AICO EDV-Beratung GmbH (www.aico-software.at) is a founder owned SME located in Lower Austria (Ulrichskirchen, north of Vienna). Since 2016 we run an office in Vienna, where the team working on Smart Energy Integration, Smart Grid Interoperability and 5G Network Services is currently established.

Current topics

Smart Energy is about renewable sources and intelligent consumption. Prosumers, energy customers that locally produce and consume energy, commonly want to minimize the energy they drain from the grid. Home automation integrating energy production and storage resources to maximize the utilization of local energy production are the means to achieve the goal. A major role play heating and charging facilities offering adjustable energy sinks. We will not switch off the TV or interrupt cooking because there is for example no wind, but we can tune room and water heating as well as battery charging by dynamically adjusting the thresholds controlling these systems. On a far bigger scale maps Smart Energy to industries and municipalities likewise.

The electrical power grid has evolved over centuries into a hierarchic infrastructure from rather centralized energy production and exchange down to consumers via different voltage levels. A liberal energy market and distributed regenerative energy production challenge the established grid management. Smart Grids shall provide the means to smoothly integrate decentralized energy production and effectively improve flexibility, distribution efficiency and grid reliability. All this is based on vivid communication among subsystems. Assuring the interoperability prior integration in the grid is therefore a vital demand.

The goal of 5G is to be more than just a better mobile access technology with higher rates, lower latency, better security, and increased efficiency. 5G aims to become an architecture that is open to any novel technology, both, on the resources and applications side. A major concern is the integration of verticals providing networked services, e.g., e-health, autonomous driving, mobile entertainment, IoT, and M2M. The required features demand network splicing, meaning application aware resource provisioning. Software Defined Networking (SDN) and Network Function Virtualization (NFV) are thus central to 5G, possibly more than novel transmission technologies, though latter are clearly required for some envisaged services.

History

Founded on the 30th December 1980 as AICHER & CO, a software engineering and consulting company, AICO focused on commercial software development and customization for small and medium enterprises. From 1981 to 2001 AICO was an IBM cooperation partner. Since 2002 AICO focuses on **embedded systems** and **open software components** in the *real time communication* realm.

Today

Nowadays AICO offers *design and development of embedded systems and software components* for the *telco*, *automotive* and *electro* industry, together with comprehensive **software development support**, including *software prototyping*, *architecture design* and *performance evaluation*. Recent products are *remote application monitoring* and *validation automata*, applied to independently assess mobile applications qualities.

Since 2016 AICO contributes to the nationally funded **IES** (*Integrating the Energy System*) project, lead by the *Technology Platform Smart Grids Austria* (www.smartgrids.at), aiming at a standardized interoperability test procedure open to interruptive technology evolution. Another current success is the admittance in the 5G related *experts advisory group* of the EU funded **NetWorld2020** initiative.

Recent and ongoing projects

- IES − Integrating the Energy System Austria

  1.3.2016 – 28.2.2019 | FFG project #853693 energy subsystems interoperability assessment − communication layer − use cases

- eNNOVATION

  smart energy storage technologies & systems − innovation and know-how transfer − competence extension

- Smart Energy

  smart networking of novel energy subsystems and services – raising the CO_2 saving potential

- Stakeholder process of RASSA initiative *"Reference Architecture for Secure Smart Grids in Austria"*

  joint smart grid reference architecture preparation − involving all actors − reconciliation

Contact

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