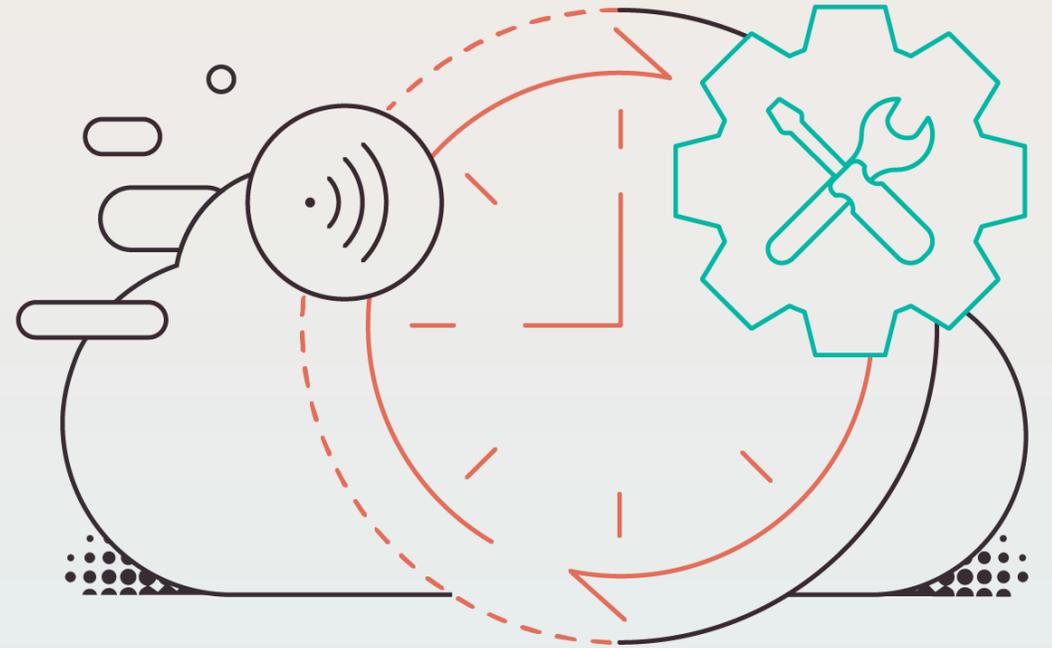




WEBINAR HANDOUT

How predictive maintenance makes you a service champion



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→ WHAT IS PREDICTIVE MAINTENANCE
How it works

02

→ BENEFITS OF PREDICTIVE MAINTENANCE
Where the true value lies

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→ FIELDCODE IMPLEMENTATION STRATEGIES
And why are they important

04

→ COMPANY OVERVIEW
Who we are

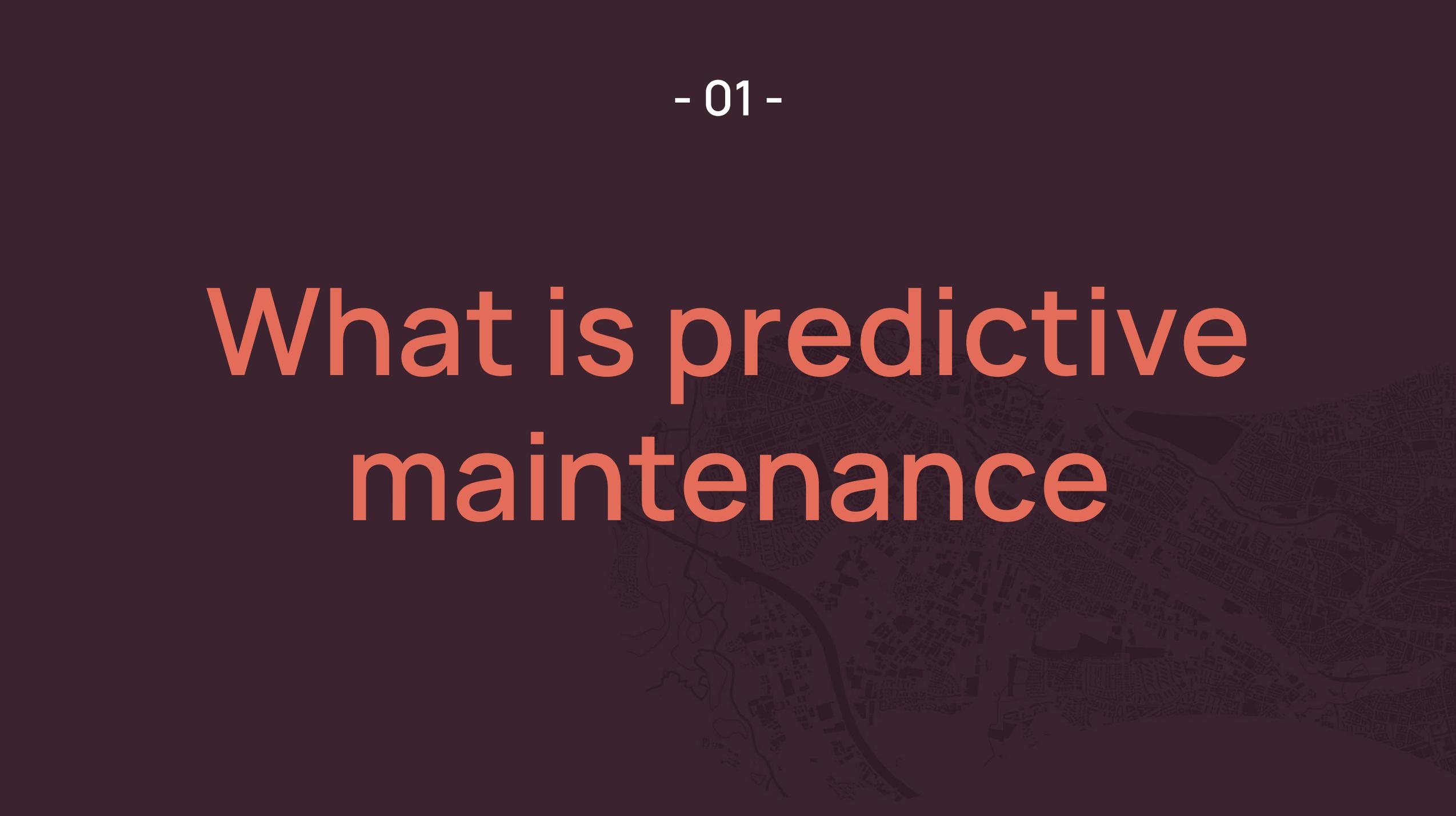


Speaker

Matthias Lübko
CEO

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What is predictive maintenance



What is predictive maintenance

Predictive maintenance is a type of condition-based maintenance that monitors the condition of assets using sensor devices.

Sensor devices supply data in real-time, in order to predict when maintenance is required and prevent equipment failure.

Predictive maintenance refers to the use of hardware, software and service components to provide predictive analytics for mechanical assets or infrastructure maintenance.

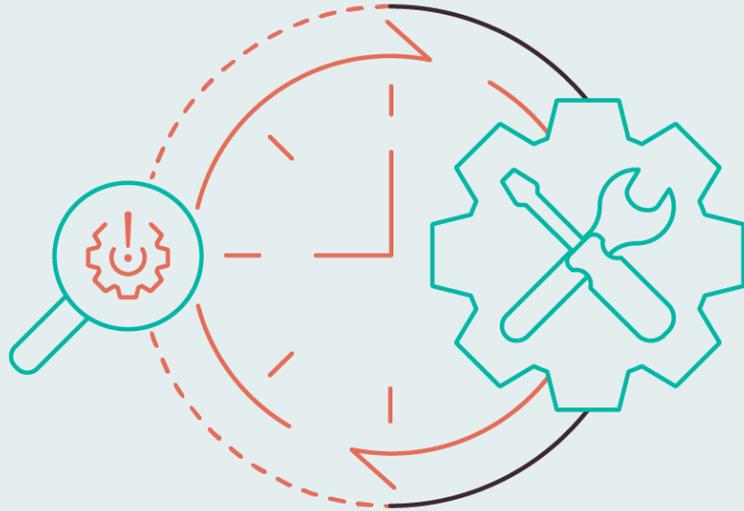
Predictive maintenance is used to:

- Monitor emerging failures
- Identify expected failure points and breakdowns
- Determine remaining asset lifetime

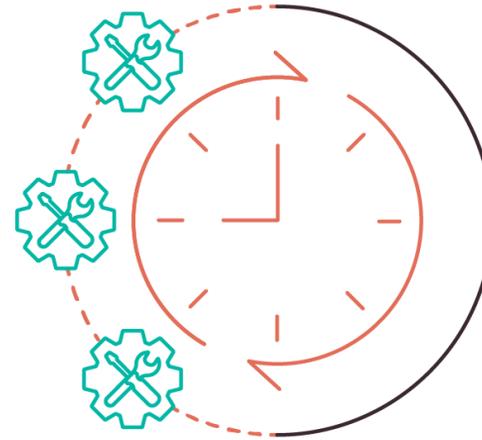


Unplanned downtime costs industrial manufacturers an estimated \$50 billion annually. Equipment failure is the cause of 42 percent of this unplanned downtime.

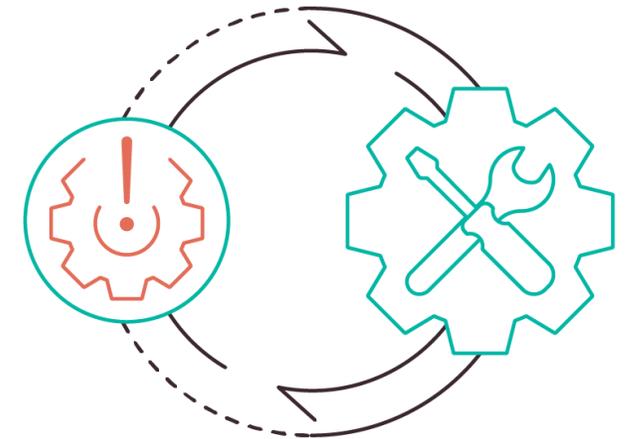
Difference from other field service management models



→ **Predictive**
Predict exactly when it will break and maintain it accordingly



→ **Preventive**
Maintain it at regular intervals so it doesn't break



→ **Reactive**
Fix it when it breaks

Parameters for successful predictive maintenance



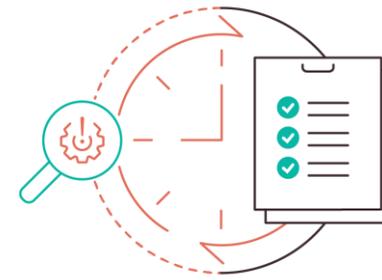
Collect the right data

Collecting and analyzing data from various sources such as IoT or equipment sensors in order to run diagnostic checks and take the most suitable action.



Evaluate the data properly

Ensuring interpretation of data in the right context. For example, a temperature drop could simply mean that someone opened the window. Or a slow elevator could mean it is just heavily loaded. It is often difficult to rely only on the sensor-based input, therefore it is important to combine it with multiple results to gain actual insights.



Act appropriately on the conclusion

In addition to data collection and data transmission it is important to act appropriately. Ideally, a system automatically sends the ticket to the correct engineer or subcontractor depending on the issues found.

Cross-industry examples of failure prevention



- Printers already use **built-in sensors** which can **detect** malfunction and **request service**
- Detection of any **speed anomalies** on an elevator can **indicate an upcoming failure**
- Capture increased temperatures in electrical panels to **prevent component failures**

Benefits of predictive maintenance



Driving higher customer satisfaction ratings with predictive maintenance

When you set the right expectations regarding the day, time, duration of an outage and length of an intervention the customer can plan their involvement.

By analyzing historic data it is possible to find the service trends for each location. Hence, customers spend less time contacting for emergency interventions. **By taking their needs into consideration it is possible to design a schedule that fits just for them based on the input received.**

Benefits of implementing predictive maintenance

There are various benefits when implementing predictive maintenance. Here are some of the most important to take into account especially when evaluating your KPIs.



→ **Customer satisfaction thanks to operational stability**



→ **Reduction of maintenance costs**



→ **Avoidance of unscheduled downtimes**



→ **Enhanced asset/equipment lifetime**



→ **Increased technician utilization**



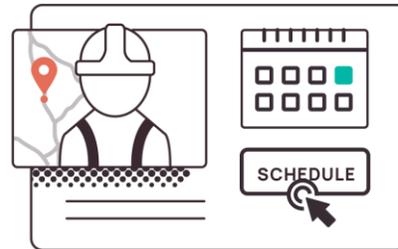
→ **Improved machine utilization**

Benefits of implementing predictive maintenance



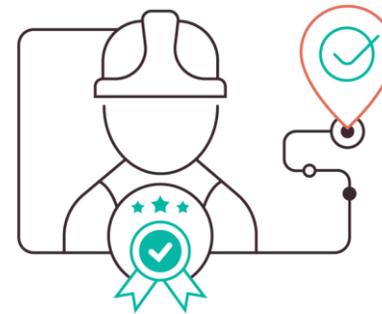
Customer satisfaction thanks to operational stability

With higher stability of the assets, the customer is not affected in their work/production/delivery which can easily lead to a 10-20% increase in customer satisfaction.



Avoidance of unscheduled downtimes

Due to the early engagement and proactive service approach, downtimes can be planned ahead of time with minimal impact on the customer.



Increased technician utilization

With fewer emergency interventions, engineers and technicians can be utilized more efficiently and no critical work is scheduled as part of the regular activities.

Benefits of implementing predictive maintenance



Reduction of maintenance costs

Preventive maintenance is executed based on fixed intervals. With predictive maintenance, costs can be reduced by 15-30% because the work is only performed when required.



Enhanced asset / equipment lifetime

When a failure occurs, this always brings the risk of structural damage on an asset - due to timely performed maintenance, the lifespan can be extended.



Improved machine utilization

Machine utilization can be improved between 2-5% as unplanned downtimes are avoided and preventive maintenance can be reduced.

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Implementation strategies



How you can take advantage of predictive maintenance

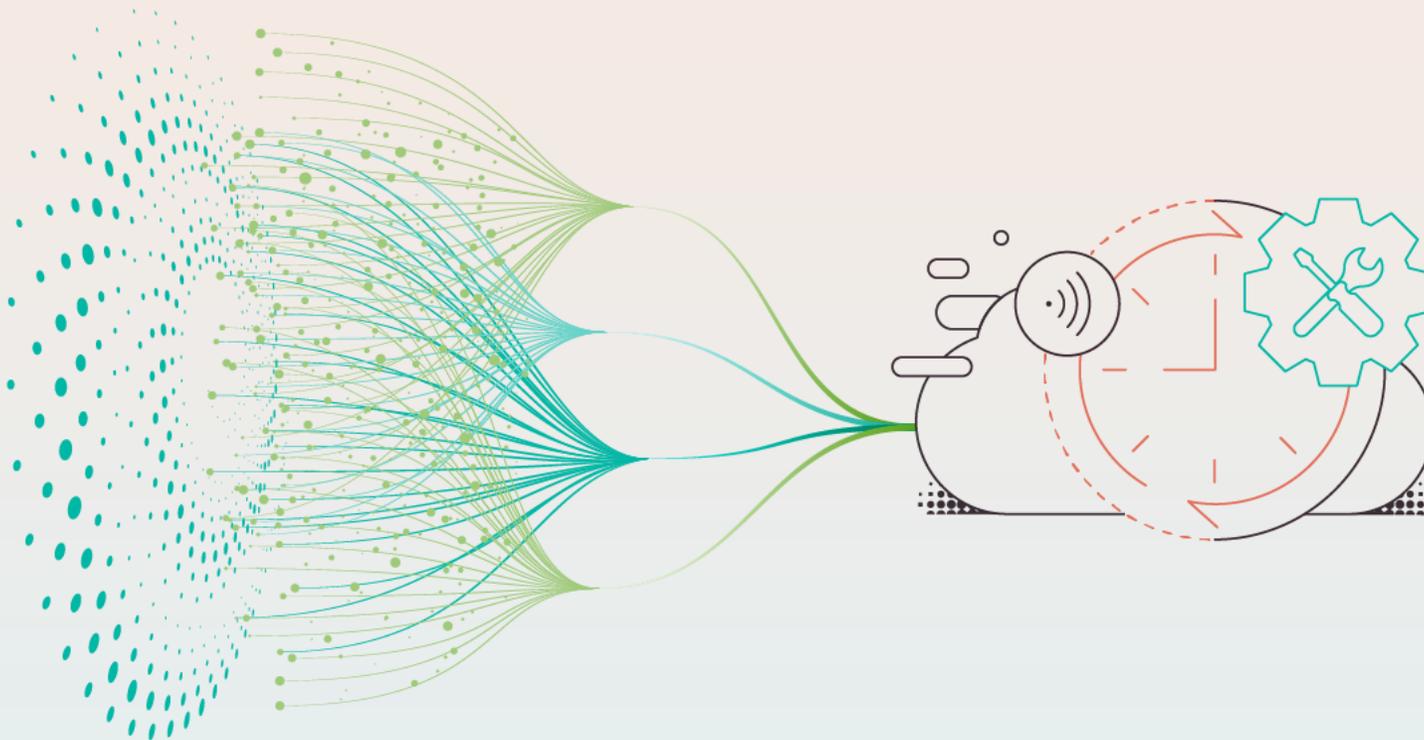


One of the key technologies to deliver successful predictive maintenance is the Internet of Things

The Internet of Things allows computing devices, mechanical and digital machines or objects to **exchange data without the need of human-to-human or human-to-computer interaction.**

Use IoT to achieve new levels of customer satisfaction

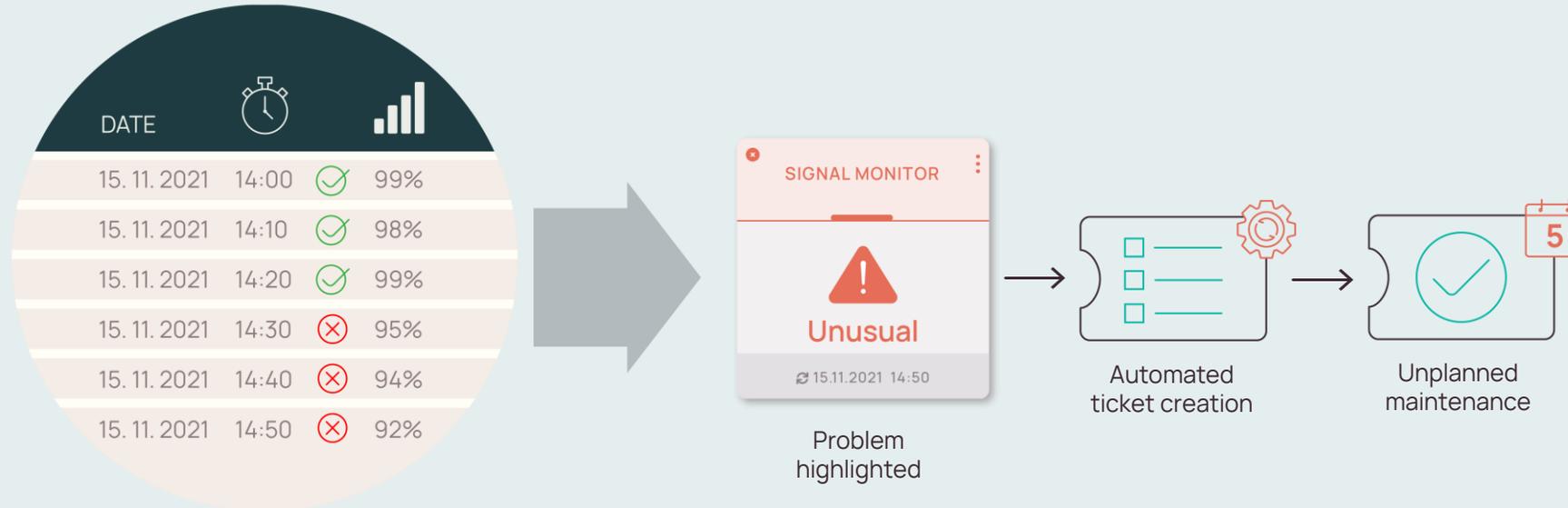
The first step is to collect data to assess probabilities of failure before that failure occurs. Predictive maintenance which uses IoT data allows suggesting the maintenance actions that will be required in the future. With a smart solution like Fieldcode you will not only know that there is some action required but more importantly **what exactly requires your attention**.



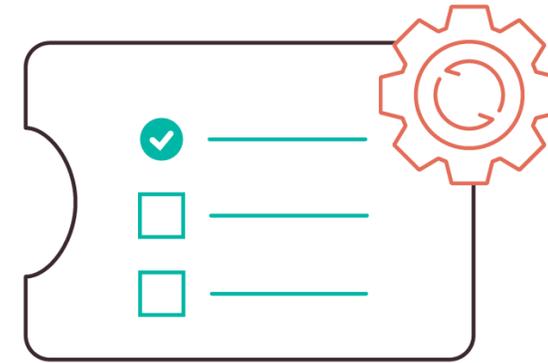
- **IoT white noise**
There are hundreds of thousands of events being generated every day; the data is a never-ending river of information. It is therefore important to be able to understand which piece of information is the one you are looking for.

Use IoT to achieve new levels of customer satisfaction

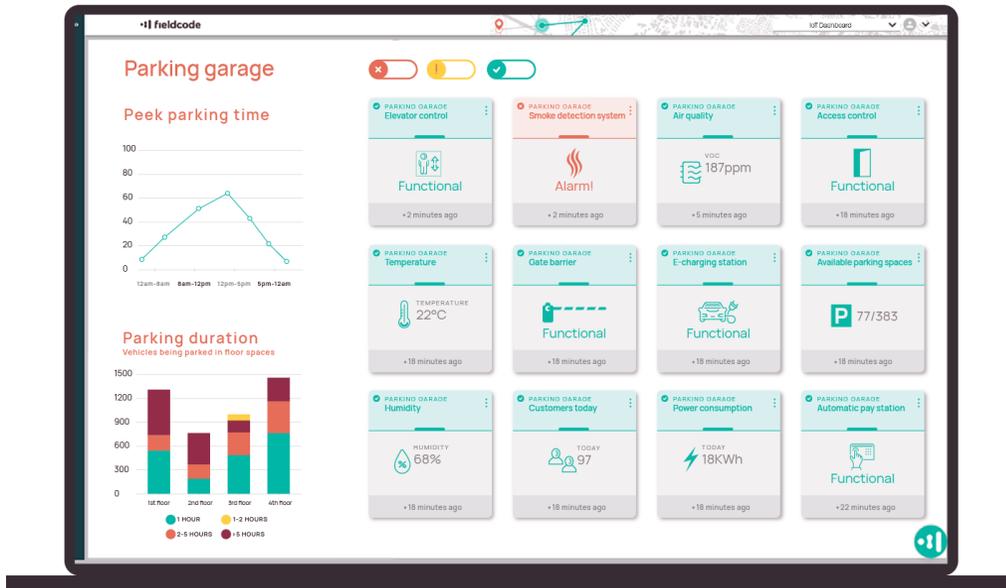
A sensor that measures the signal strength can recognize when the signal is getting low, but it will only create an event if this is a continued issue. Based on predefined thresholds, it may accept one or two low responses. Only when the threshold is hit, the intervention will automatically be created and an unplanned maintenance will be dispatched automatically to an appropriate onsite resource.



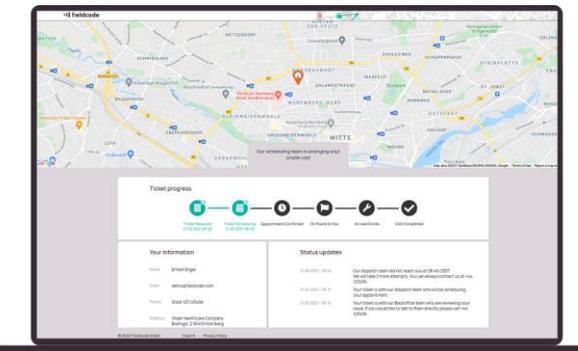
Use Fieldcode IoT solution to achieve new levels of customer satisfaction



→ Fully automated ticket creation

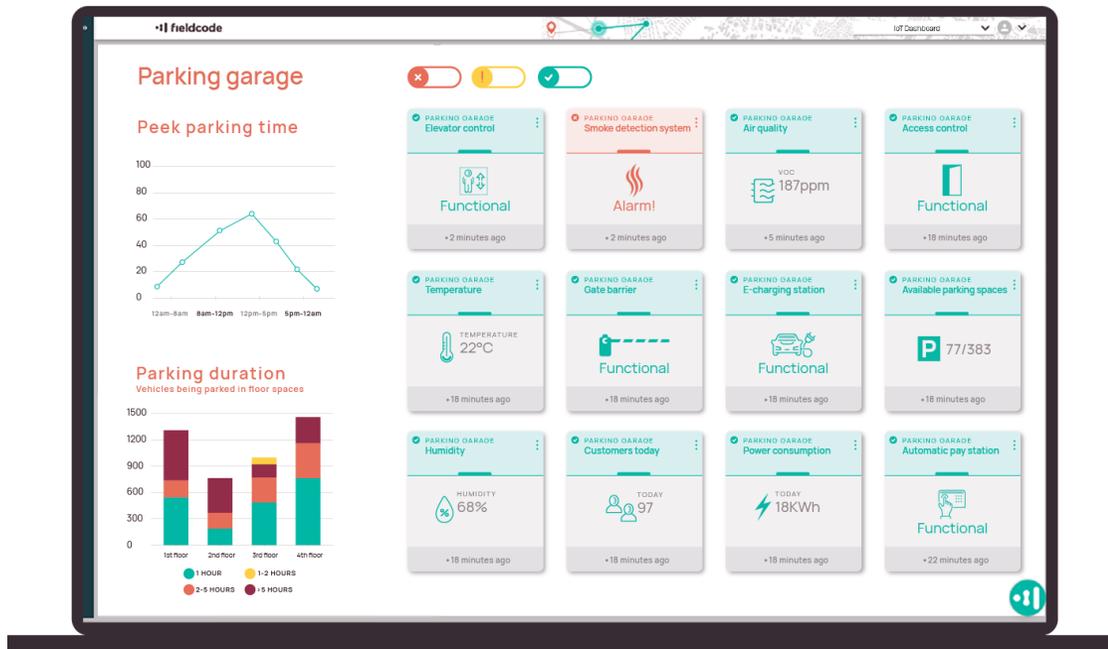


→ Take proactive measures with IoT sensor monitoring



→ Keep your customers fully informed

Be proactive and avoid failures with IoT-enabled asset management



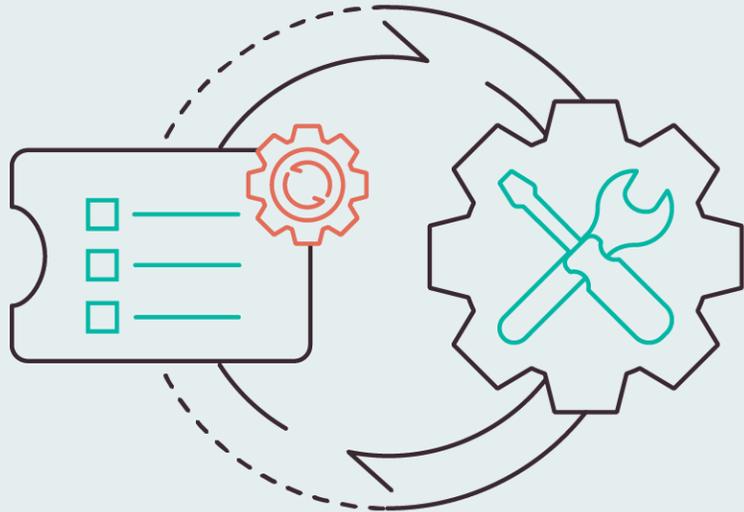
Integrate and track IoT data at any time

Fieldcode helps to integrate and connect all of your sensors, **no matter which communication protocol they are based on.**

Start your implementation with the definition of the use cases you want to apply. Based on that you can start the purchasing process and buy & install the set of sensors.

Through standardized communication protocols like LoRaWAN the sensors communicate with their gateway which then is connected to the Fieldcode IoT dashboard.

Be proactive and avoid failures with IoT-enabled asset management

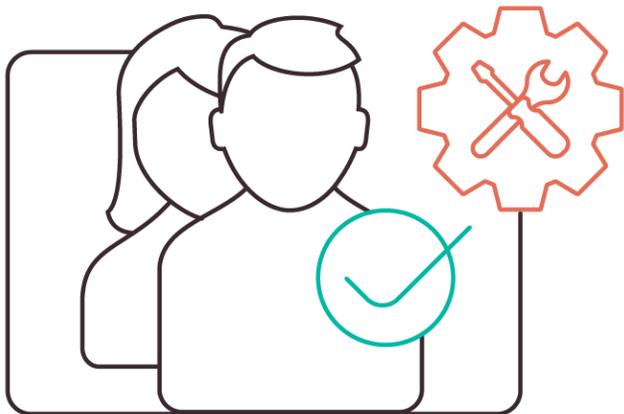


Profit from smart and fast ticket processing through AI-driven procedures

Based on predefined rules and thresholds, Fieldcode will monitor the constant flow of data.

Be one step ahead and **address issues in real-time** as asset and equipment maintenance move from fixed timing to an as-needed basis.

Be proactive and avoid failures with IoT-enabled asset management



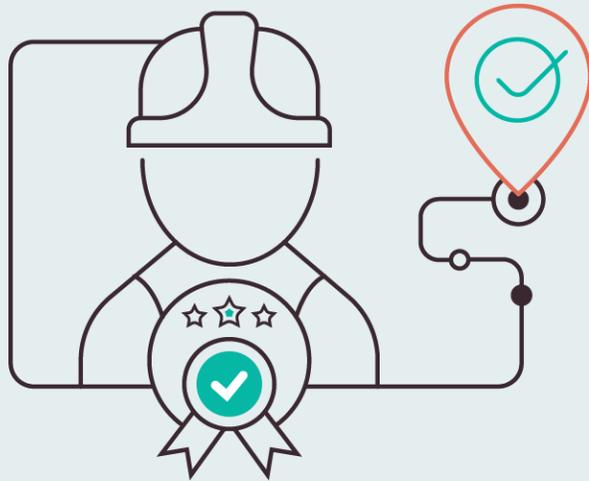
Get rid of manual processes

Save time for your dispatch team and let automation take care of your manual processes.

With the fully automated FSM capabilities, Fieldcode assigns the right resource to the ticket. The intervention is included in the optimization routine to deliver the service most efficiently.

Even spare parts can be ordered fully automated. And then the ticket will only be assigned to an engineer once the required parts are available.

Increase utilization of your field service workforce with smart automation



Up to

40%

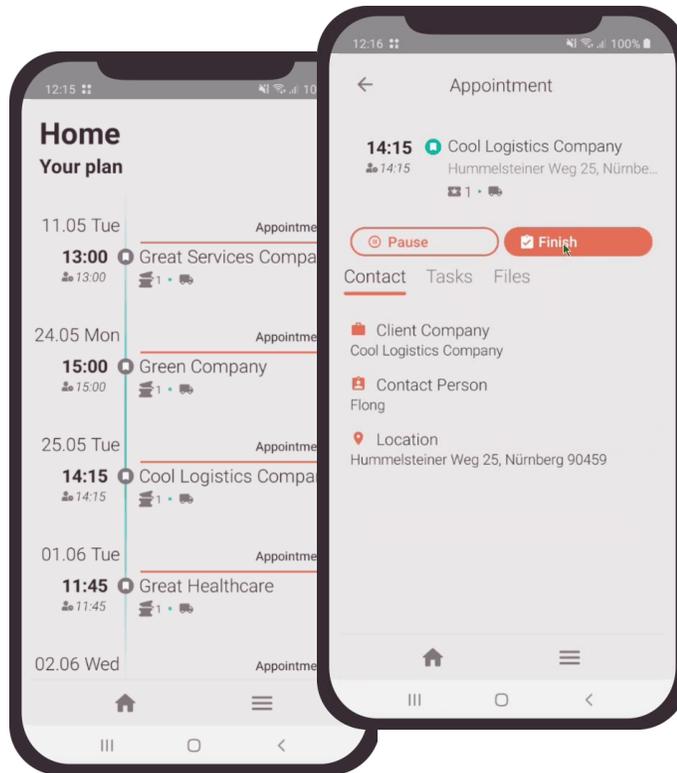
increase of productivity

Automation starts with each process

Reduce unplanned maintenance, improve route planning and manage your service delivery on the go. Based on internal research, automation and optimization can **increase the productivity of your field workers by up to 40%**.

This is the advantage of automated route planning helping drastically to achieve better and more efficient schedules for the field workers.

Increase utilization of your field service workforce with smart automation



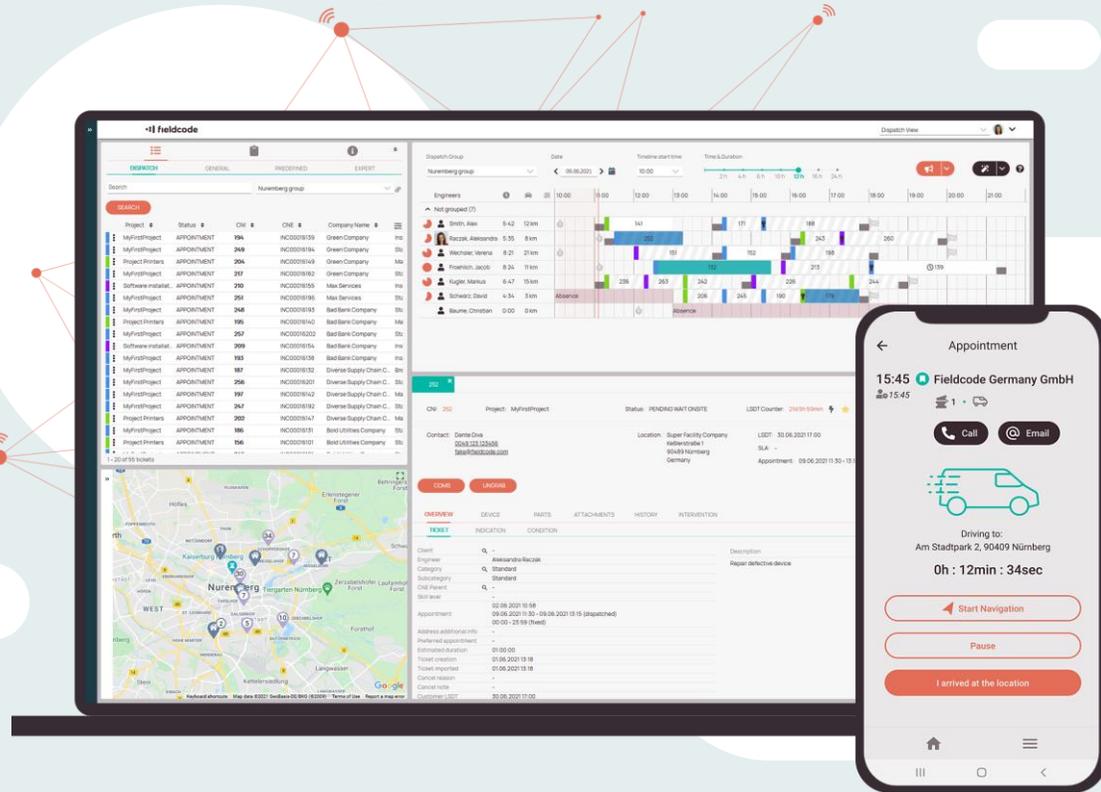
Lead through the process and ensure adherence

Integrate special customer requirements, instructions and dynamic reporting options for your field service staff easily.

The Fieldcode mobile app reduces the manual input to a minimum and guides the engineer through the intervention. It provides all historical information and builds the foundational knowledge for each onsite visit.

Improve first-time fix rates and increase customer satisfaction by providing the right information for troubleshooting.

Fieldcode IoT-driven software for smart field service



- Automate the process of sending and receiving information
- Improve overall service delivery with predictive maintenance
- Streamline your service delivery processes from ticket creation to dispatch

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Company overview



Fieldcode facts & figures

→ 10.000+ active users

→ 100+ countries

→ 100+ colleagues

→ 6 Subsidiaries



25°54'50.6"N 80°19'49.4"W

Miami Lakes, USA



47°30'07.5"N 19°06'58.0"E

Budapest, Hungary



51°2'18.517"N 16°57' 3.474"E

Bielany Wroclawskie, Poland



49°27'43.168"N 11°5'33.079"E

Nuremberg, Germany



47°24'1.962"N 8°27'19.058"E

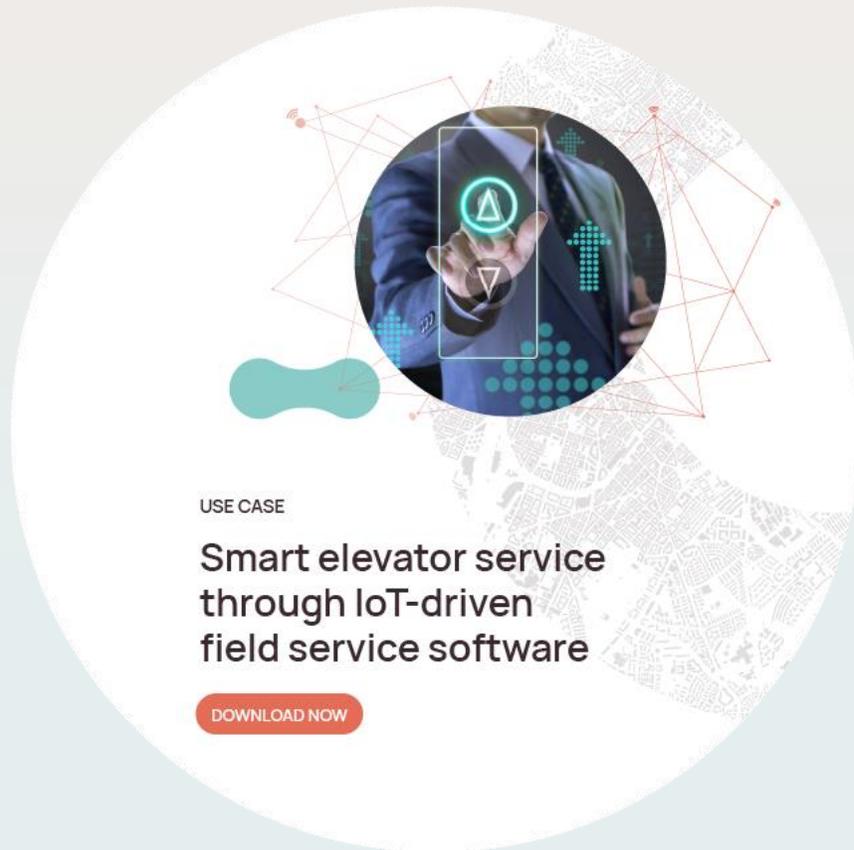
Schlieren, Switzerland



37°58'58.8"N 23°45'26.2"E

Athens, Greece

Use case: IoT-driven field service software for smart elevator service



One segment which already makes use of predictive maintenance is the elevator industry. With the **Fieldcode elevator IoT solution** we respond to key business issues that global elevator service companies face:

- Managing increased customer expectations
- Avoid insufficient customer communication flow
- Keeping operational costs low
- Maintain technician productivity levels
- Avoiding fines & violations

Find out more by [downloading our use case](#)

Would you like to request a
personalized demo?

Email us at
demo@fieldcode.com

or visit fieldcode.com



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