



Frequently Asked Questions

Where has Livin' been implemented, and with what connected infrastructure?

In La Baule-Escoublac – a beachfront city of 16,000 in western France – ENGIE has completed a comprehensive parking management project called "Park'Ease". Key features of the project included:

- 69 dynamic directional panels that give real-time updates on parking availability
- 1335 parking spaces in 12 garages
- 83 paid street parking ticket machines
- 31 quick-stop ticket machines to streamline stops of under 30 minutes
- 22 message boards

All these networks are integrated into the Livin' platform, which helps the city to intelligently direct traffic and reduce the difficulty of finding parking spaces. This is especially important in the summer, when La Baule's population expands dramatically due to its status as a tourist destination.

In 2016, ENGIE announced its partnership with the City of Niteroi in Brazil to design and implement a traffic management system. Project implementation began in June 2016 and was completed in July 2018. ENGIE installed street cameras, retrofitted traffic lights and connected the technology into of Livin' to optimize traffic flow. Using data from the street cameras, the platform, guided by both human intervention and algorithms, can modulate traffic flow by directing the traffic lights. Traffic congestion in the city has been reduced by 30%.

ENGIE is currently installing a system of air quality sensors in Bari, Italy, that is connected to the Livin' platform.

What are Livin's features for open architecture, interoperability, integration options for new sensors and technologies?

Livin' is a new generation smart city platform that has benefited from years of smart city operational experience, especially in the Rio do Janeiro area, and Niteroi, where ENGIE is involved not only in managing infrastructure for the city of Rio, the city of Niteroi and the tunnel between them, but also highly sensitive and secure area such as several military bases.

Livin' has thus been designed with both functional and technical flexibility in mind, to best meet our customer challenges and stakes. The functional scope of a specific smart city project can be tailored thanks to a plugin-style architecture, based on well-defined APIs, allowing us to add the required infrastructure verticals for the city from our off-the-shelf verticals catalogue. When required, new verticals can also be easily developed and integrated to best integrate with a city legacy and assets (whether installed hardware, physical devices...).

Open Architecture is at the core of its interoperability capabilities, with APIs strongly rooted on the REST architecture style. Overall interoperability can be achieved at different level within the platform: API decoupling layers, modularity (industry vertical modules), componentization (e.g. Cartographic/GIS display), microservices, and connectors.

This allows the Livin' platform to be easily integrated with any kind of data source, sensors or devices, or other applications, especially with a city legacy.

How does the platform support Open Data?

Livin' relies on ENGIE's open data platform, an extension of ENGIE DigiplaceAPI, a multi-API manager gateway. It allows for aggregation and interaction with APIs from any kind of API managers including AXWAY, WSO2, etc.

How does Livin' address data security and data sovereignty?

Guaranteeing information availability, integrity and confidentiality are essential parameters for ensuring a high level of service and compliance. Livin'

- Is developed with a comprehensive security approach, applied to all stages of the technical solution's lifecycle, starting at its design (security and privacy by design),
- Is implemented with an IS security policy, adapted to security issues and needs according to a target to be determined during the specifications phase,
- Is managed to anticipate security risks to guarantee enough level of security for the entire lifetime of the solution.

Our IT developments and architectures are carefully audited, especially with regards to data confidentiality and security issues, by ENGIE's Group-level security department. Data security is guaranteed through different Group Security policies and contractual commitments with public cloud providers. Our internal security audit process includes an identification and classification of the type of data in using the Confidentiality, Integrity, Availability, and Traceability (CIAT) system.

How does Livin' address data privacy concerns?

Livin' is adapted during each project to comply with local and national legislation on privacy and data management. Many hosting/housing options are available possible: on-premise, hybrid, or cloud. Privacy issues are addressed from the earliest stages of the design process to fit local and national criteria and meet our clients' specific needs.

How does Livin' support city operational requirements for scalability, performance and continuity of service?

Livin's hypervisor and supervisor services are stateless. As such, they can be scaled at wish, horizontally, on commodity hardware, and thus at a lower cost. Of course, whenever relevant, vertical scalability can also be leveraged (i.e. more capacity per machine or more power per machine: CPU, RAM, etc. Internal databases have a default redundancy which could be located wherever needed. Each data intake by these components is processed by event streams and event-driven architecture and are thus scalable as well.

The overall availability of the system is based on the intrinsic reliability of its components. The resilience of the different layers of the proposed architecture and the overall design of the applications. These applications are supported by a scalable infrastructure able to cope with several situations, such as the increase in the number of connected urban systems and third-party systems, the increase in the volume of the stored data, etc.

How much does Livin' cost?

It depends. Livin' is an existing ENGIE product and is provided at minimal costs to the city, but it requires local integration to connect to the various city systems and infrastructure.

During the design and requirements phase of the project, ENGIE will aim to clarify the city's various needs of the city but also to obtain precise technical information from the different third-party suppliers. Integration of smart systems and applications of the city is handled by our engineers and installers locally.

Livin' is a core product and a process. Changes to its modular architecture, new industry verticals or services could be easily integrated in the future at a lower cost (since the underlying foundation will already be available). In the event of a request from the city to integrate a new vertical into Livin', the city will be asked to pay a one-shot fee for ENGIE to perform the integration of this new vertical. This fee and the yearly licensing costs are not proportional to the number of devices, components or volume of data.

Any smart city project being developed also benefits from the "scale effect": every new vertical opportunistically developed for a specific project, if eligible and relevant, can be added to Livin's off-the-shelf catalogue, and become thus available at a marginal cost.

For more information, please contact Vincent Vandenberghe (Vincent.vandenberghe@engie.com) or Eamon Drumm (Eamon.drumm@engie.com).