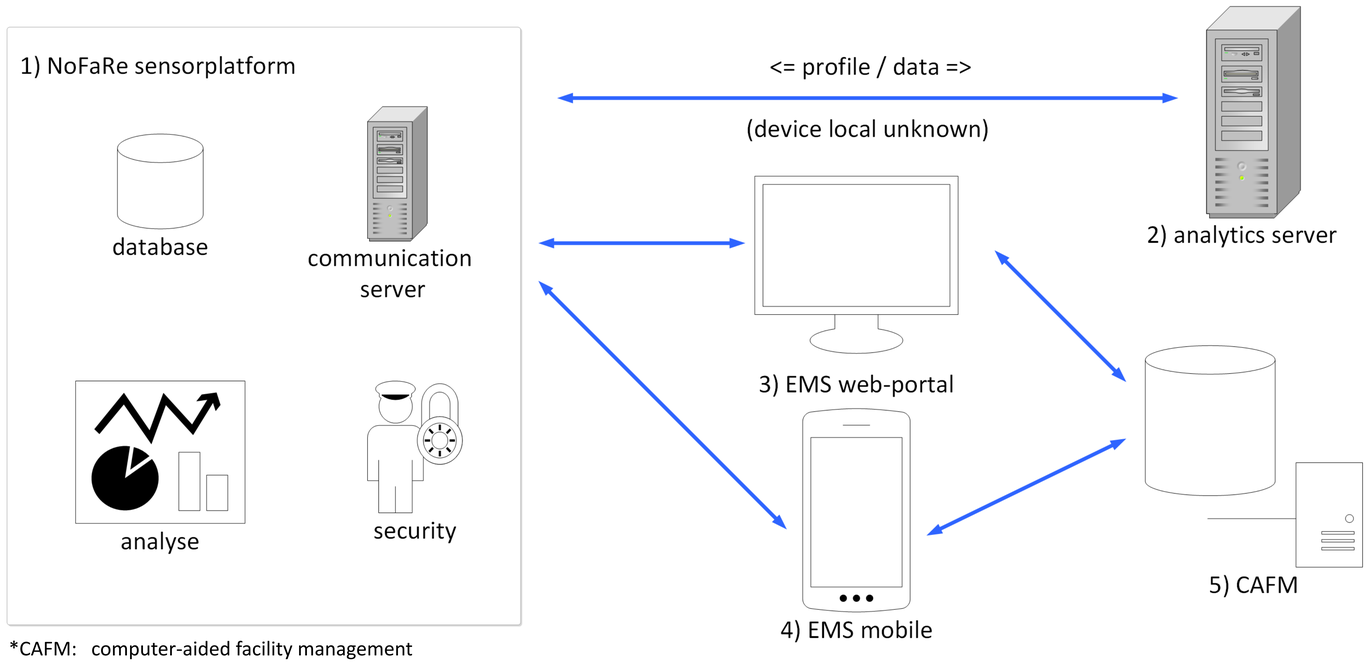
NoFaRe: non-invasive facility and resource monitoring

ABSTRACT

Saving energy is one of the most important topics concerning households in Germany. Therefore, the installation of smart meters in new or basic renovated buildings is required by §21c EnWG. Referring to § 40 EnWG, special rates which give the customer a financial benefit should motivate the consumer to save energy. In this process, potentials to save energy are visualized via a web service similar to the technique used by the industry to monitor consumption data. Special hardware components are installed to provide detailled analyses of energy data. The project NoFaRe follows an innovative approach, which lacks additional hardware sensors in the circuit. Therefore, a sensorplatform is installed parallel to the consisting circuit which enables to monitor the energie consumption. Recorded load data are then disaggregated by an algorithm to identify individual devices, followed by the visualization through a web service. Furthermore, the system contains a CAD plan of the building in which devices can be located by mobile application. In the course of connecting a load profile to a device, the sensor enables to uniquely identificate an appliance. At best, the switching of a profiled consumer is accurately recognized by the sensorplatform. This development is especially beneficial to already consisting system, due to the noninvasive installation of the sensor. In summary, NoFaRe develops a central sensorplatform for efficient management of ressources and facilities.

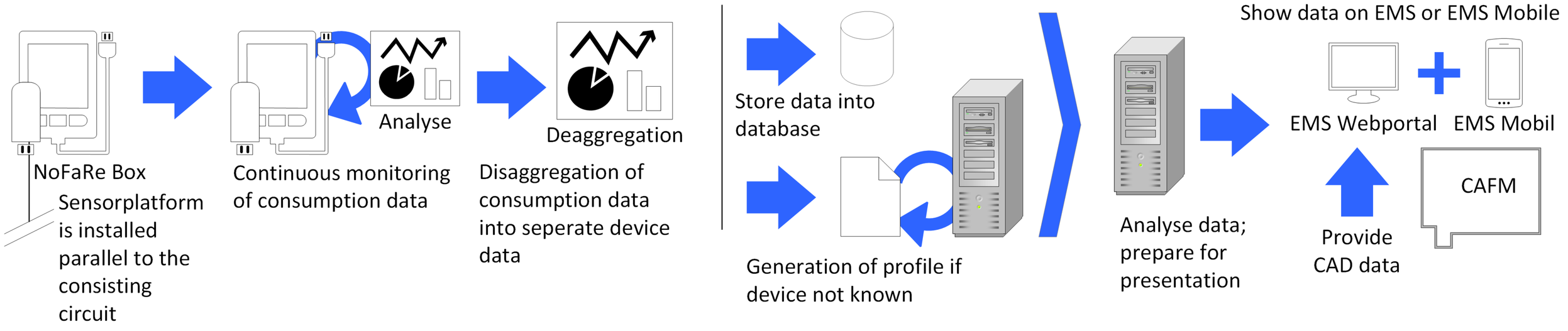
SYSTEM



*CAFM: computer-aided facility management

*EMS: energy management system

PROCESS



PROJECT GOAL

Development of a cost neutral monitoring system by installation of a central, non-invasive sensorplatform and data analyses with newly designed disaggregation algorithms.