MEDIPAK SYSTEMS
KÖRBER SOLUTIONS

Data Sheet

Pharma 4.0

Products and services for intelligent networking of the value-creation chain

The current situation

The Medipak Systems companies are working in their respective core areas and increasingly with each other to find answers to the question of how the pharma industry can generate sustainable competitive advantages with the aid of Industrie 4.0. To this end, Dividella, Fargo Automation, Mediseal, Seidenader, Rondo and Werum IT Solutions are combining their process knowledge and machinery know-how using the very latest information and communications technologies.

Approaches to finding solutions

Smart Packaging – Consumer & Production

Smart packaging takes product personalization and product security to a new level. It concerns both communication of the pack with the patient and communication with the machines in the production process. In addition to the actual

product, consumers have the possibility of requesting additional services via the packaging. Within production, the pack communicates with the packaging machine and, for example, controls settings for individual, personalized products. At the same time, smart packaging increases the safety of products by incorporating tamper evidence or traceability or by recording harmful fluctuations in temperature or impacts affecting the product.

Plug & Produce
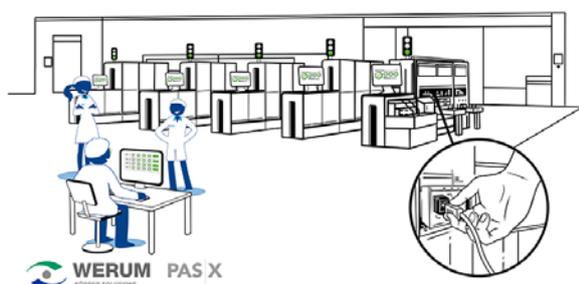
Vertical integration, i.e. the creation of a standardized interface between machines in production and the production control system, is a fundamental prerequisite for implementing numerous industrie 4.0 solutions. Our vision is called Plug & Produce. Like connecting an electronic device via a USB interface, it should be possible in the future to link a line, a system or a machine such as a packaging machine to the network, simply and straightforwardly. The advantage for the customer: costs and complexity in pharma production are reduced.

Smart Device

Control devices are a key window into the machine or system. A smart mobile device enables machine operators or production managers to operate and monitor the machine or system, even remotely. Because Industrie 4.0 does not mean that intelligent production components take over everything. Interaction with systems will change, because the tasks of operators are changing. The emphasis is no longer on the production facility and production monitoring of a

fixed machine, for a defined product, in a fixed location. Planning, co-ordination and communication, often for several production units at the same time, are occupying center stage. By means of the mobile, "extended" HMI, the machine operator gains significant freedom of movement can perform tasks more efficiently, resulting in higher quality. Our solution, which is based on HTLM 5, is compatible with all systems and enables customers to use the mobile terminal of their choice.

Condition Monitoring & Predictive Analytics

Moving from reactive maintenance to predictive maintenance demands that one is able not only to collect data in real time but also to interpret it meaningfully. The status of machines is recorded using sensor technology and automatically checked against templates which indicate a possible fault. To this end we apply concepts such as data mining, data modelling or machine learning. The benefit: critical incidents are detected long before they occur and appropriate measures can be taken. Machine availability and OEE are significantly improved.

<u>interpack exhibits</u>

At interpack 2017 **Rondo** is introducing new possibilities for using smart packaging, using an app. This app reads reference points on the pack which are invisible to the naked eye and generates an **Augmented Reality** on the smartphone. Manufacturers of pharmaceutical products will be inspired by the new opportunities in terms of **product information** (e.g. administration instructions) and **customer loyalty** which will be possible in the future.

Rondo is continuing to opt for the application of **NFC technology**. An NFC chip integrated in the pack is used to demonstrate four possible applications. **(1)** In the context of **clinical studies**, data specific to an individual patient can be written to the chip. Via an app which the physician and patient download onto their mobile phone, both can communicate and exchange data during the study. **(2)**In addition, the chip can also be used to remind the patient to **take their medicines**, to increase compliance. The patient scans the pack of medicine once with the Rondo app. **(3)** The patient can be provided with **additional information**. For example, the enclosed leaflet can be read from the app. **(4**) Furthermore**,** the NFC chip can be used to verify whether the identification number stored on it exists only once. For this purpose the data can be compared using the app. This means that the chip can be used as a **safety check** in the same way as a serial number.

Dividella will be presenting several **Pharma 4.0 solutions** on the NeoTOP x TopLoad syringe packaging machine. At interpack, the NeoTOP x will be controlled and monitored remotely via a **Smart Device**. With the aid of the device, multiple production units can be scheduled, co-ordinated and controlled in parallel. The solution, which is based on HTLM 5, is compatible with all systems and enables customers to use the mobile terminal of their choice.

Dividella is also presenting a **prototype for Condition Monitoring & Predictive Analytics**. On the basis of status data captured in real time, the current status of the NeoTOP x is monitored. Using algorithms, the data is transformed into forecasts for the ongoing evolution of the machine's status. Critical changes within the system are detected promptly and a corrective intervention is scheduled before the discrepancy leads to faults or failures.

Under the **Service 4.0** banner, **Dividella** is also presenting its new **webshop** for rapid and easy ordering of spare parts and for enhanced customer information.

At interpack, **Werum IT Solutions** is presenting its **vision for a new industry standard: Plug & Produce**. Together with Dividella, Mediseal and Seidenader, the company is working on a solution for structured data exchange between the production control software (Level 3) and the equipment in a pharmaceutical factory (Level 2). Like connecting an electronic device via a USB interface, it should be possible in the future to link a line, system or a machine such as a packaging machine to the network, simply and straightforwardly. Werum's MES "PAS-X" software, as the production control system, then detects the precise type of machine, calls up all relevant information from the equipment and uses it, for example, for master batch records (MBR) and electronic batch records (EBR).

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Picture material

Dividella NeoTOP x – highly flexible TopLoad packaging machine for processing small to medium lot sizes, equipped with a collaborative robot for the greatest possible filling flexibility.


The Rondo app reads reference points on the pack which are invisible to the naked eye and generates an Augmented Reality on the smartphone.

Rondo uses NFC chips integrated in the pack to improve patient communication.

The NFC chip is incorporated when the packaging is manufactured and transmits its information by radio as soon as a terminal which can read it is within range.
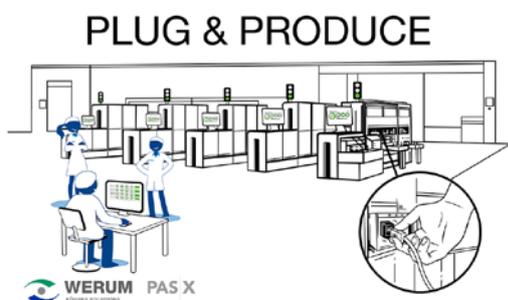
Werum's new Plug & Produce solution allows a fast and easy integration of machines and automation systems into a pharmaceutical production environment.

These images and texts can be downloaded at:

http://www.interpack.medipak-systems.com/en/press-center

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