**In the digital fast lane**

Four smart tools making construction more economic

**More efficient. More productive. Working at ever-increasing speeds with no loss of precision. These are the challenges that construction companies face today. At the same time, planning and execution are becoming increasingly complex. To address these challenges, the construction industry is progressively integrating more digital solutions with the declared goal of implementing lean construction. The nucleus, where all the construction data is stored, is BIM (Building Information Modelling). New digital solutions designed to boost the industry’s profitability on the basis of BIM are gradually emerging on the market. These four smart tools developed by Doka in cooperation with its customers illustrate what this can look like in practice.**

As the 2019 bauma construction trade fair clearly showed, construction sites are becoming increasingly digital and more and more processes are being automated, from planning and execution to building management. The focus here is not on isolated solutions, but on a holistic network of integrated systems and applications that interact and effectively “communicate” with each other (Internet of Things, or IoT). This allows important but time-consuming and sometimes error-prone processes to be streamlined and simultaneously made more precise and transparent – including documentation.

The solutions must not only be practical, however, but user-friendly and customer-oriented as well. There is no way they will become established and generate real added value unless they are developed with the everyday working routines in mind, without requiring lengthy technical training. This is why Doka has worked with its customers to develop a wide range of digital solutions designed to tackle the construction industry’s most common “gripes” in planning and implementing a project and to help it work more economically.

**Contakt: Precise daily cycle planning, clear assignment of tasks and target-performance comparisons**

A cyclist’s performance is measured in watts. Soccer players are ranked on the basis of their passing accuracy scores and the number of kilometres they have run. This kind of performance monitoring and measurement has also been around for some time in the manufacturing industry, in the automotive sector, for example. Be it sports or industry, the principle is the same: sensors are used to collect data and analyse how performance might be improved. **Contakt**, a start-up subsidiary of Umdasch Group Ventures, has applied this principle to construction: live field data from the construction site, supplied by the foreman or supervisor on the one hand and formwork sensors on the other, is collected in the Contakt platform and ultimately also fed back into the BIM model as actual performance data. This documents the percentage of completion on the construction site (target-performance comparison) comprehensively and in real time, thus establishing a valuable database for analysing how productive the construction site was and how performance might be enhanced. In addition, Contakt facilitates clearly structured digital cycle planning and allows work steps to be flexibly adapted to real conditions and tasks to be assigned specifically to the person or persons responsible. This is what it looks like in practice: The cycles are planned on your desktop computer via Contakt, using the BIM model. The details are confirmed by the foreman or supervisor, who then receives information on the individual tasks and responsibilities on a smartphone, allowing them to check at any time how well the team is progressing or where they may have encountered difficulties. Potential areas for improvement can be quickly analysed on the basis of the measured data both during the construction phase and after completion.

**Mix & Match: Smart Pouring ensures that the ordered concrete goes in the right component**

As of 2020, a mobile application will also be available to handle and document the entire order and delivery process for in-situ concrete. The idea for this was born from talks with construction companies, which revealed two fundamental problems: ordering by telephone repeatedly leading to misunderstandings and mix-ups sometimes lead to concrete being poured into the wrong component – which is an enormous problem for safety reasons alone. So Doka has developed **Smart Pouring**, a supplier-independent app that foremen can use to enter the key data for the concrete they need (compressive strength, exposure class, delivery site, etc.) and order it straight away. The supplier receives the order, checks it and sends an order confirmation. The driver receives all the necessary information, including the designated unloading site, as soon as the delivery is due. When the driver arrives at the specified delivery point with the ordered concrete, the team is notified and is ready to accept the order. Further down the process chain, the customer can use a digital comparison system to check whether they were pouring all their concrete into the correct formwork.

By the way: If you’re working with Contakt, all you have to do is select the appropriate cycle. The system shows which and how much concrete is needed when and where on the basis of the data stored in the BIM model.

**Using Remote Instructor to spirit a virtual expert onto the construction site**

While some work steps and processes can be automated or digitalised to good effect, there is no substitute for the support of well-trained specialists on location. But what if a problem crops up, brings the construction site to a standstill, and no qualified personnel are at hand to solve the problem? Now, one possible solution is the **Remote Instructor**. This software sets up a video link to an expert and allows you to virtually spirit them to your construction site on any device, for example by sharing your screen or camera view. This saves time and money, as employees can consult (internal or external) specialists without them having to travel to the site. Problems can be solved, formwork plans discussed and product applications explained, regardless of location.

**Digital yard management with the (upgradeable) myDoka app**

Good construction site planning starts with your own building yard: What materials are available and in what condition? What is on which construction sites for how long, i.e. when will which materials be available again? Which materials are owned by the company, which have been rented (and when do they have to be returned)? Construction companies will be able to see and manage all of this via the upgraded **myDoka** services starting in spring 2020. The basic version (managing the formwork rented from Doka) has been available since 2012, and this web app has now been upgraded to include two versions: **myDoka+** can be used to manage both rental and company material, and **myDoka top** also offers KPI evaluation options for additional formwork optimisation (selection and capacity utilisation). The basic version myDoka is free; both upgrades are subject to a fee.

In addition to project, construction site and product management, the platform also offers numerous other features, such as automated links to the online shop or to classic services such as freightage, reconditioning and storage, which can be selected as modules.

All these applications have the goal of streamlining workflows, improving clarity and boosting execution quality. Doka has therefore set up its own Digital Services business unit, which develops and markets solutions for more cost-effective planning, procurement, management and execution: [**upbeat construction – digital services for higher productivity.**](https://www.doka.com/de/solutions/upbeat-construction) “Construction companies still spend a large part of their time on the construction site on activities that do not drive progress. Our digital services are designed to help our customers work more flexibly and efficiently, thus enhancing their competitiveness”, says Stefan Pruckmayr, Head of the Digital Services business unit. “Of course, each solution can be used individually. But things get really interesting when they interact by networking and linking the data. This is the real driving force for increasing performance around the construction site.”

**Photos:**

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| **Q:\Doka\Company\External Communication - Image\Press Releases (tbd)\In progress_2019\2019_10 upbeat construction (Digital Services)\Bilder\Word\Contakt.jpg** | Contakt: Collecting and evaluating data to help foremen and site supervisors keep track of performance data on the construction site, allowing cycle planning to be coordinated much more efficiently.  Photo: Contakt.jpg  Copyright: Doka |
| **Q:\Doka\Company\External Communication - Image\Press Releases (tbd)\In progress_2019\2019_10 upbeat construction (Digital Services)\Bilder\Word\Smart Pouring.jpg** | Smart Pouring: The entire in-situ concrete process being optimised by a mobile app.  Photo: Smart Pouring.jpg  Copyright: Doka |
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**About Doka:**

Doka is one of the world’s leading companies in the development, production and sales of formwork technology for all areas of construction. With more than 160 sales and logistics sites in over 70 countries, Doka has an efficient sales network at its disposal, and can thus guarantee the rapid and professional provision of materials and technical support. Doka is a member of the Umdasch Group and employs 7,000 people worldwide.

**About upbeat construction – digital services for higher productivity:**

Think of a song that motivates and inspires you, a tune that puts a smile on your face and a beat that makes you tap your foot. That is what it means to be upbeat. This is exactly how we want to push the construction industry forward and set the pace for more productive construction with all our digital services. We are always geared towards our users’ needs: our main aim is to support them in their work. This is how we get construction projects flowing smoothly and exploit new potential.

**About Umdasch Group Ventures:**

Umdasch Group Ventures GmbH is the future and innovation hub for construction processes and retail. As a member of the global Umdasch Group AG, which also includes Doka and Umdasch The Store Makers, it helps shape the future by responding to megatrends and innovative technologies and developing new strategic business areas. The Contakt GmbH digital construction site platform and the Neulandt GmbH portable precast plant are the first market-ready developments and are managed as separate companies under the Umdasch Group Ventures umbrella.

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