EHRHARDT+PARTNER

Recognizing chances. Taking changes.

Logistics 4.0 – smart, connected, digital

Industry 4.0, the Internet of Things and Big Data: Especially in logistics, these topics are more than just megatrends. Along the entire value added chain, companies connect their installations and systems. From the supplier across the logistics service provider up to the transport company – all processes of the supply chain are interlinked and constantly monitored. This generates data: According to recent calculations, the worldwide data volume will increase to 44 billion gigabytes by 2020. This is ten times as much as today. This makes data the most important currency of the industry. Only if companies make economic use of these data, for instance for optimizing their processes, they can achieve long-term success on the market. Internationally, smart logistics solutions are already accepted and frequently used. Companies missing this trend, will sooner or later be outdone by their competitors.

The requirements to logisticians in all domains and all over the world increase every day. “If companies fail to provide their products at the right time, in the right quantity and at the right price in these times of growing online business, they can no longer satisfy their customers’ complex requirements. The industry is facing increasing pressure for optimization”, says Jens Heinrich, Chief Technology Officer at Ehrhardt + Partner (E+P), one of the internationally leading logistics experts. He has been involved in IT logistics for many years. “Many companies have not yet recognized that Industry 4.0, the Internet of Things and Big Data are more than just marketing buzzwords”, he explains. “Intelligent solutions are the basis for the logistics of the future”.

Requirements to logistics keep increasing

These developments are due to increasing customer requirements and the strong competition between the companies on the international market. In times of digital orders, logistic processes are becoming faster: Products have to be delivered reliably and punctually. Customers often expect just-in-time and express deliveries; the motto is “faster, higher, further”. The logistics companies are trying to outdo each other. Faster, more flexible, more punctual – that is Logistics 4.0. All processes along the value added chain are connected. The interaction with the customer results in a new, transparent type of logistics in which the customer can view the shipment status at any time and, if required, intervene in the process chain, even after having placed the order. Controlling all this requires a system that can connect all the logistic processes of a company. “This requires a Supply Chain Execution System (SES)”, Heinrich explains. “SES can be compared to ERP systems for merchandise management. They provide the required transparency in logistics and use the collected data to optimize the entire value added chain.”

Big Data in logistics

Under the pressure of increasing requirements, companies are connecting their logistics processes, creating an enormous amount of data. The consequence: Every two years, the data volume of the digital world doubles. IT has become a supporting pillar of logistics. Machines, trucks and all the electronic aids of the supply chain are connected in the Internet of Things. Companies produce 85 % of the data volume, with a high share of this volume being generated in logistics. Every movement in logistics creates data that must be used efficiently. Here, many companies count on SES to administer their data and optimize their processes.

Recognizing and using potentials

Given the amount of data produced in logistics, predictive analytics will play a central role in the future. With this method, history data are used to make predictions for decision-makers. Here, only reliable analyses are suitable for optimizing processes. With the help of appropriate tools, history data, for example from warehouse occupancy, can be evaluated to improve the use of space and reduce

the picking efforts. This also helps to reliably predict the quantity assignment and personnel request. The prerequisite for such an analysis is bundling relevant information. “Without an integrated system, it is easy to lose the overview and significant optimization potential”, Heinrich says. Incorporating experience into processes requires smart solutions, as he reports: “Predictive analytics should be a part of the SES. This way, the system can work with the history data to optimize the processes.”

Smart solutions for a smart future

Future-proof solutions are, for instance, systems that can be used flexibly and on a mobile basis. Smart devices currently available at the market, like smartphones and tables, also offer many fields of application in logistics – with the right software package, they are optimally suited for being used inside and outside the warehouse. “The SES providers must prepare for the future of logistics”, Jens Heinrich says. “Software for mobile devices is a basic requirement of Logistics 4.0. Smart and mobile devices play a decisive role”, Heinrich knows. “Currently, these devices are often perceived as gadgets. But this technology might be the industry standard of tomorrow. Some companies have already started pilot projects with smart glasses and watches. These are the companies that will also be one step ahead in the future”. Especially in the development of consumer hardware for the industry and logistics, there are many advantages. This technology creates new solutions and opportunities in many logistics applications. It is essential to find the most efficient approach and use it for your own processes. One example for this are apps like the E+P Truck Driver App, which supports truck drivers in processing their tours. The drivers can view the order data, the optimum route and the order progress on their mobile device at any time. The application runs on Android and iOS and can thus be used on all common smartphones. This allows companies to save hardware acquisition costs and time: Important information or changes can be easily sent to the driver’s smartphone. But these systems can also be used in the warehouse, where augmented reality solutions are becoming more and more important. Visual support and displaying products and images can drastically reduce the error rate. All these factors can, on the long term, secure a company’s investment security.

Mastering challenges – Taking chances

Integrating and connecting the different logistics areas is both a challenge and a chance. Only the companies counting on specialists with the required know-how and experience will be able to hold their ground against their competitors. “Companies should not be afraid of these trends. Instead, they should recognize the potential for a smart logistics world and use it. Experts can support them in doing that”, Jens Heinrich says.

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Ehrhardt + Partner

Ehrhardt + Partner is one of the internationally leading experts for warehouse logistics. The Supply Chain Execution System (SES) LFS is currently successfully in use on five continents. Founded in 1987, E+P has developed into an international group of companies with more than 450 employees at 15 locations. The logistics solutions from the E+P Group include the LFS warehouse management system, the material flow computer LFS.mfc, the transportation management solution LFS.tms, the PickManager LFS.pm for efficient, voice controlled commissioning and radio frequency solutions, warehouse planning and consulting, hosting and cloud services, customer-specific customized solutions and warehouse seminars. Well-founded warehouse consultation, comprehensive expert know-how in warehouse logistics, professional project management, short project durations, on-schedule commissioning and reliable support round out the service portfolio. Currently, more than 2500 customers and more than 800 successfully established warehouse locations across all industries are on the group's list of references.

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