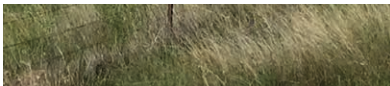




# DEHN protects.

Proof of concept – Predictive maintenance



## Partner



## Project overview

### Branch

Energy and infrastructure

### Application

Predictive maintenance concept

### Hardware depending on the application

- ➔ DEHNshield FM
- ➔ Blitzductor XT
- ➔ DEHNrecord Alert
- ➔ DEHNrecord MCM
- ➔ Adequate Smart IoT Gateway from INSYS icom

# DEHN protects.



## Proof of concept – Predictive maintenance

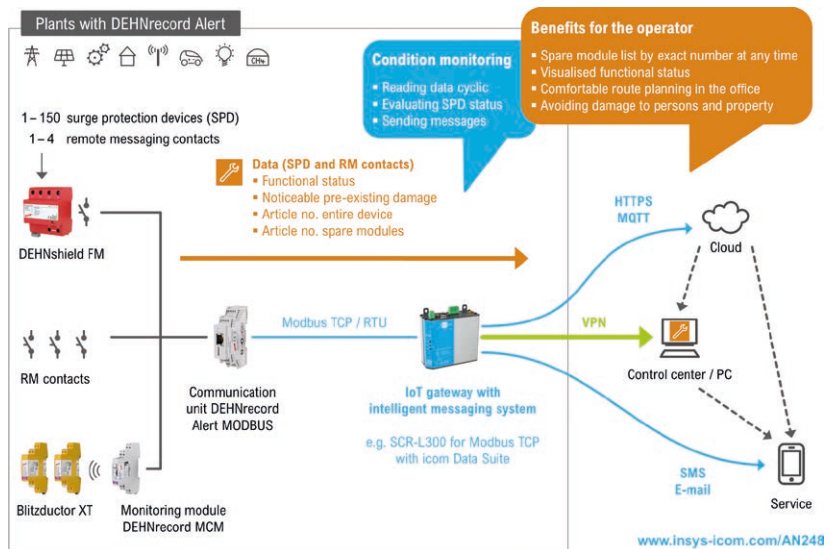
Since 1992 INSYS Microelectronics has been a reliable partner for industrial data communication and provider of security, analysis and test solutions. The business division INSYS icom specialises in components and secure communication solutions for M2M and IoT applications. Its smart and powerful hardware and software solutions (managed devices and services) enable remote access to and transmission of the operational data from machines, plants and other devices. Whilst having deep regional roots, INSYS icom is open to the world.

### Challenge

The risk of surge damage in power grids is constantly increasing due to the growing number of highly sensitive electronic devices and systems, widespread networks and decreasing signal levels in power grids. Although the actual damage to the electronic components is often unspectacular to look at, it frequently results in long and expensive downtime. This should be prevented, particularly in such vital applications as power grids.

### Solution

Efficient lightning and surge protection concepts ensure supply reliability. For this purpose, type 1 and type 2 combined arresters, for example DEHNventil FM, are installed. BLITZDUCTOR XT is used to protect information and communication interfaces. The predictive maintenance concept from INSYS icom and DEHN allows you to check that surge protective devices (SPDs) are functioning properly without any great effort. The system DEHNrecord Alert enables permanent monitoring of the status reports of surge protective devices. An app quickly tells you if all the devices are working. This makes the maintenance of your SPDs smart and simple. The MODBUS TCP/RTU protocol directly reports signal states and other important plant values via a Smart IoT Gateway from INSYS icom. These are then safely transmitted to the control room via VPN. In addition, the icom Smart IoT Gateway also acts as an intelligent converter between the protocols IEC 60870-5-101 and -104 and ensures secure remote access of the control room to, e.g., a regulated transformer substation. Transmitting this information to the user, provides him with all the data he requires in the event of a fault to quickly procure and replace the faulty module. DEHNrecord Alert facilitates the efficient and cost-effective co-ordination and conduct of service and maintenance work.



### Advantages of the DEHN-INSYS solution

- System testing tailored to specific needs
- Predictive maintenance planning
- Communication via Modbus, MQTT and other protocols
- Connection to the control room via icom Smart IoT Gateways (more information at [www.insys-icom.com/applications/power-engineering](http://www.insys-icom.com/applications/power-engineering))
- VPN: IPsec, GRE, OpenVPN
- Security concept according to ISO 27001
- High-quality products made in Germany