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Maximum  
reliability.  
For doctor's  
surgeries  
and patients.

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**LIEBHERR**

SmartMonitoring



# Focusing more on people. Thanks to digitalisation.

Medicine has a clear focus: People.  
The work of a doctor's surgery revolves around people and their well-being.  
But there is increasingly less time left over for precisely this in everyday work.

The *Ärzteblatt* medical journal reported that in 2015, clinicians spent around 44 percent of their work hours on documentation and bureaucracy, and nursing staff around 36 percent accordingly.\* In doctor's surgeries too, the proportion of work time spent on documentation tasks is also high.

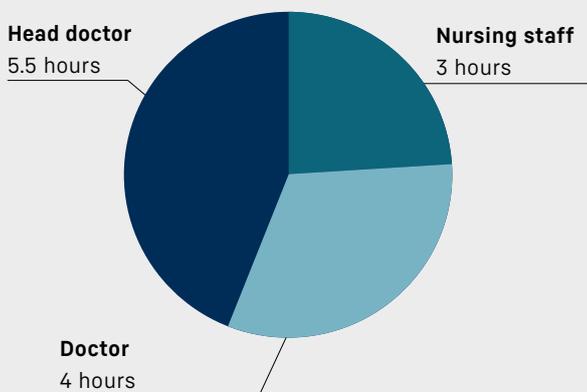
## More demands on less staff.

The reason why tasks not relating directly to patients needs increasingly more time and attention is simple: The requirements for doctor's surgeries are constantly increasing. This also affects the proper storage of sensitive substances. Temperature-sensitive medications and vaccines must be kept cool at constant and precise temperatures, much like samples in medical labs. Staff also have to constantly monitor the temperature, check the specific storage conditions and ensure complete documentation of all relevant data. Huge amounts of data are generated in this that can only be evaluated by the chronically scarce personnel with a lot of time and energy. Not to mention the monotonous work processes it involves.

## Digitisation creates the additional time.

The increasing digitalisation of doctor's surgeries creates time where it is in short supply. Measuring devices, sensors, processes, databases and dashboards are networked with each other, exchange and evaluate data, document it and independently derive necessary measures from it. The surgery staff can concentrate on value-adding tasks. There is also a digital solution especially for the reliable monitoring of temperature and storage conditions and their complete documentation, which leaves more time and freedom for the actual work: SmartMonitoring from Liebherr.

The average time spent on documentation and bureaucracy tasks in an average clinic's 9-hour day\*



## Complex and time-consuming tasks that can be digitally mastered in surgeries and clinics:

- Ensuring constant and precise cooling of temperature-sensitive substances
- Reliable monitoring of temperatures and storage conditions
- Continuous documentation and evaluation of all relevant data

\* Source: <https://www.aerzteblatt.de/nachrichten/62266/Klinikaerzte- verbringen-44-Prozent- ihrer-Zeit- mit- Dokumentation>

# The challenges of storing temperature-sensitive substances in surgeries.

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## **Problem 1: Time-consuming documentation**

A familiar and much unloved task: daily documentation work in doctor's surgeries. Every activity in the system, every change, every measure and every result relating to the storage of medications, vaccines and samples has to be transparently documented, in order to draw conclusions about errors and analytical results. For complex analyses, manual, complete documentation is difficult to achieve in addition to regular workloads. In addition to losing data and information that could be important in the future or be required as part of the obligation to provide complete documentation, productive work time is also lost. However, staff at doctor's surgeries prefer to conduct these tasks themselves, instead of delegating them to a digital solution. This is due to reservations about training staff to use a digital monitoring system and doubts about its reliability.

## **Problem 2: Storage temperature fluctuations**

In many doctor's surgeries and medical labs, the cooling of sensitive substances is a constantly recurring problematic issue. Reliable cooling ensures a precise, constant temperature and creates the ideal conditions for each type of sample, vaccine or medication. After all, temperature deviations can have far-reaching consequences: Medicines can lose their efficacy and analyses and the crucial results they yield can be distorted. As soon as fridges and freezers come into play, the fear of unnoticed temperature deviations is always present.

## **Problem 3: A lack of alarms in the event of deviations**

If an analytical procedure or the cooling does not run according to plan, staff often only notice this when it is already too late. The storage temperature has been too high or too low for too long, the vaccine or sample is already unusable or all of the analytical results are irredeemably distorted due to errors. A lack of early warning systems, which trigger alarms as soon as the data changes in an unexpected way, is responsible for this. Some surgeries do have warning systems, however they often only trigger alarms on-site. This means that after hours or at the weekend an empty surgery is prompted to respond immediately. And the next working day staff arrive to an unpleasant surprise.

### Daily challenges for surgery staff when storing sensitive substances:

- **Complete documentation** of temperatures and storage conditions during regular work hours is difficult to achieve
- **No free time**, for training staff to use monitoring systems
- Constant concerns about **unnoticed temperature deviations** which are connected to enormous risks for patients
- Unusable medications, samples and vaccines due to a **lack of alarm systems** in the event of deviations

# The most efficient and safest solution for reliable storage in surgeries: digitalisation.

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## **Solution 1: Setting up complete documentation, simply and conveniently**

Complete documentation must be provided to be able to track each development in a sample analysis. All of the sample's cooling parameters must be constantly monitored and recorded. As manual documentation should never be incomplete, a digital method must be established which is not only reliable and maintains an overview of all values around the clock, but also stores documentation in a way that is accessible at all times.

## **Solution 2: Setting up and evaluating an extensive information base**

Digital documentation not only helps to fulfil external regulations, it also assists with internal issues. If processes, such as an analysis set-up, are optimized, they will prove to be an important decision-making tool. The data gathered is evaluated and appropriate measures are defined. Manual evaluation is prone to errors and therefore difficult to carry out successfully. Digitalisation also creates additional transparency here, too.

## **Solution 3: Evaluating potential declines in quality**

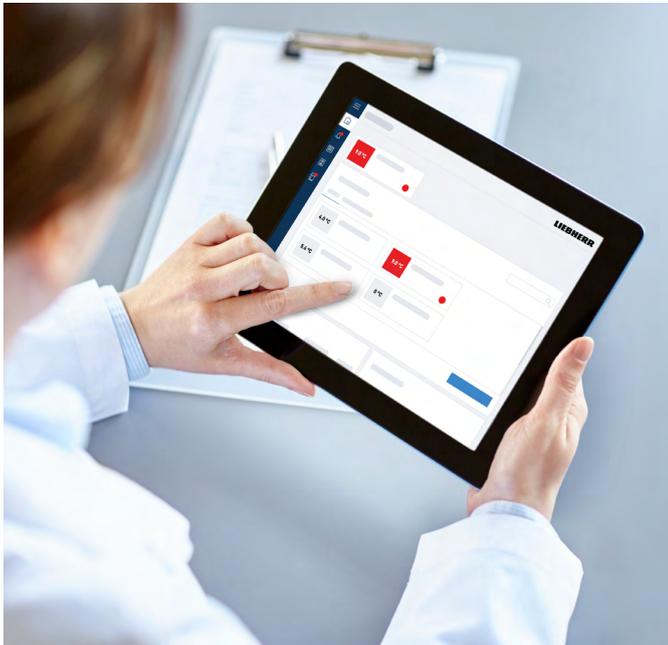
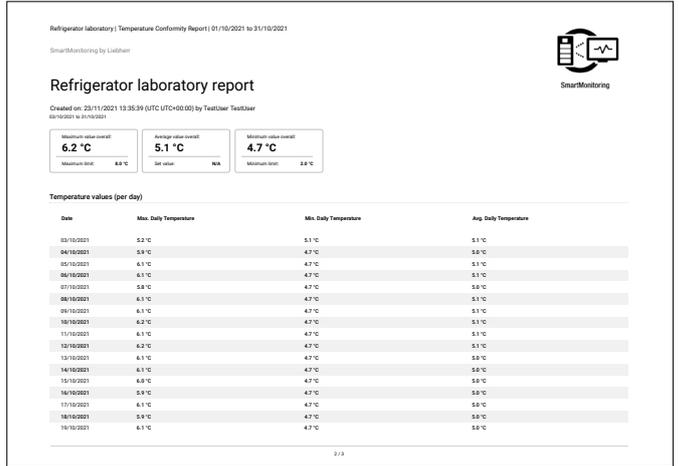
If an incident has occurred and the temperature has already risen or fallen too sharply, the alarm list helps to make a decision about which procedure to follow next. With each alarm, it documents the minimum and maximum values reached as well as the duration of the alarm. Have stored medications, vaccines or samples reached a critical value or can they still be used? The alarm list provides information on this.

### Services of a digital solution for the safe and efficient storage of sensitive substances:

- Complete documentation around the clock with no additional effort required
- All relevant data accessible at any time at a glance
- More transparency as the basis for process optimisations
- Alarm list for the data-driven evaluation of the damage that occurred during an alarm

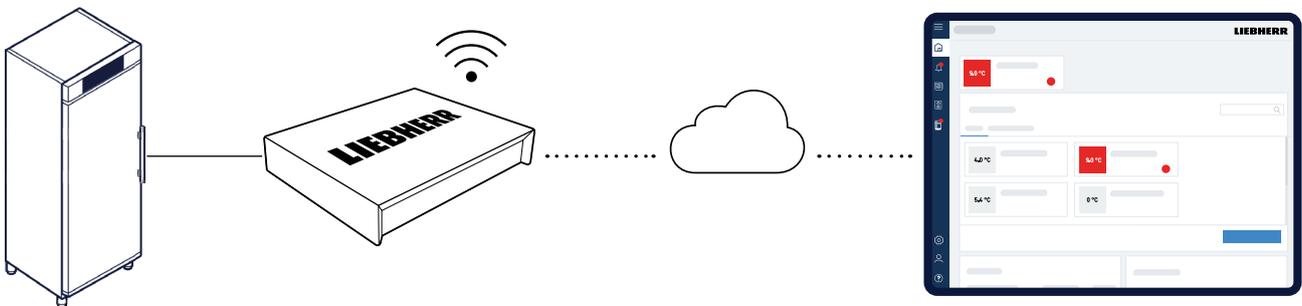
# Maximum reliability with SmartMonitoring.

Liebherr's SmartMonitoring is an ultra-modern system that brings increased reliability into every doctor's surgery. The digital monitoring solution provides staff with more time to concentrate on their most important tasks.



The fridges are networked with the organisation's internal network and the Liebherr dashboard via a SmartCoolingHub. The system automatically gathers operational data, alarm messages and appliance statuses, then saves and processes it. A clearly arranged, web-based dashboard displays messages and data reliably, enabling manual monitoring as well. Evaluations and reports are available at all times. Reliable alarm systems warn immediately by email and, if required, also by voice call and SMS. And best of all: Despite its extensive features, SmartMonitoring is intuitive and easy to use.

**So surgery staff can concentrate on what drives them on every day: the well-being of their patients.**



**Connectible fridge/freezer**

**SmartCoolingHub**  
Collection of data and communication with cloud services

**SmartMonitoring Cloud**  
Processing and visualisation of all data

**SmartMonitoring Dashboard**  
All your data at a glance

