



#H2020Energy

# Horizon 2020 Work Programme for Research & Innovation 2018-2020

## Big Data Solutions for Energy DT-ICT-11-2019

Data Policy and Innovation Unit (G1)

DG CONNECT

Research and  
Innovation

# Big Data Solutions for Energy DT-ICT-11-2019

## Who we are

- DG CONNECT, Unit G1 – Data Policy and Innovation
- DG ENERGY, Unit C2 – New Energy Technologies, Innovation and Clean Coal



# Big Data Solutions for Energy DT-ICT-11-2019

## Background

- Big Data Value Public Private Partnership (BDVA) [www.bdva.eu](http://www.bdva.eu)
- Lighthouse projects

Large Scale Pilot Actions in data intensive sectors involving key European industrial actors.

Their objective is to demonstrate how industrial sectors can be transformed by putting big data technologies at their core.

Ongoing projects:

- TT: Transport and Logistics
- DataBio: Agriculture, Fisheries and Forestry
- undisclosed*: Manufacturing
- undisclosed*: Health

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## The Challenge

- Tomorrow's energy grids consist of heterogeneous interconnected systems, of an increasing number of small-scale and of dispersed energy generation and consumption devices, generating huge amounts of data. The electricity sector, in particular, needs big data tools and architectures for optimized energy system management under these demanding conditions.



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## The Work Programme

- **Innovation Actions** targeting large-scale pilot test-beds for big data application in the electricity sector. The aim is to develop/pilot and **deploy** a reference architecture for large-scale multi-party data exchange, management & governance and real-time processing (including distributed/edge processing) in the electricity sector and to translate this reference architecture into an open, modular data analytics toolbox for the safe and effective operation of grids and provision of innovative energy services.

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## The Work Programme (...continues)

- The reference architecture should ensure compatibility with legacy formats, interfaces and operating systems of the energy system, allow replication and scale-up, be compliant with applicable EU standards, and should enable the integration of relevant digital technologies like IoT, AI, cloud and big data services.
- The **analytics toolbox** shall be able to handle a wide variety of data and support the development of a wide range of energy services, at least to increase the efficiency and reliability of the operation of the electricity network (e.g. by predictive maintenance), to optimize the management of assets connected to the grid (in particular small-scale/renewable electricity generation and those used for demand response), to increase the efficiency and comfort of buildings, and to de-risk investments in energy efficiency (e.g. by reliably predicting and monitoring energy savings).

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## The Work Programme (...continues)

- **Proposers should demonstrate that they have access to appropriate large-scale and realistic datasets, and should involve as many as necessary of the following types of participants:** network operators, suppliers, independent aggregators, ESCO's, power exchanges, building management and renovation sectors, software integrators/developers. Proposals should address, as appropriate, analytics, simulation, prediction, cloud computing. Projects shall collaborate with EU-funded projects through the BRIDGE initiative.

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## Impact

- Effective integration of relevant digital technologies in the energy sector, resulting in integrated value chains and efficient business processes of the participating organizations;
- Enhancing energy asset management, increasing consumer participation and innovative network management, creating new data-driven business models and opportunities and innovative energy services;
- Contribution to increasing the use of renewable energy and increased energy efficiency based on optimised energy asset management, offering access to cheaper and sustainable energy for energy consumers and maximising social welfare;
- New data-driven paradigms for energy management systems able to deal with increased complexity of the energy systems;
- Improving availability of big data and big data management & analysis facilities for real-life scale research, simulation and test purposes.



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## Requirements

- A **Consortium** where **industrial partners** are represented by professionals who work in **core business operations** (as opposed to research laboratories)
- Develop a plan that is consistent with the business strategy of the industrial partners concerned (**e.g. avoid committing to technologies that the decision makers in the respective companies have no intention of deploying**)
- Innovations developed in the pilot must **work in actual operating conditions** and are consistent with important business parameters such as reliability, accuracy, cost structure.
- To explicitly evaluate/measure **changes** in the cost structure and in the technological constraints and performance (**at the end of the pilot**)

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## Requirements (...continues)

- To account of the **ownership, user right, cost structure of the data assets** to be used and/or produced during the pilot, and at the end of the pilot.
- Privacy → General Data Protection Regulation (**GDPR**)



# Big Data Solutions for Energy DT-ICT-11-2019

## DT-ICT-11-2019

- The Call opens on 16/10/2018
- The Call closes on 02/04/2019
- Budget available: 30 M€
  
- Expected project size: 10 M€
- Article 30.3 (Commission right to object to transfers or licensing) to be added to all Grant Agreements

# Thank you!

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