



Better accuracy with data

Burst pipe, flooding, fire: These types of damage demand quick action. The restoration experts at POLYGONVATRO, with 64 offices nationwide, are on site in no time. Yet while speed counts when on the job, the staff in the company's back office faced complicated processes in the past. Today, this medium-sized enterprise is just as fast in house as on site with a smart IoT (Internet of Things) solution from T-Systems.

COPY — Deborah Grauert

From the tiny, damp spot in the corner to the square meter-sized water damage in the ceiling, to the constant leaking and first puddles on the floor: A burst pipe can quickly cause tremendous damage. A nightmare for renters, homeowners, or businesses – but everyday life for the staff at POLYGONVATRO, a medium-sized business from Olpe, in the Sauerland region of North Rhine-Westphalia, that specializes in locating leaks and restoring fire and water damage.

The company enjoys plenty of business, not only because it can both handle smaller jobs on private properties and provide extensive assistance in case of a catastrophe thanks to its locations all over Germany, its 1,750 employees, and its 40,000 pieces of equipment, but also because the number of incidents is increasing. Among the reasons: "In Germany, there are many private homes from the '50s and '60s whose pipes and lines have become outdated," explained Cornelia Czenkusch, Head of Quality Management at POLYGONVATRO. To add to this: "Due to climate change, damage from the elements, such as heavy rainfall and flooding, is becoming more widespread. Even significant temperature fluctuations put stress on pipes and lines."

PROBLEMS OF THE PAST

However, aside from sales and growth, a full schedule also means a challenge to the company. The skills shortage makes it difficult for POLYGONVATRO to recruit new qualified employees. Even in the company's back office, there is always more to do. One particularly labor-intensive process in the past was issuing energy consumption certificates, since the powerful dehumidifiers POLYGONVATRO sets up to draw moisture out of floors, ceilings, and walls following water damage run day and night on the home's electricity. The energy used is clearly reflected in the aggrieved party's power bill.

"For covered damages, the customer can claim these costs with their insurance company," said Czenkusch. The aggrieved party can also certify with the power company that this was a one-time event, so they do not raise the advance payment. Given just how many pieces of equipment POLYGONVATRO has, however, it has not been possible to determine actual total consumption anywhere in a consistent form or manner. "For certification, we've used the manufacturer's consumption data as well as how long the equipment is in use," added Czenkusch.

The result was time-consuming as well as error-prone, since the technicians at POLYGONVATRO entered equipment numbers and counters by hand when setting up the dehumidifiers. The back office then transferred them into the billing system. The notes were occasionally difficult to read, reported Czenkusch. In addition, POLYGONVATRO based the calculations – as is standard in the industry – on the arranged/actual runtime in the customer's residence. All these factors made it impossible to consistently record energy consumption with 100 percent accuracy.

INTELLIGENTLY CONNECTED DEHUMIDIFIERS

At the start of 2018, the company found a remedy in a digital solution: the smart POLYGONVATRO energy management (or PV-E) box, which Deutsche Telekom developed and implemented as an end-to-end solution. This box acts as a "smart extension cable" between equipment and socket. The important thing is that it is compatible with every piece of equipment the company owns, since it is attached to the dehumidifier with a magnet and is simply connected using the standard power plug. The box then measures how much power the dehumidifier consumes, sending the data wirelessly to the cloud. The advantages: The effort required by the technician is minimal. Once the dehumidifier is set up, the technician pulls out their smartphone and uses a specially developed app to quickly scan a code on the equipment and box. In seconds, both components are linked together, and the consumption levels are automatically and clearly assigned to a dehumidification order. The box sends these levels to

POLYGONVATRO's smart PV-E-Box sends power consumption data from room dryers to Telekom's Cloud of Things via an integrated mobile radio antenna.



Deutsche Telekom's Cloud of Things until the technician disconnects the devices from one another in the app when the job is done.

Thick cellar walls and poor network coverage are no problem: If the PV-E box is unable to transmit data wirelessly, it stores it and sends it later once reception is reestablished.

PREFERRED PARTNER OF INSURANCE COMPANIES

POLYGONVATRO has since put 20,000 boxes in the field – at a fixed monthly rate that includes the app and mobile rates as well as support and service from Deutsche Telekom for a period of five years. The medium-sized enterprise has come out ahead in several aspects: The back office can take the precisely processed digital data from the cloud with ease and use it for the consumption certificates. This frees up more time to meet the growing number of orders. But what is especially important: POLYGONVATRO also provides insurance companies with exact consumption levels, which gives the company a decisive competitive advantage. "Digital billing that is 100 percent accurate has turned us into a preferred partner for insurance companies. They may not be the ones hiring us in the event of damage, but they strongly recommend us," effused Czenkusch. This helps the company maintain and expand its leadership in the water and fire damage recovery sectors.

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The impetus for POLYGONVATRO's smart solution was Deutsche Telekom's group-wide IoT (Internet of Things) project from its "Digital Jobsite," which identified "recording operating data from dehumidifiers" as a possible application area, determined requirements with the client in joint workshops, created prototypes, and developed and rolled out the solution within two years. The box for accurate billing meets the requirements of Germany's law on weights and measures, and it also comes with a ground fault circuit interrupter (GFCI). An integrated mobile communications antenna allows for cloud connectivity. A red light on the box indicates when data cannot be transmitted. The box also includes sensors that measure ambient conditions, such as temperature and humidity.

ANONYMOUS CONSUMPTION LEVELS

To ensure neither indicator lights nor safety fuses nor any other box component or function causes annoyance to the customer, the medium-sized business has trained and supplied informational materials to its employees.

POLYGONVATRO uses
20,000

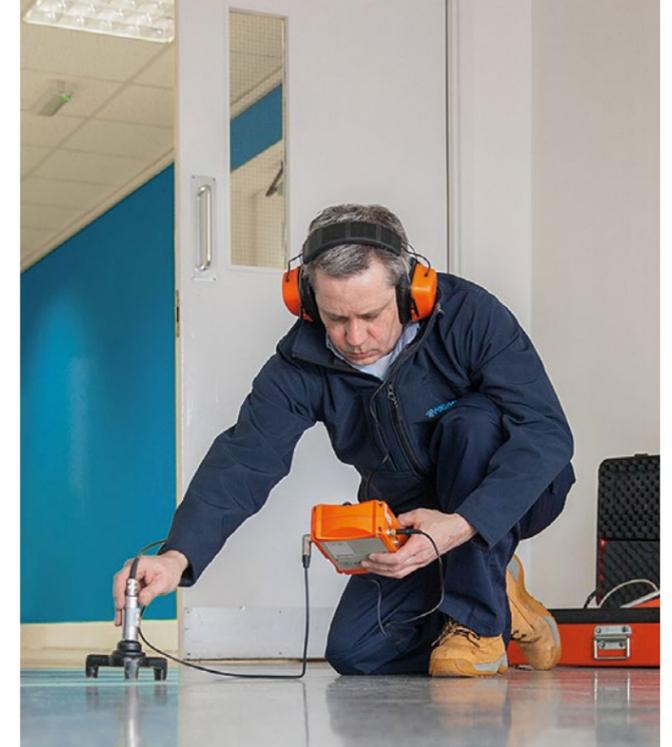
of its smart PV-E energy management boxes nationwide.

Not all customers are equally open-minded to digital solutions, reported Czenkusch. The topic of data transmission in particular stirs skepticism. "Understandable," according to Czenkusch, "but unfounded." This is because the box only transmits consumption levels in conjunction with a complex device code, but does not transmit any personal information, such as an address. Only when the levels in the cloud are associated with the order information in POLYGONVATRO's system does the company obtain customer-specific information.

DELIBERATE DIGITIZATION

In the future, the company from Sauerland wants to digitize other business processes – step by step and always only where the recovery experts see clear added value. "Digitization and the service we provide can't be combined so easily," explained Czenkusch. However, the digital potential is great – especially in detecting damage and documentation. The first pilot projects in these areas are underway: At the large logistics center in Olpe, 10 digital scanners are currently being used to automatically record all materials loaded onto trucks for commercial or industrial jobs. "This has made our job so much easier that we want to take the scanners into the field," praised Czenkusch. The medium-sized business also figures it will need more PV-E boxes in the future: It has already ordered 500 units for high-voltage equipment.

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Great potential: Step by step, more and more processes in the service company are to be digitalized.

97%

of the up to 200,000 home fires reported annually in Germany produce fire and smoke damage and, above all, fire-fighting water damage.



Digitalization with caution – Cornelia Czenkusch, Head of Quality Management at POLYGONVATRO.