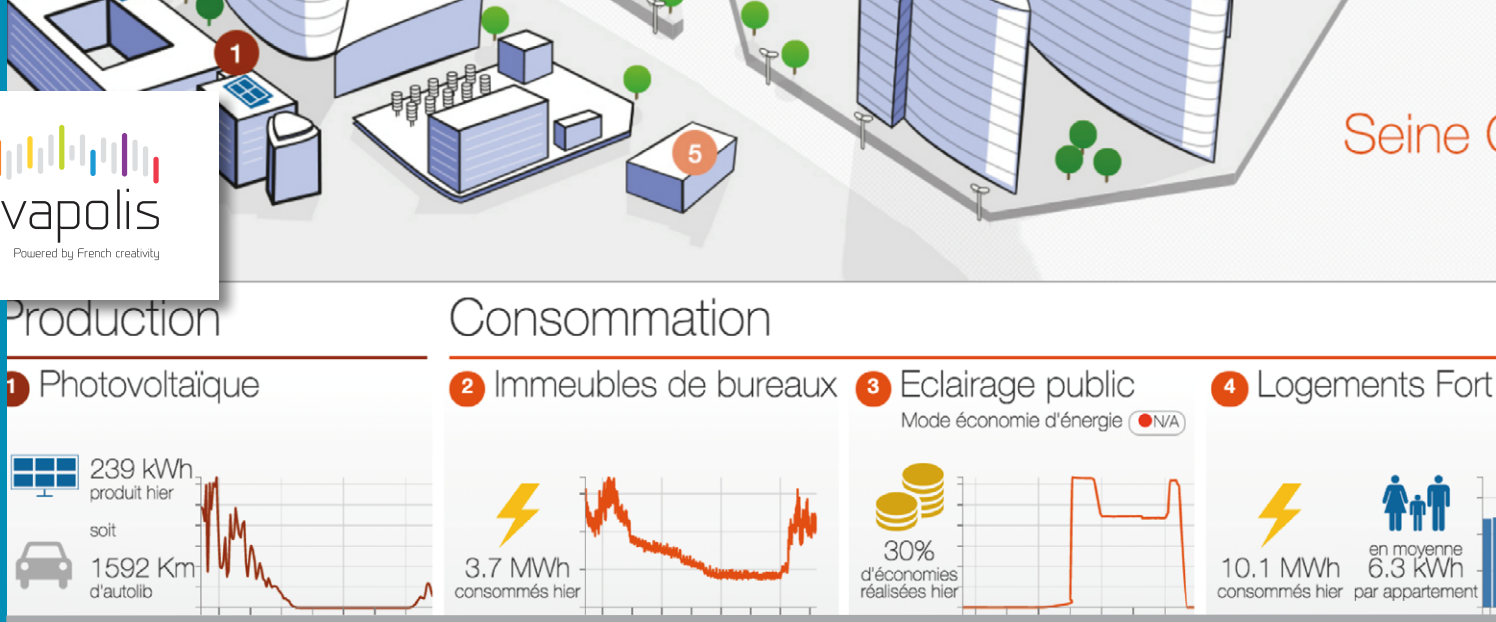
vivapolis
Powered by French creativity



ISSYGRID

THE FIRST DISTRICT SMART GRID

IssyGrid is an R&D project developed by a consortium of ten industrial partners specialising in energy, urban planning and digital technology and is aimed at gaining expertise in developing smart grids at district level and identifying the value proposition afforded by this type of service.

Located in Issy-les-Moulineaux (west of Paris) the project was launched at end-2011 and is scheduled to run until end-2017, and involves more than 10,000 employees and 5,000 residents. Each year, more than 20 international delegations visit the district which boasts the first dashboard monitoring energy consumption in real time at district level.

INNOVATIONS

- Based on the real experience of this scale 1 district smart grid, IssyGrid has led to significant technological, regulatory and economic advances.
- The use of batteries connected to solar panels shows the feasibility of the virtuous integration and optimisation of renewable energies in urban areas since any surplus energy unused by buildings can be stored in distribution substations operated by the local utility.
- On a regulatory level, after a year of collaboration with Cnil, IssyGrid is the first smart grid to have reached an agreement on data use guaranteeing privacy and data confidentiality.
- IssyGrid now offers a viable business model for the roll-out of district smart grids in eco-neighbourhoods across France.
- Eco-neighbourhoods that can better produce and consume energy, at the right time.

STAKEHOLDERS

- The project is developed by a consortium of partners with complementary expertise: Alstom Grid, Bouygues Energies & Services, Bouygues Immobilier, Bouygues Telecom, EDF, Enedis, Microsoft France, Schneider Electric, Sopra-Steria and Total. These partners demonstrate the ability of the French smart grid industry to provide turnkey solutions to local authorities.
- While the consortium is not subsidised, it has regular discussions with the Municipality of Issy-les-Moulineaux and the Grand Paris Seine Ouest urban authority, as well as organisations such as the Energy Regulatory Commission (CRE) and the French data protection authority (Cnil).
- Start-ups with strong technological expertise are also involved in developing IssyGrid: Embix (energy management solutions) and Objenious (LoRa network).

KEY DATA

- **More than 900 homes connected** (including 861 with Enedis smart meters)
- **120 000 m² of office buildings** (10,000 occupants)
- **Street lighting (3 streets)**
- **3 photovoltaic installations**
- **A solar energy forecasting system**
- **14 inter-connected information systems**
- **2 energy storage systems**

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IMPLEMENTATION

▶ The IssyGrid project has been developed according to a "learn through experience" approach, in order to gain know-how as a result of extensive and documented feedback. This approach is necessary to ensure that smart grids can be replicated in different types of neighbourhood. Drawing on this know-how, consortium members can today provide a service to develop smart grids in four steps:

- Co-construct the project with urban players to strengthen buy-in to the project
- Connect sites, the technical equipment phase of the project
- Collect data, taking account of the regulatory context
- Analyse data, the value creation phase which can only be done after having successfully completed the three previous phases.

> *"IssyGrid is a success due to the fusion of intelligence"*
>
> **André Santini,**
> Mayor of
> Issy-les-Moulineaux

RESULTS

/// Understanding what smart grids bring to local authorities

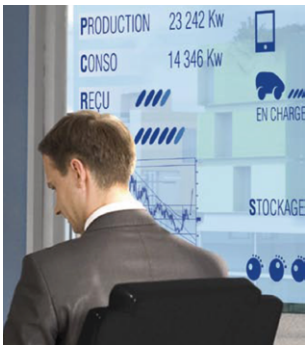
Local authorities can now benefit from turnkey commercial offers that optimise the management of their eco-neighbourhoods' environmental performance, while enhancing transparency for residents and cost competitiveness in a context of volatile energy prices.

/// A district energy monitoring dashboard

For the first time, public authorities can access real-time information summarising different data.

/// Possibility for developers to optimise energy resources when designing neighbourhoods

IssyGrid is now better with a tool enabling developers to give feedback on past operations to adjust the size of energy networks for future eco-neighbourhoods.



FINANCIAL DIMENSION OF THE OPERATION

/// Replicable industrial expertise and budgetary decisions

10 industrial partners each equally finance an R&D project with no state subsidy, proving the economic viability of the offer to local authorities.

/// A proven economic model

District smart grids to be rolled out shortly: Nanterre, Marseille and others to be announced soon.

KEY FIGURES

- **€2.5m budget,** available to a number of local authorities
- **€0 state subsidy**
- **24 international delegations** visited this showcase of French industrial know-how in 2015
- **295 articles on the web** covering the project as at 01/09/2016