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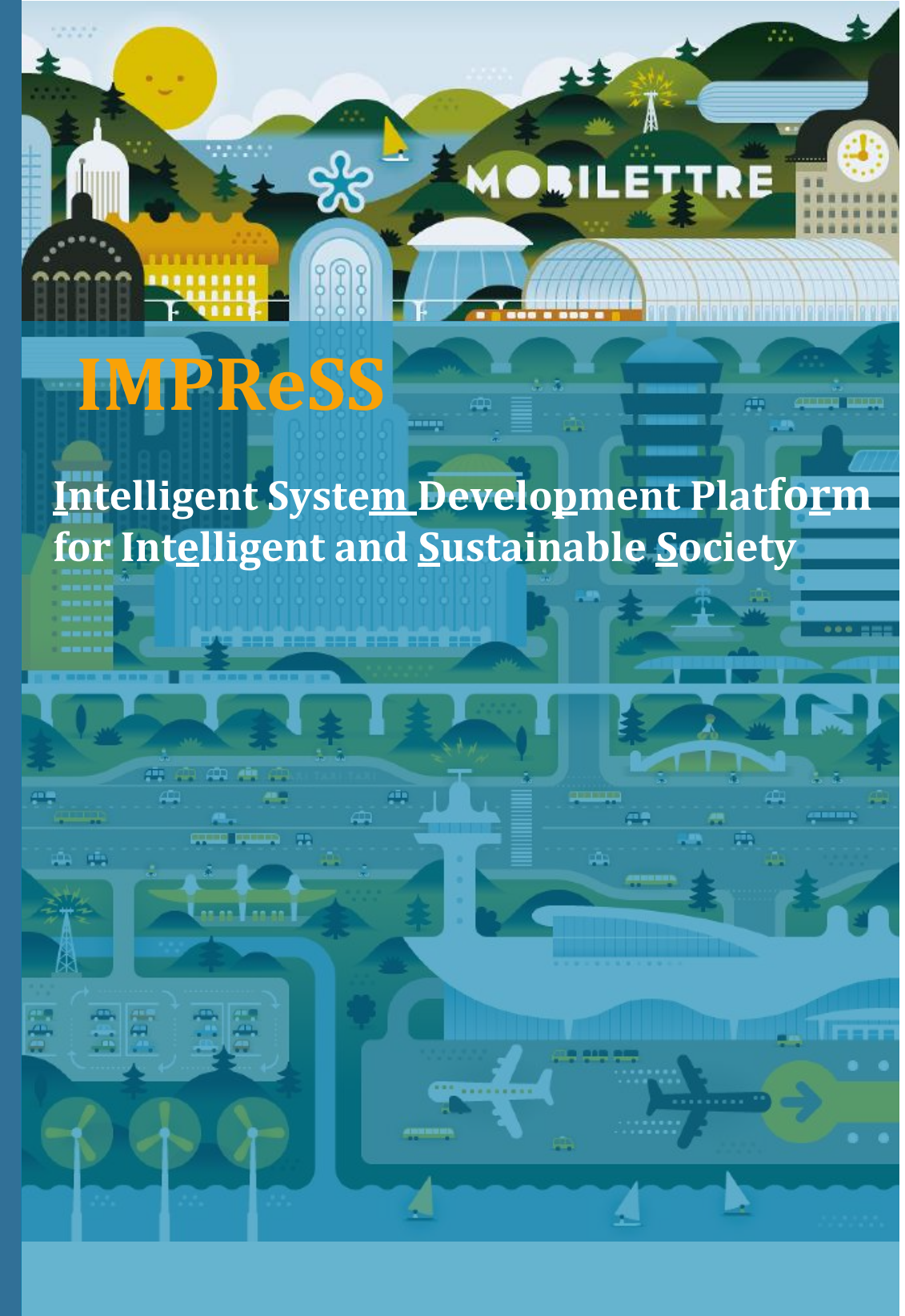
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# IMPReSS

## Intelligent System Development Platform for Intelligent and Sustainable Society

The IMPReSS project is a 30-month EU-Brazil collaborative project which started in 2013. The project is partly funded by the European Commission under the 7th Framework Programme in the area of EU-Brazil Research and Development cooperation under Grant Agreement no. 614100. The Brazilian funding is provided by CNPq Conselho Nacional de Desenvolvimento Científico e Tecnológico.



## Rapid development of new intelligent products

**The IMPReSS project is developing a Systems Development Platform allowing businesses to rapidly develop prototypes of Internet of Things (IoT) systems**

Software development for IoT is a complex task which involves an extensive amount of expertise, time and effort that many small businesses cannot afford. The IMPReSS platform offers a System Development Platform that makes it easier and affordable to tackle the technological and human challenges of interconnected devices and usage. This is achieved by supplying a range of tools for rapid development including an Integrated Development Environment (IDE), pre-prepared software components, middleware components and a deployment tool. Additionally, investments in hardware will be significantly reduced by taking advantage of the "mixed criticality" concept which allows hardware resources to be shared among different operations while ensuring that the critical operations are always performed.

The goal is to reduce the efforts of developing system prototypes by 20-30 percent and at the same time improve the time to market.

### *Provide pre-prepared software building blocks*

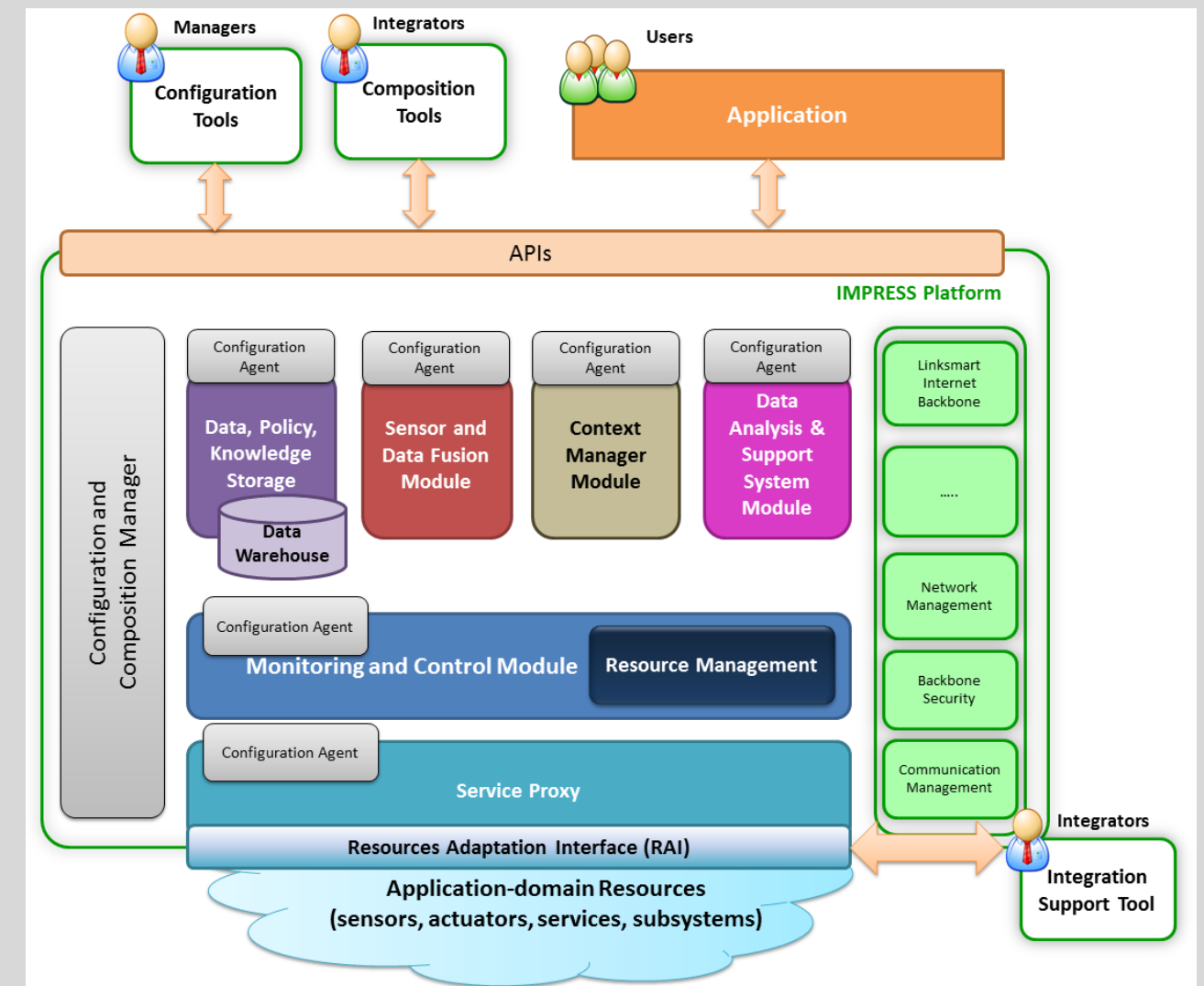
The IMPReSS Platform will include software components as pre-prepared building blocks, developed by various experts in the consortium, which can be composed as a complex system and deployed rapidly by the IMPReSS tools.

### *LinkSmart middleware for wider market opportunities*

IMPReSS will use the LinkSmart middleware currently being developed in several EU projects and extend it in a way that the software components could run on low-cost hardware, providing wider market opportunities.

### *Reduce hardware investments*

IMPReSS will allow hardware resources to be shared among different operations while ensuring that the critical operations are always performed. This reduces hardware investment since dedicated hardware for critical operations is less necessary.



## Demonstration of energy efficiency in two public buildings

**The demonstration and evaluation of the IMPReSS platform will focus on energy efficiency and awareness in two public buildings in Brazil: The Teatro Amazonas Opera House in Manaus and the University of Pernambuco in Recife**



A system will be rapidly developed for the management of energy efficiency in the two buildings with the aim of 10-20 percent reduction in energy usage and CO<sub>2</sub>.

The aim is to enhance the intelligence of the existing building management systems and manage lighting, heat, ventilation and air conditioning based on usage and outdoor conditions.

Focus will also be on stimulating user energy awareness and interaction.

## Embracing a smarter society

**The IMPReSS development platform will be usable for any system intended to embrace a smarter society**

The vision is that the development platform will:

- Significantly reduce the complexity and cost of developing intelligent systems for smart societies
- Enable system developers and integrators to co-create and experiment with new smart services and the Internet of Things
- Extend the successful LinkSmart middleware, developed by the Hydra Project (FP7), to operate on cost-efficient and resource-constrained hardware platforms and enable mixed criticality applications
- Pave the way for co-creation of modules for smart applications by non-expert developers who can share results through networks and via collective awareness platforms.