
Conductix-Wampfler wins technology implementation award

IPT® setting standards in automation technology / Conductix-Wampfler receives award for outstanding development work / Innovative applications for wireless power and data transmission see use around the world

Weil am Rhein, November, 2008. For outstanding development work associated with power and data transmission, Conductix-Wampfler has just received the 2008 European Technology Implementation Award. The specialists from Weil am Rhein have developed solutions based on IPT® (Inductive Power Transfer) technology, a transmission system which is setting new global standards in automation and conveyor technology, including floor conveying systems, electrified monorail systems, and skilnet systems, where innovative IPT® applications are being used in industry around the globe as an alternative to conventional technology with cables and conductor rails. Companies like Audi, Daimler, Ferrari, Airbus, BMW, Eurocopter, KIA, and General Motors have used the potential of this "invisible technology" for years.

The technology award is granted every year by consultants Frost & Sullivan to companies whose research and development work has made a decisive contribution to the improvement of industrial production processes – and have documented it with numerous "best practice" examples. Frost & Sullivan has been active around

the world in different industries and sectors for more than 45 years. More than 1,700 consultants develop innovative growth strategies for more than 1,000 companies.

"Increasing requirements in industry and ever more complex, fast production processes require flexible, independently operating solutions in automation technology. Some conventional systems can no longer keep up with these diverse new requirements," explains Mathias Wechlin, IPT® product manager at Conductix-Wampfler. "Inductive systems offer industry the flexibility it needs, allowing custom applications and flexible single components to supply power to conveyor systems which are sometimes very specialized." That's why IPT® is increasingly in demand in more than just the automotive and logistics industries.

Applications of IPT®

Power transmission systems using the principle of electromagnetic induction have a variety of applications: a number of different floor conveyers are supplied with power using IPT®; for rail-guided systems, there are electrified monorail systems in final assembly lines, sorting systems in distribution centers, inclined elevators in building technology, skillet systems in assembly lines, and even systems in amusement parks working on this principle. Since development started in 1997, this technology has demonstrated its efficiency and reliability. "This technology opens up optimization potential for a variety of applications in nearly every industry and the private environment," says Wechlin.

IPT® also a question of preference

"Before deciding whether conductor rails or inductive systems will be used for transmission of power and data, plant engineers and operators need to weigh a number of arguments carefully," continues Wechlin. Clear arguments for IPT® solutions include their safety and availability, the elimination of maintenance work related to mechanical wearing parts and galvanic contacts, their reliability, their high transmission rates, and the independent operation of multiple consumers in a single system. The suitability of the system for extreme environmental conditions and operating costs which are often lower in the long term are more basic reasons to choose an inductive solution.

Wide spectrum of applications

IPT® is also attractive for its wide spectrum of applications. For floor conveyor systems, the use of IPT® means that no mechanical guards or special support structures are necessary for the transmission of power and data. Error-prone open copper contacts can be entirely eliminated as sources of error. Installation in the floor makes surfaces accessible without restriction, and the solution is nearly invisible to the untrained eye.

For skilnet systems, there is a functional solution with insulated conductor rails. The deciding point for these applications is that all the basic conditions are satisfied and the transmission system is mounted cleanly. An inductive solution here primarily has the advantage that different voltages are no longer an issue, so that corresponding safety switches can be eliminated. The mechanical engineering is significantly simplified with inductive solutions.

For electrified monorail systems, IPT® allows new applications, for instance in process technology. Applications are quieter, cleaner, and have greater tolerances. Conventional conductor rail systems can quickly meet their limits when it comes to operating speed and environmental conditions. Conductor rails also require high precision in installation, and they generate carbon dust. Furthermore, the power collector can break off, resulting in significant downtime. Inductive power and data transmission, on the other hand, is free of mechanical wear, has no transitions at transfers or locks, and cause no problems. Dampness and contamination have no influence on transmission. And operating speeds are not limited for tracks operated with IPT®.

IPT® with integrated communication and add-on functionality

Radio-based systems with wireless LAN technology must be measured by their susceptibility to error. „IPT® is a more stable solution when reliable vehicle control is needed without downtime or signal loss," explains Wechlin. Setting up radio-based systems can also be very costly. The number of antennas which must be installed and configured depends on the specific installation. And the frequencies on which signals are transmitted must be clearly regulated. IPT® is a simpler solution. Signal transmission takes place along the path laid out, and is limited to the field near the line. Additional options for floor applications are the capability of guiding vehicles along the power line, and determining their position using position markers. In this case, all three functions are available in a single pickup box as an integrated solution.

Role of investment costs

A significant argument in the decision is usually the direct investment cost. For conventional solutions, these costs are often lower than for inductive solutions. Unavoidable costs of wear and tear, however, significantly even out the picture. If the failure or downtime of vehicles is reduced, the number of vehicles used can often also be reduced, and the installation operated more ideally. A pure comparison of direct investment costs is thus too narrow view – overall system costs, including indirect ones such as support structures and later operational cost, must be taken into consideration. "For just these reasons, IPT® is now the global state of the art in conveyor systems in many automotive plants. Particularly attractive for operators are complete solutions including power and data transmission, vehicle guidance and positioning if necessary, and a service agreement," says Wechlin.

For the future, many other applications can be imagined for IPT®: wherever it is a priority to avoid wear or to tolerate harsh environmental conditions, wherever the operator needs more convenience, and wherever new applications are being designed, IPT® will be the first choice for tomorrow.

Brief profile of Conductix-Wampfler:

Conductix-Wampfler is the world's leading manufacturer of systems for the transmission of power and data to mobile consumers. With 15 own companies and several partners, Conductix-Wampfler - member of the Delachaux Group - is present in nearly all relevant countries. In 2007, the Conductix-Wampfler Group employed about 1100 people and recorded sales of about 204 million Euros.

Pictures:



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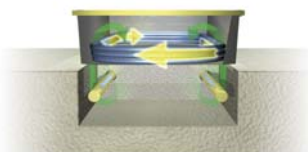
Automated Guided Vehicle (AGV) on the job in chassis and underbody assembly at GM in China, supplied with power by an IPT® Floor System.



The Hannover Expo fair ground uses an IPT® Rail System to operate the elevators in the Hermes Tower.



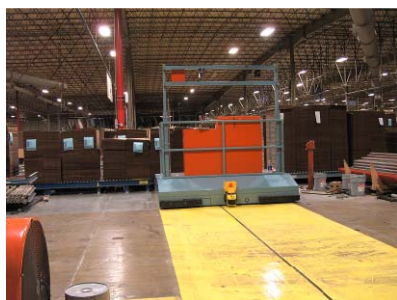
At Legoland in California, the water ride "Pirates Splash Battle" runs on an IPT® Rail.



The principle of electromagnetic induction: Power is transmitted without contacts.



Motor assembly at DAF, automated transporters supplied with power by an IPT® Floor System



Transfer carriages for the transport of cartons, supplied with power by an IPT® Floor System installed in the floor.

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