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Highly efficient and valued by workers

Cellere develops an intuitive app for building site reporting

SAP Gold Partner

The Cellere group is a family business, active throughout Switzerland and strongly rooted in the regions. Since its founding by Ludwig Cellere in 1909, the company has been building roads and substructures. We have since extended our range of services to include infrastructure construction and property refurbishment and modification, as well as niche services such as paving and equestrian facilities.

Tradition and values are high on the agenda of the Cellere family business. The roughly 600 employees work in an environment that encourages personal responsibility, professional and individual development as well as mutual respect.

> We know that our employees work best when they feel good about what they do and have a say in how they do it.

Digital transformation of construction sites

On large construction sites, state-of-the art construction equipment is used to move tons of earth and rock daily. This physical work is tracked digitally in Cellere's SAP® system. The data required for reporting and invoicing include employee working hours, machine hours, materials required, payloads hauled and delivery dates. Recording the data requires relatively little effort. But given its regularity it significantly affected productivity, not least because the activity required PC-based infrastructure. For this reason, Cellere Bau AG decided to radically simplify the path along which data travels from construction sites to SAP. With the PCs replaced by iPads, workers now use the intuitive construction site app to directly record their data in the SAP system while on the job.

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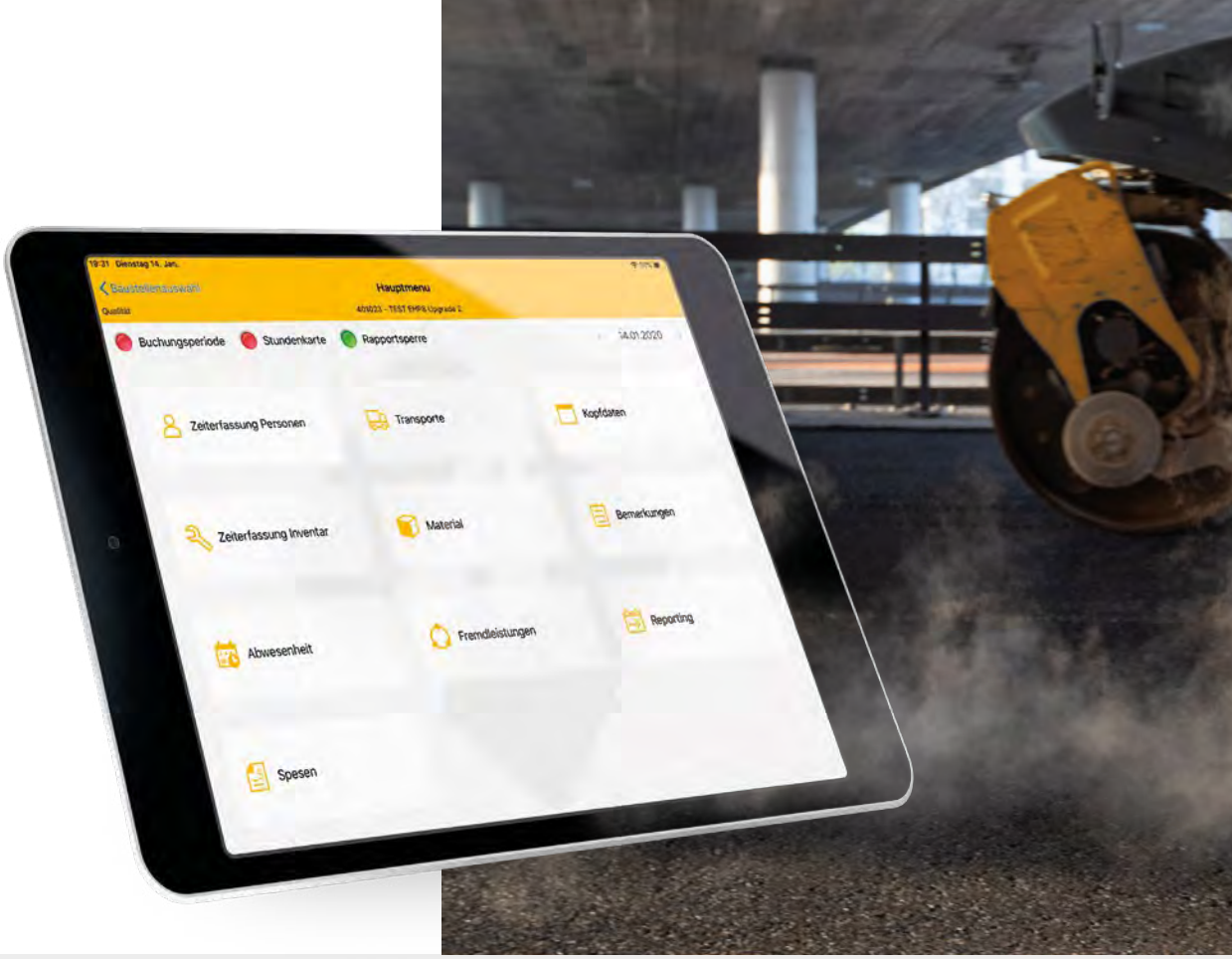

Challenges

Cellere uses an SAP-based construction industry solution to support its business processes.

Previously, data had been collected via an SAP GUI user interface on a laptop. Both the technical setup that was required to connect with the company network and the user interface were relatively complicated, resulting in high overhead despite low productivity, especially because of the need for support. The key factors here were the need to train workers and the time spent using the application: new employees needed more than 4 hours of instruction, and every time they wanted to use the app, it took 5 to 10 minutes before the setup was operational. As a result, some employees preferred to make notes on paper, which required later data entry and led to delays and errors.

What is more, after support expiry for Windows 7, upgrade costs would have been incurred without delivering added value. For this reason, Cellere decided to invest not in an upgrade but in developing a new user interface, in order to resolve existing deficiencies while gaining additional benefits.

Project goals

The project goal was to reduce IT costs and at the same time develop an intuitive user interface for the existing construction site solution. Employees without SAP knowledge were to be able to use the interface easily, in order to considerably reduce the cost of user training, support and handling of the solution.

Specifically, Cellere wanted to achieve the following:

- Reduce running IT costs through a ROI of project costs in less than 20 months
- Minimize unproductive waits when launching the application to less than 2 minutes by using a simplified, proprietary app running on mobile devices
- Reduce support and training expenses by at least 50% through enhanced UI design
- Migrate to a more productive technical platform as a basis for further innovation through digitalization

Solution

In cooperation with proaxia, a totally new app was developed to serve as SAP user interface. This app can be used to quickly and accurately record reporting and billing data, which is then stored directly to SAP from the construction site. Additional processing continues to be done in SAP independently from storing data.

The main concerns were to reduce complexity and to closely align the app with workflows at the construction site. With iPads as end devices, a modern technology was chosen that enables highly intuitive UI design and readily supports the digitalization of additional processes, including the use of measuring instruments via Bluetooth interface.

Initially, a draft design for the app was created by the internal IT team in collaboration with workers involved in operations, first on paper and then as a clickable PowerPoint prototype, which was then tested thoroughly and enhanced accordingly. Based on these insights, a technical design evolved that was tested against various criteria such as compliance and integration standards.

Major milestones

- Prototype design and approval
- Preparation of technical environment (including SAP connectivity via internet and setting up an MDM system to manage iPads)
- Implementation (minimum-scope sprint planning for pilot trials / gradual go-live of functions as implemented)
- Pilot testing with 3 users
- Centralized set-up of iPads
- Launch

The project was realized with full functionality in 3 months, on schedule and within budget. After the go-live, improvements in user guidance and minor change requests were implemented as part of two releases.

Today, 120 Cellere workers are using the app. Each has their own company iPad to enter data individually: tracking of working hours (performance and time management system), machine hours based on counters, materials used, purchased third-party services and services by consortium partners, transport data (e.g. an excavator transport time to the construction site) as well as absences and expenses.

proaxia's services

- Technical planning and design
- App development on site at the proaxia technology and support center
- Implementation and roll-out support

Success factors

- **Employee participation:** For half of the IT users company-wide, the app launch meant a change of work procedures. For this reason, some prospective users were involved from the very start in designing the prototype. The team asked themselves what a feasible solution had to look like if no laptop were required, and then in teamwork accordingly developed, tested and assessed various approaches.
- Agile development following the **SCRUM method**: the project team and key users were regularly asked for feedback to continuously improve application quality.
- **Communication** across all organizational levels was an integral part of the process from the very start
- **Management attention:** Cellere's CEO was a member of the steering committee from the beginning
- **Pilot testing** and **training** by recognized colleagues, also involved in later support after go-live (region-by-region roll-out)

Construction site app delivers convincing results

The tedious data connection process was replaced by an app that establishes a connection automatically and without any complication. A UI, neatly designed in accordance with Apple guidelines for iPad apps, replaces the complex all-in-one user interface. This reduces the overall time and effort needed for construction site reporting. Some of the KPIs agreed with management at project start were even outperformed.

Current measurements reveal:

- Training expenses have been reduced by 70% on average
- ROI effectively achieved in 12 months
- IT expenditures for users were reduced by roughly 50% through savings on licenses, end devices, support and training
- Administrative effort was considerably reduced
- The unproductive time (from activating the device to entering data) fell from an average of 5 minutes to 1 minute

Additional benefits from using iPads:

- Thanks to the multimedia functions offered by iPads (but not laptops), pictures are increasingly used to document any issues that arise, or completion of construction projects, thus enhancing documentation quality
- Connection to measuring devices (e.g. by Topcon or Leica) via Bluetooth interface
- Simplified interface facilitates digital communication via OneDrive, OneNote or email, reducing the number of construction site visits necessary to clarify issues on site

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Kai Blanke about the construction site app

Kai Blanke
Head of IT
Cellere Verwaltungs AG

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This idea sounds very innovative: iPads on construction sites. What were your reasons for taking this route?
Reporting using iPads is not entirely new in the construction industry. We constantly aim at improving our processes and saw potential here. However, we wanted to find a solution with clear added value that is tailored to our users' needs. Standard apps were no help, so we focused on proprietary development.

Directly linking with our workers on the construction sites via mobile connection considerably reduces the effort and cost of reporting. The transition also worked smoothly because we were able to design the app's user interface to be very simple and intuitive and because users were familiar with using such end devices from personal experience.

The construction site app has been in use for about 20 months now. Have your expectations in terms of efficiency been met?
Yes, definitely. The figures determined so far are even significantly better than the KPIs we aimed at. The app's ROI was only 12 months. We save about half of IT expense for users. Other advantages include the time saved through simplifying the process of connecting during daily reporting. And the intuitive user interface that can be used by everybody without practically any support or training: with 120 users, this amounts to several hours per working day.

For many workers, the new app means change. How did you prepare people for this?
We got representative employees involved in prototyping at a very early stage. The feedback from foremen in the design stage was presumably the most important input we got. Even as early as in the implementation phase, the first foremen changed over to the new app as part of trials. At the same time, we discussed the app with expected user groups to inform them about the transition. So everybody knew what to expect and some had an opportunity to test the app early on. This took care of most users' doubts.

The general launch consisted of two parts – a workshop and one or two hours' question time. It turned out that the workers managed to get along very quickly and easily with the app, that acceptance was very good and that even those who first had doubts were soon convinced.

Ever since we have received many positive reactions. There are certainly exceptions. After an initially expected 20%, in the end fewer than 10% of the users did not change over to the new app for operational reasons.

Why did you choose proaxia as a partner?
After having worked as a consultant for several years, I knew that besides technical knowledge key success factors included understanding the business, sharing values, and having a clear idea of how to proceed. We therefore engaged in a joint specification workshop that proved a great success for all those involved. From then on, we knew that we could rely on proaxia.

Based on their experience with SAP on the one side and the construction industry's technical requirements on the other, our colleagues from proaxia needed very little time to grasp the issues, while technical expertise was always directly available. Communication was excellent despite the distance (the developers were based in Poland), and using German was no problem. In this way, we could take full advantage of the SCRUM method and derive the greatest possible benefits from liaising practical users and developers.

The project with proaxia was always very constructive and efficient. From the beginning, we saw eye to eye, and we have shared a lot of trust while collaborating – which is still true even almost 2 years after go-live.

About proaxia consulting group ag

The proaxia consulting group ag is an international management consultancy firm headquartered in Switzerland and with branches in Europe, MENA, Asia, and the USA. As an SAP Gold partner, proaxia specializes in distribution, service and construction processes.

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