digitalZ
Digital Services
+ virtualZ
+ cloudZ
+ controlZ
+ visualZ
+ supportZ
The concept of digitalization is on the rise in all areas of life. There is an enormous number of applications for mobile phones, cars are becoming drivable computers, refrigerators inform our mobile phones when stocks are running low, and a world without online shopping is unimaginable. However, digitalization does not just affect end customers. It affects industry as well.

Processes are becoming faster, more secure, more effective and more independent. The increasing individualization of society and the rise in flexibility of markets around the world require solutions that are tailor-made for the customer. These solutions pose new challenges to production processes. The manufacturing of the future is flexible, highly efficient and communicative. Processes adapt to new products and production workflows quickly and without complications.

To that end, machines, components, systems and services are networked with each other. They communicate and respond within a stand-alone system: the Smart Factory.
Zimmer Group foresaw this radical change early on and worked consistently to advance the development of a mechatronic component platform. In 2013, the mechatronic component portfolio was introduced and became sensationally popular. Since that point in time, Zimmer Group has continued to write its success story one chapter at a time. A proprietary control platform called the “Advanced Control Module” was developed and this mechatronic platform has been supplemented by “Digital Services.”

The future of machine and systems engineering

Our future will be defined by self-learning machines, production lines that rearrange themselves and components that communicate. Digitalization is both a challenge and an opportunity at the same time. The challenge of digitalization lies in the possibility of having virtually unlimited differentiation of machines and systems – and in the fact that this major disruptive change will happen very rapidly. Digitalization is already providing companies with opportunities for success, both now and in the future. Digitalization promises low costs, high production quality, flexibility and efficiency, and shorter response times in terms of customer needs and market requirements. Zimmer Group already offers a broad portfolio of hardware and software components for digital enterprises, irrespective of industry or company size. The digitalization of the manufacturing industry is a global phenomenon. The time frames for launching products are becoming shorter all the time. Customers are requesting products that are specifically tailored to their needs. Market conditions are rapidly changing and require a higher degree of flexibility as well as the efficient use of resources and energy. And, of course, all of this at the same level of quality or better. The digital enterprise makes it possible to have shorter response times to customers’ needs and market requirements. At the same time, this opens up new and innovative business areas and value chains. With components from Zimmer Group, you have the advantages of digitalization on your side.
digitalZ
DIGITAL SERVICES

Digital Services for your success

The digitalZ software components feature an additional functional scope, expanding the primary functions of mechatronic components and systems from Zimmer Group. They are geared toward various phases in your system’s product lifecycle. From project engineering and development to operation and even service calls, these components support the function of your system, making it more ergonomic, flexible, productive and reliable. The completeness and superior functional scope of its products show you why Zimmer Group has earned its position as the undisputed market leader, including in digital networking.

controlZ
DIGITAL SERVICES

controlZ – Software components for your robots and control systems

In the past, Zimmer Group has offered software function blocks and integrated solutions for some robot manufacturers to accompany its mechatronic products. These products are now being definitively expanded and combined to form controlZ: Regardless of the specific make of the robot being used, the robot application – including the end-of-arm tools – can be created and put into operation using neutral programming tools such as Drag&Bot. Zimmer Group offers support here as well by providing the corresponding software integrations for its intelligent automation components. The advantage of such a solution is that the programming method is not platform-specific. The same development environment and the same tried-and-tested interfaces are always used for the components, ensuring a neutral software for controlling robots and systems. Furthermore, Zimmer Group also offers function blocks for common PLC manufacturers under the name controlZ. These function blocks simplify both the connection of our mechatronic components and the provision of data via OPC-UA.

guideZ – Software for integrating and programming components with ease
virtualZ
DIGITAL SERVICES

Faster projects thanks to the digital twin

The digital twin virtualZ is revolutionizing processes along the entire value chain. It makes it possible to link the individual process steps seamlessly by giving you a virtual image of the product, production or performance. This increases efficiency across the board, minimizes the defect rate, shortens development cycles and even opens up new business models. virtualZ offers complete real-time simulation possibilities in the form of software-in-the-loop or hardware-in-the-loop. Over the last year, virtualZ has enabled numerous customers from our areas of systems technology and machine tooling technology to precisely plan out and estimate costs in a very short amount of time, from constructive integration to project implementation. virtualZ makes work smooth even when time windows are narrow, since any and all project phases can be repeatedly realistically simulated and optimized in advance. The application possibilities do not end at commissioning. Rather, the "virtual twin" can manufacture in parallel or with a time offset relative to the physical machine/system in virtual

Digital twin of the component

![Digital twin of the component](image)
space, all while offering functions that could not be imagined just a few years ago. The virtual machine can anticipate optimizations and validate them by running tests in the virtual world. It can confirm wear and provide information about the causes through comparison data. Using reliable data, it can demonstrate upgrades under real-world conditions, laying the foundation for assessing retrofitting plans realistically. virtualZ is a combination of Zimmer Group’s activities in collaboration with multiple software platforms. The variety of software platforms open the door for maximum interface flexibility when selecting a simulation environment and when further processing data. Collision detection, cycle time considerations, connection to the PLC and virtual tests, from components to complex systems, are all currently available, both for initial commissioning as well as for the expansion of machines and systems.
visualZ
DIGITAL SERVICES

Visualization for components

By providing “visualZ”, Zimmer Group is offering a proprietary specialized, convenient and user-friendly HMI user interface for mechatronic components and systems in order to simplify the process of installing components, for example in the robot control system or in more complex systems. With its fast and intuitively operated interface, the HMI gives users the maximum level of flexibility when creating, storing and restoring device parameters and also provides assistance during diagnostics and preventive maintenance. The HMI provides the user with security (0% error rate during operation) and the greatest possible variability in creating and managing application-specific profiles. In the area of machine tooling technology, Zimmer Group provides a computer-based HMI with an extremely broad functional range. While in the field of systems technology, the HMI is based on HTML5 and can be used on any Internet-capable end device.

User interfaces with clear organization and a graphic display of the individual function areas of the system. Direct access to the event log and order management improve convenience and efficiency while reducing operator errors and increasing workplace safety.

All units and stations installed in the systems can be configured and operated by means of the HMI. Various user roles also enable service access to the system.
In 2018, Zimmer Group presented cloudZ, a full-service solution in the area of cloud computing. It is based on a standard IO-Link component combined with an included OPC UA server that runs as a utility program on a PLC, thereby enabling the connection of all Zimmer Group IO-Link products to cloudZ. Multiple leading cloud providers make it possible to have vertical communication from the component to the cloud and from the cloud to the component.

The advantages of a connection to cloudZ are as versatile as they are self-evident. These advantages start with the convenient and clear read-out of product IDs and serial numbers. Also advantageous are the visualization of status and process parameters from a central control point and the optimization of the component in the individual application. The spectrum ranges from providing status and process data for evaluation to creating statistics, no matter whether it’s “on site” or thousands of miles away. The advantages for the user go far beyond the classic Digital Services. The user receives very intuitive support during the flexible integration of components into the application and in straightforward optimization thanks to dedicated user guidance and specific suggestions for optimization. The cloudZ user interface has been developed for fast, secure and convenient operation and is compatible with any Internet-capable computer, tablet or smartphone and the common browsers.
THE KNOW-HOW FACTORY. WORLDWIDE.

supportZ
DIGITAL SERVICES

ZIMMER GROUP SERVICE – PROFESSIONAL, RELIABLE AND EFFECTIVE. YOU CAN COUNT ON OUR SUPPORT WORLDWIDE! FROM COMMISSIONING, MAINTENANCE AND REPAIR TO UPGRADES, WE ACCOMPANY THE LIFE CYCLE OF YOUR SYSTEM COMPETENTLY AND RELIABLY.

In the future of the IoT, the quantity of networked machines, systems and robots will increase dramatically. Accordingly, the amount of communication will grow significantly. New business models will emerge, traditional markets will be divided up differently and global competition will be fiercer than ever before. By providing supportZ, Zimmer Group offers functionalities that go far beyond online product support and a hotline. Connective networking has a wide variety of advantages throughout the lifecycle of the product. Not only does supportZ provide you with support in the implementation and commissioning of components and systems, supportZ also makes it possible for you to integrate the maintenance and support of your systems into completely new business models and workflows with your customer. And all that not just locally – but globally. Thanks to supportZ, the ideas of condition monitoring and predictive maintenance will become a part of your business model – and a part of your success story.
SMART COMMUNICATION MODULE
TICKET TO DIGITALIZATION

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**End-of-arm – quite smart!**

As an industry pioneer in the area of digitalization, Zimmer Group continues to press ahead with the expansion of its product strategy. In cooperation with a machine manufacturer, Zimmer Group had already introduced its virtualZ simulation solution, featuring the complete possibilities of real-time simulation, at the Motek trade fair in 2017. In the fall of 2018, the company offered its customers integrated solutions that could connect to its software platform. And now, Zimmer Group will again be presenting two more digital components at Motek: It begins with the Smart Communication Module, abbreviated as SCM.

The SCM is a master gateway that is suitable for all IO-Link components. Featuring two channels, the SCM can control two devices and, on a functional level, offers the direct implementation of the digital bus protocol to IO-Link and vice versa. The module thus makes it possible to integrate IO-Link components into a digital infrastructure and utilize almost the entire extended functional range of IO-Link components. The SCM is available in two versions: as a bus terminal for DIN rail mounting in the control cabinet with standard grid width 1 and as an adapter for direct installation on the end-of-arm tool. The DIN rail mounting version has IP20 protection, while the model for the end-of-arm installation is IP54 rated.

As a second innovation, Zimmer Group will be presenting the guideZ software tool at Motek. guideZ is a software tool for commissioning components quickly and extremely easily. It enables user-guided implementation and commissioning for truly anyone. In this process, users can switch between wizard or beginner mode and expert mode. The parameter data of this 7-step commissioning process can be quickly and easily adapted to any PLC control system or even small control systems – this is usability by THE KNOW-HOW FACTORY!
ZIMMER GROUP — THE KNOW-HOW FACTORY

OUR KNOW-HOW FACTORY WORKS WITH ALL INDUSTRIES AND DELIVERS EVERYTHING FROM A SINGLE SOURCE. OUR PRODUCT RANGE IS FAR REACHING, BOTH IN ITS DEPTH AND ITS BREADTH.

DO YOU HAVE A DEVELOPMENT PROBLEM? WE’LL SOLVE IT! SET US A CHALLENGE IN RESEARCH AND DEVELOPMENT. COUNTLESS INNOVATIONS ORIGINATE FROM OUR COMPANY. WE ARE ENthusiastic ABOUT NEW PRODUCTS AND PRIDE OURSELVES ON OUR CORPORATE PIONEERING SPIRIT.

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