

Trial by fire: coronavirus vaccination

T-Systems implements powerful vaccination management system for German Red Cross Saxony at short notice

Reference project:



“Without extensive digital support, it would have been impossible to realize a vaccination campaign with this complexity. T-Systems made the near impossible possible, under extremely challenging conditions.”

Rüdiger Unger, Chairman, Saxony State Association of the German Red Cross

The global coronavirus pandemic has posed a plethora of challenges to administrative entities since early 2020, to protect people's lives and soften the impact on the economy. The first vaccines were approved in late 2020, making it possible to establish a nationwide vaccination strategy to end the pandemic. In Germany, setting up the vaccination campaigns is the responsibility of the federal states.

In Saxony, the state government charged the Saxony branch of the German Red Cross (DRK) with building a vaccination infrastructure for the state and taking the lead in organizing mass vaccinations. Thirteen vaccination centers were set up for the state's four million or so residents. They were supplemented by mobile vaccination teams, who vaccinated residents of care homes, for example, and carried out temporary vaccination campaigns organized by municipalities.

The full vaccination process would have been difficult to handle through traditional media like the telephone. The nationwide medical hotline 116 117, for example, isn't designed to handle heavy loads – neither technically nor in terms of service agents to take the calls. Digital solutions were required to handle the entire process efficiently. They had to cover first contact with vaccine-

seekers, the registration and appointment booking processes, through to check-out, as well as report transparently on statewide vaccination progress. In detail, multiple contact channels had to be integrated in the process, as well as entitlement check, appointment allocation, coordination with available vaccination capacities (staff, premises, and vaccines), and check-in and check-out. This applied not only to the stationary vaccination centers, but also – to an extent – to the mobile vaccination teams. DRK Saxony needed a partner to set up a digital vaccination management system.

At a glance

- Mass coronavirus vaccinations in Saxony
- Extensive ICT support required at short notice
- Design seamless processes to coordinate everyone involved
- Very high-performance web portal
- Both the German Red Cross and T-Systems faced major challenges posed by the highly fluid situation
- High level of security and data protection standards
- More than one million vaccinations handled reliably in four months

Reference in detail

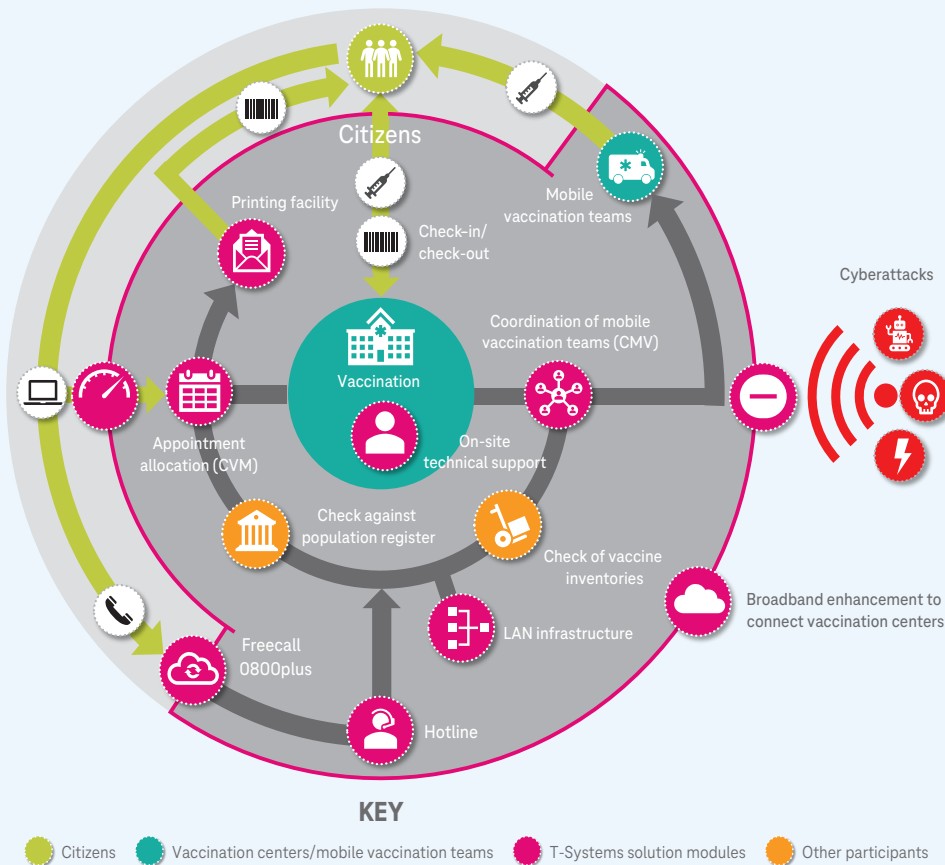
The challenge

DRK in Saxony had to set up the vaccination centers and mobile vaccination teams at very short notice – including the related support for the vaccination process. However, multiple factors made setting up the vaccination management system a very special challenge. The T-Systems team had just two weeks' time – over the New Year – to digitally map the highly complex interactions by January 11. This required involving a variety of bodies that were directly involved in the process: the DRK vaccination centers, the mobile vaccination teams, and the central vaccination management, including logistics. High-performance media had to be set up as entry points for vaccine-seekers: a call center and a web portal that could handle a large number of concurrent accesses, to give vaccination appointments to as many people as possible – and including precautions against a wide range of cyberattacks and fraud, such as automatic matching with the official population register. At the same time, rigid data protection requirements for the processing of personal and health-related data had to be fulfilled. And even when the vaccination management system had been set up by January 11, the task was far from over. Highly dynamic basic conditions – such as frequently changing political and medical decisions, bottlenecks in vaccine deliveries, new entitlement definitions, and vaccine intolerances – posed special challenges in a hyper-agile environment for both the German Red Cross in Saxony and T-Systems.

The solution

The centralized vaccination management was handled using Civento, a software solution that has been used to digitalize government agencies for many years. It serves as the basis for coronavirus vaccination management (CVM). CVM runs dynamically in a secure private cloud from T-Systems. Vaccine-seekers reach the CVM through a web portal or the state-wide hotline. Since the nationwide medical hotline 116 117 was not designed to handle the expected load, T-Systems provided an additional freecall number for Saxony through Deutsche Telekom. Vaccine-seekers who call one of the two numbers reach a dedicated call center with nearly 300 specially trained agents. They guide callers through the process and can send the necessary documents to the addressees by regular mail, with the help of an integrated printing service. The web portal also needed a few extras: the dynamic operation, with dynamic scaling, was also given a digital waiting room and a web application firewall. The firewall not only protects the site against cyberattacks, but also serves as a queue if the CVM's capacities are exhausted. SAP is used as the vaccine inventory management and planning system. The vaccine manager uses it to coordinate the logistics. In addition, linking the CVM with the planning system enables matching between the availability of the different vaccines, the vaccine patients, and appointments. The mobile vaccination teams are also connected to the inventory management through a ServiceNow-based solution for planning. An app connects the mobile teams to the system, enabling them to be coordinated flexibly in real time. The app can also be used offline. The frequently changing conditions and political decisions had to be implemented quickly in the vaccination management system. Traditional scrum methods, with fortnightly sprints, weren't enough to achieve the required level of agility. The T-Systems development team created their own procedure for hyper-agile working, to implement the ongoing short-term changes.





Customer benefit

Vaccination management in Saxony passed the trial by fire with flying colors. Despite extremely challenging framework conditions – such as highly dynamic system utilization and high pressure to implement changes at short notice – people could be guided through the vaccination process safely and compliantly at all times. The persons responsible had transparency over the status of vaccine stocks and vaccine-seekers at all times. The vaccine-seekers could rely on the assigned appointments 100 percent. As of now (press time: late April 2021), the vaccination management system has handled over a million vaccination processes reliably. T-Systems supported DRK Saxony with a wide variety of services as an end-to-end provider. “Vaccination management is an outstanding example of processes that take place primarily in the IT. And this also led to uncharted political territory to an extent: technical feasibility became an important factor in decision-making. After all, if the new requirements couldn’t be mapped in the technology, the vaccination process would grind to a halt,” explained Markus Naaf, Account Executive at T-Systems. Together, the project partners demonstrated the added value of digital solutions when it comes to managing the challenges facing the health-care sector, as well as the public sector in general.

Further advantages:

- System set up at very short notice
- Hyper-agile, continuous further development
- Excellent reactivity
- High user-friendliness
- Meets the highest data protection and privacy requirements
- Very high capacity
- Full scalability and transparency

Contact

T-Systems International GmbH
Hahnstraße 43d
60528 Frankfurt am Main, Germany
Email: referenzen@t-systems.com
Internet: www.t-systems.com

Published by

T-Systems International GmbH
Marketing
Hahnstraße 43d
60528 Frankfurt am Main
Germany