operation and maintenance ones. These technologies allow satisfying the interoperability requirements that facilitate the cooperation among the multiple stakeholders and provide the framework to develop more intelligent tools. This paper introduces five complementary European R&D projects in which TECNALIA is collaborating, very good examples of innovative systems based on these concepts. MOEEBIUS enhances passive and active building elements modelling approaches enabling improved building energy performance simulations. HOLISTEEC focuses on building multi-physical simulations considering the neighborhood context. FASUDIR exploits the high potential of GIS tools for urban sustainability analysis and accurate building energy performance evaluation. EFFESUS integrates district and building scales in historic districts. OPTEEMAL develops a platform at district level, based on an IPD approach.

From District Information Model (DIM) to Energy Analysis Model (EAM) via interoperability

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ABSTRACT: Energy saving for existing buildings is considered one of the most important issues in the last years for the development of a smart city. The DIMMER (District Information Modeling and Measuring for Energy Reduction) project starts from the development of a 3D parametric model, able to collect heterogeneous data at different scale. It aims at improve the energy consumption optimization, monitoring real-time data and simulating all energy flows.

Starting from Building Information Models (BIMs), based on the development of DIM models, it is possible generate an Energy Analysis Models (EAM) able to simulate building energy usage compared with indoor temperature coming from real time temperature sensor.

Finally, the DIMMER project is focused on management, modelling and visualization of different data that describes the district, connecting different data-sources with different level of information. In order to achieve these goals, interoperability is considered a crucial step for sharing data between different environments, across various software

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Energy modelling of existing facilities

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ABSTRACT: The emphasis of both building and energy modelling has often been on new-build with existing buildings having minimal attention due to incomplete information or the lack of any immediate prospect of validation. This paper is about discussing a new approach of energy modelling for existing facilities using UK