

case study

OAS introduces Niagara with BACnet to the TU Kaiserslautern

The Technical University of Kaiserslautern (TUK) is situated in the federal state Rhineland-Palatinate in Germany and was founded in 1970. More than 40 multi-story buildings are used by approximately 15,000 registered students. With a consortium of twelve high-profile science institutions close to the campus, the university is strongly linked to national and international industries.

Kaiserslautern is recognized as one of the largest IT clusters in the whole of Europe and is a home to people from over 140 different nations, contributing to a diverse and vibrant city life.

THE CHALLENGE

The client is the Landesbetrieb Liegenschafts- und Baubetreuung (LBB), the real estate and construction service provider of the state building construction in Rhineland-Palatinate. It places high demands on building automation, as it is a member of AMEV, the working group for mechanical and electrical engineering of state and municipal administrations. AMEV has developed a recognized certification for BACnet-compatible Building Automation components.

OAS as Tridium authorized distributor supplies PGA Automation with the Tridium BACnet controller JACE-8000. Equipped with a BTL certificate and AMEV certificate, it is an OAS top seller from the modular Niagara program. The BACnet standard as well as the BLT certificate and AMEV certificate was decisive for this project.

The TUK is continuously expanding and refurbishing up to 40-year-old buildings. Old technologies and installations must be seamlessly integrated into modern building management concepts. Therefore, open systems and integration of various bus technologies are essential to expand the existing system, ensure overall control and guarantee an expandable, future-proof system.

From PLC-based management of the 30 MW heat and power plant consisting of boilers and combined heat and power stations (CHP) to the control of the main network pumps up to the control and monitoring of the district heating system and the connected consumers, a homogeneous system solution should be set up from a single source.

THE OPEN AUTOMATION SOLUTION

The frontend graphical user interface with 3D visualization provides overviews of the spread-out property as well as of individual plant controls. Individually developed visualizations embedding the plant schematics according to the specifications of the building planners and site operators were implemented.



“The combination of modular components from the OAS assembly kit and solution-oriented consulting by PGA Automation ensures that the university premises are now equipped for the open system future.”

Ralf Rostock
Managing Director

OAS Open AutomationSystems GmbH

FAST FACTS

Building Type: University campus and heat power plant central

Client: Landesbetrieb Liegenschafts- und Baubetreuung (LBB)

Project Type: Open Building Management System and HVAC Controls

Project Scope:

31 university buildings with district heating, HVAC and energy management including:

- 28 new switch cabinets and panels
- 3 renewal of existing switch cabinets with BACnet JACE 8000 and 10" operator touch panels

Control system of 30MW heat power plant:

- 16 new switch cabinets
- SCADA supervisor control center in the energy center

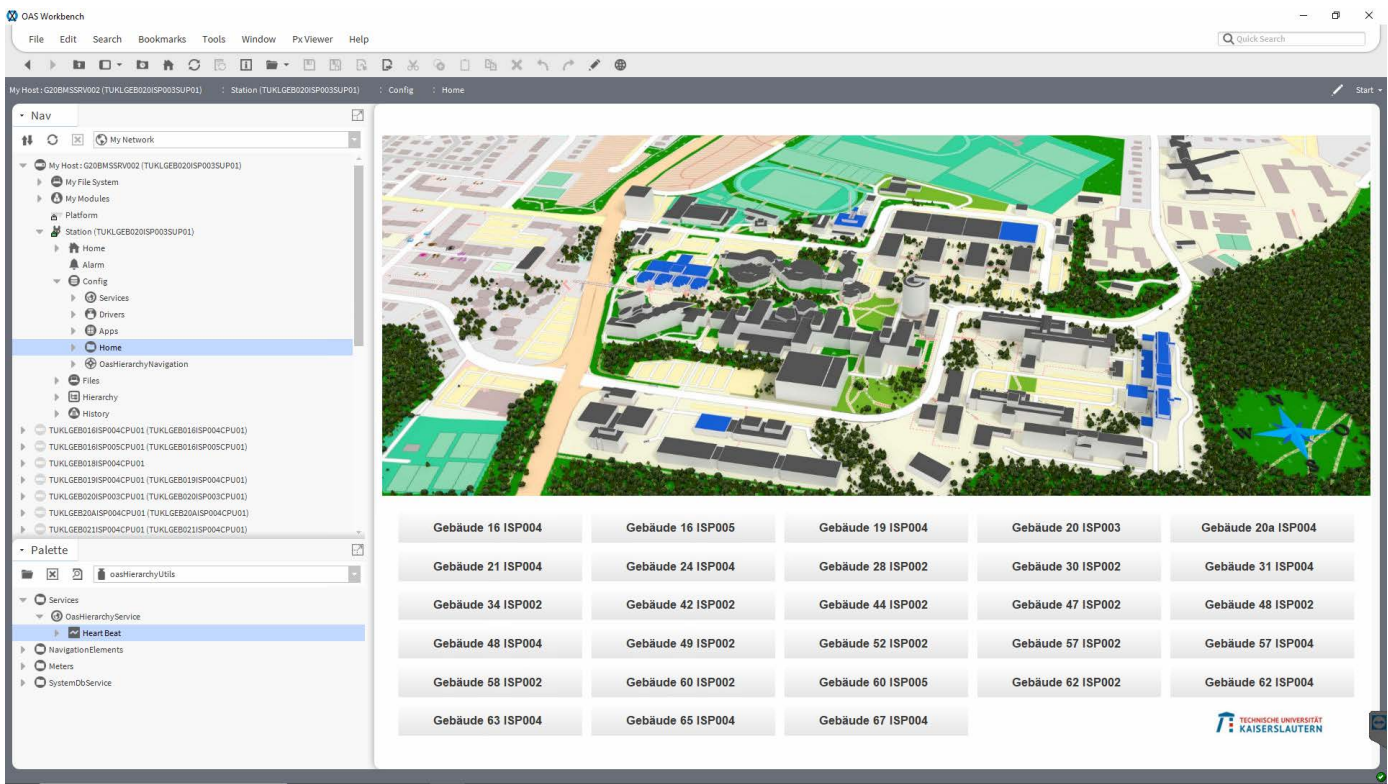
Key Technologies:

Niagara Framework, BACnet, multiple distributed OAS I/O-fieldbus-modules, Siemens high availability PLC-Systems, Profinet, Profibus, OPC, Modbus, M-Bus, high available SCADA system

Authorized Distributor:

OAS Open AutomationSystems GmbH

System Integrator: PGA Automation



Example of Niagara 4 Workbench User Interface of the BMS development for TU Kaiserslautern

The property, building management system, facilities, plants, and services can be visualized schematically or in detail and centrally presented on the operator workstations.

Standardized displays are available for the visualization of plants. At a glance, data points, actuators and sensors are easily recognized in order to control lighting states, heating, air conditioning and ventilation technology, and all other elements of building technology quickly and efficiently. There are virtually no limits to the complexity of visualizations for the energy-efficient building operation.

THE RESULTS

Through the seamless integration the operator does not recognize the different automation and controls systems behind the visualization and can concentrate on his native tasks resulting in efficient and effective operation of the entire campus.

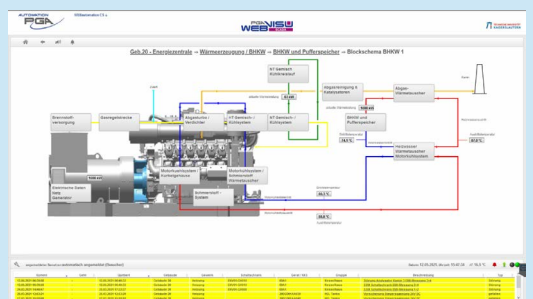
The combination of modular components used from the OAS construction kit and the solution-oriented integration consulting provided by PGA Automation ensures that the university buildings are now prepared for an open system future.

ABOUT TRIDIUM

For over 20 years, Tridium has led the world in open-protocol application frameworks for operational data. Our products allow diverse monitoring, control and automation systems to communicate and collaborate in buildings, data centers, manufacturing systems, smart cities and more. We create smarter, safer and more efficient enterprises and communities – bringing intelligence and connectivity to the network edge and back.

ABOUT OAS

OAS Open AutomationSystems GmbH is your Tridium Authorised Distributor for open energy management and building automation systems for the continuous digitalisation of technical building equipment. Our cloud-based portal solutions offer a secure, reliable and trouble-free system integration with a high level of ease of use. Our modular Niagara-Framework® components and OEM product developments communicate with BACnet and other common protocols and offer limitless integration from the field level through automation level up to the cloud.



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