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Transparent, intelligent, forward-looking

With Algorithms against Shortages of Skilled Workers

- Artificial intelligence makes supply chains controllable and transparent
- Autonomous driving remains limited to maintenance and storage facilities in the medium term
- Top topic of transport logistic in Munich, June 4 to 7, 2019

The digitalization of supply chains and internal processes, artificial intelligence (AI) as well as autonomous driving and planning material requirements are among the trend topics that the logistics industry must face. Solutions can also be found there in the fight against the increasing shortage of skilled workers, especially truck drivers and MRP controllers.

There are approx. 100 billion neurons that are interconnected in our human brain. The transmission of information between the neurons takes place via electrical pulses. As a result, people are able to learn, conclude and think abstractly. In artificial intelligence, the neurons are replaced by artificial neurons and trained with the aid of algorithms. ""Technology has the potential to change many logistics jobs significantly using artificial intelligence," Stefan Rummel, Managing Director of Messe München, stated.

Human intelligence is not simulated, but "training data are harmonized, aggregated and fed into a framework for machine learning," Sara Van Gelder explained, who is responsible for the development of freight business at Brussels Airport. On the basis of the training data, pattern recognition is learned with the aid of machine learning. This saves companies the manual creation of a model and the associated effort such as defining rules, checks and interpretations. The quality of the training data is crucial for success.

AI results in automated, highly flexible logistics

AI provides far more than just pure optimization of existing operations for the logistics industry. Supply chains become more controllable and transparent thanks to AI. "AI enables predictive action such as capacity management, route planning, network planning and risk management," Ms. Van Gelder explained. In addition, "offers can be tailored more precisely to the needs of the customer, while logistics becomes an integral part of automated and highly flexible industrial production and trade," Tim Schneider emphasized, who is responsible

for processes, standards and digitalization at the German Federal Association of Freight Forwarding and Logistics Services (DSLV). "It is important to share data and to understand it as a valuable source of information," Mr. Schneider continued. The provision of information in real time plays a decisive role.

Algorithms learn the behavior of MRP controllers
Concrete AI applications for logistics can be found in the airfreight industry. "Algorithms are developed there that can learn and optimize the stacking of freight pallets," Ms. Van Gelder explained. However, there are also examples in the field of transport management systems: Solutions such as Opheo from initions AG have artificial planning intelligence that enables predictions of possible transport delays in the future. Another example is provided by the software and consulting firm Soloplan. Their CarLo transport management system has now been equipped with a powerful algorithm that can "learn" the behavior of MRP controllers. Based on this, the solution creates a model with which future tours are planned independently, taking into account the rules learned.
Machine learning makes transport planning faster, less error-prone and more effective. Another plus point is that knowledge is no longer lost in the event of a change of employee. A new MRP controller is also able to schedule the tours in the same way as a long-time employee, because the material planning software has learned the behavior based on the training data and consequently can provide valuable support.

Truck drivers remain an integral part of the supply chains
Another application area of AI is autonomous driving. Manufacturers are currently working intensively on assistance and control systems to bring autonomous vehicles to series production in the coming years. Assistance systems will control the vehicles on highways in the medium term, and many other functions will simplify work behind the steering wheel in the long term. "However, truck drivers will remain an integral part of the supply chains in the long term," Wolfgang Inninger said, Head of the Transport, Mobility and Environment Project Center at the Fraunhofer Institute for Material Flow and Logistics IML. "Autonomous trucks in maintenance and storage facilities offer a high potential for savings." If it were possible to use the time spent on factory premises as breaks or rest periods for truck drivers, the effective driving time of the truck driver could be optimized.

This view is also underlined by a study by the research association Automobiltechnik FAT in the Association of the Automotive Industry VDA. It sees further economic potential, for example, if a driver can take over another, already loaded vehicle immediately upon arrival and immediately set off on the return

journey. But there are still some organizational challenges to be solved for this scenario as well.

AI in the conference program of transport logistic:

"Artificial Intelligence. Logistics Becomes Smarter and More Autonomous"
    June 4 at 10:00

"Artificial Intelligence in Transport Logistics"
    June 4 at 13:30

"Artificial Intelligence: Next Level Air Cargo?"
    June 5 at 10:00

"AI enables predictive action such as capacity management, route planning, network planning and risk management," Sara Van Gelder, Cargo Development Manager, Brussels Airport Company.

"It is important to share data and to understand it as a valuable source of information." Tim Schneider, Head of Processes, Standards, Digitalization, DSLV Bundesverband Spedition und Logistk e.V.

"Truck drivers will remain an integral part of the supply chains in the long term." Wolfgang Inninger, Head of the Transport, Mobility and Environment Project Center, Fraunhofer Institute for Material Flow and Logistics IML.

Additional information is available at www.transportlogistic.de.

transport logistic
transport logistic is the International Exhibition for Logistics, Mobility, IT and Supply Chain Management and the world's biggest trade fair for freight transport by road, rail, water and in the air, in all its complexity. air cargo Europe, an exhibition of the global air freight industry, is integral to transport logistic. In 2017 more than 60.726 visitors from 123 countries and 2.162 exhibitors from 62 countries attended the event. transport logistic is held every two years in Munich. The next event will take place from June 4 to 7, 2019.

Innovation Journey 'Future of Mobility and Logistics'
Messe München's exclusive platform to share knowledge and experience at the world's leading trade fair transport logistic. One day to inspire and network with innovators at the trade fair and on site visits in Munich on June 4, 2019. www.innovationjourney.net

Messe München
Messe München is one of the leading exhibition organizers worldwide with more than 50 of its own trade shows for capital goods, consumer goods and new technologies. Every year, a total of over 50,000 exhibitors and around three million visitors take part in more than 200 events at the exhibition center in Munich, at the ICM – Internationales Congress Center München and the MOC Veranstaltungscenter München as well as abroad. Together with its subsidiary companies, Messe München organizes trade shows in China, India, Brazil, Russia, Turkey, South Africa, Nigeria, Vietnam and Iran. With a network of associated companies in Europe, Asia, Africa and South America as well as around 70 representations abroad for over 100 countries, Messe München has a global presence.