

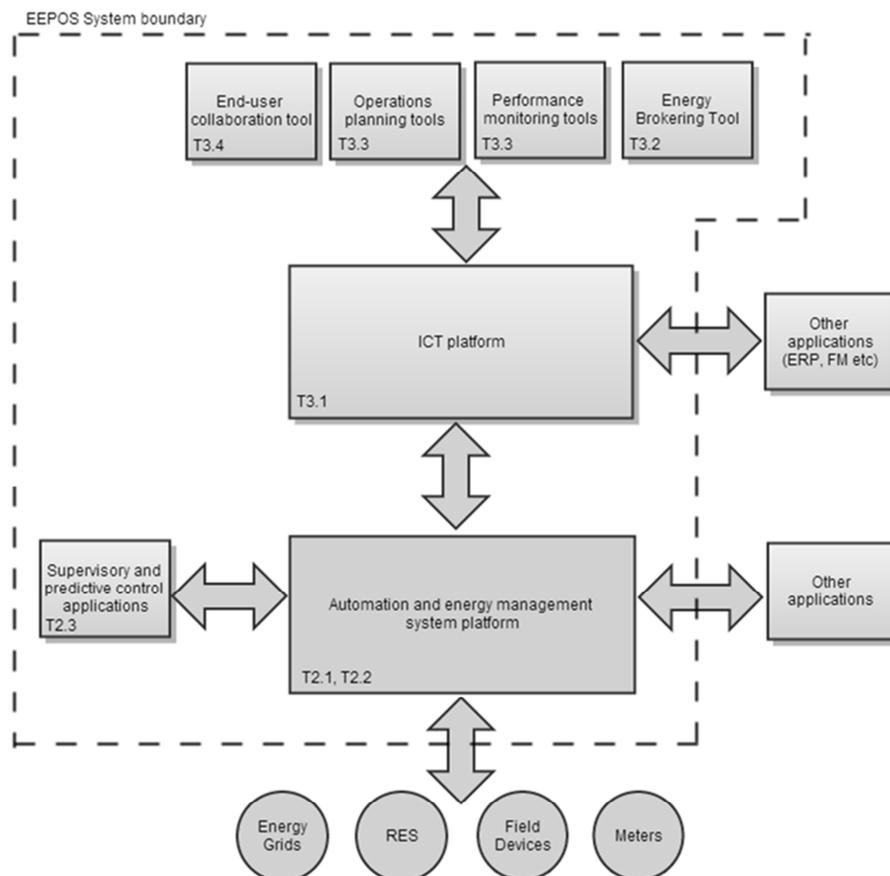
**EEPOS - Energy management and decision support systems for energy positive neighbourhoods**



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## Integrated systems ready for demonstration



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## PUBLISHABLE EXECUTIVE SUMMARY

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The EEPOS project aims to develop a solution to balance the energy demand and consumption in a neighbourhood. The EEPOS solution is mainly based on a neighbourhood energy management system (NEMS) called OGEMA, which is developed and provided by the project partner DERLab. Additional applications, developed by the different project partners are interacting with the NEMS and available building energy management systems (BEMS). During field tests in a Finnish and a German demonstrator the developed solutions will be tested and improved in a real environment. As the whole EEPOS structure consists of different components the EEPOS partners have developed a scheme (**Fehler! Verweisquelle konnte nicht gefunden werden.**) which visualizes the connection of the different EEPOS tools, developed by the partners in this project. In the EEPOS system the ICT platform works as a mediator between the different tools, NEMS and external services. All tools can be connected with each other using the ICT platform. One application of the EEPOS platform is the Energy Brokering Tool (EBT), which provides mainly a user-friendly interface for the end users. The operation planning & performance monitoring tool will interact with the OpenJEVis Database via JEKApi interfaces. This tool also includes a tool for data analysis. The end-user collaboration tool is mainly based on a 3D game engine and shall help engaging end users to gather information from the EEPOS system. Furthermore the German pilot will include a information display, which transmits relevant information, such as energy price forecasts, from the NEMS to the end user. This tool will interact with the EEPOS system via direct access and OpenJEVis interfaces to the ICT platform. In the future a QR code can be included in this system. The automation platform is based on OGEMA 2.0, a development by Fraunhofer IWES. Additionally, external services data tools to be used in the Finnish pilot and third party applications, like the BimZone tool for a 3D visualization of the demonstrator area, have been developed. The Finnish and the German demonstrator are mainly based on hardware solutions named JACE and Smartbox which obtain data from meters in the demonstrator buildings and perform calculations to provide the data via REST interfaces to the EEPOS automation platform. All of the described tools are interacting over the automation platform with implemented protocols. The ultimate goal of the EEPOS project and the implementation of demonstration sites is to provide answers how to meet the challenge to meet actual demand and consumption of energy in a neighbourhood. EEPOS aims to provide solutions, which are easy to use and therefore have the chance of a high acceptance level, which will be proofed during the field tests on the demonstration sites.

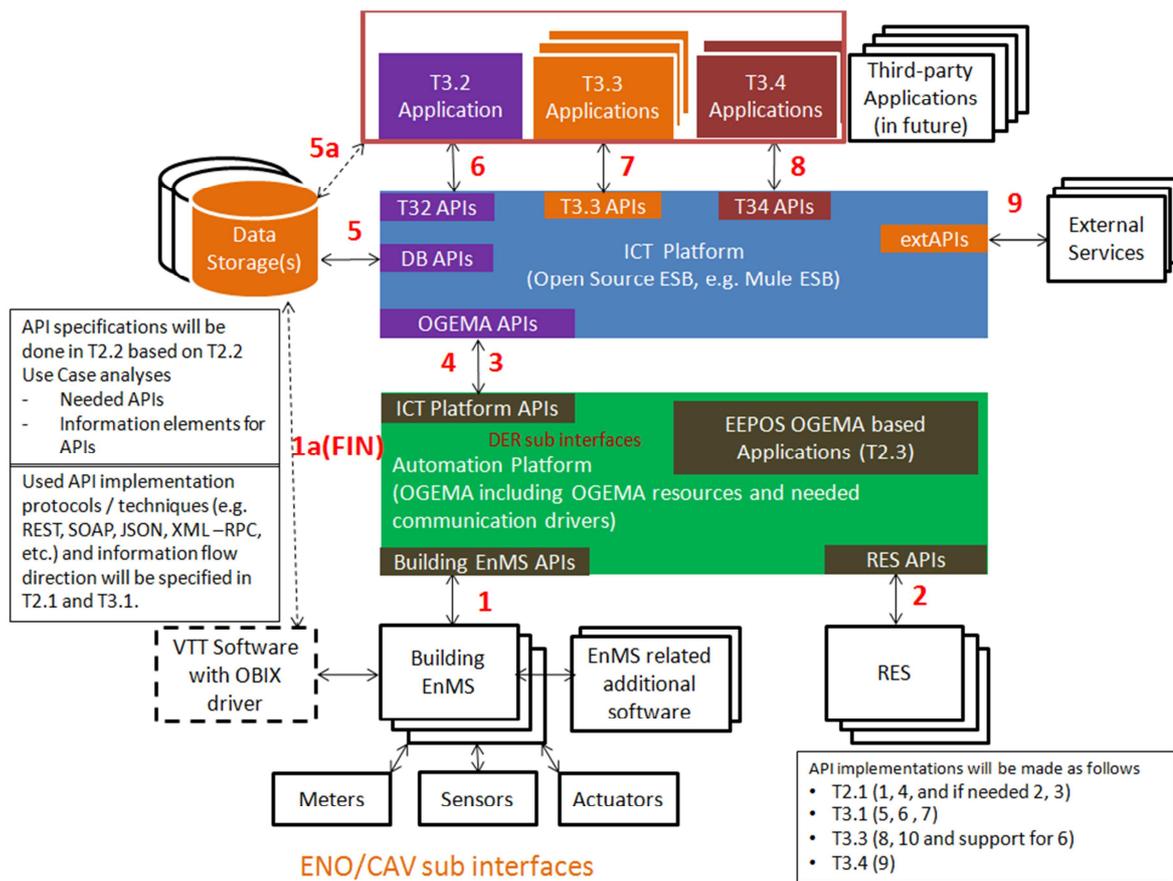


Figure 1. Diagram of EEPOS functionalities