# FUSE

All your energy in the same place: the first solution to become your own power manager

Big Data, Artificial intelligence and the most innovative technologies integrated to give actors the power of smart energy

Power generation, **energy storage** and... also **trading your own energy**? This will be possible thanks to the integration of the latest technologies in a unique framework designed for a sustainable energy-based future.

FUSE (**F**ramework for **U**tilities and **SE**rvices) is an innovative solution offered by **Atos** to prosumers, micro-grid/ building operators, utilities or mobility and infrastructure managers, adapting to several depth levels in order to provide energy management autonomy to every stakeholder.

With focus on the replicability among different energy vectors (power, gas, heat...), **FUSE** aims to reduce the integration problems while keeping under control data sharing and interaction among different actors.
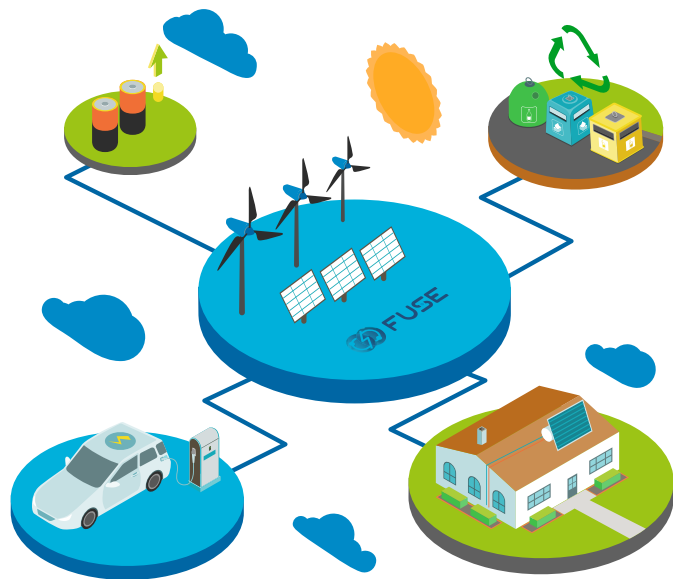
Business challenge

The **European strategy** and its latest key targets for 2030 focuses on the **sustainability** and the **energy efficiency**.

Reducing the CO2 emissions has become the highest environmental priority, which is a cooperative work of all social agents. From policy makers, to electricity companies or individual users, improving energy efficiency implies a change in perspective, law and consumption habits, which must go hand in hand with a technological and infrastructure development.

The **renewable energies** have a key role in achieving the objectives set by the European Union, even if there is a long path towards the technology development and the change of the energy consumption culture to reach the aim of using 100% of renewable energies.

The market is evolving. The **traditional linear model** where companies generate, transport, distribute and just get revenue out of electricity bills is moving towards a

circular model, where the user begins to have the tools to break into this process and get involved in any of its phases.

In view of this incipient change, the **European market** introduces a new energy rulebook – called the **Clean energy for all Europeans package** –, which includes several aspects such as the users' energy sales, placing the consumer at the centre of the energy model. This means that users with their own power generation sources will be able to return surplus power into the network. One more way to encourage prosumers and the renewable sources.

A complex environment with different actors involved, where everyone focuses on the same goal, but have their own functions, requirements and characteristics on the way towards a **sustainable future**.

In this context, **FUSE** makes available the latest technologies (FIWARE, Big Data, AI, IoT or Blockchain) to go one step further towards sustainability while offering a powerful

software platform that provides n**etwork visibility** and **control**, **process automation** and **business collaboration** for solutions across the energy and utility value chain.

- At least 40% cuts in greenhouse gas emissions (from 1990 levels)
- At least 32% share for renewable energy
- At least 32.5% improvement in energy efficiency

Atos

Trusted partner for your **Digital Journey**

FUSE

What FUSE offers you

Through services such as resources booking, basic processing, clustering or forecasting among others, FUSE integrates all the functionalities in the same open source platform in order to provide an innovative energy management solution.

FUSE develops a new energy management model that integrates the latest solutions and technologies to facilitate efficiency and sustainability.

This disruptive platform will foster the adoption of key energy technologies-processes to be integrated in the current value chain, paving the way to the envisaged digitalization and transformation of the sector:

- Generation: the main energy source of the future is the renewable energy, and FUSE puts Big Data at the service of the users to promote and facilitate the energy generation through renewable energy sources. Data analysis creates a more predictable environment where the user can make the most of natural resources using their own energy. The framework allows monitoring the generation of energy mix to ensure energy coverage by prioritizing renewable energy sources.

- Storage: Big Data technologies allows to measure energy consumption and plan and the consumption and expenditure moments become automated through the use of Machine Learning tools.

- Energy trading: Thanks to the information provided and the opening of the market by the European Union, small and medium-sized power generators will be able to sell their generated energy surplus through FUSE.

Description of the solution

FUSE is an open source framework that enables the integration of devices at the edge by fully exploiting the available data from local and distributed energy resources to build value-added services for the several user profiles. By integrating the latest technologies, the framework offers various transversal services that allow a 360º management of the energy process, such as (but not restricted to):

- Connectivity. Connectivity is the cornerstone of FUSE. The platform primary goal is to digitalise all energy assets owned by the platform user so that it can provide seamless observability and easy management. Allowing the automatization of processes and the decision-making process.

- Analytics. Data processing software working with data enablers and visualization & operational datastore enables FUSE to provide statistics as well as the analysis capacity. This basic processing allows decision-making either for utilities, for individual users or for Smart Grids Operators.

- Forecasting. The previous technologies, in conjunction with the monitoring and real-time data, will allow to customers the possibility of anticipating market variations or energy price oscillation.

- Resources booking: IoT is integrated within the platform to, among other purposes, offering an added value service, where the user will be able to manage and access the connected energy devices, such as charging point infrastructure or electric mobility services.

- Clustering. Customer segmentation and profiling is enabled through this service. This facilitates the interaction with end users and allows a service offer in a modular way at different depth levels, adapting to every several users and requirements.

- User profiling. Depending on each user needs, FUSE scales to these requirements to provide personalized services.

Small and medium-size managers

Prosumers

Councils, local governments or mobility managers

Why Atos

FUSE gives Big Data analysis and management capacity to energy stakeholders and users, based on a quality and open model towards the road to sustainability and efficiency society.

For 40 years, Atos has developed experience and expertise in the specific needs of the energy and utility sectors. We serve over 200 clients, spanning the entire utility value chain. The integration of latest technologies to provide and guarantee business intelligence, efficient management and AI learning is positioning Atos as a good IT provider for energy solutions.

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