Siemens at the Transport Logistic 2013 in Munich

Siemens is showcasing its portfolio under the slogan “Efficient Solutions for Transport and Logistics” at this year's Transport Logistic in Munich, the international trade fair for logistics, telematics and transport. From June 4 to 7, 2013, the company will present its portfolio for integrated transport and logistics chains for transporting goods quickly, efficiently and environmentally friendly. This includes not only integrated hardware and software solutions for airports and transport and logistics tasks, but also solutions for the optimal utilization of rail infrastructure, as well as for electrified freight transport on the road. In the outdoor area, Siemens will present its modular Vectron locomotive platform for European rail transportation, as well as its service concept.

The transport and logistics industries are expecting strong growth, with increasing flows of goods moving at an accelerating pace, and ever new customer demands. To keep up with competitors across the world, companies need reliable, environmentally friendly, cost-effective solutions for their highly specialized fields of business. Transport and logistic chains need to interlink optimally to prevent losses, delays or damage to the goods in transit. Products and solutions from Siemens help companies master these challenges.

Unloading parcels efficiently and economically

Growing parcel volumes are pushing working areas in distribution centers ever closer to their limits. This increasing demand for space is becoming a bottleneck in the logistics chain. Variomove from Siemens enables courier, express and parcel services (CEP) to double the unloading rate per gate. This eliminates the need to adapt the transport concept, as neither the distribution center building nor its unloading gates need be changed or...
modified. This saves not only time but also expensive extensions to working areas.

The advantage of the Variomove technology is that parcels and general cargo are unloaded more quickly from the means of transport, such as containers, truck semitrailers, swap bodies and roller containers. The core element is a walkable, low-level, roller-mounted platform, which the downstream telescopic conveyor pushes into the truck or swap-body until it is directly in front of the stacks of parcels. The platform consists of a number of belt conveyors, which take goods out of the container – either for singulation in the Visicon Singulator or for processing in other parcel feeding units. The parcels from the top of the stack slide down extendable chutes, preventing hard impacts and thus damage to the goods. Another of its advantages is that it sunburdens the operators. Thanks to the unloading platform, operators no longer have to do any lifting, they just pull and push the parcels onto the discharge conveyor system. The unloading platform is easy and intuitive to control. Variomove technology enables throughput to be increased up to 3,000 parcels per hour and operator.

Greater transparency for logistics processes

International, multimodal supply chains suffer from a lack of information about the order and dispatch states of their flows of goods. Service providers often do not know whether materials will be available at the expected time or whether it is possible to divert current consignments. The "Transport Logistics Platform" (TLP) developed by Siemens supports ordering and dispatch processes in order to achieve maximum transparency and total control within supply chains. It is not just a data acquisition tool, it also automates the logistics process beyond internal company boundaries, including the means of transport involved. It records all relevant information about an ordering process from the placement of the order to its dispatch, so that action can be taken in good time in the event of any delay in delivery. Key figures generated on the basis of various data sources are used to determine any weak points in the process, and indicate how the entire supply chain could be optimized. Siemens offers the TLP as a service-based IT system in the cloud.
Air freight: save more time and energy

Airports are currently experiencing a dramatic increase in air traffic, and an associated increase in the volume of air freight. The number of international standards is also continually increasing. Mastering these challenges is an ambitious goal for airports, airlines and authorities. Siemens offers a wide range of products, solutions and services, which help aircraft dispatchers and logistics service providers, among others, to meet the growing demands of modern airport operations. Siemens has over 30 years of experience in the implementation of logistics projects for cargo terminals. Its international references include complete air cargo terminals, such as those in Dubai and Hong Kong, which are some of the largest of their type in the world. Hardware and software products from Siemens not only increase efficiency and profitability, but also ensure the security and safety of air cargo systems. As one of the world’s leading material transport suppliers, Siemens offers, from a single source, fully integrated solutions for constructing cargo dispatching systems, which can be adapted flexibly and modularly to meet the customer’s specific requirements. The Totally Integrated Automation (TIA) control system has long been the standard for reducing not only engineering and commissioning times but also maintenance costs. Siemens offers both stationary and mobile systems, including the software to control the material flow, transport and storage of the ULDs (unit load devices).

Overall, the customer benefits from substantially lower life-cycle costs. As early as the planning phase, it is ensured that the system will be able to cope with demand peaks without difficulty, and that in periods of lower utilization, only those parts of the system that are required for the pending tasks will remain in operation. The planning phase also examines redundancy systems.

Parcel Hub Suite – from sorting-process-oriented IT to hub-oriented IT

Running a parcel center is beset by a multitude of uncertainties. The volume and composition of incoming parcels can vary every day, and continually increase over the course of the years to come. Added to that, valuable
production resources, such as sorting systems, can fail suddenly. Another uncertainty is the arrival time of the means of transport, which is heavily dependent on traffic and the weather conditions. The main processing objectives in a parcel center are to keep production process costs as low as possible and to comply with existing service level agreements. Parcel center operators are faced with the challenge of further optimizing the utilization of the systems under the given conditions and continually increasing the flow of goods. The Parcel Hub Software Suite makes a significant contribution toward increasing the efficiency of the processes, because the performance of a parcel center depends not only on the sorting system but equally on all the components and employees in the hub working together smoothly and efficiently. The IT solutions will be exhibited at the fair with the aid of presentations and simulations. Visitors will be able to experience and follow the entire sequence from delivery to collection on screens.

**eHighway**

Experts are concerned by the CO₂ emissions produced by the growing global demand for road freight transport. With this in mind, Siemens is working on a special hybrid drive for trucks. The vehicles are equipped with a combination of combustion engine and electric motor. In contrast to conventional hybrid solutions, the electricity is supplied via overhead contact lines, similar to those provided for trams. The hybrid-electric trucks from Siemens not only detect an available overhead contact line automatically, but also start the diesel engine automatically on reaching a non-electrified road. Siemens is currently putting this technology through its paces on a test track, known as the “eHighway”, near Berlin. The new technology will primarily be able to be used for frequent truck shuttle services between freight traffic centers and harbors or factories, such as are found in Los Angeles, the US metropolis. Every day, 35,000 trucks are on the road there between the harbor and the upstate transport management center. The 30 kilometer length of highway 710 connecting them is to be electrified to reduce the impact on the environment.
IT solutions for optimizing the operational processes of rail transport operators (Rail IT)

Fleet and crew management systems enable the optimal deployment of vehicle and personnel resources. An operations management system handles the planning, visualization, analysis and monitoring to ensure the efficient deployment of the vehicles throughout the rail network. It makes sure that the appropriate locomotives and cars are available, train services are fully resourced, and that under-capacity trains can be supplemented accordingly. Furthermore, personnel deployment planning software allows optimal duty scheduling. The IT solutions will be presented in a live demonstration at the fair. Visitors will be able to experience the complete sequence of an order (such as shunting or train formation) from planning through to its actual execution.

The Controlguide CTmobile TSM (Train State Monitoring) concept developed by Siemens wirelessly transmits sensor data in freight trains. CTmobile boxes in the individual cars facilitate communication throughout the train. For example, it monitors the car sequence or status information of the individual freight cars. This data is sent directly to the driver, who is shown the current states of the vehicles on monitors. This avoids unnecessary standstill times, and detects delays at an early stage.

The Controlguide CTmobile TSM system.

Vectron – the universal locomotive for European rail transport

Efficient multimodal rail transport is an important success factor, not only for individual companies but also for entire national economies and cross-border markets. Fast, economical rail links between major international ports, inland freight transshipment centers, metropolitan regions, and producers and customers all over Europe are, for example, important prerequisites for shifting as much goods traffic as possible from road to rail and thus reducing CO₂ emissions. The new Vectron locomotive from Siemens for passenger and freight transport has been designed to meet increasingly varied requirements and transport tasks in Europe. The Vectron product concept consists of single and multi-system locomotives for the
European AC and DC networks for fast passenger services and interoperable cross-border freight operations. The portfolio is completed by a diesel-electric locomotive. These alternative versions allow operation in four different line voltage systems and various performance classes. The Vectron is also attractive for customers wishing to buy a smaller number of locomotives.

The "shunting module" concept has been developed for shunting movements. As an option, the diesel-generator unit can be installed or retrofitted in the Vectron DC and AC. The power rating of the diesel engine is 180 kW. It has an integrated preheating system and meets the Stage IIIb emissions standard. All maintenance work can be performed from the corridor side with the diesel still installed. The concept combines electric and diesel systems in one locomotive, which facilitates switching between the two propulsion systems. This concept caters especially to small and private operators. There are numerous deployment options which can lead to cost savings, especially in freight traffic, for example in container ports.

The Vectron's flexible, removable front end design allows alternative configurations to be implemented at low cost. In freight traffic, double-heading operation is often required to haul heavy loads. If this is intended to be the permanent operating mode, a double-locomotive configuration is advisable, enabling two of the four driver's cabs to be eliminated. Instead, each of the two Vectrons is provided with a simplified, straight-edged front end, which are coupled back to back. This principle can also be applied to passenger services. By using a simple front end that replaces one of the two cabs, the customer gets a locomotive that has a lower purchase price, can be used as a power car, and provides a visually attractive transition to the trailing coaches.

The Vectron locomotive is the first locomotive platform in Europe to gain TSI high-speed certification. On the basis of this certificate, the Vectron can be approved for operation in all EU states. Additional evidence only has to be provided for compliance with applicable national requirements not covered by the TSI. The Vectron is already certified for five European countries: Germany, Poland, Austria, Romania and Sweden.
Electrical components for the railway industry

Siemens offers a broad portfolio of reliable and high-quality electrical components for the railway industry – for both rolling stock and infrastructure applications. For example, the products from the Sirius and Sentron ranges are employed in countless railway vehicles around the world. They control, switch, and protect air conditioning systems, windscreen heaters, underfloor containers, hygiene cubicules, and many other components. The Siplus extreme product range also includes refined controls for extreme application conditions. Sitet, the trendsetting driver’s cab terminal, was specifically developed for use in train cockpits, with their corresponding extreme requirements. Furthermore, the Sidoor automatic door control represents the optimum solution for the control of interior railway doors. In the field of infrastructure, the components ensure the fault-free operation of barriers, signals, sets of points, and platform doors. Furthermore, Siplus RIC facilitates communication via internationally standardized transfer protocols for telecontrol. Selected network components from the Scalance and Ruggedom product ranges ensure reliable wired and wireless communication – on the train as well as trackside. These components are specifically designed to operate reliably in harsh and critical environments.

All the information about Siemens’s presence at the Transport Logistic 2013 as well as press pictures can be found at: http://www.siemens.com/press/transportlogistic2013