

REPORT

**ROUNDTABLE OF
EUROPEAN ENERGY
INDUSTRIALISTS**

March 2017
Workshop on Digitalisation
and Power Grids

WORKSHOP ON DIGITALISATION AND POWER GRIDS

Mr Hans Martens, the moderator of the workshop, welcomed all participants and presented the Roundtable and its member companies. He then pointed out the questions that the workshop was intended to discuss: What does the digitalisation of the network mean? What does the digital transformation of wider economy mean? What regulatory framework could facilitate this process? How to manage data flows and ensure system security and data protection?

Speaking on behalf of the European Commission, Deputy Head of Cabinet Ms Kamila Kloc thanked for the invitation to participate in the workshop and the opportunity to draw from it the knowledge about the challenges that the energy sector faces in the context of digital transition. During her intervention, she presented the Commission's ongoing efforts in the field of the digital agenda. The Commission has already launched most of the initiatives under the Digital Single Market Strategy. This makes it, next to the Energy Union Strategy, a flagship policy of the Juncker Commission. The focus in the future will continue to be on the implementation of these two strategies. In April 2016, the Commission put forward several communications on Digitising European Industry, ICT standardisation priorities and the European Cloud Initiative. In January 2017, it adopted another communication on Building a European Data Economy, which was accompanied by a public consultation. Open until 26 April, this consultation¹ provides the perfect

opportunity to inform the Commission of the opportunities and challenges that the digital transition of concrete sectors will bring about and of the legal framework needed to best answer to them.

As far as the energy sector is considered, the Commission looks into the opportunities offered by the use of smart meters, smart charging solutions, smart appliances (seen as elements of larger smart city concept), the integration of RES and the possible creation of integrated urban platforms (to be considered at a later stage). Feedback on all these issues would be most welcome.

For the purpose of the workshop, Ms Kloc pointed out two topics of key interest to the European Commission:

1. Cyber security – The Commission launched in 2016 a public-private partnership on cybersecurity. It is also considering reviewing the 2013 Cybersecurity Strategy of the EU. Elements of this review will be announced in May 2017.
2. Data economy – Many EU Member States call for EU legislation to ensure free flow of data and to limit the existing restrictions to it. However, there are security issues, which need to be addressed. For that reason the Commission aims to look into data ownership, data access and data interoperability issues.

In an introductory presentation to session 1, ABB highlighted that digitalisation of all sectors is unstoppable, but that the case of the energy sector is very particular. As the backbone of practically all industrial activities, and as a particularly complex one, the energy sector is a special case. Digitalisation touches every level of the power value chain: generation, transmission, distribution and consumption. Data, analytics and cloud enable solutions to manage the digital grid in terms of planning, operations, maintenance and markets and trading. With more distributed energy, more connected devices, more renewable generation, there is much more data produced. This data needs to be stored, owned, handled and shared in a regulated and secure way. The digitalisation of the grid may enable system visibility and data analytics to take educated decisions and optimise system operation. It may allow to: deal with system complexity; provide visibility into lower parts of the grid; provide data and enable data analytics based solutions; enable the participation of all assets to power system operations and planning; and improve asset management.

During the discussion that followed it was concluded that so far many of these changes were driven by the consumers, but the energy sector now needs to take the lead. A regulatory framework is indeed needed not only to encompass the ongoing changes, but also to provide investment security.

1 [European-Data-Economy-Consultation](#)

However, such framework should not put barriers to innovations and to novel solutions (e.g. the ban on TSOs to own storage may prevent the most adequate, innovative or natural solutions in some cases; such limitations should not be imposed). Another point made was that of the need to bridge the generation and consumption sides of the power system. The consumers and the power

generation are two sides of the power system, which develop and redefine their positions in the grid at a different pace. It is the difficult role of the grid to make these two ends meet. As concerns the financing of the digital transition, it was highlighted that in order to select the best solutions, many need to be tested. Funding for digitalisation is needed just as much as a common understanding

that some of this funding may be spent on projects which will finally not be the best business cases. As regards the TSO-DSO relationship, these two market actors need to find new ways of working together. For that purpose a workshop will soon take place in which the TSOs and DSOs will be looking at ways to cooperate. ■

Questions

Should the digitalisation of the grid be an issue for the TSOs or the ROCs?

Can ROCs ensure that different local circumstances will be taken into account?

Should TSOs be allowed to own energy storage?

Are urban platforms a viable solution or would they only bring more complexity to the data management system?

Commenting on this debate, Ms Kloc said that the Commission indeed aims to provide a regulatory framework that will facilitate investments. Commissioner Ansip works closely with Commissioner Oettinger, who is now in charge of the EU budget. She also underlined that an important point to take out of the discussion is the need to build bridges between the different strategies. In this regard, the Commission is working on linking the strategies on energy, digitalisation and mobility. Ms Patricia Arsene, Programme Officer in DG CNECT, highlighted that in the Clean Energy for All Europeans Package entire chapters have for the first time ever been dedicated to data handling. This shows the Commission's devotion to ensuring that these links are indeed well established.

Although focused to a large extent on the different business models used by various TSOs, session 2 led to important conclusions on, among others, the need for a framework and standards for a fully digitalised grid. The ongoing energy transition and the growing role of consumers and prosumers will eventually lead to

dramatic changes in the operation, reliability and efficiency of the grid. Although the consumers will be the driver of the change, and to some extent the TSOs will need to adapt to the new reality created by them, it is important to ensure that there is a top-down framework for this shift. Without such framework there is high risk of uncoordinated developments. This should also be done to fight some common misconceptions (e.g. while consumers tend to believe that being completely disconnected from the grid may increase their independence, such lack of connection may in fact deepen energy poverty problems). For some energy players, setting common standards is even more important than having in place holistic legal frameworks. Another conclusion drawn from the session was that consumer awareness about possibilities and challenges has to be increased (e.g. a Horizon 2020 co-funded project developed by Statnett on a Norwegian island showed that despite being equipped with appliances, knowledge and the decision-making power, consumers did not take reasonable choices on their energy consumption). ■

Questions

Should the incentives for consumers be different?

How should consumer awareness and involvement be increased?

Should the TSOs' business models be changed, and if so, how?

If administrative fees and taxes are high, to what extent can they be decreased?

What role does the optimisation of the system play in that regard?

How to make data available to make the right economic use of it?

The starting point for session 3 was a presentation by 50Hertz on the data model in Germany: a star-shaped distributed communication system with no single platform for data handling. Other examples of data models were then presented: a Norwegian/Scandinavian data hub model, a French open data platform (for the electricity and gas TSOs and potentially the main French DSO) and others. It was concluded that there is not one-size-fits-all solution and that the different models are linked to different technical, regulatory and social specificities at local level.

Another point made during the discussion was that because of the digital transition, TSOs are moving from strictly asset companies to sui generis data companies. This shift must be carefully undertaken, as the issues at stake are security of supply and of operation, system efficiency and data protection. Digitalisation of the grid, and the access to data which comes with it, provide countless opportunities such as more adequate forecasting, more efficient use and operation of the system, increased system reliability, increased flexibility (which in turn allows for higher renewable generation share) and many more. But the TSOs need a framework to ensure coherent, secure data ownership, access and interoperability. ■

Questions:

How to differentiate between big (aggregated) data and personal (individual) data?

Anonymous aggregated data can be tracked back to individual user level – how to ensure this cannot be done?

With many data models being in use on different European countries, what should the Europe-wide solution be?

In her concluding remarks Ms Arsene reminded about two other key slogans of the ongoing energy transition: “efficiency first” and “consumer at the centre of the market”. As industries in the end offer solutions aimed for citizens, they must adapt to best answer to their needs, problems and doubts. The social dimension is crucial and the fear of digitalisation, which is for obvious reasons still very high among the consumers, must be tackled.

The members of the Roundtable then concluded that they would support a systematic approach including all the different actors involved, that they would continue to look for coherent solutions (such as a common data format) and that they looked forward to working with the European Commission on the Clean Energy for All Europeans Package, which to a large extent they perceive as a great step forward. Ms Arsene once again invited all the participants to provide further detailed input on the discussed issues by means of the currently running consultation on a European Data Economy. ■