

Deployment Optimization of Maintenance Teams

Development of an Application for the Coordination of Technical Teams On-Site

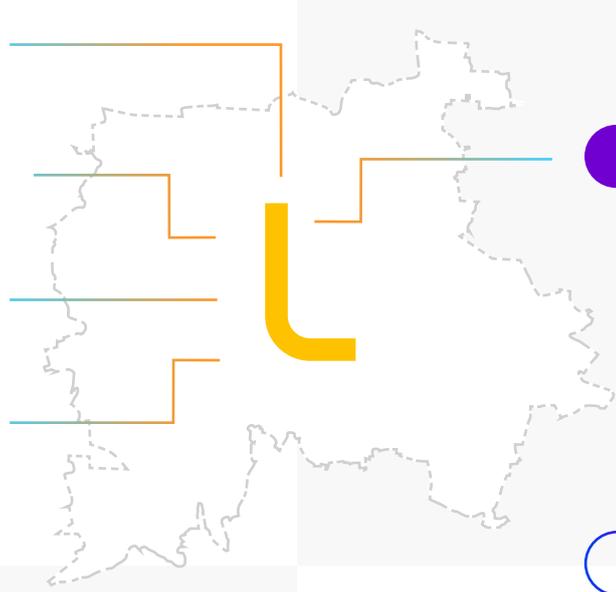
Stadtwerke Leipzig is a municipal energy company that supplies electricity, gas and heating. It is the market leader in electricity and heating in Leipzig and at the same time one of the ten largest companies of its kind in Germany.



Stadtwerke Leipzig distribution infrastructure:

Customer of Stadtwerke Leipzig

- approx. 3350 km of electricity network
- approx. 1084 km of gas network
- approx. 496 km of district heating network
- 600 employees looking after the infrastructure



Over 200.000 households in and around Leipzig

Challenges of the industry



Stadtwerkes manage dispersed infrastructure covering vast areas of cities. A vital element of the system is the field teams' optimal work who operate the teletechnical equipment, meters and sensors.

Often, the work of these teams is based on manual task planning. Technicians would appear in the office and review their tasks assigned manually for a given day. The lack of centralised information available in one place makes it difficult to estimate the completion time of tasks. The time required for completion is also increased by the need for technicians to keep paper records. Stadtwerkes, therefore, face the necessity of improving the efficiency of the technical teams' coordination.

Stadtwerke Leipzig Needs



Stadtwerke needed an intelligent tool to optimise the work of the teams and at the same time, provide the technicians with information on the devices in the network.

The solution had to support the technicians in their daily tasks and challenges, such as:

01. Handling and installing different types of meters (various manufacturers, functions),
02. Assisting in contacting customers to check their devices and supporting technicians when they cannot access the device,
03. Classifying inconsistent readings and describing deviations,
04. Describing devices with comments and pictures,
05. Providing access to detailed data on a specific device.

It was necessary to develop an application for mobile devices that the employees could safely use in the field throughout the working day.

Solution provided by ConnectPoint



ConnectPoint has developed and implemented the Mobile Dispatch application for smartphones and tablets, enabling effective management of the technicians' work in the field.

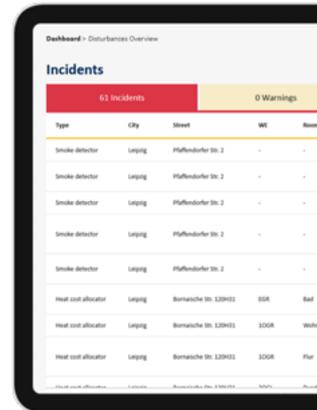
With the Mobile Dispatch, tasks are automatically assigned to employees, taking into account their optimal arrangement and road situation, so that the time of travel is as short as possible. There is also available navigation to the site and all information about the task. The technician can document the situation with photos and comments.

The main functions of the application:

01. Integration with external systems for optimal assignment and processing of orders.
02. Display of a map with orders and a daily list of tasks to be performed, e.g., reading, installing a new device, replacing the device.
03. Calculation of the technician's daily route on a Google map with a point to point navigation.
04. Possibility for the user to postpone an order or delete a task altogether.
05. Automatic access to information on the history of the device.
06. Read the meter with the support of the application ready-to-fill forms (reading value, expected range of measurement value, justification if the value exceeds the range); after approval, immediate synchronisation with control room data.
07. QR code scanner allowing the form assigned to the meter to be filled in automatically.
08. Customer data for immediate contact available within the application.
09. Payment collection function - integration with a payment system.
10. Real-time data validation.

About ConnectPoint

ConnectPoint is an IT company that supports the process of digitalisation in industry, energy sector and public utility segment. It specialises in IT/OT and IoT integration and combine industry knowledge with expertise in the field of OT, Big Data, GIS, Business Intelligence and Machine Learning. It builds systems that allow for effective cooperation between Operations, IT and Business.



Benefits of implementation

Within a short period (15 months), Stadtwerke Leipzig gained a tool for optimising the work of the field teams, which offers the following advantages:

01. The technician is assigned an up-to-date list of task every day, which is available in the application together with the route planner, saving valuable time.
02. All data is available in one place when logged in.
03. The order data is structured and updated as soon as the task is completed.
04. The application supports and ensures the efficiency of the meter data collection process.
05. Unified and automated data collection from the field through flexible forms which have replaced the unreliable and time-consuming paper-based system.

