فراهوشمند انرژی آرتمن هوشمندانه زیست
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# GLOBAL MONITORING BASED ON KNX IoT

## Quick reaction to failures and breakdowns

### Task

The motor protection switch of the water pump has switched off, the differential switch of the door drive has tripped, fuel is running out, the heating system does not start even if the outdoor sensor signals low temperature, there is a smell of gas or water leakage in the basement – such bad situations have to be detected and resolved as soon as possible. Elektro Wagner has set itself the task of "Global Monitoring" of buildings and their functions. Thereby, it does not matter if the monitored object is located in the vicinity or thousands of kilometers away.

### Solution

Due to the "Internet of Things", "Global monitoring" gets a completely new relevance. However, up to now the decentralised bus system KNX with distributed sensors and actuators and interfaces to other systems is already used like an "IoT". Local KNX installations and third party systems communicate via KNX/IP gateways and enable a central monitoring. The building control system shows graphically values and indicates faults, detects faults in systems by comparing the values to the normal ones and alerts the responsible service technician. Depending on the fault, local or remote reaction is required.

### Realisation

The "Global Smart Home Service Desk" of Elektro Wagner operates as follows: A touch screen with visualisation (Divus) serves as central monitor. Intelligent devices, like e.g. a TFT display (Gira G1), a multisensor with voice control (Enertex Synohr) and a touch button (Elsner) show not only the comfort of a Smart Home but represent in this case the systems to be monitored. These are brought together via a KNX/IP router (Gira), which provides a high degree of security. Nevertheless: In future, KNX IoT Web Services would be able to undertake these tasks in a much simpler way.

### Functions

Via the TFT Display a failure of the heating system can be simulated. The multisensor keeps the states of lighting, shading, as well as the values of temperature, humidity and ventilation – in the full sense of the word – ready for recall. But also on the pages of the touch button's display prepared values respectively failure simulations are available. Threshold values and failures are evaluated by the centralised monitoring respectively by the BMS.

### Advantages

Global monitoring by integration of local systems. KNX IoT extends these possibilities especially for third party systems. Faults are quickly detected, which is particularly necessary in case of unoccupied buildings or unattended sites. Thus a quick reaction to failures and breakdowns is possible.


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