is dominant because it has a lot of inquiries, due to the efficiency of its search engine. This efficiency causes automatically a problem with competition. You find this basically in all the platforms.

This kind of issue—skewed pricing patterns, for example—appears all over the place. Taking Google again, you get as a consumer a fantastic deal with a search engine, and many other services offered to you. But you have the advertiser on the other side, who is paying a big price for it. This can often be efficient, but neverth-
Jean Tirole is chairman of Toulouse School of Economics (TSE – J.Laffont Foundation), and scientific director of the Institute for Industrial Economics (IDEI), University of Toulouse Capitole. He is also affiliated with MIT, where he holds a visiting position, the Ecole des Hautes Etudes en Sciences Sociales (EHESS), and the Institute for Advanced Study in Toulouse (IAST), which he founded in 2011. He is Ingénieur général des ponts, des eaux et des forêts. Before moving to Toulouse in 1991, he was professor of economics at MIT. He was president of the Econometric Society in 1998 and of the European Economic Association in 2001. Jean Tirole received his PhD in economics from MIT in 1981, engineering degrees from Ecole Polytechnique, Paris (1976) and from Ecole Nationale des Ponts et Chaussées, Paris (1978) and a “Doctorat de 3ème cycle” in decision mathematics from the University Paris IX (1978). He holds Honorary Doctorate degrees from the Free University in Brussels (1989), the London Business School (2007), HEC Montreal (2007), the University of Mannheim (2011), the Athens School of Business and Economics (2012), the University of Rome 2 (2012), Hitotsubashi University (2013), Université de Lausanne (2013), EUI Florence (2015) and Luis U. Rome (2015).

Among other prizes and honors, he received the Yrjö Jahnsson prize of the European Economic Association in 1993, the gold medal of the CNRS in 2007, and was the inaugural winner of the BBVA Frontiers of Knowledge Awards in economics, finance and management in 2008. He received the CME-MSRI award and the Levi-Strauss prize in 2010, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel in the same year. He is a foreign honorary member of the American Academy of Arts and Sciences (1993) and of the American Economic Association (1993). He was elected to the Maurice Allais chair at the French Académie des Sciences Morales et Politiques in 2011.

A great opportunity for health

Big data is a great opportunity for health. It will provide more accurate and cheaper diagnoses, strengthening preventive medicine. It may also enable equal access to care. Cheap monitoring will allow insurers to recommend better lifestyles, and reduce premiums for those who behave responsibly.

The medical profession of tomorrow will be recognizable: computer scientists, biotech researchers and neuroscientists will be at the heart of the value chain. As elsewhere, the issue is whether the machine will replace humans. Technological advances also threaten to create serious health inequalities. Without regulation, those whose genetic tests predict poor health will see insurance costs rocket. Without any less, it is something that anti-trust authorities may be concerned about.

MUST-JOIN PLATFORMS

There is a problem with so-called must-join platforms. Merchants have to join them otherwise they won’t find customers. If all merchants join a given platform then the consumers don’t have to go anywhere else. They just go to it to find what they want, so all the consumers finally go to that platform. Because all the consumers go there –that’s called single home-, every merchant has to go. So it becomes a must-join platform, which raises cases -like the European one against booking.com.

Economists are very concerned about these anti-trust questions and they have to anticipate what is going to happen. As usual in anti-trust matters, it is necessary to intervene so that competition remains, but at the same time without restraining innovation.

THE PRICE OF INSURANCE

The insurance market is based upon the idea that we must be insured against bad luck, not against our wrongdoing. If someone has the wrong genes he’s going to ask for insurance and it’s perfectly alright to do that behind a veil of ignorance. However, leave alone genetics, there is the issue of cream skimming -of companies rewarding smaller and smaller risks- which is going to destroy insurance. The companies are indeed going to offer a good price to the low risk but of course if you end up being the high risk or have a permanent condition then you are going to pay a very high price for your health insurance, or even you may not be able to pay.

So we have to intervene to make sure that people who are unfortunate still get insurance at reasonable prices.

FEARS OF MASS UNEMPLOYMENT

To create jobs, we need an entrepreneurial culture and world-class universities, as knowledge, data analysis and creativity become central to the value chain.

Self-employment is on the rise, as new technologies facilitate contact with clients and allow low-cost reputation-building. Digitalization has also facilitated the division of production into basic tasks and Uber’s controversial “surge pricing”.

Our labor code was designed for factory workers, not part-time students or retirees, freelance journalists or Uber drivers. The dice must not be stacked in anyone’s favor.

Digitalization and robotics breed fears of mass unemployment and inequality. But technological progress destroys jobs and creates others. The real question is: will there be enough jobs with decent wages? Those with abstract knowledge, facilitating adaptation to the environment, will adapt best, computers will take over routine tasks.

THE RICH GET RICHER

There has been a fair amount of polarization in the last 20 to 30 years. Basically the very rich have become much richer, while the poor have seen their wages stagnate (or progress only by 5% in 30 years) and the middle classes have been slowly disappearing. This is likely to happen even faster. The polarization grows between privileged people who, on one hand, really do an excellent job and reap the benefits, and basic people who, on the other hand, ---
In the medical profession of tomorrow as elsewhere, the issue is whether the machine will replace humans.

...have a very low wage and cannot benefit from the work they do. This will be a big challenge.

A possible reaction to that phenomenon is to redistribute from the rich to the poor. Which means you will tax the middle class. By taxing the rich you are not going to go very far in terms of budget. And you should first close all the tax loopholes, domestic and international (there are lots of both).

The second problem with the argument that we should just tax the rich is twofold. First, people want dignity, they want a job, not only money. Of course, you could do like Saudi-Arabia and basically create fake civil service jobs in order to give money to people, just using a digital rent (instead of the oil rent) to do that; basically registering and affecting jobs for a number of people. But it seems that in terms of dignity this will not suffice.

Secondly, you may anyhow not be able to redistribute. The elites are internationally mobile and these days it becomes complicated if you start imposing high rates of taxation. It’s not like it was in the past when the elites were in between “stuck” and “committed to” their countries. Now we are citizens of the world and it’s very easy to move our company (especially a startup), our work and ourselves internationally. This is a big area of concern.

PRIVACY AND TRUST

We are spied upon by many platforms. You probably think about the big ones but the number of people that are spying on you is very high; actually it can be very efficient because that spying enables a firm to target its ads to you. This can be a good thing: instead of seeing many bad ads which you have no interest in, now they are targeted, they give you recommendations depending on your taste. They allow you also to know which suppliers are reliable and which are not, so there is a lot of efficiency there.

But there is still the question of how the data collectors will use and protect this information. In most countries there are lots of debates about exactly this. Are we going to make sure there is no under-investment in security against breaches? Of course, if there is a breach of security, the companies themselves are going to suffer a lot; but they don’t internalize the entire consequences of that breach.

What happens to your data -which is extremely valuable- in case of a corporate sale or bankruptcy when it is transferred to buyers? What about your right to oblivion? The company can conclude some kind of agreement with the user; he is asked to sign “do you agree to have this data be used by us in some way”? Of course it’s known that we are boundedly-rational in some way as consumers. We tend to click without paying attention to what it implies because we just want to have the immediate benefit. When we want to buy something, for example, the notion of informed consent is very light because of our excessive preference for the present. Then there is a question of efficiency. We don’t know how many websites we go to each day and we don’t want to spend 10 or 15 minutes on each website to read the fine print. Anyway most of us don’t understand what is implied. This is clear in the case of young people who put crazy pictures on the web without knowing what will happen to them when that will be seen by employers or the like. So it seems like we need light regulation, a regulation which should destroy neither efficiency nor innovation. Part of the economist’s role is actually to think about how to do that well. It’s something that we have to care about.

We are also concerned about the users, but less so than the platforms. We see that they themselves are deleting cookies, using anti-advertising software, that they lie about their identity, about their socio-economic features and so on. That’s a reaction to the threat of privacy in terms of price.

ROBOTS AND ARTIFICIAL INTELLIGENCE

We all know that robots and artificial intelligence in the economy are going to destroy a lot of jobs. Automation has been destroying jobs for at least two centuries and actually there were big strikes and the destruction of machines in early 19th century England. But this time lots of jobs are going to be destroyed extremely fast. That’s a big concern, not only for low-skilled jobs -it’s quite obvious that artificial intelligence is going to replace a lot of call centers and the like- but also towards highly qualified jobs -lawyers, doctors, professors. It’s going to be a severe issue.

Of course we know that every time we destroy jobs we actually create others, otherwise after the last two centuries we should have no employment left. To give an example, 45% of the labor force in the US a century ago were farmers; now they are 2% and yet we don’t see 43% unemployment in the country!

There will always be new jobs appearing and disappearing. Amazon is creating delivery jobs, but tomorrow with drones and the like they will disappear. We’ll have to manufacture 3D printers and then we’ll have to make de-printers so that you can de-print your latest suit or dress or whatever you want to recycle then print again as a more modern model. So technology will create all sorts of jobs but it will also destroy a lot of them very fast.

We have to prepare ourselves for that evolution which has implications for labor markets, institutions and education. Education is crucial, not only at the university, but starting at school. It implies also an important debate about the organization of work and notably the split between being self-employed or a salaried worker.

Tax avoidance made easier

The intangibility of the Internet makes tax avoidance easier. We often no longer know exactly where a business is located. Intellectual property of a book can be established in any country, regardless of the place of consumption.

The recent EU agreement allowing the country of the buyer, not the seller, to levy VAT on digital sales, is a step towards eliminating tax competition. But taxation of two-sided platforms like Google is very difficult, as they only charge advertisers, and do not technically sell anything to consumers.
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A fast-speed revolution

European Commissioner for Digital Economy and Society, Günther H. Oettinger says we need our own European digital sovereignty.

Ten years ago, there would not have been such a digital conference. In the past, there has been a digital revolution in the hardware, software and telecommunications sector. But now the most important point is that digital technologies and services are present in all sectors of our industries and societies. The film sector is digitized, the media sector is on the way to being digitized. At Zaventem airport this morning, I was almost the only one to still read the printed newspaper, others took their smartphones or tablets to read the news online. For print publishers, that digital disruption might become a problem.

Other actors, in the manufacturing sector, the automotive industry, the mobility and banking sector are concerned as well. One might ask: are retail banks still necessary? Do we need cash or is it enough to take our smartphone for financial transactions? PayPal, Apple Pay, fintechs you name them, are organizing that already in a perfect manner.

As we are living in a digital revolution, of course, there will be winners and there will be losers from it, in all of our industrial sectors. It’s a fast-speed revolution. And by the end of this decade, it will be decided who is a winner: depending on the way of producing, the way of developing creative new business models, new products, new services and the way of using data.

**Sandwich position**

Not all policies have to be Europeanized, but developing a digital strategy in 28 fragmented silos is not possible. As Europeans, we are living in a sandwich position.

On one side, the U.S. are in a leading position having Stanford, Berkeley and the University of California – three world class universities –, having a digital cluster, having so many start-ups, scale-ups and, at the end of the day, Google, Apple, Facebook, Microsoft, Amazon, Cisco, Intel, Qualcomm, Hewlett-Packard, IBM and all the rest. The U.S. are certainly keen to re-industrialize and to be a global leader in Big Data strategies. 10 or 15 years ago, there was Nokia in Finland, there were Siemens and Bosch in Germany producing mobile phones. But only 8 years ago, Apple came with the iPhone, developed in California, produced in South-East Asia, exported from there to Brussels, sold and used in Brussels, while the data go immediately from your mobile phone to California, via a cloud computing service, again. What is the generated GDP in Brussels? Zero!

On the other side, Chinese companies, such as Huawei, Alibaba and others are flourishing.

To avoid being in such a sandwich position means we need to have a European strategy, to activate a European digital single market, to have one European data protection regulation. Companies should not be able to undermine European data protection regulations by residing in countries with only very low level of data protection. So to have a single general data protection regulation in Europe means to come back to a common level of authority.

Our first ambition has to be to co-finance and to coordinate important digital research projects. From robotic to photonic, from actoric to sensoric, from high-performance computing to quantum technology, no Member State, no company alone – is able to activate such an amount of money to be the number one in global competition in that fields. Together with public-private partnerships organizing European projects of common interest, co-financed by the European budget, moderated by us with a clear input from our Member States, we have a good chance to hold our leading positions where we have one – such as in robotics – or to come back into a leading position where we are lagging behind – as in high performance computing. European public-private partnerships are key to important research projects.

**A Gigabit society**

There are mixed outlooks up to 2020 about which digital infrastructure is suitable. We, at the Commission, analyzed the situation beyond 2020, anticipating which amount of data flows we will have in 2025. All these data flows are demanded by our industries and our citizens: upload and download, streaming services, social media, existing ones and new ones, IoT, industry 4.0, machine-to-machine, B2C, B2B, or connected cars, connected trucks, autonomous driving, e-health, m-health, smart cities, smart grids, energy efficiency in our buildings. If we add up all of these demands for data flows we have to come to a Gigabit society.

5G will be the technological revolution for all of these data flows - with higher speed, with highest quality and with the necessary capacity. More important than investing in a highway or in railway is investing in our Gigabit infrastructure, in the digital infrastructure in rural areas in particular, not just in urban areas.

Driving, or being driven, from Brussels via Luxembourg and Metz to Strasbourg, maybe afterwards to my home region Stuttgart, or to Munich and Salzburg.
What we have to avoid is to use many different digital languages between machines.

I realize that there is no continuous mobile connection, but dead spots at every border I cross.

National boundaries, such as between Belgium and Luxembourg, Luxembourg and France, France and Germany, Germany and Austria, are relevant for culture, for languages, maybe for safety and security, but they are coming from the time of Napoleon, before Waterloo and the Congress of Vienna. They are coming from Versailles after World War I, Yalta and Potsdam after the World War II. But Napoleon didn’t know anything about digital communication. And that is the reason we are proposing a coordinated European Spectrum Policy and an action plan to abolish dead spots at our borders with a coherent European spectrum policy.

The platform of platforms

In our European Union of 28, we have 24 official and many other wonderful languages. In Belgium, we have French, Flemish and roughly 70,000 people speaking German. That is our cultural heritage. But what we have to avoid is to use many different digital languages between machines. And so we have several national industry 4.0 platforms for our industries. Public-private platforms between the government and industrial associations are announced in France, in the Netherlands, in the UK and in Germany. In these days, we are founding with governments additional national platforms in all our Member States, as public-private partnerships, for the national dimension. And in the end, we are founding a European platform – a platform of platforms – because standardization has to be a coordinated European responsibility. Again, not all policies have to be Europeanized but there is a clear, convincing advantage to europeanize digital policies.

In a time of debt crisis with more and more populist parties and Eurosceptic leaders, the digital sector is a convincing argument that our Union with a strong digital single market can bring added value to all of us.

Skills are another important point. Looking to our European labor market, we have an outlook that we need more than 180,000 ICT specialists year by year on top of what we already have. And in our universities, there is the capacity to train maybe 60% of these ICT specialists. So we have to invest in ICT studies, more than we are doing today. Our existing workforce does not consist of digital natives. Universities and schools have to educate and to train us. We need offers for everybody.

As much as 80-90% of our existing workplaces and jobs will be digitized. If as a banker, as a commissioner, as a mayor, as a lawyer, as a doctor, you have no experience using applications, using social media, knowing what data protection is, what data security is; you will do a poor job. If you are not willing to transform yourself in this digital age for your digital future, your job might become disrupted.

For sure, we have a chance. We need our own European digital sovereignty. You should not depend on one company alone. Among the next generation of ICT companies should be European start-ups of today. That should be our European ambition.
The incredible opportunities of the Internet

Technology and the Internet offer incredible opportunities for anyone in Europe and the world to collaborate, innovate and stimulate growth. Take the rise of the app economy: the combination of Android-powered devices with the Google Play Store feeds a collaboration that has created a new ecosystem by associating hardware, software, and online platforms, connecting things to the web.

Twenty years ago, less than 3% of the world’s population had a mobile phone; now two-thirds of the world’s population has one (at least), and one-third of all humans are able to communicate on the Internet. With ever-greater penetration of smartphones, apps will continue to proliferate, empowering users and consumers with choices and driving economic growth.

On the innovation side, it’s crucial to default to open platforms. Google has always believed that innovation can only thrive when platforms and processes are open to input and collaboration. When Google created the Android platform, we knew we could never hire all the best developers on the planet.

For that reason, we “defaulted to open platforms, and it’s been incredibly successful.”

An ecosystem

The incredible opportunities of the Internet

The web is for everyone, says Carlo d’Asaro Biondo, President Strategic Relationships for Europe, Middle East & Africa, Google. He shares his insights.

Technology is redefining collaboration and innovation.

Carlo d’Asaro Biondo.
The web offers incredible opportunities to collaborate, innovate and create growth.
The web allows anyone to start a new business, grow an existing one, become an entrepreneur, a developer or a content creator, find an audience to share their passion and thrive.

A COMMON LANGUAGE

The web is based on the Internet protocol. For the first time we have a common language around the world that all the machines are using. In the beginning only the PCs, then PCs and mobiles, then also the fridges and lots of other objects, got the power of connecting.

Speaking the same language is a very positive message because when people talk, they are cleverer than a person alone. And this is still true for machines, also for the web.

THE FASTEST JOB CREATION

Talking about job destruction, tell me which is the fastest job creation in Europe in the last 5 years? Around 3 million jobs have been created to develop applications on Apple’s and Google’s platforms since 2011. We expect 5 million jobs to be created in the next two years thanks to the fast growth of the app economy.

Everybody needs an app, everybody wants to connect to his customer, to give him access to his products or services through a mobile phone. It’s possible and easy today.

What are we doing to create those jobs in Europe instead of creating them in India or somewhere else? What are we doing to give our populations some new services, offer jobs if only you believe in the future.

SMALL AND BIG COMPANIES

Today SMEs can compete with larger companies to provide a service or goods because they have the same access to customers through those platforms. The small can compete with the big.

THE YOUNG GENERATIONS ARE MORE INTERESTED

We always hear young people don’t read, young people get mono-thematic because of Facebook and Google. Young people read more than ever before, they have more culture, know more about history, study more than ever before.

Why does the content industry have a great future? Because the young generations are more interested, not less, because they are more stimulated, which make them cleverer.

Multi-directional competition

Online competition is thriving every day while consumers’ reactions drive product and service improvements. Internet services face fierce competition with low barriers to entry, multi-homing and low switching costs. Platforms may operate in several technology areas simultaneously, which means multi-sided platforms can face multi-directional competition and we must look at how entry and expansion occurs in each.

The Internet is characterized by low barriers to entry, high consumer mobility and short innovation cycles. Snapchat is a great case in point: only two years after it was founded, it became the top photo sharing site. Consumers can easily switch between products –competition is only a click away.

A great driver

The web has become a great driver for collaboration, innovation and growth. Google plays an important role by providing the tools and technology to help people make the most of the web.

The web allows anyone -from anywhere, of any age, and any skillset- to start a new business, grow an existing one, become an entrepreneur, a developer or a content creator, find an audience to share their passion and thrive.

A recent EU poll supports this: 6/10 respondents would probably change search engine if the search results provided were not useful. What’s more, when purchasing a product, users routinely go multi-home. A shopper sciences study showed that ‘shoppers consult on average of 10.4 sources when researching a purchase’.

Carlo d’Asaro Biondo graduated from La Sapienza University in Rome and began his career as a consultant Macfin Management Consultants, then joined KPMG Consulting Italy, UniSys, MD EMEA Telecommunications & Media and AOL Europe. In early 2007, he became CEO of International Operations at Lagardère Active Digital before joining Google in 2009. Since January 2015, he is President Strategic Relationships for Europe, Middle East and Africa.
The power of Multitude

What we have lived over the past 20 years is just a taste of what is to come, according to Arnaud de Puyfontaine, CEO of Vivendi.

Platforms are the new factories and collaboration creates more value than competition.

Digital is not limited to the startup ecosystem. Digital is not about technology, not only. Digital is not a sector which grows independently to the rest of the economy. Digital is everywhere, embedded at all levels of our society and a key component in the way in which we produce and consume across all economic and social structures, which are impacted and profoundly challenged. What we have lived over the past 20 years is just a taste of what is to come.

Let’s take the example of a kid who is learning to ride a bike. At the very beginning he believes that he needs to find his balance before moving on. He hasn’t understood yet that riding a bike requires taking a risk - the risk of falling - and that falling is the price to pay for progressing. That is the same for digital. Everyone knows the importance of digital and its role in the transformation of most human activities. The States, the companies, the organizations, all try to deal with digital but, as our kid tried to ride his bike, they too want to find their balance first and then cope with digital. This is an inaccurate approach because the digital revolution is already behind us. The digital revolution was just the very beginning of the story.

The digital transition

Today we experience what I would call the digital transition, which is a lengthy and iterative process and will continue over the coming decades. In time our society - and our economy - will be deeply and radically different from what we know today. Yesterday’s world’s was dominated by the Fordist economy but with the digital revolution we shifted to a digital economy. What does it mean?

The Fordist economy was built up thanks to oil as the key resource for the global economy. It entailed the appearance of the factories associated with the Fordist organization of workforce infrastructures, roads, railroads, energy networks and the mass production. In the digital economy, the key resources are what Nicolas Colin, one of the most inspired French digital experts, has called the Multitude. As a definition I would describe the Multitude as all individuals interacting amongst themselves and creating powerful communities.

A few weeks ago I was asked by a journalist what I thought was the defining moment of 15 years of digital innovation. Some dates like the launch of the iPhone in 2007 - or the launch of the Google car project in 2010 - were obvious. But I chose 24th August 2015, when one billion people connected on Facebook during the same day. Can you imagine 15% of the worldwide population connected on a network which just 10 years ago earlier was the Harvard Facebook? This is the power of Multitude.

We used to hear that data is the whole of the 21st century. But data is only the medium. I’d rather say that the whole of the new century is Multitude. With this approach we can better understand that the digital transition is a change of paradigm, and it’s very tangible. In this new paradigm, Internet, GPS and the cloud are the new infrastructures. The platforms are the new factors and collaboration creates more value than competition.

As a result the worlds biggest capitalizations are not the oil companies any more but the gafa. The Apple market capitalization equals the sum of the 25 biggest media groups around the globe. All businesses are disrupted by this new paradigm. The entertainment and media industry has been one of the first to be affected because of its immaterial, global and mainstream products.

Creative destruction

As CEO of the company let me focus on Vivendi, one of the top European media players, well known in France and probably also in Belgium. Without knowing it you and your family and all those around you access Vivendi content and services every day. If you go to see Legend or Shaun the Sheep with your children you are enjoying one of our films. If you book for Taylor Swift’s - or Sam Smith’s - concert, you’re enjoying some of our artists. If you listen to your playlist on Radionomy or Belgian Digital Radio, you’re enjoying one of our services. Vivendi offers every day entertainment to audiences of all ages through its original content and services. Vivendi operates throughout the value chain from creation to distribution of content and it’s based on five pillars.

Universal Music Group (UMG), worldwide leader in music, recorded music and publishing; Canal Plus Group, Gameloft, Vivendi Village and Daily Motion.

Despite a very strong position in music, television and cinema, it is fair to say Vivendi went through massive changes in the early 2000s. Let’s take the example of the music industry. Over the last 15 years the digitalization of music grew significantly with the downloading model and its side effects, piracy and peer-to-peer sharing. As a result recorded music lost about two thirds of its value since the turn of the century. At the same time new models appeared, like streaming.

Considered as a niche market a few years ago, subscription streaming is about to become mass market and represents the opportunity for the industry to bounce back and find new long term growth. 2015 was the tipping point with a profound transformation within the recorded music industry. For the first time digital sales overtook physical sales: 8.5 billion versus 8.2 billion. This year in the global music market sales from streaming are expected to outperform those from downloading with a 40% growth.

I know there is a copyright on the expression “creative destruction” but it’s clearly what we are talking about. The streaming model has allowed to offset the decline in digital download sales and is preparing the transition to the next model to be invented. Downloading lasted less than 10 years before being challenged by streaming. In the digital transition each slake of innovation sweeps away another one. This industry is learning from experience and is becoming more nimble.

The entertainment media industry is getting used to the new normal: a multi-speed marketplace that expects and plans for disruption. About disruption, I used to remember one of my favourite actors, Jean Gabin, who declared not too long ago -it was only in 1928- “talking movie has no future”. Four years later, the Moulin Rouge, where he used to perform, was replaced by a cinema.

One common denominator

Facing such a type of disruption is all about agility. At Vivendi it’s our DNA, it’s
what drives us. The group has reconfigured its operations to meet new market opportunities and face new challenges. What was once a financial holding has been transformed into an integrated group capable of enhancing the common potential of all its assets.

Let’s take Vivendi artists like Taylor Swift. She is produced by Universal, our venue L’Olympia hosts her concert, with tickets sold by our ticketing service Digi- tique, the whole event is broadcasted on Canal Plus channel and our video platform Telemotion. As I used to say, Vivendi is more than the sum of its parts.

It is worth noticing there is one common denominator to all of the new business models. I’m talking about the platform model. The platform is a plug and play business model that allows multiple participants – producers and consumers – to connect to it, interact with each other, create and exchange values. Vivendi itself owns 90% of DailyMotion, one of the biggest aggregation and distribution platforms in the world after YouTube, with 130 million active users worldwide and 3.5 billion videos viewed per month.

All the companies, whatever their business, tend to become a platform. They put themselves at the heart of the integration in order to deliver their promises. The most powerful companies are the ones which succeed in partnering through their platforms with a community as large as possible. By doing so the companies build data up a new immaterial asset, largely as important as traditional assets.

By collecting the consumers’ data on a regular and systematic basis, the digital platforms increase their ability to answer to their unarticulated needs and deliver a more dedicated and bespoke experience to their users. Data is the value of the experience, and this strand is getting amplified by the explosion of the collaborative economy and by the upcoming revolution of connected objects.

Big Data, a match in learning, combined with more direct access to audience sentiments, behaviors and preferences via social media and over the top delivery channels, give the entertainment and media industry unprecedented insight into what the audience actually wants. The increasing efficiency of the platform is a reality. As the value depends on the level of interaction of users, the platforms tend to retain their users and limit the churn by constantly broadening the scope of products and functions available.

But the flip-side of this efficiency is the risk for the users to be stuck in a locked platform. The old idea of wide open web where hyperlinks from site to site created a non-hierarchical and decentralized network of information has been largely supplanted by platforms designed to maximize user’s time within their walls, some of which such as Instagram and Snapchat do not allow Adwords links at all.

Creativity, the backbone of the company

Looking at the debates about filtered bubbles, it seems we are caught in a battle opposing the open platform of the web (as its architects envisioned it) and the gated enclosures of social and global platforms. Curating our own personal streams, algorithms would give us access to a filtered reality which means that we would be less likely to be exposed to information that challenges and broadens our world view and less likely to encounter the diversity of cultural content.

Considering cultural goods accounts for 25% of the gafa revenues in France, a company like Vivendi is part of this debate. Our commitment to promoting cultural diversity revolves around this debate. Vivendi who invested 2.3 billion € in music, film and audiovisual programs in 2015 is committed to encouraging diversity in musical repertoires and cinematographic expression, spotting and supporting new talents, promoting local talents and showcasing cultural heritage.

Our second answer is creativity, considered as the backbone of Vivendi. Talents are the common denominator to all of Vivendi’s subsidiaries, a valuable and rare asset that is key to the group’s ongoing development. One of the most interesting developments we have had the chance to lead recently is Studio Plus, a unique mobile first and mobile only content offering. Studio Plus is the first premium short content global offer for mobile networks. This offering exists nowhere else. Split into 10 episodes of 10 minutes, one new series will be released each week. The total catalogue includes action, adventure, thriller and romance along with animation. It is a global ambition targeting 600 million customers, 20 countries and 7 language areas. Be ready!

I am pretty optimistic for the entertainment and media companies in the digital age. They are fuelled by different shifts: the power of youth, the primacy of localised content, the deepening of developing markets, the potential for new business models. All these shifts are taking place against the backdrop of steadily growing industry-wide revenues. To thrive, companies need to ensure that their capabilities are both up to the job individually and aligned such that they add up to more than the sum of their parts.

Strong brands must be underpinned by the best talent which must be empowered by low friction digitized processes that enable them to collect and use deep consumer insights from data. Those with the clearest vision, the strongest talent, the best agility and strongest experimentation capabilities will achieve more voiced brand engagement and returns in a media world that grows both more crowded and more complex every second of every day around the globe.

(1) Acronym for Google, Apple, Facebook and Amazon.
Using private cars for public good

Uber has digital at the very core, says Pierre-Dimitri Gore-Coty, Head of Europe, Middle East and Africa, Uber. One of the key barriers for shared mobility options to roll-out in cities has to do with regulation.

Today one in two people live in a city. By 2050, it will be two in three.

If many people haven’t actually tried Uber, pretty much everyone must have heard of this smartphone app that provides riders with a safe, reliable and affordable way to get around their city. It shows your location, tells you about your driver in advance and allows you to share your location and ETA with your friends. Transactions are cashless, making trips easy and traceable for both riders and drivers. After every trip riders and drivers rate each other ensuring a constant feedback loop which ensures quality of the rider and driver experience.

The idea for this service first came in 2008 when Travis Kalanick and Garrett Camp - the founders of Uber - spent some time in Paris for a tech conference and were having difficulties hailing a cab. It was there that they came up with the idea to use technology to connect with people who are willing to offer a ride. In 2009 they began to roll out a service which at the time was more of a side project rather than the big company that it has become. The service has grown fast since then, operating in over 400 cities across 70 countries. In December 2015, it reached its first billionth ride and 6 months later, 2 billion.

Second fiddle

In most cities and countries, mobility policies have traditionally played second fiddle to the likes of the economy, education and healthcare. Yet mobility is key to all these areas of public policy.

According to a Harvard University study, the single strongest factor in determining someone’s economic life-chances is not the local crime rate or its education but actually how long it takes that person to go to work or to school every day. Mobility policies are even more important considering how fast cities grow. Today one in two people live in a city. By 2050, it will be two in three. By 2050 there are another 2.5 billion people that are going to move to cities or to be born in cities. That will be two thirds of the global population.

When we look around we already see that our cities tend to be moving like traffic jams and to look like parking spaces. That is twice the amount of time they are spending with their friends socializing each week… It’s interesting to see it this way. People in Brussels waste 70 hours in traffic each year.

As noted at the recent World Mobility Leadership Forum, most negative impacts of current urban mobility patterns come from the extraordinarily inefficient use of the private car. There are over 1 billion cars on the road around the world. Across the world, on average, these cars stand idle for 96% of the time, being used just 4% of their life! Today, 20% of global car parks are based in the US, but emerging countries are catching up pretty fast. Since 2011 China car sales have overtaken US car sales. Many people across Europe chuckle when they hear these arguments, thinking that these problems only exist in the US. In fact, car ownership in Europe is amongst the highest in the world.

Public transit

Of course, public transport is part of the answer, but even in a city like Paris with a great public transit system there are still 15 million trips made by car everyday. This is because public transit will never get to everyone’s door, so cars will need to be part of the solution.

The solution will come from a combination of sustainable mobility services. And notably, those who routinely use ridesharing services and other shared mobility modes are more likely to use public transit.

London is one of the cities where you can observe first-hand how smartphone apps like Uber can significantly improve mobility. In London’s outer boroughs during the morning rush hour nearly 30% of Uber rides are people getting to their local tube or train station. So by literally picking up where mass transit drops off, ridesharing extends the reach of our public transportation systems without costing taxpayers a penny, contrary to a lot of the suburban transport networks that exist today.

Ridesharing can also help provide safe, reliable, affordable and convenient transport for everyone, everywhere within minutes - including to low-density areas and parts of cities that don’t have easy access to public transport today, or where taxis have historically been scarce. In Paris, 1 in 10 Uber trips begin or end in what the French Government deems to be underprivileged areas.

Getting more people into fewer cars may be an old idea, but technology finally makes it possible. By connecting people headed the same way at the same time, smartphones have made carpooling a
We need regulations that are focused on consumers as opposed to protecting transportation incumbents like they were for a long time.

Reality - it’s what we call UberPool. In San Francisco well over 60% of all Uber trips are pooled. This is now also in Europe, with Pool in London and Paris.

In just the first seven months of 2016, if Uber riders had driven alone instead of sharing their rides using Pool, we estimate that 312 million more miles would have been travelled, consuming more than 22 million extra litres of petrol and emitting 55,000 metric tons of carbon dioxide.

The scale of benefits of ridesharing for citizens is not trivial. A recent study by Steve Levitt, the economist known for Freakonomics, found that for every dollar users spent on uberX they received 1.60 dollar worth of gain - known as the ‘consumer surplus’ by economists. This means that the value of reliable transportation at the push of a button is worth sixty percent more to riders than what they pay for it.

Recently, International Transportation Forum at the OECDs assessed the social impact of shared mobility services. Their findings confirm that on-demand shared mobility significantly contributes to social inclusion and reduction of social inequalities, by improving access / reducing costs to jobs, education and healthcare for every citizen.

Getting work

But ridesharing apps are not just about pushing a button and getting a ride, they’re also about pushing a button and getting work. In Paris, 25% of drivers using Uber were unemployed beforehand.

Drivers choose Uber because they are free to turn on and off the app whenever they wish and accept or refuse rides. In other words, their needs determine their work schedule - and nothing else. Nearly 90% of all drivers say this is a major reason to work with Uber: it’s about being their own boss.

We need regulations that are focused on consumers as opposed to protecting transportation incumbents, like they were for a long time. One of the key barriers for shared mobility to grow are outdated regulatory frameworks. But this is changing.

Just a few years ago only one place - California - had a regulatory framework for ridesharing. Today more than 100 jurisdictions around the globe are following suit. From Mexico and Australia to Canada and India, places around the world are recognizing that ridesharing services like Uber can deliver benefits to riders, drivers, and cities.

Smart regulations can let these services grow while ensuring public safety and protecting consumers. Policies supporting innovation are now also developing in Europe. Lithuania has just passed the first modern ridesharing legislation in Europe, and Estonia, Latvia, Portugal, Finland are currently considering reforms that would improve urban mobility.

Cities that embrace shared modes of transportation, and embrace the idea that you can use private cars for public good, are cities where citizens will spend less time in traffic, less time looking for parking spaces, where citizens will spend less of their income buying cars or paying for their commute. They are cities where the inequalities will be reduced over time, where there will be better access to healthcare, education and jobs; and more importantly, they are cities where people will live and breathe more easily.
Threatening challenges do exist and important questions are raised, as mentioned by Professors Mathias Dewatripont (ULB) and Pieter Ballon (VUB).

Defining the benefits and the costs of innovation

Mathias Dewatripont

What has been heard at this Congress demonstrates the potential of the digital economy to create value for consumers. On the other hand, challenges do exist that could threaten the sustainability of this new paradigm, in particular from a political point of view, in a world where globalization -but possibly also some technological developments- is under attack by populists in various developed countries. In this respect, defining properly the benefits but also the costs -and remedies to these costs- of innovations is important to guarantee political sustainability, and various questions seem relevant.

As far as benefits are concerned, how should one respond to those who say that the societal benefits from the digital economy in terms of growth may be strongly overstated, since our problem today is one of low growth, and in particular low total-factor-productivity growth, leading to worries of secular stagnation? So far, it does not look like we can observe significant benefits of digitalization in GDP statistics: is this a problem of measurement? Can we say that the societal benefits from the digital economy soar in market capitalization solely at the expense of other firms and through market concentration?

As far as costs are concerned, a first one concerns inequality, with this winner-takes-all nature of digital platforms. What is the best way to address it? Competition policy? Taxation? Or should we mostly go through training and education to help the losers of these developments?

Still on the issue of inequality, but one concerns inequality, with this winner-takes-all nature of digital platforms, with this desire?

Another potential cost concerns the nature of work. While economists typically focus on aggregate employment and unemployment, more and more the need to create "good and stable" jobs is stressed by politicians and the public at large -not to mention trade unions. To what extent can we (should we?) make Uber-style developments compatible with this desire?

Also the nature of societal debate raises some questions. Digitalization allows firms to offer content that matches more and more closely specific consumer interests. While this has an obviously bright side, a darker one is that people tend to interact more and more with people "with similar biases and prejudices". And this seems to lead to ever more polarization in the political sphere, to the point where many people get "fed up with respect for facts or experts", which can obviously be a threat for our liberal democracy. What should be the contribution of firms like Vivendi or Google with respect to this issue? Note that Jeff Bezos, Head of Amazon, did buy the Washington Post. Is this part of their corporate social responsibility?
What is smart regulation?

A two-sided platform turns its suppliers into clients and becomes a central mediator in the market between different clients, for instance between sellers and buyers, or between advertisers and consumers. We already know the model of two-sided platforms from the analogue days, i.e. some financial services, traditional media-like newspapers and a few other mediating services. At that time it was still relatively marginal. At present, in the online economy, this model seems to have become the dominant one, and we have seen a limited amount of worldwide platforms in the online space.

Can we expect, in a 'third wave', with online/offline companies like Uber, Lyft, Airbnb, etc., that this model will also become dominant in the so-called “onlife” world? Will they be the same platforms, so big US- or China-based platforms that live from customer data? Or, since the “onlife” world is local and needs thus to be integrated with local context, are there opportunities for our local European companies to become platforms, or partner with them?

It is being claimed by many that platforms have a natural tendency to be as “open” as possible, because they thrive on cross-sided network effects. For example: the more app developers use the platform, the more consumers it attracts, and vice versa. There is thus an incentive to be as open and inclusive as possible. Yet, we also see forms of “silo competition”, whereby more consumers it attracts, and vice versa. There is thus for our local European companies to become platforms, or partner with them?

Platforms attempt to create or host exclusive content. One example is Netflix, offering more and more exclusive content. Also a recent announcement of Vivendi is about exclusive content. Does this spell out a future for consumers of endless frustration and continuous switching choices to be made between platforms, or should we see this in a positive light, as a beneficial way to let platforms reinvest some of their gains into content and service creation?

It is clear that opportunities are increasing to introduce price discrimination. More data means knowing more about what every individual customer is willing to pay. And it’s possible then to adapt prices. Uber already has “surge pricing”: prices rise when it gets late in the evening, or when it starts to rain, because then there is more demand for Uber taxis. But it was lately in the news that Uber is even looking into how much more people are willing to pay extra for an Uber taxi when the battery of their mobile phone is almost empty. So there are a lot of opportunities to make more money with price discrimination, but at the same time many forms of price discrimination are highly disliked by consumers. Where will this trade-off take us? How far will the platforms go? To what extent will our offline/online or “onlife” activities be affected by advanced scenarios of price discrimination?

Currently, regulators are looking into a number of privacy issues associated with the data economy that platforms thrive on. But digital platforms have an influence that reaches far beyond just collecting and analyzing private data. Therefore, some academics have started to advocate not just regulating the handling of data by platforms, but also regulating some of the decision-making based on that data, i.e. some crucial aspects of the software code itself. We do it with elevator software, gambling software etc., they are all very secret and very proprietary but we certify and control it. Should digital technologies be ‘democratized’ in this way and how? What is ‘smart’ regulation?
THE CONGRESS IN PICTURES
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En 2012, Frédéric Lévy-Morelle, Ingénieur de Gestion Solvay (2008), a créé Look&Fin, une plateforme de crowdlending. En seulement quatre ans, Look&Fin a collecté plus de 12 millions d’euros, souscrits à 100% par des particuliers. Interview.

Frédéric Lévy-Morelle, Solvay (Alumni 2008)

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