



# Digital assistant reduces machine downtimes

Service app makes it easier to diagnose faults and passes on expert knowledge

**Time is money! – This is particularly true when it comes to maintaining machines and systems in factory automation. Every minute that production is stopped costs money – often a lot of money. Maintenance technicians are measured by how quickly they can get a defective machine running again after a stoppage. The challenge: they usually have to deal with machines and systems of various ages and from various manufacturers. The new *Digital Service Assistant (DSA)* app reduces this complexity and offers quick help when servicing is required. The app allows a maintenance technician standardized, wireless access to the error memory of machines fitted with Rexroth control systems and enables them to contact local service specialists quickly. The app also helps to clearly identify spare parts and order them straight away.**

An everyday scenario for maintenance staff: a machine operator reports that a machine is not working. In practice, a maintenance worker is alerted and runs to the machine, looking for the cause of the fault on the operating display. Where was the error memory again? Then they find out that the problem is with a drive motor. Now the search begins. Where in the machine is this motor? It is then a case of unscrewing the machine cover, finding the motor and cleaning the name plate.

In case of doubt, it may be necessary to remove the motor. The maintenance worker can then return to their office and, with the help of the service hotline for the machine or motor manufacturer, identify the necessary spare part with all options. In many cases, how quickly the machine can be repaired depends on the experience and inventiveness of the individual maintenance worker and how quickly they find the correct information.

## **Digital access to all information**

This is where the Digital Service Assistant comes in. The idea: maintenance technicians using a standard mobile device have wireless access to all relevant error messages and service information for new and installed machines with Rexroth control systems, can contact local service specialists via telephone or Skype, can clearly identify components using a camera and can then order them straight away. As part of a growing digital service portfolio, the app which was developed for iOS and Android devices makes it easier to find and rectify the causes of faults and thus reduce downtimes.

If an error message is received, the maintenance technician logs on to the defective machine from any location via the production WLAN network and reads the error memory. The technician has access to the stored parameters and can see immediately where the problem lies. At the push of a button, they can download the documentation to their mobile device or send it to their e-mail account via a link. In the event of more complex problems, the maintenance technician can call the helpdesk of the control system and drive manufacturer. Geotagging is used to determine where the nearest service centers are and a suitable center can then be selected. If required, the diagnostic information and the unique device identification data can be passed on transparently to Rexroth. Thanks to this precise description of the error, help can be provided quickly because the specialists on the helpdesk can access all the necessary information straight away without

having to ask questions or carry out research. On this basis, they can help end users via telephone or Skype in their national language.

## **Clear identification of spare parts using serial numbers**

Identifying spare parts is a common problem for maintenance technicians. With special machines, tailor-made components which differ from the standard designs are often used. And when the components are produced by a number of different manufacturers, the name plate often does not provide the necessary information. To make matters worse, the software version of intelligent modules also plays a role. If the spare part has a different version, this can mean a great deal of extra work. Time-consuming research is often necessary when ordering spare parts or requesting repairs.

This is not the case with Rexroth: for each control and drive component produced, the manufacturer allocates a unique serial number for which a digital twin with all options is saved. Using the DSA, the maintenance technician either brings up the electronic name plate from the control system or scans the QR code or serial number on the component. This information is then sent to the customer portal. Here, Rexroth identifies each component with all options and software versions and the user can order the relevant spare part electronically or request a repair without further questions. This saves a significant amount of time in practice.

## **Installed in two steps**

Users can download the app in the 1st quarter of 2019 free of charge from the relevant app stores and install it on their smart device. Many services can be used straight away even without registering. The service app is also suitable for previously installed machines with Rexroth control systems. Installation requires little work and involves two steps: the

control systems must be online via WLAN so that the app can access them. In a second step, the data which may be read out are defined in the machine's PLC: log book, error memory, operating hours counter and the serial numbers of individual components. As a result, the app is suitable for universal use.

End users always attach particular importance to data security, i.e. security during production. Protecting machines against unauthorized access and manipulation is a matter of top priority. Accordingly, the DSA establishes the connection to the control systems using the internal company WLAN in accordance with [IEEE 802.11i](#). This network is encrypted using the WPA2 key. The app can therefore only read out data that were defined individually beforehand. As a further built-in security feature, it has no write rights for the control system.

## **Registration optimizes services on offer**

The DSA is another building block in Rexroth's rapidly growing range of digital services. End customers can also register their machines on the customer portal on a one-off basis. As a result of this, the machine data are stored so that service issues can be dealt with quickly and easily by the helpdesk. At the same time, end users themselves can gain an overview of all components used. They receive information regarding relevant service issues such as updates or what they can do to ensure the serviceability of their control systems and drives.

Registration helps Rexroth to optimize its service both regionally and on a customer-specific basis. On the basis of the information regarding the type and number of installed components, the company can put in place suitable service capacities and keep a stock of spare parts.

## **Part of the OEM service solution**

The *Digital Service Assistant* was specially developed to allow

OEMs to integrate it into their digital service concepts. As a modular building block, it fits into manufacturer-specific service tools. Here, OEMs can provide all functions and for example link their own contact data to the geotagging system. If required, Rexroth can remain in the background for the end user and will only update the data stocks and the software.

Modern digital service offerings such as the DSA open up access to all necessary information in order to diagnose and rectify faults quicker than before. They help maintenance staff to find the right solutions more quickly and reduce machine downtimes. They are a further building block for the digital transformation towards the factory of the future.