SICK insight

SICK'S CUSTOMER MAGAZINE 2_2013

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TOGETHER TOWARDS INTELLIGENT SOLUTIONS

Dear Readers,

This new issue of our customer magazine SICKinsight gives me a great opportunity to introduce myself to you. Since 1 May 2013, I have been responsible on the Executive Board of SICK AG for the areas of Sales & Service. After seven years as a member of the Management Board of SICK AG, I am very pleased with this new challenge. In fact, by establishing the new area of responsibility, the Supervisory Board has taken into account one of the most important changes in recent years: Business at SICK is becoming more complex and more international all the time.

With the expansion of our global presence in sales and our technical competence in Europe, the USA, and Asia as well as by investing in system engineering and system building, we have already taken significant steps that help us to continue growing. My main task is now the further development of SICK’s sales and service functions worldwide. With the clear goal to optimize sales processes, increase sales efficiency, and expand the service business. In other words: We will make every effort to be there for our customers even more reliably in the future –around the globe and exactly when they need us.

Something that will remain unchanged is our recipe for success, according to which we have been acting for many decades: We create added value for our customers by networking our technical core competencies with our global presence and by searching for intelligent solutions in dialog. This issue is packed with examples of how that strategy worked out successfully – just see for yourself.

Have a great read!

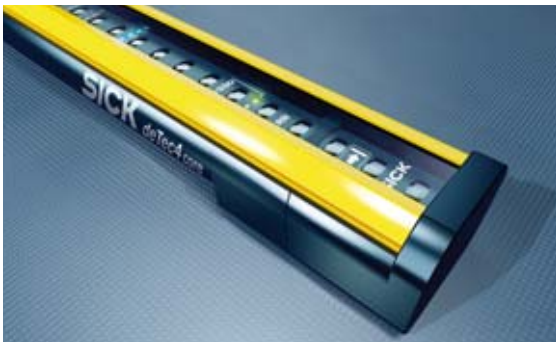
Best regards from Waldkirch,

Dr. Mats Gökstorp
Executive Board Member Sales & Service of SICK AG

deTec4 Core SAFETY LIGHT CURTAIN COMBINES FORM AND FUNCTION

DOUBLE WINNER IN DESIGN CONTESTS

Featuring pure functionality combined with convincing styling, the deTec4 Core safety light curtain from SICK won no fewer than two well-known design contests at once. Both at the internationally recognized red dot award and at the renowned iF product design award, the electro-sensitive protective device made by SICK ranks among the winners.



>> With their seals of approval, the juries presiding at both contests, each comprised of specialist design experts, honored the up-to-date and functional design concept of the deTec4 Core. It combines convincing clarity and innovative quality in styling with the function of pure safety for machines. In this way, the deTec4 Core meets essential criteria to which the jurors attach great importance both in case of the red dot design award and the iF product design award.

Federal Chancellor Angela Merkel with the German medal winners of WorldSkills 2013, including Timo Späth, Lukas Adler, and Silas Gschwender from SICK

BRONZE FOR GERMANY

TEAM SICK TAKES 3RD PLACE AT THE VOCATIONAL WORLD CHAMPIONSHIPS

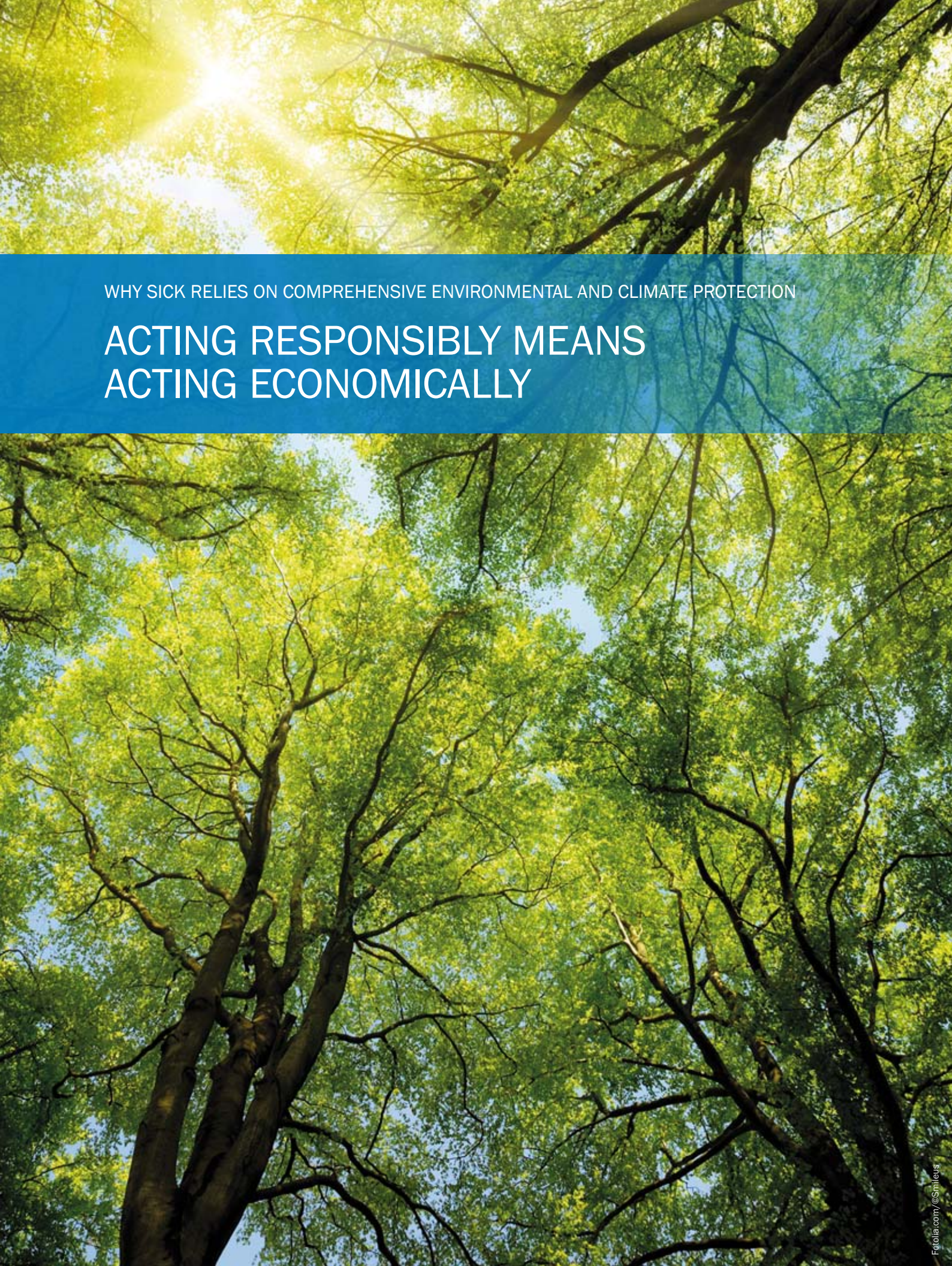
>> This year, the world championship of vocations, "WorldSkills 2013", took place at Leipzig's exhibition center. For four days, the two mechatronics technicians Timo Späth (20) and Lukas Adler (20) gave it their all, solving various problems in the area of mechatronics. In the end, they came in third place behind Brazil (gold), China and Norway (both silver), prevailing over 33 international mechatronics teams.

With respect to the electronics technicians, Team Germany also had reason to rejoice: Silas Gschwender (20) reached a superb 5th place, receiving the "Medallion for Excellence." Over 1,000 trainees and young skilled employees from all over the world put in their best performance to have the desirable medals hung around their necks in the end. Nine young people from Germany had reached that goal when it was time for the presentation ceremony on Sunday, enabling them to step on the winners' rostrum because of their vocation. Overall the German team took gold twice, four times silver, and three times bronze.

SICK AG ONCE AGAIN AMONG GERMANY'S BEST EMPLOYERS

GREAT PLACE TO WORK 2013

>> In the course of the contest entitled "Germany's best Workplaces 2013," SICK has once again obtained the "Great Place to Work" seal of approval. For the eleventh time in succession the company was voted among the 100 best employers in Germany, taking second place in the category of companies sized "2,001 to 5,000 employees." The award stands for a workplace culture marked by trust, identification, and team spirit as well as for employee-oriented human resources and management work. With respect to the important overall assessment phrased as "Generally, I can say that this is a very good workplace," SICK AG managed to improve in comparison to the previous year by 7.9 percent to 94 percent agreement. "We are very pleased about this award, since the evaluation criteria are reflected in our principles on management and cooperation," says Member of the Executive Board Dr. Martin Krämer.



WHY SICK RELIES ON COMPREHENSIVE ENVIRONMENTAL AND CLIMATE PROTECTION

ACTING RESPONSIBLY MEANS ACTING ECONOMICALLY

By the year 2050, the world's population will grow by one third as compared to today. At the same time, worldwide resources are limited and have to be utilized in sustainable ways. A globally oriented enterprise, SICK is aware of its responsibility in this respect, taking that obligation seriously. For SICK, sustainability therefore means acting responsibly in the best interest of future generations – and making economic, social, and ecological progress possible. SICK contributes to the latter with active climate and environmental protection management.

>> Even in his day, company founder Dr. Erwin Sick already knew that there is no contradiction in companies committing to environmental protection while at the same time succeeding economically. To him, sustainable business management, conscious protection of the environment, and responsibility towards staff and society were the most important prerequisites of corporate success.

ACTING SUSTAINABLY

However, at SICK sustainability also means helping customers be sustainable through products and services. That is why the company's climate and environmental protection management is oriented deliberately to customers' requirements as well. You may trust in the fact that as a supplier SICK complies with high environmental standards and considers sustainable actions as an important element of business relations. Moreover, in its climate and environmental protection policy SICK has committed to doing more than meeting the legal standards. This policy is anchored firmly in the company, forming the basis of its climate and environmental protection management.

On top of that, the company's climate and environmental protection management is oriented on the sustainability strategy whose maxim is as follows: SICK will entirely stop or continuously minimize environmental impact (potentially) arising from products and processes within the framework of means available to the company. In this context, the approach involves three stages:

1. AVOID
what can be avoided.

2.REDUCE
what cannot be avoided.

3.OPTIMIZE
what cannot be reduced.

The focus in this respect is on four fields of action, i.e. CO_2 emissions, waste and waste water, material consumption, as well as use of products made by SICK at the customer's operations. The activities undertaken in these fields vary widely, ranging from electric cars to electric bikes and all the way to photovoltaic arrays at SICK's locations in Waldkirch and Reute, lead-free soldering in production, and procuring green electricity. "Our climate and environmental protection management is very wide-ranging and it takes a holistic approach. In this connection, we are concentrating precisely on the areas in which we can make the biggest difference," explains Reinhard Bösl, Member of the Executive Board for Systems and Industries, who manages the topics of environmental protection and sustainability on behalf of the Executive Board.

For this reason, the main emphasis of activities pertaining to environmental protection is initially on the German locations. At the same time, the foreign locations are already taking measures that are appropriate depending on local circumstances. For instance, some time ago SICK's subsidiary in Japan has already switched its fleet of company cars to hybrid vehicles.

ORIENTED LONG-TERM

The framework of SICK's climate and environmental protection management is provided by environment management systems established on the national and European level, e.g. integrated energy management or the EMAS certification. The abbreviation EMAS stands for Eco Management and Audit Scheme, also known as EU Eco Audit or Eco Audit. Last year, the SICK locations at Waldkirch, Reute, and Düsseldorf have successfully passed this audit. After all, with a view to successful climate and environmental protection, SICK is orienting its business processes toward the principle of sustainability.

Further information:
www.sick.com/environmental_protection

Sustainable solutions with products from SICK

In this issue, you will find three articles that describe contributions toward sustainability involving sensor technology from SICK.

- **Page 28:** The article shows how an ultrasonic flowmeter from SICK helps proportion additives in coolants correctly, thus taking pressure off the environment.
- **Page 29:** A combined solution by SICK prevents overflowing of liquids from concrete basins of transformers and protects the environment in this way.
- **Page 32:** The article describes compliance with South African environmental regulations in fossil fuel power plants. Transmittance dust measurement devices measure medium and high dust concentrations. Gas flow measuring devices determine gas flow in smokestacks.

These are just a few examples that demonstrate how important the environment and its intact survival are to SICK. However, SICK's sensor technology also reduces CO_2 emissions from trucks and airplanes by ensuring optimum utilization of cargo space. As well, it has a considerable share in optimizing the use of materials in production and in reducing waste to a minimum.

RESPONDING TO CUSTOMERS' REQUIREMENTS

SICK AS AN IMPORTANT PARTNER FOR LOGISTICS COMPANIES

Meeting the complex requirements of logistics companies with the sensors, sensor solutions, and service from SICK: That and customers' satisfaction is what concerns SICK very much.

>> SICK's logistics competence, grown over decades, is the basis to develop products that can contribute a considerable share to success of logistics companies. Therefore, it is not rare for logistics companies to recommend to their machine builders and system integrators using sensors from SICK if possible.

This approach ensures that the facilities work efficiently and reliably, which means top productivity in the end. At any time, a competent service team is available to provide support in case of questions related to the applications. In addition, careful product maintenance guarantees extended service life of facilities.

Gerhard Mutter, Head of the Corporate Solution Center Logistics Automation

SENSORS MADE BY SICK FOR RELIABLE AND HIGHLY EFFICIENT OPERATION OF INSTALLATIONS

For instance, safety laser scanners from SICK enable safe, anticipatory, and speed-optimized travel of automated guided vehicles (AGVs). Photoelectric sensors and vision sensors, on the other hand, measure letters in high-performance sorting quickly, reliably, and precisely. Laser detectors reliably recognize persons that force their way into buildings or intend to gain access to grounds.

SENSOR SOLUTIONS MADE BY SICK FOR MODERNIZING EXISTING INSTALLATIONS

Sensor solutions from SICK contribute to modernization of installations: Process reliability increases and new performance features become possible. Sensor solutions measure and weigh material to be conveyed or they reliably check packages for outward bulges, preventing damage to the installation or allowing calculation of the correct postage for parcels. Solutions with vision sensors monitor the wear or condition, respectively, of tilt trays on sorters, thus avoiding unscheduled downtimes.

With respect to external protection of buildings, for instance, security systems made by SICK ensure that only things meant to do so get in and out. In this connection, the access control systems in the logistics area play an important role as well.

Road traffic sees the use of sensor solutions, for example, to detect overheated vehicles ahead of tunnels, or to classify vehicles for calculating the correct toll. In container ports, sensor solutions are used to prevent collisions.

SICK'S CUSTOMER SERVICE ADVISES CUSTOMERS IN SELECTING SUITABLE DEVICES AND SYSTEMS

Our service technicians deal with all questions concerning devices and sensor solutions in unbureaucratic and efficient ways along the customer's lines.

For instance, if there are bar codes that are impossible to read, SICK provides support. If there are special conditions that make installation of sensors difficult, SICK provides support. If sensors have to be installed on highly complex crane facilities, SICK provides support. If unresolved questions exist on the part of the customer with respect to sensor-related monitoring of security interlocks for persons or freight elevators, SICK provides support. SICK's LifeTime Services are available twenty-four seven.

BEING UP TO DATE, FOLLOWING THE TRENDS

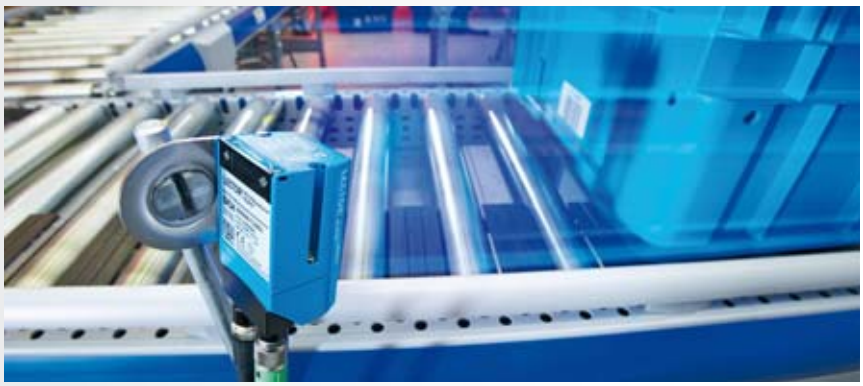
Gerhard Mutter, long-standing employee of SICK AG and Head of the Corporate Solution Center Logistics Automation, explains the primary goals related to the area of logistics automation: "We are persistently working on meeting the requirements of logistics companies in the areas of transport logistics, intralogistics, as well as building automation. By constantly adapting our sensor portfolio and by developing complete, industry-specific sensor solutions, we intend to provide our customers with the latest technologies for solving their applications. Being up to date, following the trends, and giving high-quality advice matter a lot to us in order to respond to our customers' requirements in the best possible way."

Further information:
www.sick.com/industries

LECTOR®620: INTELLIGENT CODE READING FOR INTRALOGISTICS

OPTIMIZED FOR STORAGE AND CONVEYOR

Improved reading distance, optimized lighting options, and function blocks for fieldbus integration – the "intralogistics version" of the LECTOR®620 is taking storage and conveyor by storm.



>> The most important innovation of the image-based code reader is the reading distance, improved to 1 m. It enables reliable top-down and sideways reading of 1D and 2D codes during ongoing object flows. For darker reading environments, a light-intense ring illumination is available; it can be mounted on the code reader in a simple way using an easy-to-install adapter plate. Fieldbus integration by means of function blocks, among others, for Ethernet TCP/IP, EtherNet/IP, PROFIBUS, or PROFINET guarantees first-rate connectivity.

LECTOR®620: the reading solution for intralogistics.

Further product information:
www.sick.com/lector

MARKET-ORIENTED PORTFOLIO DEVELOPMENT FOR SAFETY LASER SCANNERS

PRODUCTIVITY CAN NOW BE ASSURED

For several months, SICK has been pushing ahead with the improvement of its portfolio of safety laser scanners under the slogan of “Scanner Plus!” SICKinsight spoke to Product Manager Patrick Hochleitner and Michael Dold, Strategic Industry Manager Industrial Vehicles, about the “plus points” for machine builders, integrators, and users.

SICKinsight: According to Langenscheidt dictionaries, “plus” is defined as “the positive result … of a profit and loss statement,” a “gain” and a “benefit.” How do machine manufacturers, integrators, and end users profit from “Scanner Plus!” and the portfolio update associated with it?

Patrick Hochleitner: As a market and technology leader for safety laser scanners, SICK has 20 years of experience, putting the company in a position to look back on countless applications solved successfully by laser scanners. The new “Scanner Plus!” generation is based on this practical experience. When implementing the facelift of the safety laser scanners, we constantly had the goal mind of using more functionality and intelligent added functions to provide machine builders and end users with even more advantages in design and operation.

SICKinsight: Where does the idea of “Scanner Plus!” set in with respect to technology and applications?

Michael Dold: Regarding automated guided vehicles (AGVs), one can discern a trend toward increasingly more compact vehicles. We have followed up on this trend by introducing the ultra compact S300 Mini. In addition to design size, scanner range is vital for use in AGVs. The farther the scanner can look ahead reliably, the faster the vehicles are able to travel and the higher the efficiency of the overall installation. Along with the increase of range in the context of “Scanner Plus!” from a protective field range of 2 m to 3 m in case of the compact S300 and S300 Mini variant types, we are combining simple means of integration with the suitable protective field range.

SICKinsight: SICK is positioning itself as a solution provider. What might such all-in-one solutions look like for automated guided vehicles?

Patrick Hochleitner: One example of this is continuous all-round protection of vehicles using S300 Mini, S300, and/or, respectively S3000 in combination with the Flexi Soft modular safety controller. In addition to simple configuration, central integration of the Flexi Soft in the vehicle also helps enable improved diagnosis of the overall system from one spot. Doing so not only saves time during commissioning but also optimizes maintenance and servicing of the AGV throughout the entire product life cycle. SICK’s brand new Drive Monitor MOC makes it possible to implement speed-dependent switching

of protective fields in the context of such all-round protection measures. The adjusted protective fields ensure adequate safety, preventing unintended stops.

SICKinsight: To what extent are customers able to use the diverse possibilities of "Scanner Plus!" and to identify their own solution, respectively?

Patrick Hochleitner: The customer can arrive quickly and easily at a clear recommendation for the product family and the respective equipment variant by using three parameters: protective field range, scanner size, and number of field sets. Depending on the vehicle type or application requirements, one will thus find the suitable variant.

Michael Dold: In addition, our consultative sales department provides support with its industry and solution expertise. Support, both during the project phases and in case of service required, is organized internationally, allowing fast and competent assistance to manufacturers but also operators in all major regions of the world.

SICKinsight: "Scanner Plus!" – bottom-line success for users and success story for SICK. Mr. Hochleitner, Mr. Dold, thank you very much for the interview.

Further information:
www.sick.com/scanner-plus

WHAT DO OUR CUSTOMERS SAY ABOUT "SCANNER PLUS!"?

Gunter Van Deun (left), Egemin Automation and Patrick Hochleitner, SICK AG

Michael Dold (left), SICK AG and Wolfgang Holl, DS Automation

Vincent Mol (left), Frog AGV Systems BV and Karl Rapp, Frog AGV Systems

EGEMIN AUTOMATION

Gunter Van Deun, Product Manager E'gv® Systems at Egemin Automation, about the benefits of increased range, the newly added triple fields, as well as the extension of possible field sets:

"The protective field range of 3 m now allows us to use the S300 on the fork side of the vehicle. Due to the fork length of 1 to 1.2 m, the previous 2 m were usually not sufficient. The increase of range enables us to use the S300 in larger EGVs. Because of the compact construction size, we also require less space for installation and we can use alternative mounting positions as well, for instance, to implement all-round protection. As a result of more field sets in the S300 and S300 Mini, we are able to adapt the fields even better to complex situations. This makes it possible to reach higher speeds in curves and when approaching walls. Utilizing triple fields also opens up new additional functions. We are employing warning fields of different sizes for gradual reduction of speed prior to the AGV coming to an emergency stop via the protective field function. This technique optimizes the interplay of safety, acceleration, and braking on the vehicle. Moreover, the second warning field enhances flexibility during restarting after an emergency stop as well as in "deep stacking storages" for detecting the load".

DS AUTOMOTION

Concerning easier commissioning or re-starting, respectively, as well as improved diagnosis, Wolfgang Holl, Head of Technology & Product Development at DS Automotion in Linz, says:

"The occasional mistake during service operations might happen. Since the device parameters download automatically again even when the scanners are replaced, this risk is eliminated to the greatest possible extent. We also use the diagnostic information of the safety scanners in our own on-board computers, saving data there in the internal error memory as well. Basically, the improved informative value of the diagnosis helps us toward faster troubleshooting on location. Another advantage is reduced wiring effort, something we achieved by using the Flexi Soft".

FROG AGV SYSTEMS GMBH

Karl Rapp, General Manager at Frog AGV Systems GmbH in Germany, and his colleague Vincent Mol, System Consultant in the Netherlands, describe the scanner features that support them in particular when it comes to integration in very compact vehicles:

"The developments at Frog are continuing permanently, with the dimensions of the vehicles playing a decisive role. Of course, this has an effect on the choice of safety scanners, and in this connection, the small overall height of the S300 Mini is very convenient for us. Incidentally, the latest vehicle design will see first-time use of the new Drive Monitor MOC, a device that transmits the speed data of the encoders via the Flexi Soft directly to the S300 Minis, protecting the extremely dynamic vehicle movements. Thus, we have the optimum solution available for our customers".

AOS FROM SICK IN MARINE CONTAINER TERMINALS AT DP WORLD

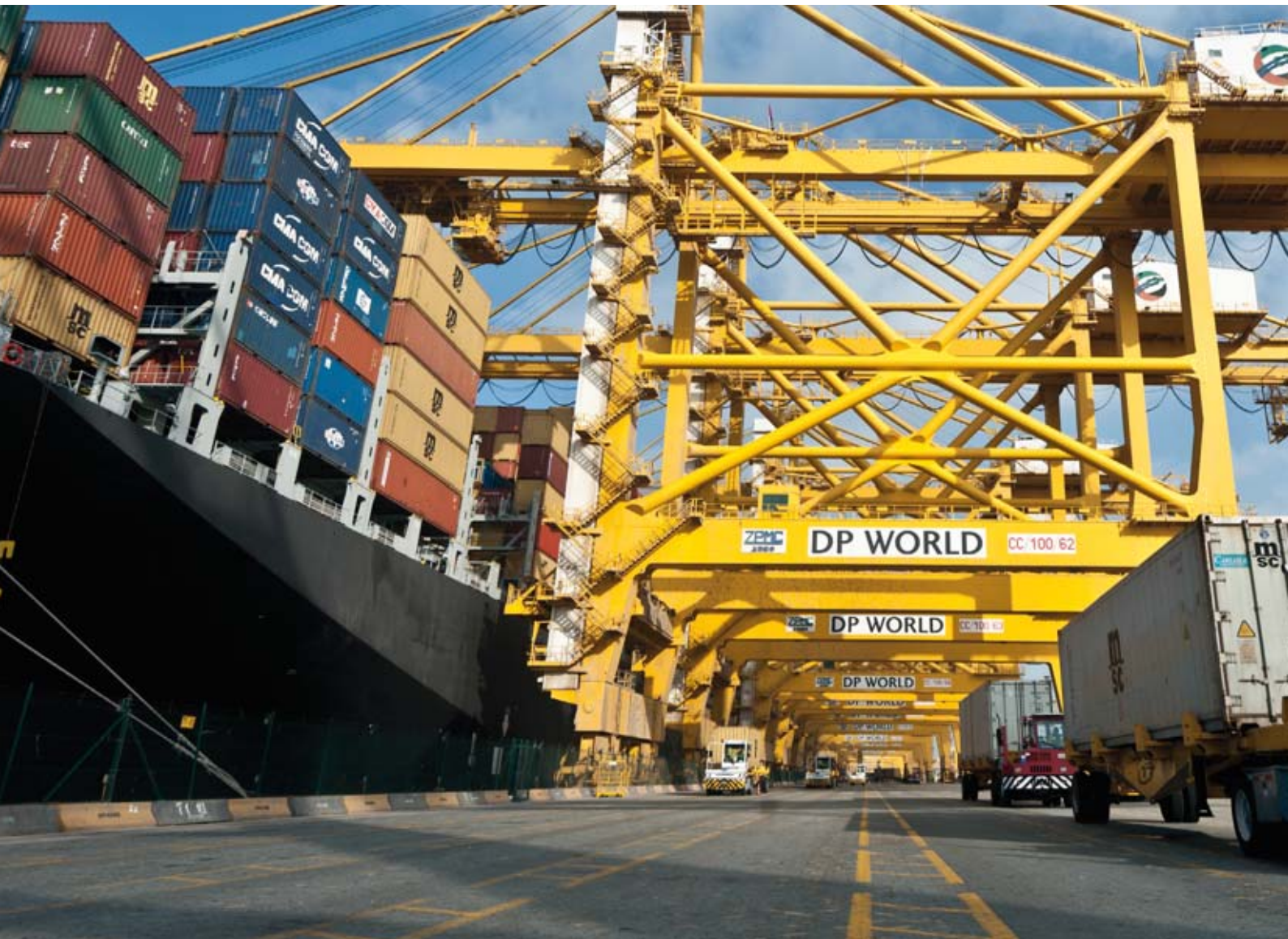
EFFICIENT COLLISION PREVENTION

DP World, a leading container handling company with more than 65 marine terminals on all continents, is expanding its flagship facility Jebel Ali in Dubai. Jebel Ali has been voted ‚Best Seaport in the Middle East' for 19 consecutive years and is just one example of DP World's exceptional level of service. The new Terminal 3 in Jebel Ali is to become yet another benchmark for safe and efficient operation. DP World has chosen to back this commitment to its customers by using reliable state-of-the-art anti-collision technology from SICK.

>> Processes optimized for maximum efficiency require protection against hazards that might interrupt operations. Such measures must be an integral part of maintaining the process reliability both in automated systems and in systems involving interfaces between humans and automated equipment. Container terminals operate on a 24/7 basis, so the demand on availability is extremely high. Collisions involving the boom of ship-to-shore cranes and ships pose the greatest risk. Accidents of this type account for 31 % of the costs of quay crane insurance claims; they are the single largest cost item in this area. Collisions of cranes with other cranes and other equipment occur almost as frequently. In addition to the immediate damage – including damage to customers' property such as the ship or its load – collisions may also result in extended downtime of cranes and other port equipment.

DP WORLD – EXCELLENCE IN CONTAINER HANDLING IN MARINE TERMINALS

In order to offer its customers uninterrupted operations and improve on its already exceptional level of service and reputation, DP World has decided to equip the expansion of its Jebel Ali facility in Dubai with anti-collision systems from SICK. Jebel Ali is a technologically advanced facility, employing state-of-the-



art port handling equipment. Terminal 3 will be operational by 2014, enabling the port to cater to the new generation of mega-ships.

All 69 cranes in the new Terminal 3 will be equipped with new SICK AOS systems for boom collision prevention on the STS cranes and pathway collision prevention on all the cranes. In order to maximize efficiency, the Jebel Ali facility will also use LMS511 2D laser scanners for truck/vehicle positioning and POMUX KH53 linear encoders from SICK for automated and precise positioning of the trolleys. Quay Cranes in Terminals 1 and 2 are already today equipped with SICK technology.

SICK – HIGH-TECH FOR COLLISION PREVENTION AT CONTAINER TERMINALS

The AOS system uses cutting-edge LMS511 and LMS111 laser scanners. These sensors feature high-speed sampling technology and support the evaluation of multiple echoes of a single pulse. This drastically increases the accuracy and reliability of the data and allows the units to be used 24/7 in virtually any weather conditions – for example, dust in Jebel Ali or fog, rain or snow at ports elsewhere. Self-monitoring functions of the LMS such as auto-calibration and anti-pollution sensors greatly heightens the availability of mission-critical systems.

LMS511 and LMS111 can evaluate multiple fields, all at the same time. The AOS system comes with preconfigured fields for warning, deceleration and stop and can be adapted to customer requirements. Evaluation features include blanking of objects, reference contours, defined pixel patterns, etc. Fields can change dynamically, depending on the status of the inputs.

With Flexi Soft, the AOS systems use a high-performance, modular safety controller. This allows for easy integration into the control architecture of the complete system. The controller feature sophisticated, unique self-testing functions to check at any time the availability of the system regarding all configurated field sets and installation position. For the self-testing functionality, the Flexi Soft uses an unremovable test target, such as the legs of a crane, and checks cyclically at any time all scanner functions with this specific target. Therefore this combination of cutting-edge laser scanner technology and the Flexi Soft controller provides a high diagnostic coverage and maximized reliability.

FROM REQUIREMENTS TO JOINT SUCCESS

In a joint initiative, the Port Equipment Manufacturers Association (PEMA), the International Cargo Handling Co-ordination Association (IHCHA) and TT Club Mutual Insurance Limited, an international insurance specialist for logistics providers, published two Best Practice Papers of “Recommended Minimum Safety Specifications for Quay Container Cranes” and “Recommended Minimum Safety Specifications for Yard Equipment”. Boom anti-collision and Pathway anti-collision heads this list. AOS from SICK surpasses the safety requirements specified for the anti-collision feature.

However, outstanding technology was not the only reason for DP World to opt for SICK. The company’s impeccable track record and decades of solid industry know-how and engineering expertise mean that SICK can readily respond to industry-specific requirements for complete solutions with virtually all sensor technologies, not just for individual sensors. As a global product and solution vendor, SICK also has representations in countless countries. An example of global cooperation in action: Experts from SICK based in Dubai, Sweden, China and Germany successfully liaised with DP World, the system integrator from Sweden and the main manufacturers from China and Abu Dhabi.

Nabil Qayed, Director, Technical Department, DP World UAE Region, summarizes: “24/7 availability is paramount in container terminal operations. The anti-collision solutions from SICK play a key role in our new Jebel Ali terminal to ensure this availability and will help us to achieve new standards in efficiency and competitiveness for our customers.”

Further applications:
www.mysick.com/applications

More about the customer:
www.dpworld.com

MONITORING OF AUTOMATIC DOORS
BY SENSORS IN A CAR DEALERSHIP

CUSTOMER SERVICE WITHOUT RISK OF COLLISIONS

Whether in the service check-in for passenger cars or trucks – every day, numerous automobiles pass the automatic doors at the vehicle centers of the Schmolck car dealership. Sensors from SICK make sure that the doors can be opened and closed safely and without collisions.

>> Car dealerships, however are not the only ones that require monitoring of automatic doors – SICK also solves nearly identical tasks at shipping companies, logistics centers, car fleets, and parkades.

FLEXIBLE MONITORING OF DOORS AND GATES

The Schmolck car dealership, based in southern Germany, is an authorized Mercedes-Benz service partner, an agent of Daimler AG Passenger Cars and Commercial Vehicles of the Mercedes-Benz brand, and it also provides a broad variety of services related to vehicles of the producers smart, Unimog, and Volkswagen. Not surprising therefore that during peak hours the service workshops and the lots are literally teeming with persons and the most diverse vehicle types. For Bernhard Schmolck and Jürgen Henninger, both general managers of Schmolck GmbH & Co. KG, it is therefore indispensable that the automatic doors of the different shops open and close very reliably – even in case of different vehicle heights or cross traffic. To them, it is at least as important that the opening or closing process is stopped immediately if a vehicle is located in the passage area of an automatic door.

WL23-2 AVERTS COLLISION RISKS AT PASSENGER CAR CHECK-IN

In order to prevent collision risks involving vehicles in a cost-effective and technically efficient way, Schmolck equipped the automatic doors with optoelectronic sensors from SICK. Thus, for instance, WL23-2 photoelectric retro-reflective sensors are used at the entrances of the direct check-in points for passenger cars. They deliver the high level of mechanical and electronic ruggedness required for this operating environment. Moreover, their polarizing filter guarantees maximum detection reliability, even in case of shiny surfaces, e.g. the type represented by painted automotive bodies or cab structures made of stainless steel. At the passenger car check-in, these photoelectric switches suffice as sensors for controlling the automatic doors due to the relatively low vehicle height. A number of doors are equipped with photoelectric dual systems, which allows activating the opening and closing of gates both from inside and outside.

ELG LIGHT GRID: USEFUL AT THE COMMERCIAL VEHICLE CENTER

In contrast to the direct check-in for passenger cars, the commercial vehicle center is usually characterized by very high mixed traffic volume. Here, one can find everything, from the pure truck tractor to the pick-up truck with cargo area all the way to the tour bus. Therefore, at Schmolck the automatic doors at the commercial vehicle center are monitored with switching automation light grids of the ELG product family. Between the sender and receiver element, the ELG generates a monitoring area in which both large and small commercial vehicles are detected reliably. The decisive factors for the light grid's dependable and error-free functioning include e.g. its rugged design, immunity to glare from sunlight and reflections in the environment, as well as the extensive functional reserve that ensures safe switching behavior even in the face of beginning contamination while at the same time minimizing maintenance effort.

No danger of collisions at the passenger car check-in thanks to WL23-2

Even though Schmolck uses doors and gates from different manufacturers – the sensor technology from SICK runs extremely reliably in all operating conditions.

VIDEO
www.sickinsight-online.com

Further applications:
www.mysick.com/applications

More about the customer:
www.schmolck.de

ORONA ELEVATORS WITH ENCODERS FROM SICK

RELIABLE, COMFORTABLE AND COST-EFFECTIVE

Everyone knows that unpleasant feeling that comes over you when an elevator jerks as it slows down and comes to a halt with a low rumble. State-of-the-art elevators offer maximum ride comfort: almost silent operation and acceleration as well as smooth, jerk-free deceleration. The encoder, which supplies the drive with feedback signals from the motors, plays a key role in this. The Orona group, a leading provider of „Mobility Solutions“ with headquarters in Spain and activities in more than 100 countries, relies on encoder technology from SICK for its leading-edge elevators.

>> In Europe, one out of ten new elevators are Orona and 250,000 elevators all over the world use Orona technology everyday. Orona’s commitment to innovation and eco-efficiency is the key to its growth with the objective of consolidating itself among the top five elevator manufacturers on the globe.

Orona elevators excel with maximum comfort. This is also attributable to the SICK encoders, which allow for jerk-free acceleration and deceleration. However, this feature is not only indispensible for comfort, but also for a vast array of other aspects that make for top-notch elevators. It reduces the noise emission of elevators in office and residential buildings. Sudden load and force peaks acting on the mechanical system and the motor are limited. This, in turn, increases the service life of all components, and ensures maximum reliability and availability, low maintenance and maximum cost-effectiveness.

When Orona introduced gearless motors for their elevators, the company chose absolute encoders with the HIPERFACE® interface from SICK’s SRS/SRM50 line. As motor feedback systems, encoders provide the drive with the values required to control positioning, acceleration and deceleration.

With their high resolution of 32,768 steps per revolution, the SRS/SRM50 encoders enable high-precision positioning of the elevator car and maximum reproducibility. In addition, the encoders support the complex, non-linear S ramps for acceleration and deceleration in an optimum way. Fast data transfer is ensured by the HIPERFACE® interface, which was developed by SICK and has evolved into an industry standard.

Today, Orona purchases about 10,000 SICK encoders every year. Safety technology offers new perspectives for an even closer cooperation between Orona and SICK. As a leading provider of industrial safety technology, SICK offers sensors, systems, solutions and services that allow for the highly effective implementation of fully standards-compliant safety infrastructures.

Further applications:
www.mysick.com/applications
More about the customer:
www.orona.es

CLOSE-RANGE CONTAINER IDENTIFICATION IN THE NEW CENTRAL WAREHOUSE

UNSPOILED ONLINE SHOPPING EXPERIENCE

High-frequency identification systems of the RFH620 product family from SICK provide for fast and reliable destination control of article containers, thus enabling efficient order picking of online customer orders.

>> The RFH620 read/write device works in the high-frequency range of 13.56 MHz, featuring a sensing range of 160 mm. Thus, it can be used ideally for close-range applications, e.g. in container logistics. Moreover, the system meets important standards, such as ISO 15693 and ISO 18000-3 M1. Because of that, the RFH620 can identify all transponders complying with this standard. Another feature is the connection technology and trouble-free integration into all common fieldbus and network designs. These characteristics in conjunction with solid consulting by SICK as well as the reliability of rapid support when required convinced Zalando with respect to their logistics center in Erfurt.

Zalando GmbH is one of Europe's leading online mail-order companies for shoes and fashion goods and one of the fastest growing businesses. Sales exceeding one billion euros in the year 2012, about one million packages shipped a month, and more than 100 million visits per month make Zalando a leading Internet mail-order retailer. Sharp growth in sales prompted the Berlin-based online operator in 2012 to expand its logistics center in Erfurt by another 45.000 m² (approx. 485,000 sq. ft.).

RFID BY SICK CONTROLS CONTAINER TRAFFIC

For quick and pinpoint transportation of the roughly 5,000 article containers, Zalando relies on RFID technology that delivers a number of benefits as compared to optical systems such as bar codes: The transponders cannot be damaged; they are largely resistant against contamination and usable for as many times as required; and they can carry large amounts of data along on the object. Since no visual connection to the read unit is necessary, they are readable at all times, avoiding "no reads". In this way, it is possible to fulfill the expectations of online customers concerning quick and reliable delivery of goods. The containers used for Zalando's logistics center were already equipped with card transponders by BITO-Lagertechnik, a manufacturer in this field. Inserted into a special recess in the intermediate bottom, the transponders were then attached with a spacer block made of foam, prior to welding on the smooth container bottom mechanically. In the warehouse, more than 200 RFH620 reading units detect the ID numbers of the containers, directing them to the designated pick-and-place spaces. Due to their reliable reading behavior, the read/write devices of the RFH620 product family ensure trouble-free material flow without any stoppages or rejections. So instead of waiting for goods, Zalando's customers experience premium deliver performance at its best.

Further applications:
www.mysick.com/applications

More about the customer:
www.zalando.de
www.bito.com

Top: Read/write device RFH620
Bottom: Card transponder in the container bottom

ISTANBUL ATATURK AIRPORT RELIES ON TECHNOLOGY FROM SICK

KEEPING TRACK OF BAGGAGE

For identification of inbound pieces of baggage, Istanbul's Ataturk Airport relies on automatic track and trace systems from SICK. In this way, it was possible to improve transparency and traceability of passenger baggage in particular.

>> Istanbul Ataturk Airport is Turkey's biggest airport, currently ranked in 20th place of the world's largest airports. It is operated by TAV Airports Holding which is among the leading airport operators in the world. TAV Airports operates in all areas of airport operations such as duty-free, food and beverage services, ground services, IT, security and operations services. In 2012 the number of passengers at Instanbul Ataturk Airport increased about 20 percent.

Ideal for traceability of baggage: the ALIS track and trace system

Today, only a relatively small number of airports worldwide are capable of providing reliable and detailed data about inbound baggage and of making this information available to passengers and airlines. Generally, the number of incoming pieces of baggage is recorded at best, without any clear matching with individual passenger taking place. The airport in Istanbul has now changed this situation, using innovative track and trace systems from SICK for this purpose.

INCREASE OF TRANSPARENCY

Today, eleven track and trace systems ALIS overall ensure a significant increase of transparency in the inbound area of Ataturk Airport. The passenger baggage is transported by the ground crew to the terminal and then fed into the airport's baggage handling system. SICK's reading stations were installed in those segments of the system located ahead of the baggage return area accessible to passengers, specifically on to the conveyor lines leading to the arrival carousels. Here, the suitcases marked with one-dimensional bar code labels pass through the automatic reading gates. Special diagnostic and visualization software provides statistics concerning the monitoring of the reading systems as well as system performance. In addition, this step sees processing of numerous other data used for evaluation reports. There is also the option of taking an image of the piece of luggage at each reading station and of archiving it together with the corresponding suitcase ID.

CONTRIBUTION TO THE LOST-AND-FOUND PROCESS

"With the newly installed reading stations, transparency at the inbound area of Ataturk Airport has increased significantly," says Bergman Gulsun, responsible for the project on behalf of SICK. "For example, today it is possible without any problems to inform passengers who have landed about the exact place and time of baggage return." On top of that, however, the data provided by SICK's systems can also make an important contribution to the lost-and-found process. If a passenger reports a suitcase "lost" to the airline, the carrier is now able to check whether this suitcase was still transported to the baggage carousel and went missing only afterwards. This facilitates and accelerates the search for missing items of baggage.

Further applications:
www.mysick.com/applications

More about the customer:
www.ataturkairport.com
www.tavhavalimanlari.com.tr

ORIENTED TO THE POSTULATE OF PRODUCTIVITY

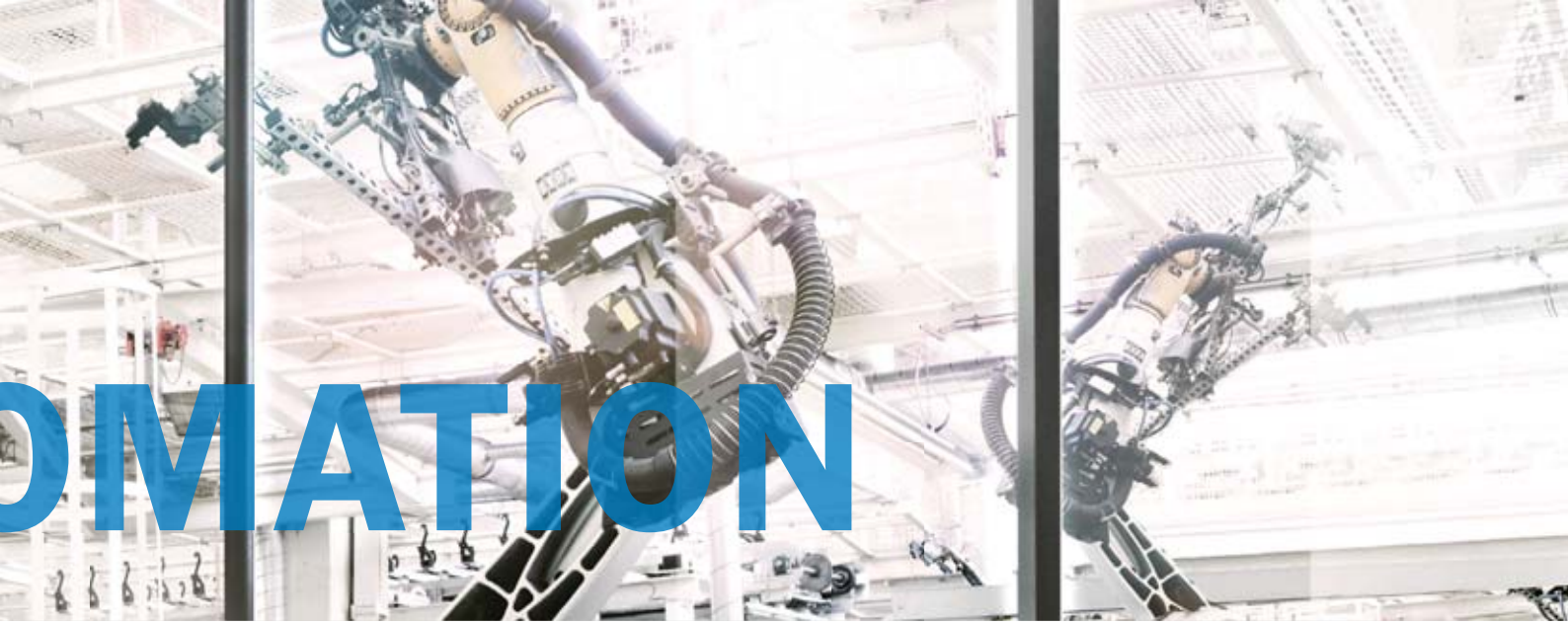
IN DIALOG TOWARDS OPTIMUM PROCESSES

In the factory automation segment, SICK is focusing on designing efficient sensor and system solutions for a large number of key industries. Besides the broad sensor, system, and service portfolio, it is particularly continuous dialog with machine builders, system integrators, end customers, and experts that ensures optimum results.

>> Anyone wishing to achieve productivity must know and understand processes, being able to analyze them and suggest alternative courses of action. With respect to factory automation from SICK, this means transferring the company's own expertise in industry-specific ways into sensor solutions in order to support customers in their core competence. Attaining this goal occurs in the best and most sustainable fashion in dialog with customers, whose requirements and needs always rank front and center in this connection. Particularly when it comes to business with internationally operating enterprises, such as, e.g. automobile manufacturers, this is especially important, since in this field, complex projects involving the most diverse demands and sometimes several partners must be seen through to successful completion. Therefore, it is a good thing to have a partner like SICK that understands even complex customer requirements and that is capable of providing solutions internationally. Today the question "Who in fact is the customer and what are the requirements" can produce only one answer: "There is no such thing as THE customer with THE specific requirement but instead often a network of contact persons with very individual needs." Thanks to industry and solution competence as well as proximity to customers, SICK is integrated into these networks in a variety of ways: Supported by SICK's Product and Industry Management, international Key Account Management takes care both of contacts in company headquarters as well as opinion leaders and responsible persons in individual plants and countries. From this dialog arise long-term contacts, tailor-made solutions, and, above all, perspectives for comprehensive cooperation based on partnership – as witnessed, among others, by the example of PSA Peugeot Citroën.

STRONG COOPERATION FOR MORE THAN 20 YEARS

Spanning more than two decades, SICK has established an active partnership with the French PSA Citroën Peugeot Automotive Group. Producing almost three million vehicles a year, the company is Europe's second largest carmaker. PSA Peugeot Citroën has a global presence in about 160 countries, operating 28 plants worldwide with a workforce of more than 200,000 employees – roughly



OMATION

half of them in France. Overall, some 200 automatism specialists look after the technical equipment of the installations at various locations. International presence, global contacts: That is something SICK offers as well – which makes it perfectly positioned as a partner for the dialog with PSA Peugeot Citroën. In addition to the worldwide presence, a number of other reasons were decisive for the long-standing cooperation. The complete portfolio – comprised of products, systems, solutions, and services – as well as technological leadership were convincing in one hand. Financially independent, economically sustainable, and boasting an outstanding international reputation, SICK also cuts a fine figure as a company on the other hand in the eyes of the French corporate group. SICK supports PSA Peugeot Citroën in their national and international development work, provides technical support across plants and national borders, thus facilitating original equipment of installations as well as handling in ongoing operations, and guarantees in this way the highest possible plant availability. At the same time, intensive communication opens up the chance of developing new possible applications and market potentials – making the dialog a win-win process. This phenomenon also marks the industry meetings that SICK organizes – not only for the automotive industry – meetings that yield great resonance and success.

AUTOMOTIVE DAYS 2013: SICK'S INDUSTRY MEETING AS DIALOG PLATFORM

First-hand information, but particularly time and space for dialog, for exchanging experience, and for networking is what

the Automotive Days at SICK in Waldkirch offer at regular intervals. Technological trends, customer requirements, and market developments comprise the topics of conversation among the national and international automobile experts. The industry meeting had taken place for the first time in 2009, with the number of participants more than doubling since. Small wonder, as the experts from SICK, above all though independent guest speakers, take up the issues topical at the time. Under the motto of "Getting progress on the road," the main focus in 2013 was on the expansion of worldwide production capacities, the demands of flexibilization in production, the automotive industry in a globalized setting, and the three magic "E"s – energy efficiency, electromobility, and "easy-to-use products." Inviting external presenters that ensure thinking outside the box, SICK managed to win, among others, experts from automobile and tire manufacturers, from automotive suppliers, from the Fraunhofer-Gesellschaft and the University of Dortmund. This event once again went down really well with visitors – as documented by the first advance reservations for the next Automotive Days.

POSITIONED ACROSS INDUSTRIES IN FACTORY AUTOMATION

SICK's customer- and dialog-oriented approach in factory automation is not limited to this example in the automotive industry alone. In other industries, too, joint dialog constitutes the basis of innovative solution strategies, e.g. in machine building with its numerous main application areas, in the pharmaceutical, consumer goods, and packaging industries as well as the electronics and solar industry, and in the motions & drives field of automation.

The following pages hold examples for you in store about how a complete portfolio and a dialog-oriented partnership result in better productivity. Have a great read.

Further information:
www.sick.com/industries

AUTOMATIC QUALITY CONTROL WITH DISTANCE SENSOR FROM SICK

WIRE TWISTING WITHOUT COMPLICATIONS

In semiautomatic wire twisters of the Komax Wire Company, the DL50 Hi distance sensor makes sure that the correct wire lengths are used and that the length of the twisted wire can be monitored continuously.

>> Founded in 1975, the Komax Group based in Dierikon, Switzerland, is a globally positioned technology company that concentrates on markets in the area of automation. The corporate group operates production plants in Europe, North America, and Asia, generating sales of about 282 million Swiss francs in 2012. One of the core business segments is Komax Wire. A partner of the automotive supply industry, the company stands for innovative and high-quality solutions in wire processing. One example of this is the semiautomatic bt188 T twister used to twist several wires into a more compact strand. "Twisting has the benefit of preventing the transmission of interference pulses into the wires, e.g. in the case of airbag wires or bus systems," explains Urs Mehri, who heads one of the Research & Development departments.

DL50 Hi ensures clamping of wires with the correct length

WANTED: SENSOR SOLUTION FOR SET-UP AID AND PROCESS MONITORING

In order to guarantee correct manual clamping of the wires and to enable process monitoring of the semiautomatic machine, Komax Wire was searching for a solution that simultaneously takes on the tasks of set-up aid, plausibility checking, and position monitoring during twisting. Following analysis of the task required, SICK recommended the DL50 Hi distance sensor. It meets all of the requirements related to measurement and interface technology.

DL50 HI: MID RANGE ALL-ROUNDER WITH COMPACT HOUSING

The DL50 Hi suggests itself as a true all-round talent: Featuring a long range, the sensor is well prepared for various distances, and thanks to its compact design, one can conveniently install and commission the device even in highly inaccessible places. Urs Mehri gives another decisive argument for Komax Wire: "With its RS422 interface, the DL50 Hi fits perfectly into the control system of the semiautomatic twister, which enabled us to avoid the corresponding adjustment effort."

PLAUSIBILITY CHECK REQUIRED

The sensor provides valuable assistance when clamping the wires. The semiautomatic twister consists of a firmly fixed twisting unit and a sliding frame that is mounted freely movable on a rail. Depending on the wire length, the sliding frame, fitted with a reflective foil, is positioned manually relative to the twisting unit at the distance specified by the controller. During this operation, the DL50 Hi carries out a plausibility check in order to avoid the clamping of wires featuring the incorrect length. Since the length of the twisted pairs shortens, the sliding frame reduces its distance to the twisting unit over the course of the process. While this occurs, the distance sensor measures the distance every 2.5 ms, ensuring the necessary twisting and thus guaranteeing the desired cable length as well as the highest quality.

Further applications:
www.mysick.com/applications

More about the customer:
www.komaxwire.com

IMPROVING AUTOMATION PROCESS RELIABILITY

2D LASER SCANNER CUTS COST AND BOOSTS EFFICIENCY IN PUNCHING MACHINES

Fast production, reliable processes, flexibility and superior quality are paramount in the sheet metal industry. DALCOS®, a manufacturer of coil punching machines, now equips its PXN-800 with a TiM3xx 2D laser scanner from SICK.

>> DALCOS® Spa, based in Castelfranco Veneto, Italy, is a member of the DALLAN® group. DALLAN® operates in more than 70 countries on all five continents. The product range comprises roll forming machines and machines for producing metal sections and profiles. DALCOS® Spa is the group's specialist for coil punching machines.

MORE FLEXIBILITY IN MACHINE DESIGN

Vehicles, kitchenware, metal furniture, shelves, and cabinets for the electronics industry, etc. do all contain metal parts. As sheet metal part manufacturers face increasing numbers of variants, shorter cycles and smaller batch sizes, greater flexibility is required in terms of machine design.

The DALCOS® coil punching machine PXN-800 is highly versatile with an excellent price/performance ratio. Sheets are produced from a coil and further processed in the punching machine. The parts are then stacked on a table – a critical process, since the parts may be very delicate and need to be positioned with maximum accuracy. With SICK's TiM3xx 2D laser scanner, the PXN-800 has now become even more competitive.

EASY AND QUICK ASSEMBLY

Unlike the old solution with eight through-beam sensors for identifying incorrectly stacked parts, the PXN-800 uses TiM3xx. It is one of the smallest and lightest laser scanners on the market to scan and monitor the complete stacking area for tilted parts. The through-beam sensors required considerable installation, alignment and cabling effort. TiM excels with easy and fast installation. In addition, it features low power input, evaluation of multiple fields with intelligent algorithms and proven industrial design, making it ideal for detection tasks in machines.

OPTIMIZED INSTALLATION AND SPACE

With the laser scanner, DALCOS® was able to cut down the installation time from eight hours to one. Reduced cabling as well as fewer PLC connections and mounting brackets resulted in additional savings. Beyond these immediately tangible benefits, TiM3xx provides additional advantages. The small footprint optimizes the installation space. The laser scanner can be adapted to the scanning area and the parts to be detected in a much more flexible way, making customization of the machine a lot easier. In addition, the detection quality is higher, which results in less downtime.

Roberto Andretta from DALCOS® summarizes: "The TiM laser scanner from SICK provides benefits across the board: reduced cost, more flexibility and increased reliability."

Further applications:
www.mysick.com/applications
More about the customer:
www.dalcos.com

AUTOMATION AND SAFETY

ALWAYS ONE STEP AHEAD

The partnership between Ocme and SICK is a success story and a guarantee for extremely high-quality solutions. Due to the development of laser-guided transport vehicles, Ocme automated the entire final packaging line. In the process, sensors from SICK made an essential contribution to the safety and reliability of the machines.

>> With more than 10,000 machines put in operation, the Ocme Company – founded in 1954 in the Italian city of Parma – ranks among the international market leaders for packaging systems. The enterprise features a worldwide distribution network with some 40 branches. Ocme's portfolio includes filling plants, installations for primary and secondary packaging, as well as machines for final packaging and logistics. The year 2003 marked the go-ahead for the production of laser-guided transport vehicles. Ocme developed the software entirely on its own. This allows complete control of the developed system and makes it possible to cover the whole process, from packaging to final packaging.

MAXIMUM LEVEL OF SAFETY AND RELIABILITY

The top objective of Ocme is ensuring maximum reliability and safety throughout. For this reason, Ocme specifically turned to SICK. "We were looking for a supplier that is positioned at the top of its respective market segment, that enjoys a high standing among our customers, and that represents the same values as we do. In some cases, our international customers even specified SICK," explains Paolo Miceli, who is engineer at LGV System Designing.

For collision prevention, the transport vehicles of Ocme feature four S300 and S3000 safety laser scanners from SICK. Together with the Flexi Soft modular safety controller, they guarantee personnel safety. In this connection, Flexi Soft acts as a safety PLC.

In programming the Flexi Soft in combination with the safety laser scanners from SICK, it was possible to replace the control cabinet with simple control panels. This enabled Ocme to reduce the manufacturing costs of the transport vehicles as well.

Moreover, three additional S100 2D laser scanners are mounted on the transport vehicles. They detect possible obstacles, such as an overhead travelling crane or forklift trucks parked in the wrong spot along the travel path. One sensor monitors long distances if the vehicle moves too fast, and one S100 monitors medium-range distances at constant speeds. Another laser scanner checks the short distances when the vehicle is moving more slowly. This approach entails activating the right S100 for the respective situation at all times.

Besides the navigation scanner NAV, a DT50 distance sensor from SICK was installed as well for preventing collisions when moving through automatic doors. In doing so, one can avoid that the vehicles continue travelling in case automatic doors malfunction, which might cause damage to the transport vehicle.

MUTING FOR ROBOT CELLS

Some of Ocme's customers wished to equip their machines with muting sensors. This was intended to ensure better safety between the loading zone and the vehicle. The approach yields great benefits: When the vehicle receives a finished pallet from the robot cell, it first mutes the M4000 multiple light beam safety device from SICK. The latter serves to interrupt the process as soon as a person gains unauthorized access to the cell. The robot cell represents a separate area, which must be equipped with passageways for issuing pallets, however. These passages feature M4000 multiple light beam safety devices that stop any hazardous movements if a person gains entry using these passages, thus preventing injuries. What does happen as well, though, is that the function of the M4000 must be switched off for regular operation. This occurs when conveying a pallet. Depending on the length of the conveyor belt, it is also possible to transfer the pallet behind the M4000 multiple light beam safety device.

However, if the conveyor belt is too short, the pallet must be passed on within the cell and thus before reaching the M4000. In this scenario, it is essential to set the parameters for muting the multiple light beam safety device. This setting takes place by means of the sender and the receiver: The "exit monitoring" muting function requires only two muting sensors and the UE403 switching amplifier in the hazardous area.

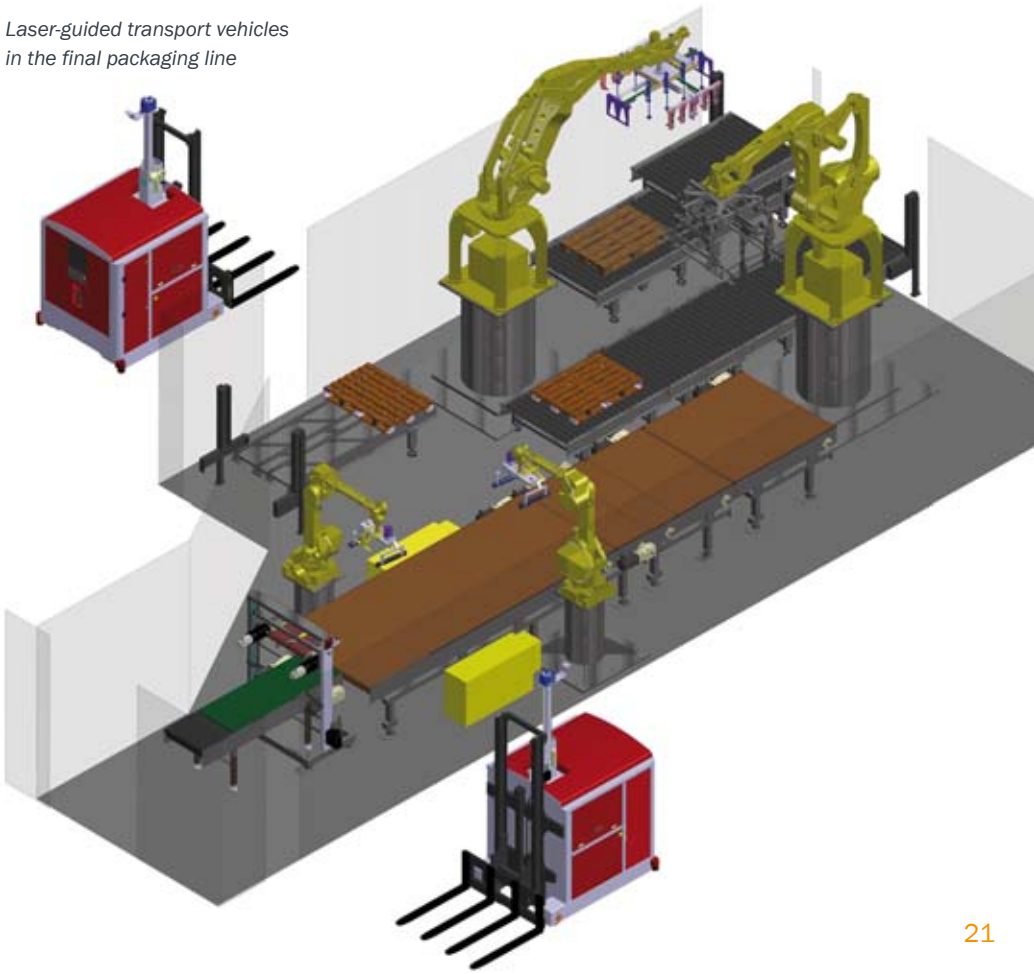
SICK STANDS FOR SAFETY

"SICK provided us with active advice and support at all times, addressing our requirements directly," emphasizes Miceli. "A great number of our customers ask specifically for products made by SICK because they feel safer when using them. SICK has a very broad product portfolio, and the company is always one step ahead, not only in terms of technology. As a company name, SICK in itself constitutes a kind of guarantee, enjoying a great reputation worldwide on top of that. SICK tailors new products individually to customers' demands, allowing them to share in technological innovations. To us, SICK is a partner with whom we can cooperate and grow."

Further applications:
www.mysick.com/applications

More about the customer:
www.ocme.it

Laser-guided transport vehicles in the final packaging line



LECTOR®620: FLEXIBLE, HIGHLY AVAILABLE, INVESTMENT-PROOF AND FUTURE-PROOF

ALL-ROUND TALENT FOR SLEEVE IDENTIFICATION

LECTOR®620 image-based code readers in sleeving systems of the SetLine series from OYSTAR A+F ensure that the machines are operated without errors, which allows achieving optimum packaging performance.

>> "For several reasons, OYSTAR A+F opted for the LECTOR®620 Professional," explains Dipl.-Ing. Sascha Barkei from Software Engineering at OYSTAR A+F. "The code reader delivers convincing performance due to its compact and industry-compatible design. The image-based device is capable of 1D and 2D codes, ensures reliable, omnidirectional reading behavior and enables monitoring of code quality."

OYSTAR A+F: PERFORMANCE AND FLEXIBILITY IN FULLY AUTOMATIC FINAL PACKAGING

The OYSTAR Group is one of the world's leading providers of all-in-one solutions for packaging machines. Within the group, OYSTAR A+F GmbH in Kirchlengern (Germany) has specialized in the development and manufacture of fully automated packaging systems. "The product program includes systems for transporting and handling of, among other things, cups, bottles, cans, or bags as well as secondary packaging in sleeves," explains Alfredo Schneider from Product Management.

REQUIRED: ERROR-FREE FEEDING OF SLEEVES

The integrated sleeving and packaging systems of the SetLine series are capable of processing different container sizes and multiple sleeves – doing so at machine capacities of up to 40,000 cups an hour. The cardboard cutouts for the sleeves are fed from a magazine to multi-row stacks. In order to achieve the best possible safety in the course of the packaging process, the sleeves have to be identified and confirmed as correct prior to being unfolded in the sleeve inserting station. In the process, the position and orientation of the bar code may vary for the same types of sleeve. In addition, it is necessary to monitor the print and contrast quality of the coding. "Finally, the code reader must be able to read 1D codes with utmost reliability, while at the same time being suitable as well for the future 2D codes on the sleeves," says Holger Boeckeler from Industry Support Commercial Goods of SICK Vertriebs-GmbH. To a large extent, he did the consulting with respect to and implementation of the project for equipping the sleeving system.

LECTOR®620 ENSURES CORRECT SUPPLY OF CUTOUTS

In the sleeving system, a vacuum gripper arm takes several cutouts at a time from the stacks, swiveling them into the field of view of the code readers installed above the magazine feed. As soon as the codes come within the field of view, they are detected independently by the eight LECTOR®620 Professional overall by means of presentation mode, and the reading process starts. Afterwards, the vacuum gripper arm inserts the as yet flat sleeves into the cutout feed, where they undergo pre-folding. Subsequently, in the cup insertion stations, the cups coming from a filling machine, e. g. for yoghurt in different flavors, are inserted into the sleeves, which have adhesive applied to them on top and get folded and glued automatically. "In case the code readers have detected an incorrect sleeve before, this particular packaging unit is sorted out behind the cup insertion station," explains Sascha Barkei. "Thus, raspberry yoghurt in the lemon sleeve is impossible. If the reading devices detect several incorrect types of sleeves in close succession, the system is stopped, and the machine operator has to check the feed stock in the carton magazine."

Using the LECTOR®620 Professional, OYSTAR A+F thus manages very efficiently to achieve a maximum level of packaging safety while reliably avoiding rejects and complaints at the end customer's operation.

Further applications:
www.mysick.com/applications
More about the customer:
www.oystar-group.com

TOPEX AND SICK DEVELOP LABEL CENTER

CAR BODY MARKING WITH RFID LABELS

In the automotive industry, 100 percent traceability in manufacturing is essential. Therefore, every vehicle must be identifiable clearly through all manufacturing and installation steps, and it must be possible to store all operations on the vehicle. For a German automotive group, the Topex Company developed an RFID label center that digitally labels automotive bodies in an unambiguous way both digitally and optically from the very beginning. Sensors from SICK ensure correct functioning.

>> In order to be able to trace all processing steps, the vehicle manufacturer installed a body detection and production flow control system using an RFID label that serves to store all information. The data can be retrieved at any time within the manufacturing network by higher-level systems such as order controlling and plant controlling by means of RFID read/write devices. In this way, the car body becomes an "intelligent" participant in the manufacturing process.

ACCURATE READING OF DATA DESPITE HEAT AND PAINTING

The most important application criterion is that the label does not lose its data even at high temperatures and after the painting operation and that the car body can be identified throughout the entire manufacturing process. For this reason, one uses a laminated label whose protective layer can be peeled off after painting. The vehicle data is written on the heat-resistant RFID label by means of an RFID label center. As a backup for emergency organization, the label is also imprinted with a PIN and a clearly identifiable body construction key and attached firmly to the car body. One important demand by the corporate group in this connection was that the data on the label ought to be accurately readable even after the galvanizing and painting line and that they comply with the car manufacturer's latest standard.

TOPEX AND SICK DEVELOP LABEL CENTER

The Topex Company, a manufacturer of production systems for labeling and identification of products and work pieces, and SICK joined in developing a suitable label center. Here, a Topex robot takes the RFID label from a magazine, placing it in the RFU630 RFID read/write device from SICK. The latter device writes all of the variable vehicle-specific data on to the RFID transponder, checking any relevant parameters such as response field strength and RSSI. Defective components are placed in a rejects box; correct labels are forwarded to the next station. The RFID data come from the job order PC via PROFINET.

Following that, the robot moves the label to a laser writing station. Here, 'perforation type' is used to apply the vehicle-specific information to the label. This serves as backup if contrary to expectations a label should fail in the manufacturing process. To this end, Topex developed a machine that prints data by means of CO_2 laser as a 'perforation,' rendering the printed characters readable 100 percent even after the painting process. What follows this action is checking the clear type information. Parallel to this, a plastic clip is singulated by a vibrating conveyor hopper and made available via a feed rail. The robot moves with the finished RFID label over the plastic clip, putting the dedicated label recess on to the clip and attaching the completed composite to the vehicle body. In the meantime, several of Topex' label centers have been working entirely trouble-free in shift operation in Germany and China.

Further applications:
www.mysick.com/applications

More about the customer:
www.topex.de

RFU630 writes on and checks the RFID labels

INSPECTOR “INVESTIGATES” IN THE ASIAN REGION AS WELL!

QUALITY CONTROL WITH INSPECTOR IN ASIA

In order to detect defective wafers or cells, respectively, as early as possible within the production process, a leading Asian and internationally operating manufacturer of solar cells relies on the compact, user-friendly, and precise Inspector PI50 vision sensor.

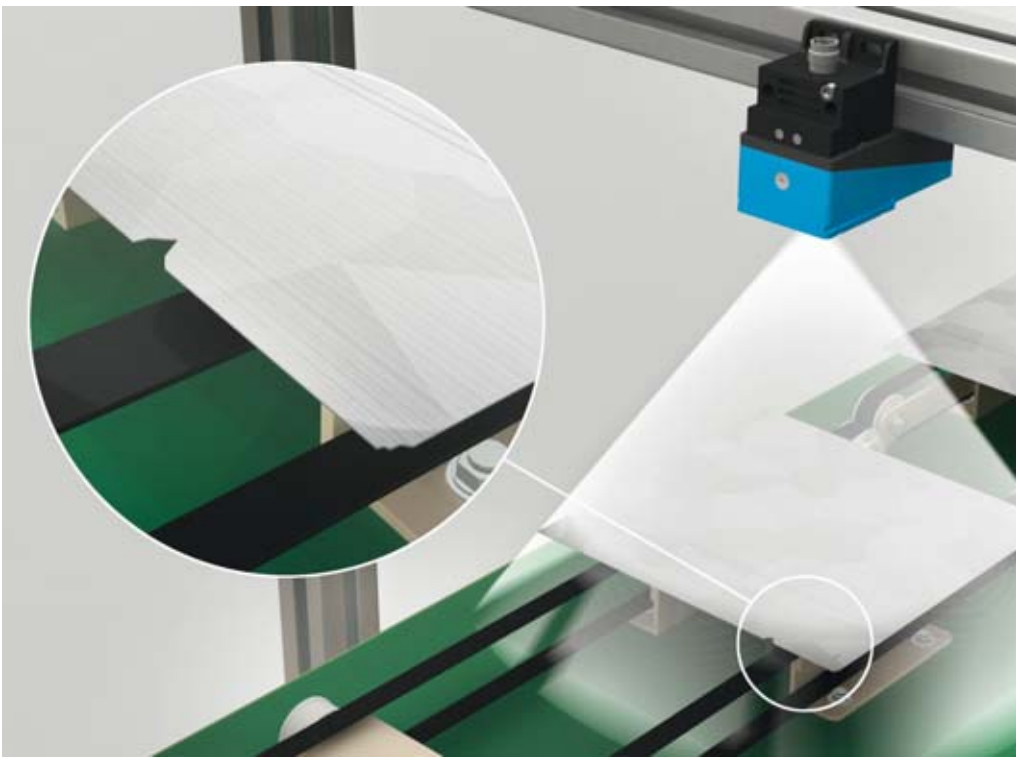
>> Measuring approx. 200 µm in thickness, solar wafers and solar cells are extremely thin. Accordingly, the risk of damage during transport and handling in the installation but also due to process-related mechanical and thermal stress is rather high. To detect wafer and cells with defective edge geometries early on and to sort them out of the production process, they must undergo checking after each production step. At the enterprise in question, this occurs at a cycle time of one second – thus amounting to about 3,600 pieces an hour.

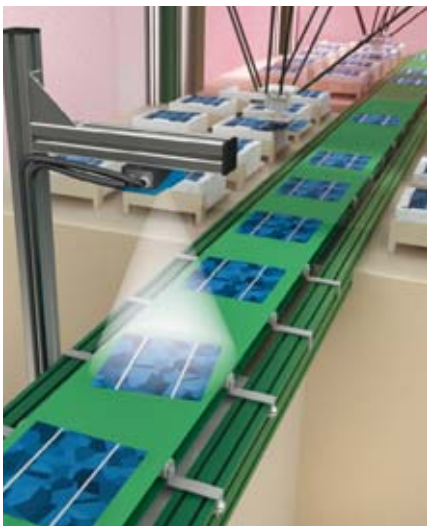
RELIABLE INSPECTION OF DIVERSE TYPES OF SOLAR WAFERS AND CELLS

Efficient like a camera and nearly as easy to operate as a standard photoelectric sensor – the Inspector PI50 intelligently combines theses features. The sensor in the metal housing with an IP 67 enclosure rating does not require a separate evaluation unit, also providing its own source of lighting. It illuminates all of the areas of the wafer and subsequently of the cell – i.e. the edge regions critical to the process – homogenously as well as free of ambient light and without shadows. In order to achieve a clean contrast transition on the edge of the wafer/cell, the method of choice was a defined background with reflective foil. Even for different types, this approach ensures a consistent background situation concerning color and structure, thereby increasing process reliability of the inspection solution further. For checking the edges of the wafers and cells measuring 156 mm x 156 mm, the Inspector PI50 takes a full-surface image of the “wafer/cell” object and examines it for damages measuring up to 2 mm x 2 mm. The sensor’s software algorithm, designated as “pixel sum comparison”, then evaluates all edges of the wafer or cell, respectively – within a few milliseconds and with utmost precision. A trigger signal is not necessary in this context. The imaging occurs as soon as the object is within the measuring field. In case of damage detected at one of the edges, the element in question is sorted out. This guarantees that at the solar cell manufacturer only flawless wafers and cells pass through all of the processing steps, thus minimizing process costs.

SENSOR SOLUTIONS AND SUPPORT ARE CONVINCING

Since sensor technology from SICK has been implemented at this company in many existing machines and process facilities already, which made the brand well-known, it was only logical to contact SICK about the solution regarding edge fracture control as well. Showing professional commitment, SICK took up the customers’ demands, selected the Inspector vision sensor, examined the application solution, presenting it to the customer, and supported the client in the course of implementation. The manufacturer offers particular praise for the short response time following the initial project request as well as further consultation during project implementation.





Detects defective wafers and cells early on in the production process: the Inspector PI50

Further applications:
www.mysick.com/applications

INTEGRATED LIGHTING, IMAGE EVALUATION AND ETHERNET INTERFACE

AUTOMATIC CRACK DETECTION WITH INSPECTOR I40

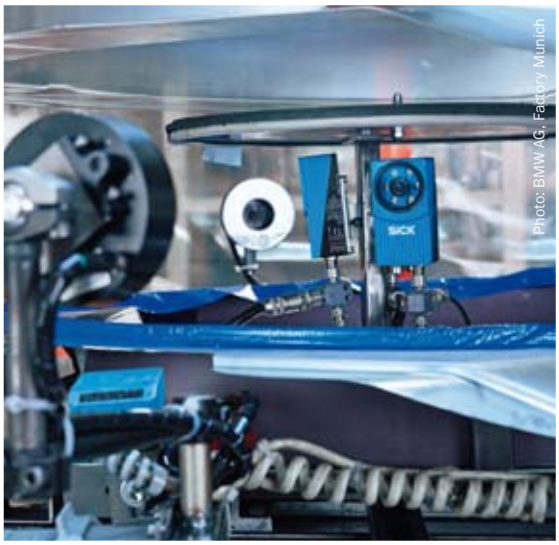
Every error detected too late costs money. At BMW in Munich, until now defective wheel housings were recognized only at the outfeed of the press line. Now Inspector I40 vision sensors from SICK already check every component for cracks after the first drawing process in the lead press.

>> More than 400 different pressed parts form the basis of the body-in-white of a BMW 3 Series. For this purpose, at the Munich Presswerk II of the BMW Group every day about 600 tons of sheet steel are processed, for more than 130,000 body components on eight press lines. In light of this volume, it is essential to detect and sort out defective components as early as possible. In the area of the pressing plant, previously the quality of the wheel housings for the BMW 3 Series was checked manually by an employee only at the exit point of the press line – which means after the steel sheets had been drawn, bent, punched, and trimmed to size. Consequently, the car manufacturer's request involved detecting cracks in the metal sheets immediately after the first processing step.

To this end, SICK developed a solution that was just as simple as it was cost effective. Its core is the Inspector I40 vision sensor with integrated lighting, image evaluation, and Ethernet interface. Independent of the components, crack inspection already takes place at the body panel deposit of the orientation station, which serves as an intermediate storage space. A so-called feeder deposits the metal sheets, deep-drawn in the lead press, into this station. Exerting a press force of 1,800 tons, this press has already performed the major forming of the part. The subsequent presses take on additional cutting and forming processes, resulting step by step in the creation of a precisely shaped complex component.

Mounted above the orientation station is the Inspector I40 vision sensor from SICK. The ICL300 external illumination unit illuminates the metal sheets from the outside. The sensor is actuated in such a way that it works as a pixel counter in the dark. Components that are OK remain completely in the dark. Only in case of cracks, the light passes through, appearing as light pixels. When the sensor detects a crack in this way, the facility is stopped, with the corresponding error message issued. Error-free drawn components are transported to the next press by means of another feeder.

Employing this simple solution makes it possible to do without an additional PC for image evaluation. The sensor is integrated directly into the press controller via its input and output subassembly. "It is possible to integrate this type of crack inspection without major effort into any existing facility and to use it for any formed parts," says one employee at BMW Maintenance. Initial trials in production operations yielded extremely high accuracy in detecting torn components. So far, the crack inspection in this form has been used at the Munich Presswerk for two different components. "However, we do not rule out deployment for additional parts in the future."



The Inspector I40 vision sensor is mounted above the orientation station. The ICL300 external illumination unit illuminates the metal sheets from the outside

Further applications:
www.mysick.com/applications
More about the customer:
www.bmw.de

VIEWS & VOIC

INNOVATIONS IN VEHICLE SAFETY AT AUDI

ALLOWING YOU TO DRIVE SAFELY

In late summer, Audi will launch with a sporty sedan into the world's largest market segment of compact four-door cars. The third model of the successful A3 series is convincing due to low weight, highly efficient drive systems, and a top-notch safety standard. However, in order that a car like this can achieve the top five-star rating in terms of passive crash test safety, many details require clarifying. SICKinsight spoke with Dr. Erich-Walter Blümcke, an engineer at Audi responsible for the use of innovative technologies in airbag development.

Dr. Erich-Walter Blümcke, Audi AG

SICKinsight: For a car buyer, safety ranks among the most important criteria of the purchasing decision. What makes the Audi A3 a safe car?

Dr. Erich-Walter Blümcke: A wealth of conditions is reproduced in crash tests – in any of these scenarios, the passenger must be protected in the optimum way. In the North American market, which is important for the new Audi A3 sedan, the NCAP crash tests are in effect a benchmark in addition to US laws. They test how much protection the vehicle affords for the driver, the front passenger, and children in case of an angular, frontal, and side impact, with or without overlap of the cars. Added to this are child safety, active pedestrian protection, and safety assistance systems. It is our daily bread and butter to cope with this complexity and to make the car as safe as possible.

SICKinsight: The testers of the Euro-NCAP Consortium gave the A3 top grades for driver and front passenger in the case of frontal and sideways crashes. What are the challenges you had to master?

Dr. Erich-Walter Blümcke: In addition to seatbelts, airbags constitute a central building block of a vehicle's safety architecture. In an emergency, they are meant to protect the passengers reliably from harm, or at least reduce the effects of an accident. For this purpose, the airbag inflates extremely dynamically in just under 30 milliseconds. At a corresponding speed, all of the paneling components behind which the airbag is "hidden" need to give way toward the side. As manufacturers we must ensure that under any possible circumstances, the unfolding of the airbag takes place in a way that provides optimum restraint for all passengers.

SICKinsight: How do you test the function of the airbag?

Dr. Erich-Walter Blümcke: Every type of vehicle has its own instrument panel and every unfolding of the airbag transpires differently in each vehicle. More than 30 load cases exist in which the vehicle undergoes testing. However, before we place dummies into the car, we simulate crash behavior on the computer. And to this end, we require a great number of data from real-life crash behavior that are incorporated into our simulation. The high-speed cameras used that record the events in the vehicle's interior, providing valuable information in the process about the unfolding of the airbag as well as the plunging of the dummies into the airbags, have the disadvantage of visualizing the dynamics of unfolding only qualitatively. Using the high-speed

ES

Ranger and Ruler 3D cameras, we now have a certain measurement technology that not only resolves an airbag unfolding down to the last detail but also derives quantitative data from the individual images. With these products from SICK and the evaluation software from the AROTEC Company, we are now in a position to record cause-effect relationships, thus enabling us to improve our simulation.

SICKinsight: Where are you using the new measuring system?

Dr. Erich-Walter Blümcke: Accompanying the development process, we deployed the sensor system from SICK in the new Audi A3 sedan from the very beginning. The results of the study helped us better understand the interaction of the airbag cover in the instrument panel and the airbag even during the early phase of unfolding and to describe it more accurately in the simulation. These insights are also integrated into parallel and future development projects. Thus, it is possible to adapt the airbag more specifically to the respective vehicle.

SICKinsight: Why did you opt for sensor technology from SICK?

Dr. Erich-Walter Blümcke: The charm of SICK's system is that it can be applied very easily to manageable investment costs. The method is so good that we are using it in every trial without having any greater additional effort. If a new vehicle model is up for testing, we re-parameterize the application by means of the AROTEC software. For this purpose, we have stored the parameters of the individual vehicle models, enabling us to calibrate the measuring system.

The high-speed 3D cameras Ranger and Ruler record the unfolding of the airbag and provide valuable information for the simulation of crash behavior

SICKinsight: What is up next?

Dr. Erich-Walter Blümcke: As a next step, we intend to examine the unfolding of the head airbag installed in the roof liner. Its function upon triggering is first to open the lining of the vehicle roof before being able to position itself in the vehicle. And that is precisely what we wish to observe by means of the sensor system from SICK. Just as interesting is measuring the unfolding of a knee airbag. We perceive enormous potential in the new measurement technology – not only in development. In monitoring series production, too, we can use it to check product quality, thus detecting deviations from the normal process very early on. However, until reaching that point, we will have to develop algorithms enabling us to evaluate the great amount of data in standardized and automated ways. This helps us and our suppliers improve the products continuously and to check quality throughout.

SICKinsight: Dr. Blümcke, thank you very much for the interesting information and for the interview.

Further applications::
www.mysick.com/applications

More about the customer:
www.audi.de
www.arotec-robotik.de

ULTRASONIC FLOW MEASUREMENT IN COOLING CIRCUITS

FOR THE RIGHT DOSAGE

In cooling circuits, the FFU ultrasonic flowmeter from SICK proves the superior alternative to mechanical flow measurement.

>> In cooling circuits, e.g. in process engineering, coolant is lost due to evaporation or tool changing. When refilling with water, chemicals have to be added proportionally in order for the coolant to remain chemically and biologically stable and not to cause any damages, e.g. to the pipes and installations.

THE AIM: OPTIMUM PROPORTIONING OF CHEMICAL ADDITIVES

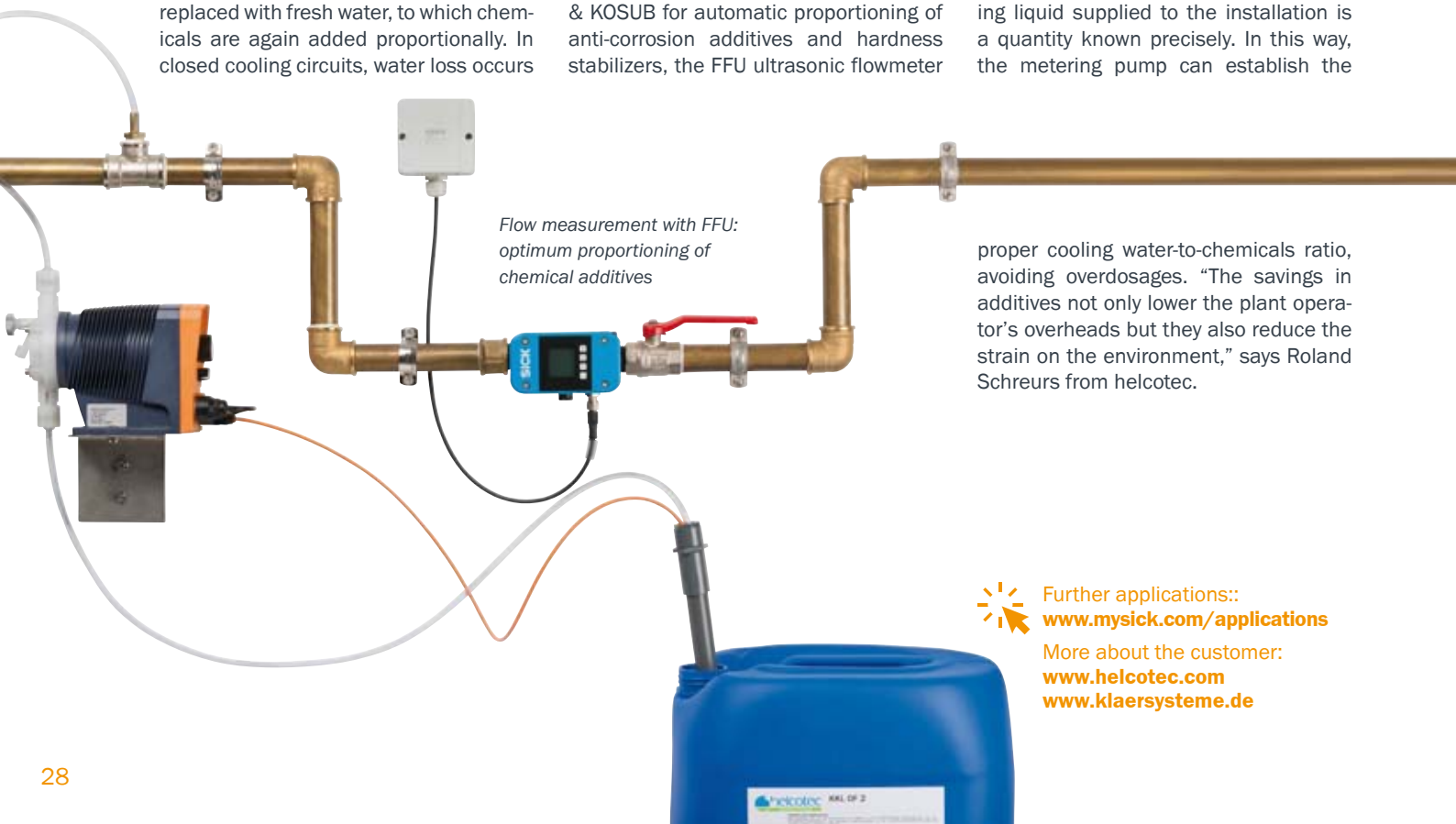
In open cooling circuits, the cooling agent is trickled down a cooling tower and cooled in this way. In the process, the water evaporates, while hardening constituents and salts increasingly concentrate in the remaining water. These must be stabilized by adding chemicals in order to prevent deposits and to build up corrosion protection. Upon reaching a pre-determined level of conductivity, part of the cooling medium is elutriated and replaced with fresh water, to which chemicals are again added proportionally. In closed cooling circuits, water loss occurs almost exclusively due to tool changes. In this scenario, evaporation does not take place, which means that only an anti-corrosion agent must be added to the cooling water. Whether the system is an open or closed circuit – frequently, the process of adding proportionally involves excess consumption of additives. The result is overdosing, which does not achieve any of the desired stabilizing or protecting effects. The helcotec and DÜLK & KOSUB companies have dedicated themselves to the challenge of optimum dosing of additives. helcotec Chemie u. Technik GmbH & Co. KG deals with the development, production, and distribution of additives for cooling circuits. As a plant construction firm, DÜLK & KOSUB Klärsysteme specializes in small wastewater treatment plants, in solutions for rainwater utilization and drainage, as well as in separator systems and pump stations.

MULTI-TALENT FFU: COMPACT MEASUREMENT TECHNOLOGY WITHOUT CORROSION RISKS

In the installations developed by DÜLK & KOSUB for automatic proportioning of anti-corrosion additives and hardness stabilizers, the FFU ultrasonic flowmeter from SICK enables non-contact determination of flow volume – doing so independent of the medium transported. Two sensors mounted opposite each other alternately send and receive ultrasonic signals. In case of a still medium, both sensors receive the emitted ultrasonic signals in phase. A flowing medium will result in phase shifting that is proportional to the flow velocity. “Due to its non-contact functional principle, the FFU is, without any mechanical component touching the medium, corrosion-free and resistant against scale and salt deposits. Therefore, it is suited for all water qualities and represents to us the appropriate sensor solution,” believes Rainer Kosub from DÜLK & KOSUB. “Because of its compact design and versatile installation options, the FFU from SICK is suited in the best possible way for use in our systems.”

FFU PROVIDES DIRECT BENEFITS TO THE COMPANY AND THE ENVIRONMENT

The FFU ultrasonic flowmeter from SICK makes sure that the amount of cooling liquid supplied to the installation is a quantity known precisely. In this way, the metering pump can establish the proper cooling water-to-chemicals ratio, avoiding overdosages. “The savings in additives not only lower the plant operator’s overheads but they also reduce the strain on the environment,” says Roland Schreurs from helcotec.



Flow measurement with FFU: optimum proportioning of chemical additives

Further applications::
www.mysick.com/applications

More about the customer:
www.helcotec.com
www.klaersysteme.de

LEVEL AND TEMPERATURE MONITORING
IN TRANSFORMER STATIONS

COMBINED SOLUTION FOR HARSH ENVIRONMENT

Continuous level measurement in the concrete basin: LFP Cubic

Green Intelligence.

Level measurement in redundant design, supplemented by temperature monitoring as pump protection – the combined solution from SICK for Amprion, a grid operator, prevents the overflow of liquids from the concrete basins of transformers, thus protecting the environment.

>> A leading transmission system operator for regenerative energies in Europe, Amprion GmbH operates the most extensive high-voltage transmission system measuring some 11,000 km (6,800 miles) between Germany, Switzerland, and Austria, featuring some 160 substations and transformer stations.

OVERFLOW AND DRY RUN MONITORING FOR COLLECTION BASINS

Each of the transformers is positioned in a concrete basin that collects different liquids such as rainwater or oil. In order to prevent overflowing, e.g. in case of strong rainfalls, the pump discharges the liquid immediately upon reaching a defined maximum level. On the other hand, in order to avoid dry running of the pump, it is essential to prevent the liquid in the basin to fall below a minimum level. Similarly, for protection of the pump, it is necessary to monitor the temperature of the liquid, thus keeping the pump from switching on in case of ice formation. To replace the error-prone level measurement using a conductive sensor, Amprion commissioned the automation specialist INperfektion Consulting with installing a second measuring system that works differently. The special challenge in this was that the measuring medium is comprised of randomly changing liquids such as water and oil. The demands on the sensors are correspondingly high, as it is impossible to reliably forecast and integrate physical properties such conductivity, density, and dielectric constant of an unknown suspension into the measurement.

REDUNDANT LEVEL MEASUREMENT USING LFP CUBIC AND UM30

The overall solution by SICK was convincing with respect to this task. It provides that two sensors working differently – the LFP Cubic TDR level sensor and the UM30 ultrasonic sensor – measure simultaneously, thus mutually monitoring each other.

The LFP Cubic is used for continuous level and point level measurement of liquids. The sensor generates high-frequency microwave impulses fed into a monoprobe and reflected by the fluid's surface. Due to the measuring principle, the measuring results are not influenced by the properties of the medium. The UM30 is used for level measurement in the collection basin as well. Integrated temperature compensation, color-independent detection of the level of clear or cloudy liquids, great contamination tolerance, as well as the extensive temperature range from –25 °C to +70 °C guarantee reliable measurements year round, even under difficult conditions.

TEMPERATURE MONITORING PROTECTS FROM PUMP DAMAGE

In addition to the level sensors, SICK's TBS temperature sensor measures the temperature of the fluid in the concrete basin, automatically preventing the starting of the pump at a temperature below 1.5 °C, i.e. slightly above freezing. Due to its user-friendliness, easy integration, and the large measuring range, the sensor is suited ideally for this application.

COMBINED SOLUTION FROM A SINGLE SOURCE

For INperfektion Consulting and Amprion, customer service by SICK was ideal: consulting, providing trial devices, as well a fast support from a single source made the implementation of the task simple and risk-free.

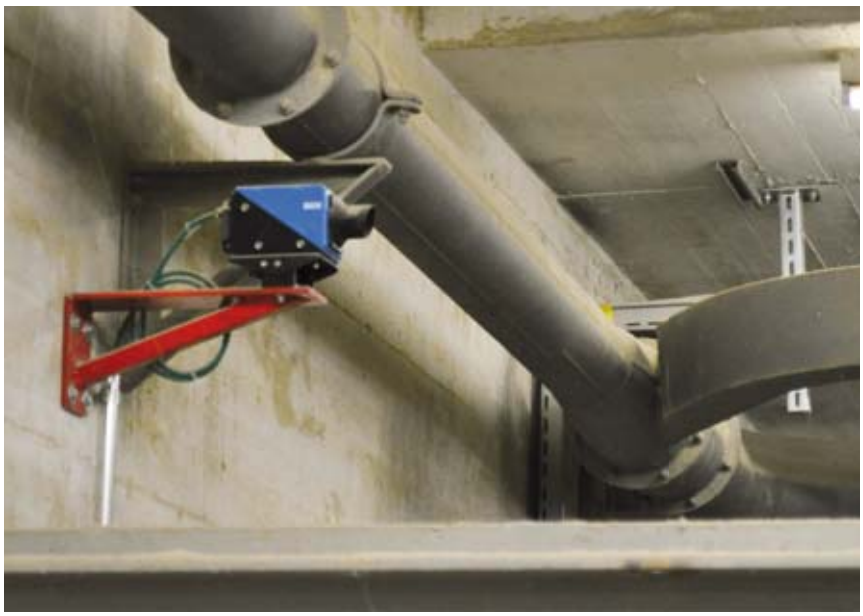
Further applications::
www.mysick.com/applications
More about the customer:
www.amprion.net

DISTANCE MEASUREMENT FOR ‘LOUISE’

DISTANCE SENSOR OPTIMIZES TRANSPORT OF BULK MATERIAL AT HOLCIM CEMENT PLANT

At the cement plant Siggenthal of Holcim (Switzerland) AG, DMT10-2 long range distance sensors from SICK help position the bunker dischargers in such a way as to achieve optimum discharge of limestone and marl as well as even charging of the grinding gear.

>> A ‘Louise,’ as it is called by the employees at the cement plant probably after its producer, is a bunker discharger with the help of which one can evenly extract materials with difficult flow properties from a storage, stockpile, bunker, or a mixed bed. Within its extraction channel, the transport system weighing several tons can move in both directions of travel in order to distribute materials such as limestone or marl evenly on to a conveyor belt – just as it happens in the Siggenthal cement plant, which sees use of six Louise cars at the same time.



The DMT10-2 knows at all times where “its Louise” is located

HOLCIM (SWITZERLAND) AG: NUMBER ONE OF SWISS DOMESTIC CEMENT PRODUCTION

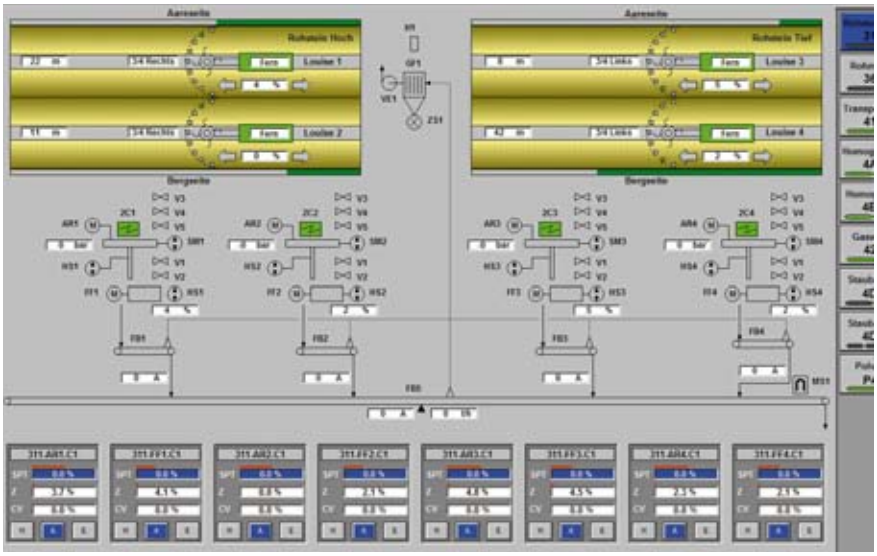
Holcim (Switzerland) AG is a subsidiary of Holcim Ltd, an internationally operating construction material group and the largest cement manufacturer in Switzerland. About 40 concrete plants are producing more than 1.5 million cubic meters of concrete every year – which constitutes a significant market share. The source material, cement, is manufactured at the three cement plants in Eclépens, Untervaz, and Siggenthal – approx. 2.6 million tons a year. In addition, roughly 20 gravel pits and quarries provide six million tons of grit, sand, and gravel.

A system and solution provider in the area of construction materials, Holcim (Switzerland) AG deems reliability in delivery particularly important. This is reflected in the processes associated with cement production, e. g. the charging of the grinding gear used to crush limestone and marl.

AUTOMATIC POSITION DETECTION REPLACES PLANT WALK-THROUGH

“The feeding of material takes place by means of the total of four conveyor belts approx. 65 meters in length with

The DTM10-2 determines the exact position, transmitting this information to the automation system at the control center



a capacity of up to 320 tons an hour that are filled by one 'Louise,'" explains the person responsible for the project, Roland Jehle, a long-standing employee from Electrical Maintenance at Holcim. The question of where the 'Louise' is positioned at any given time is of crucial importance during the extraction process, for the discharger must charge the conveyor as homogenously as possible, depleting the mixed bed evenly in doing so. "For that purpose, it was necessary for the control center to know where the 'Louise' is located in the extraction channel at a given time," says Roland Jehle. "Until now, a staff member had to go into the facility in order to determine the exact position and apply corrections to the plant control. Of course, in the context of increasing automation of plants, this is neither up-to-date nor efficient." Consequently, Holcim wished to detect the position of the 'Louise' at any given time, highly accurately and above all, fully automatically, with the help of a suitable sensor solution, in order to be able to manage the discharging process directly from the control center. "Due to the long measuring path along the discharging channel, the dusty environment, and the severe vibrations within the system, we attached particular importance to a rugged, wear-free, and highly available sensor," Roland Jehle describes the requirements in terms of device technology. Following consultation of SICK's homepage and advice by Philipp Birrer, Product Manager for distance sensors at SICK in Stans, he decided in favor of the DMT10-2 long range distance sensor.

LONG-LASTING LONG RANGE SOLUTION FOR 'LOUISE'

Featuring a measuring range of 155 m, a metal housing with an IP 65 enclosure rating, as well as a high level of resistance against shocks and vibrations, the DMT10-2 meets all of Holcim's measurement and operational requirements. Mounted to the housing wall at the end of the extraction channel, it directly detects the front side of the 'Louise,' determines via time-of-flight method its exact position within a matter of milliseconds, and outputs the measured data directly to the automation system at the control center by means of a PROFIBUS interface. Using this information, one can now remotely control where a 'Louise' should extract raw material from a mixed bed, transferring it in a process-optimized way to a conveyor belt. "Commissioning of the DMT10-2 was very efficient and simple," says Roland Jehle as he looks back. "Employees in our maintenance department installed the distance sensors, completed the electrical connections, and, using the pilot laser beam, were able to align them without any problems to the Louise carts – managing all of that without having to interrupt ongoing plant operations."

For about half a year, the long-range distance sensors have been busy in precisely positioning the Louise carts, twenty-four-seven – without any problems whatsoever. "The four sensors from SICK operate completely trouble-free," Roland Jehle provides a positive testimonial for the DMT10-2s. "Even in the dusty environment, they stand the test, and we never had to clean them or remove dust from them."

Thus, the solution proves long-lasting – fueling appetite for more at Holcim. "If the solution continues to work as accurately and unproblematically, one could also use it for the bulldozers in the quarry," Roland Jehle looks forward to the future, a future that is probably not too distant.

Further applications::
www.mysick.com/applications
More about the customer:
www.holcim.ch

RELIABLE MASS EMISSIONS RATE

PERFORMANCE IS AT ITS BEST INDIFFICULT CONDITIONS

Green Intelligence.

Reliable emission monitoring is essential due to the fossil fuels creating a significant carbon footprint. The solution is from SICK.

>> South Africa‘s largest electricity producer has set itself a significant task: to continuously monitor its dust concentration levels and, at the same time, meet the requirements stipulated by the country‘s environmental legislation. The company, Eskom, operates a number of large power plants that use fossil fuels, and has established links with coal mines in the area for this very reason. In fact, Eskom is an electricity supplier to not only South Africa itself, but other Sub-Saharan nations too.

NOT UP FOR NEGOTIATION

Emission monitoring is not negotiable and also essential for process optimization. The emission measurements are governed by South Africa legislation, controlled and enforced by the governing body named the “Green Scorpions.” Should predefined limits be continuously exceeded and no corrective action taken by the power supplier, penalties will be charged. Should continuous breaches of these limits continue, the plant will be forced to shut down. Eskom will be on the safe side with his comprehensive monitoring and measuring technologies: they must be robust, accurate and highly reliable being online 24/7.

Providing the power plants with reliable mass emissions rates the DUSTHUNTER T200 transmittance dust measuring device and the FLOWSIC100H gas flow measuring device were selected from the extensive SICK Process Automation portfolio.

CENTERED ON DUST MONITORING

Transmission is a widely used optical technology that is ideal for monitoring from a small to a large active measuring path. The DUSTHUNTER T200 also automatically monitors the contamination and corrects the measuring value, providing adequate warning if contamination exceeds the tolerable level for the optical monitoring system. It is additionally equipped with an automatic self-adjustment, exclusive to SICK. It corrects shifts in the optical axis, which can occur in the case of thermal expansion of the stack. Both save unnecessary maintenance work. The automatic self-adjustment makes it extremely simple to start-up the device.

MEASURING FLOW UNDER ANY CIRCUMSTANCES

Measuring gas flow in stacks of over three meters or more in diameter is practically impossible without ultrasound. Conventional measuring technology falls short when faced with low gas flow rates and gas flow turbulence or when particles in the gas contaminate the transducer. But FLOWSIC100H makes short work regardless of unfavourable flow conditions and impure gases. And thanks to different probe lengths, it can also be used for any wall thicknesses.

VIDEO
www.sickinsight-online.com

Further applications::
www.mysick.com/applications

More about the customer:
www.eskom.co.za

MOTOR FEEDBACK WITH HIPERFACE DSL® AT KOLLMORGEN

ONE CABLE, NO COMPROMISES

With the HIPERFACE DSL® portfolio from SICK, drive manufacturer Kollmorgen complements its own digital one-cable technology for resolvers in an ideal way.

>> Lower costs for the connecting cable and two plug connectors, less space required for wiring, and no compromises regarding the safety of communication between motor and controller – in electrical drive technology, the purely digital HIPERFACE DSL® interface opens a great variety of benefits to motor producers such as Kollmorgen when it comes to development, scaling, and integration of high-performance drive packages.

KOLLMORGEN RELIES ON ONE-CABLE TECHNOLOGY FOR FEEDBACK SYSTEMS

The Kollmorgen Company is a leading supplier of integrated automation and drive systems as well as corresponding components for machine builders in the entire world. Current motion control solutions such as the servo controllers of the AKD series, the synchronous motors of the AKM family, as well as the AKMH stainless steel motors in hygienic design are all laid out in innovative single-cable technology. When it comes to applications that do not put special demands on the resolution of the feedback signals, Kollmorgen uses digital resolvers featuring their own 24-bit feedback systems. "If an application were to necessitate higher resolutions of the feedback system, the devices employed as absolute encoders with HIPERFACE DSL® interface are the EKS36 or, respectively, the EKM36 motor feedback systems from SICK," says Jörg Peters, Director of Product Management at Kollmorgen Europe GmbH in Germany. Thus, the enterprise is probably the only supplier making available scalable solutions in single-cable technology that in effect cover all of the common applications.

MORE FLEXIBILITY, MORE AVAILABILITY

"Thus, customers can configure their drive packages in extremely flexible ways. The effort for wiring, hardware, and stock keeping as well as the risks of mix-ups are reduced substantially," Jörg Peters explains important benefits of single-cable technology. Reduced installation effort also provides the advantage of having fewer sources of error, thus entailing significantly reduced technical risks just in terms statistics alone. In turn, this constitutes one of the reasons why HIPERFACE DSL® also makes possible better availability of machines.

The EKS36 and EKM36 motor feedback systems featuring HIPERFACE DSL®

SINGLE-CABLE TECHNOLOGY: BENEFIT INCREASES WITH THE DEGREE DRIVE TECHNOLOGY BECOMES DECENTRALIZED

To Kollmorgen as a manufacturer of drives, HIPERFACE DSL® provides the option of using single-cable technology even when the application requires a high-resolution motor feedback signal, e.g. in high-speed applications. "In particular, spatially extensive machines with spread-out single axis and decentralized drive technology benefit from this. Precisely when greater cable lengths typical of such a scenario are involved, one can realize measurable savings potentials starting even from the first meter between the motor and the servo controller," confirms Jörg Peters. In addition to cost savings related to integration, the use of motor feedback systems with HIPERFACE DSL® offers machine builders the option of differentiating themselves in a competitive setting with this interface standard and the benefits it provides – an option utilized more often all the time.

VIDEO
www.sickinsight-online.com

Further applications::
www.mysick.com/applications

More about the customer:
www.kollmorgen.de

SOLVED INTELLIGENTLY

INDUCTIVE PROXIMITY SENSORS DETECT GENERATOR SPEED

For the Chinese NARI Company, inductive proximity sensors of the IME product family are the optimum solution for detecting the speed of generators.

>> The sensors meet all of NARI's performance requirements, offering outstanding price/performance ratio. The IMEs were used for the first time in a power generation unit at the Xiangshuijian pumped storage electrical hydro-power station.

NARI: LEADING IN MANY INDUSTRIES

The NARI Company is the leading provider of, among other things, power generation plants, water treatment plants, hydroelectric power technology, and rail traffic monitoring systems in China. Featuring four Francis turbines, the pumped storage electrical hydro-power station in Xiangshuijian generates one million kWh of electrical power a year. For this power plant, NARI was looking for a solution to detect the speed of the generator's runner very precisely and in real-time – on the one hand, to measure the output of the power generation plant; on the other hand, to recognize errors early on, thus allowing prompt troubleshooting within a short period. Sensors made by various manufacturers underwent thorough testing. Eventually, the IME product family prevailed due to its accuracy and durability.

IME INDUCTIVE PROXIMITY SENSORS: PRECISE, DURABLE, AND VERSATILE

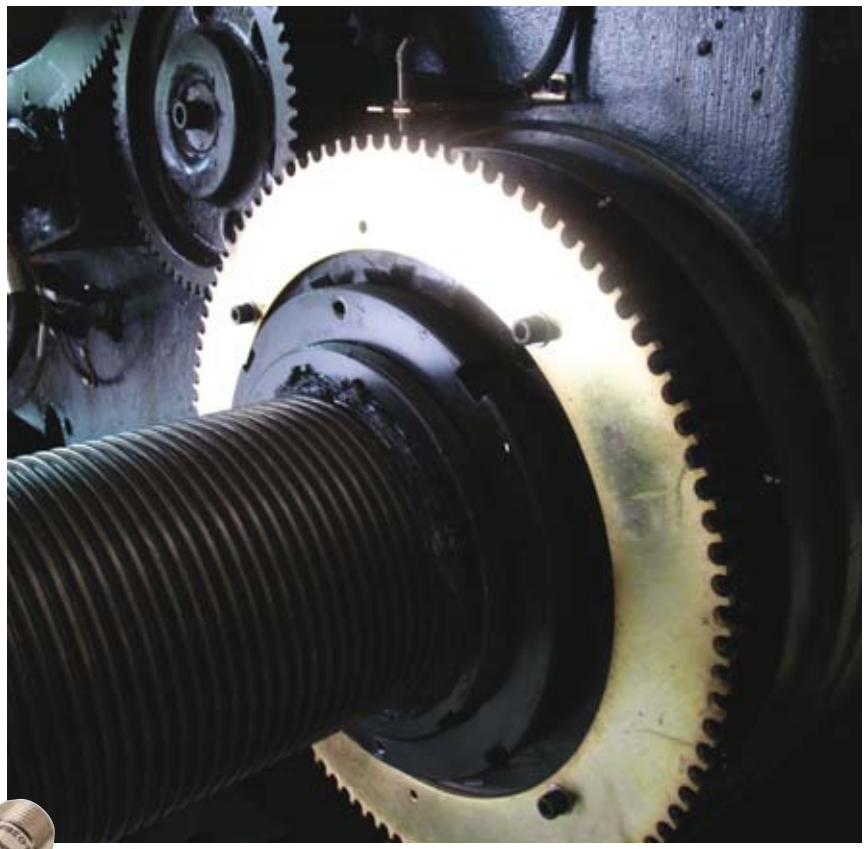
On the inside, the IME inductive proximity sensors feature innovative ASIC technology from SICK for better performance and reliability. Use of the compact ASIC chips enables digital adjustment of the sensing range at the end of the manufacturing process, thus increasing the accuracy of the sensing range. In addition, doing largely without discrete components minimizes the risk of component failures, which results in extended durability. The product family is available in M08 to M30 sizes, providing sensing ranges from 15 mm up to 20 mm. The broad portfolio includes all common electrical designs and a variety of connection options.

RUGGEDNESS ENSURES LONG SERVICE LIFE

The IME in the metric cylindrical housing made of metal meets even more stringent requirements. The IP 67 enclosure rating, the operating temperature range from –25 °C to +75 °C as well as a high level of resistance against shocks and vibrations proved decisive features for NARI, too, since they guarantee a long service life of the sensors. With their switching frequency of up to 4 kHz, the IMEs are also exceptionally well suited for counting impulses on the generator's runner. In the meantime, their excellent performance and their first-rate economic efficiency have opened up a series of additional applications for the sensors at NARI.

Further applications::
www.mysick.com/applications

More about the customer:
www.nari-china.com



The IME inductive proximity sensor determines the speed of the generator's runner, delivering convincing performance due to accuracy and durability

WILD ANIMALS CROSSING ON GREEN BRIDGES

VERY BUSY AT NIGHTTIME

How do animals living in the wild make it across highways and other busy traffic routes without injury? The solution is green bridges (wildlife crossings). Roe deer, red deer, wild boars, and other wild animals use them to avoid the dangerous motor vehicles. At the Dutch wildlife crossing location of Woeste Hoeve, the state forest administration wanted to learn how many and what types of animals use the bridge. LMS511 2D laser scanners from SICK assist in making available better image results.

>> Mauritz Techniek BV, a system integrator from Huizen in the Netherlands, is a technical installation company whose main activities concentrate on the areas of access and security technology. The company was founded in 1995. The enterprise installed a control cabinet, a LMS511 2D laser scanner, a mast with a dome camera, an overview camera, and two infrared cameras at the wildlife crossing location of Woeste Hoeve. This approach makes exact identification and counting of the animals possible.

PRECISE POSITIONING TOOK PLACE

Maarten van Tilborg, System Integrator at Mauritz Techniek, says, “Use of the LMS makes track and trace possible. For instance, if a red deer comes within the scanned area, the LMS knows exactly where the animal is. As a result, we can zoom in much earlier and track the animals exactly at all times. At the Safety & Security trade fair in Amsterdam, we became familiar with the application possibilities of this scanner.” Van Tilborg also explains that initially he expected fewer wild animals on the wildlife crossing. However, when the monitoring device went into operation, he was surprised to see that more than 60 animals cross the bridge every night. “For the most part, it is red deer, wild boars, foxes, and roe deer. Apparently, they are not deterred by the noise of vehicles,” says van Tilborg.

VERY WELL SUITED FOR MONITORING: FILM VIA E-MAIL

Today, Maarten van Tilborg is at the site of the wild animal crossing, doing some fine-tuning on the system. “So far, the forest administration used to receive an e-mail. Personnel had to log in and view the images. Now the system is adapted in a way that the forest administration receives a film per e-mail whenever wild animals cross. This film shows both the image of the overview camera and that of the dome camera at the same time.”

EUROPEAN-WIDE INTEREST

By now, the monitoring device by Mauritz Techniek B.V. has gained popularity across Europe. “Interested inquiries have already come even from Germany and Poland.” Is that a reason for Maarten van Tilborg to be particularly proud of his work in the context of this project? “Every project is interesting, but – I have to admit – this one is really unique!”

Maarten van Tilborg (left), System Integrator at Mauritz Techniek

Further applications::
www.mysick.com/applications

More about the customer:
www.mauritztechniek.nl

TECHNOLOGY

FIELDBUS INTEGRATION OF AUTO ID TECHNOLOGIES

INTEGRATION WITHOUT RESTRICTIONS

In order to integrate bar code scanners, 2D reading devices, or RFID systems into higher-level networks in simple ways, SICK relies consistently on modular connectivity. The CDF600-2 fieldbus modules for PROFIBUS DP and PROFINET IO enable plug-and-play integration of auto ID technologies without any network-related restrictions.

>> In order to realize the complete and continuous integration of field devices and the creation of vertical continuity all the way to the higher-order Manufacturing Execution System (MES) level, machine builders, system integrators, and plant operators are increasingly calling for simple, flexible, and practically oriented integration of identification solutions into fieldbus systems such as PROFIBUS DP or PROFINET IO. In providing the fieldbus modules of the CDF600-2 product family, SICK offers easy-to-integrate components that allow integrating all identification systems of the ID*pro* auto ID platform into the fieldbus systems mentioned.

MODULAR CONNECTIVITY MEANS FLEXIBILITY

The fieldbus modules of the CDF600-2 product family for PROFIBUS DP or PROFINET IO make it possible to achieve this aim in a simple and practically oriented way. Both modules have essential properties in common. The compact housings made of aluminum provide an IP 65 enclosure rating, and they can be mounted directly and in a space-saving manner to all common industrial profiles using only two screws and no special mounting brackets. Once in place, the modules are accessible any time for parameterization or diagnostics – in contrast to the auto ID sensors that are often installed far inside and thus difficult to access. Another advantage in comparison to an interface integrated firmly within the sensor is that the ID points in the facility can be set up according to construction progress. One can install and connect the fieldbus module early on. Selection and commissioning of a bar code scanner, 2D reading device, or of an RFID read/write device can take place later at a convenient point during the course of the project. The components are connected using only one cable, which reduces wiring effort accordingly. In operation, four or six LEDs, respectively, that are

visible from any angle visualize the operating state of the fieldbus module and support a clear and efficient diagnosis. In this context, both the PROFIBUS DP module and the PROFINET IO module feature a composite and fieldbus error LED each in accordance with the PNO specification.

NETWORKING MADE EASY

In order to make the integration as simple as possible, function blocks for both fieldbus modules are available on the Internet for downloading at no cost. They chart the communication processes quickly, saving programming effort in the controller. One can operate both the model for PROFIBUS DP and the one for PROFINET IO alternatively in proxy mode or as a gateway. The patented proxy operating mode enables the automation system, e.g. a PLC, to detect the connected auto ID sensor and to configure it directly via GSD parameterization. In this scenario, the connection module is not visible in the direction of the PLC. Using this approach, one can easily access even a difficult-to-reach auto ID sensor for setting and diagnostic work.

Both the PROFIBUS DP fieldbus module with its two ports for line topologies and the PROFINET IO module with integrated switch functionality for star and line topologies feature rotary coding switches for setting the operating modes and the bus address in PROFIBUS DP without using software. The switches are convenient to access from the outside and well protected by a cover against unintentional adjustment. At the same time, they remain easy to read from the outside. Moreover, in proxy mode both fieldbus modules feature an integrated parameter memory for the connected sensor. In case of replacement, it is possible to transfer the settings directly per parameter cloning.

SIGHTS SET ON A NETWORKED FUTURE

Every year, millions of new devices with PROFIBUS DP increase the base installed in the most diverse industries. Parallel to this development, industrial Ethernet systems are increasingly gaining greater importance, as demonstrated by the example of PROFINET IO in the automotive industry and, increasingly, in intralogistics plant construction as well. By introducing the CDF600-2 fieldbus modules, SICK copes with the current and the forecast market development in the area of fieldbusses. Hence, the connectivity portfolio of the ID*pro* auto ID platform will be extended by new plug-and-play packages for PROFINET IO with AIDA plug connectors as well as EtherNet/IP with M12 plug connectors. Based on the platform of the CDF600, a connection module already exists today for EtherCAT®*.

Further information:
www.sick-idpro.com

*EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany

KNOW-HOW

THE WORLD OF TRANSPARENCY

DETECTING TRANSPARENT OBJECTS – ENABLING FUTURE-PROOF SOLUTIONS

Bottles made of glass or PET, ampoules, pipettes, flat, tubular, and hollow glass, films for securing loads on pallets: In many manufacturing processes, automators must cope in the context of a transparent world.

>> That's why for factory automation SICK has developed a special sensor portfolio for detecting transparent objects.

The sensors offered by SICK are designed in a way that they cope with the most diverse applications in a changing industrial environment – making possible future-proof solutions. Depending on the application and requirement focus, different sensor solutions suggest themselves. They reliably detect nearly any type of transparent object, from thin film and the PET bottle all the way to the transparent tray and packaging material.

MEETING THE HIGHEST REQUIREMENTS IN TERMS OF RUGGEDNESS AND RESISTANCE TO MEDIA

The WL9G-3 in the VISTAL® housing, the WL12G-3 in the sturdy zinc die casting and the WLG4S Inox are designed consistently for washdown and hygienic demands, respectively. These sensors feature extreme mechanical ruggedness and chemical resistance against a large variety of cleaning and disinfecting agents, making them particularly suitable for use in the beverage, food, and pharmaceutical industries.

In a harsh environment, where one must reckon with contaminations far more often, the photoelectric sensors with integrated switching threshold adjustment ("CTA" for continuous threshold adaption) stand the test. Production moves forward without any interruptions for cleaning, which increases productivity.

COMPACT AND INTELLIGENT

If space is very scarce at the place of detection but the evaluation unit needs to be easily accessible at the same time, WLL180T fiber-optic sensors are a great choice. The GRL18SG product family with its short M18 threaded housings also provides an extremely space-saving installation solution.

With the WL9G-3, WL12G-3 powered by IO-Link, and WLG4S-3, SICK offers photoelectric sensor solutions for optimizing automation technology in machines and plants, e. g. preventative maintenance, electronic debouncing of multiple signals, and traceability of products using time stamp. In this way, important tasks that had to be programmed and executed in the automation system before were transferred to the lowest field level within the automation pyramid.

NEW IN THE PORTFOLIO: TRANSPARENT OBJECT DETECTION WITHOUT REFLECTOR

The latest member of the Clear Material family is the TranspaTect photoelectric proximity sensor. In terms of detecting transparent trays and bottles, new technologies allow managing without a reflector. How this works you can learn on the opposite side.

Further product information:
www.mysick.com/products

NO LIMITS IN DETECTING TRANSPARENT OBJECTS

WHEN THE MACHINE REPLACES THE REFLECTOR

Savings in time and costs, more flexibility in machine design, and maximum operating safety, even in case of sudden contamination – even without reflector, the new TranspaTect photoelectric proximity sensor from SICK always keeps „seeing through things“ in the world of transparent objects.

The TranspaTect detects transparent and semi-transparent objects without any reflector

>> The latest technologies from SICK enable the TranspaTect to manage without any reflectors and instead utilize machine components as a reference surface when detecting transparent and semi-transparent trays and bottles. The TranspaTect reliably detects even extremely shiny, highly reflective, or uneven surfaces. Supplemented with the AutoAdapt function, the photoelectric proximity sensor provides the best possible detection reliability and economic efficiency for packaging processes, e.g. in the food, beverage, and pharmaceutical industries. Featuring high resistance against cleaning and disinfecting agents, the rugged zinc die-cast housing, certified by ECOLAB, is also adapted in the optimum way to this operating environment.

ELIMINATION OF THE REFLECTOR SAVES TIME AND COSTS

As reliable as detection of transparent objects is with the TranspaTect as easy it is to install and commission the photoelectric proximity sensor. When installing the device, the work required for mounting a reflector and for exactly aligning the sensor becomes redundant. A stable and dull background, e.g. a machine component, serves as a reference surface to which one can intuitively teach in the sensitivity required.

Moreover, doing without the reflector saves room – a crucial factor when space is scarce in the machine.

DUST AND DIRT – YET THE TranspaTect SEES CLEARLY

The TranspaTect provides a maximum amount of insensitivity to contaminations. In case of dust or product residues on the lens system, the sensor adapts its switching threshold time-controlled through the integrated AutoAdapt function. After cleaning, the original threshold value is reset automatically. In this way, one can delay cleaning intervals and minimize machine downtimes. Even in case of sudden contamination of the reference background, the TranspaTect guarantees utmost detection and operating reliability – and thus, machine availability.

TROUBLE-FREE PACKAGING AND FILLING PROCESSES ASSURED

Typical applications in facilities used for primary packaging are the monitoring of transparent trays in the infeed tunnel of tray sealers or detection of transparent food packages on conveyor belts. In the beverage industry, the TranspaTect is used, e.g., in the infeed area of filling machines.

Further product information:
www.mysick.com/products

NEW UHF READ/WRITE DEVICE ALSO WITH POWER OVER ETHERNET

RFU620: COMPACT SOLUTION FOR SHORT RANGES

With the new RFU620, SICK is complementing the UHF portfolio by an optimized read/write device for medium ranges and cramped installation situations. Numerous filer functions and a variety of connection variants enable versatile identification solutions.

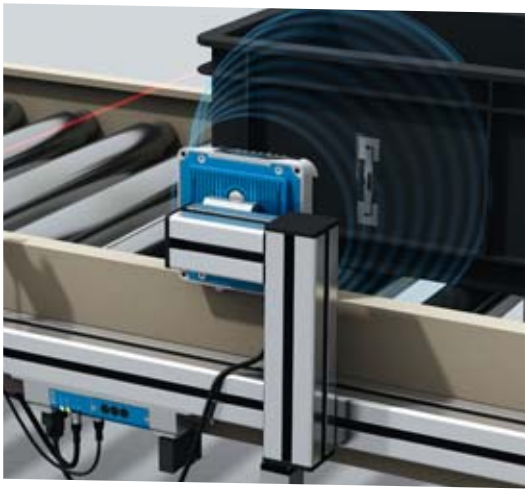
>> Just as its big brother, the RFU630, the RFU620 works within the frequency range of 860 to 960 MHz. However, in contrast to the former it is optimized for applications in which UHF transponders meeting the worldwide ISO/IEC standards must be identified reliably at medium range and at close spatial proximity to each other. The SOPAS user interface provides tools for quick, flexible, and simple integration.

OPTIMIZED FIELD GEOMETRY, GREAT VARIETY OF FILTER FUNCTIONS

The RFU620 offers the possibility of adjusting sender power up to a range of one meter, thus adapting to the respective reading situation. The antenna of the RFU620 generates a homogenous and symmetrical communication field in which the individual transponder can be read out and described specifically. Using the "adaptive power control," the RFU620 can independently increase sender power to the point at which a transponder is read, ruling out simultaneous detection of several transponders. Other filter functions focus communication on transponders with specific data structures or exclude multiple detections of the same transponder within a definable time interval. All of this guarantees reliable data transmission behavior, both in read and write cycles.

NEW: INTEGRATION USING POWER OVER ETHERNET

The RFU620 is used, among other things, in automobile manufacturing as



CLICK INTO PLACE, ALIGN, FASTEN, DETECT

G10: SATISFACTION HAS NEVER BEEN SO QUICK

Minimized effort required for setting, high-level of detection reliability, flexible 360° alignement, fastening in a matter of seconds – the photoelectric sensors of the new G10 product family provide all of these benefits.

>> G10 includes through-beam photoelectric sensors with a sensing range of up to 40 meters, photoelectric retro-reflective sensors with a sensing range of up to 16 m, energetic photoelectric sensors with a sensing range of 1,400 mm as well as photoelectric proximity sensors with background suppression that reliably detect bright objects at a range of 950 mm and jet-black surfaces at a range of 520 mm – doing all that using bright, easily visible PinPoint red light. In operation, the G10 sensors that are extremely immune to ambient light deliver convincing performance due to reliable detection even of depolarizing objects.

INSTALLATION AND FASTENING IN A MATTER OF SECONDS

Using SICK's optional Q-Lock fastening system renders mounting on round bars a rather "fleeting pleasure": It takes only 10 to 15 seconds until the sensor is in place. The Q-Lock system consists of two prefabricated subassemblies: the pin matrix and the terminal bracket. The sensor is simply clipped onto the pin matrix, with the terminal bracket subsequently pushed onto the pins and locked. Following that, one snaps the entire unit from the side on to the 12 mm round bar, aligning it as desired horizontally, vertically, and in the 360° orientation – done! Alternatively, one can fasten the Q-Lock system in the same way to a metal sheet up to 3 mm in thickness. Thus, precisely in places within a plant, e.g. in the complex conveying system of a large warehouse and distribution center, that require installation of many hundreds of sensors, the user-friendly Q-Lock fastening system of the G10 product family may save several person days worth of installation effort.

GREAT VARIETY OF OPTIONS: ONE VERSION WILL FIT FOR SURE

For one thing, the sensors of the G10 product family are available with a 10 to

well as in intralogistics for identification of containers and storage space. In particular, the compact design benefits employment on forklift trucks, since one can place the RFU620 in a space-saving way between the lifting forks. For the first time, the interface and fieldbus standards common in these industries – among others, RS232/422, EtherNet TCP/IP, EtherNet/IP, CANopen, PROFIBUS DP, and PROFINET IO – are complemented by the integration option of Power over Ethernet (PoE). Thus, the RFU620 provides the usual high degree of future reliability in terms of information technology as well – especially since the new read/write device is entirely compatible with ID*pro*, SICK's cross-technology platform and portfolio strategy for auto ID system solutions.

Further product information:
www.mysick.com/products

30 V DC and PNP-switching transistor output or, respectively, a NPN-switching transistor output, e.g. for logistics automation and machine building. Moreover, there is a universal voltage version featuring 24 to 240 V AC/V DC, which is available with a relay output particularly in automatic car parks, elevators, as well as door and gate installations.

QUICK-START VERSIONS FOR LOGISTICS AUTOMATION

In principle, all G10 sensors are available with one control panel used to adjust the sensing range and sensitivity, respectively. However, specifically with a view to the requirements of logistics automation, there are also variant types that manage entirely without control panels. This saves valuable time during installation – especially in combination with the Q-Lock system – ruling out subsequent, unintentional changes to the sensor settings.

VIDEO
www.sickinsight-online.com

Further product information:
www.sick.com/g10

ABSOLUTELY CONVINCING FUNCTION PACKAGE

ENCODER SETS BENCHMARK IN 36 MM CLASS

Featuring numerous unique selling propositions, the programmable AHS/AHM36 absolute encoders from SICK set a new performance standard in the 36 mm class. The great variety of mechanical interfaces as well as the optional SSI or CANopen allow for maximum flexibility.

>> The compact encoders are available as both an AHS36 singleturn version and an AHM36 multiturn model. They are used for measuring absolute positions, e.g. in industrial and special-purpose vehicles, in packaging machines, in logistics, in machine building, as well as in medical technology. The product family is very well suited for this versatility.

MAXIMUM DEGREES OF FREEDOM FOR MECHANICAL INTEGRATION

The mechanical interfaces available in the AHS/AHM36 encoders are a choice of blind hollow shafts as well as face mount flange and servo flange – all of them featuring a large number of shaft diameters. This makes possible a maximum degree of flexibility when designing mechanical integration. The connector plug and the cable outlet, respectively, can be rotated, which allows laying the cable in the best possible way even in cramped installation situations. At the same time, this means that machine builders have to deal with a reduced number of encoder variants for different installation situations.

TOP FLEXIBILITY THROUGH PROGRAMMABLE SSI AND CANOPEN INTERFACES

The programmability of the AHS/AHM36 encoders reduces the diversity of variants even further – concurrently opening up the possibility of using numerous configuration and diagnostic options. Thus, with respect to the encoders with SSI interface, it is possible, e.g. to set binary and non-binary resolutions, specify various operating modes, or program a rotary axis function. Position, speed, temperature, operating hours, and many more – the CANopen encoders provide a great number of diagnostic options for evaluations that serve, e.g. to optimize the maintenance intervals of the overall application. It is also possible to configure an electronic cam switch.

ADAPTATION TO WIRE-DRAW ENCODER POSSIBLE

The extended working temperature ranges as well as the IP 66 and IP 67 protection ratings permit use of the AHS/AHM36 encoders in harsh environments. In addition, one can also adapt the encoders to any wire-draw mechanisms of SICK's Ecoline and Highline product families as well.

CONSISTENTLY COMPATIBLE

Both the great variety of mechanical connection options and the electrical interfaces available make the encoders of the AHS/AHM36 product family compatible with other encoders on the market – thus facilitating the switch to what is the absolutely best overall package in the 36 mm class.

Further product information:
www.mysick.com/products

HIGHLIGHTS AND INNOVATIONS IN SAFE CONTROL SOLUTIONS

THE MODULAR SAFETY CONTROLLER THAT CLEVERLY INCORPORATES ADVANTAGES

New functionalities for networking safety stations, for cascading safety switches and sensors, as well as for integrating signals that are not safe bring even more flexibility into safe control technology.

>> Currently, one can discern three trends with respect to safety-capable control solutions: One aim is making it possible to achieve safe networking of modular machine components in a simple way. Beyond that, there are calls for economically efficient integration of safety switches and sensors into machine modules. Finally, another objective is being able to integrate even devices in non-safety-capable design in the most cost-effective way. The innovations of Flexi Soft fulfill these requirements.

Flexi Line: LINKING SAFETY FUNCTIONS OF MODULAR PLANT COMPONENTS

Here is how the new Flexi Line interface revolutionizes the safety-capable implementation of modular machine designs. One can safely network up to 32 safety stations in a simple way with Flexi Soft main modules by using their integrated Flexi Line interfaces, thus linking safety functions over several machines. In this manner, separate plant modules can be commissioned according to the individual constellation or depending on the installation on site, with the option of alternatively integrating individual machine components later.

Flexi Loop: FOR COST-SAVING, DECENTRALIZED INTEGRATION OF SAFETY SWITCHES AND SENSORS

The decentralized Flexi Loop integration design enables cost-saving cascading of safety switches and sensors within a machine module as well as setting up extensive diagnostic options. The use of Flexi Loop allows integrating cost-efficiently up to eight sensor cascades with up to 32 dual-channel safety switches and safety sensors each via unshielded 5-core standard cables and standard M12 connector technology. This is technically and economically interesting with regard to machines and plants featuring a large number of places to monitor, such as doors, protective flaps, covers, emergency stop buttons, as well as machine openings protected by electro-sensitive devices. Conditional on the use of suitable devices, currently the switch and sensor cascading using Flexi Loop meets the requirements of PL e according to DIN EN ISO 13849-1.

EXTENSION MODULES SEND STANDARD SIGNALS “SAFELY ON THEIR WAY”

For cost-effective integration of sensors, photoelectric sensors, or lamps that are not safe into the Flexi Soft modular safety controller, new extension modules with standard inputs and outputs are available starting immediately. The FX0-STIO extension block features six inputs and outputs each that are not safe; the FX3-XTDS provides eight safe inputs and four outputs that are not safe. In addition, both Flexi Soft extensions have two separate channels for free configuration.

Flexi Line: By networking up to 32 Flexi Soft stations, one can consistently and efficiently represent the modular machine structure

LESS WIRING EFFORT, MORE DIAGNOSTIC OPTIONS

COST-EFFICIENT CASCADING OF SAFE SWITCHES AND SENSORS

Introducing the unique decentralized integration design of Flexi Loop, SICK meets the demand for cost-saving cascading of safe switches and sensors within a machine as well as for extensive diagnostic options – while maintaining performance level PL e.

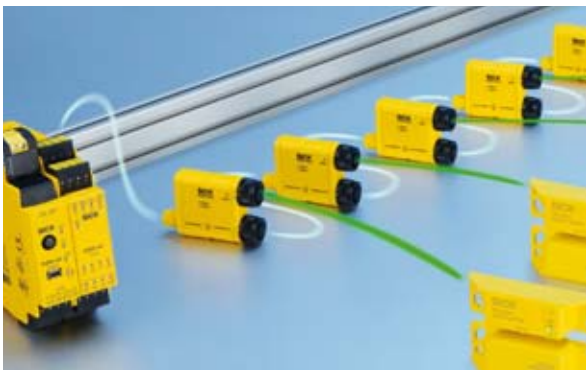
>> In the context of a Flexi Soft control solution, Flexi Loop allows integrating and individually diagnosing up to eight sensor cascades with up to 32 dual-channel safety switches and safety sensors in a cost-efficient way. This is technically and economically interesting with respect to machines and plants featuring a great number of doors, protective flaps, covers, emergency stop buttons, as well as machine openings protected by electro-sensitive devices. Their cascading by means of Flexi Loop is extremely cost-efficient because the entire "loop" requires only one safe switching input and one can use unshielded 5-core standard cables with standard M12 connector technology.

Flexi Loop NODES WITH INTEGRATION AND DIAGNOSTIC FUNCTION

For series connection and integration into different extension modules of the Flexi Soft modular safety controller, connection nodes are available both for electromechanical safety switches as well as for safety sensors featuring OSSD (output signal switching device) output switching elements. The Flexi Loop node contains the safe switch-off signal of the entire cascade as well as diagnostic data of each individual subscriber. In addition, the connected sensors are supplied with 24V via Flexi Loop. Per node, there is one standard input as well as one standard output that can take on function switches, door locking, or the actuation of an indicator light. The distance between two nodes may be up to 30 m, which means a "loop" in fully expanded configuration may be up to 960 m long. The transmitted diagnostic data of each switch/sensor contain the switch-off information, "Who was switching?," as well as, in case of malfunction, the cause of the error, "Why did the switching take place?" In this way, easy integration into the machine diagnosis is possible. Accordingly, maintenance and repair work can be completed quickly and purposefully – minimizing the duration and thus the costs related to the machine downtime.

USING Flexi Loop MAKES SERIES CONNECTIONS SAFER AND FASTER

One of great innovations of Flexi Loop is that series connections become safer. In case of conventional wiring, it is not possible to determine various errors because subsequent errors are "masked" by the series connection. Flexi Loop prevents this by monitoring every single sensor. Whereas from the perspective of safety technology, conventional wiring with several sensors results in a decrease of the performance level to PL d or PL c, the switch and sensor cascading with Flexi Loop meets the requirements of PL e in accordance with DIN EN ISO 13849-1 at any time, provided the appropriate devices are used. Moreover, the speed of the overall system increases, since in contrast to discrete wiring, the response time of Flexi Loop at 60 ms is independent of the number of connected sensors and switches.



Flexi Loop: safe sensor cascade with convenient diagnosis

SICK SENSOR TECHNOLOGY EQUIPPED FOR PLUG-AND-PLAY

Flexi Loop is open to the safety-capable switches and sensors of all manufacturers – a fact that helps maintain the procurement independence of the machine builder and the end customer alike. The easiest way, however, – via plug-and-play – is using the switches from SICK: With M12 connectors and the suitable pin assignment, they are prepared from the start for Flexi Loop.

Further product information:
www.sick.com/flexisoft

RELIABLE AND IN HYGIENIC DESIGN

LEVEL MEASUREMENT IN FOAMING MEDIA

Exact level measurement in heavily foaming media – no problem for SICK's new LFP Inox level sensor. The measuring principle of guided radar provides for utmost reliability; the hygiene-level design of the sensor opens up a great variety of possible uses in the food, beverage, and pharmaceutical industries.

>> Particularly in dairies and breweries, one has to anticipate heavy foaming all the way to the generation of wet, compact foams in the course or conveying, mixing, and bottling milk or beer, respectively. In this scenario, many level measurement systems reach their limit: Capacitive systems and conductivity probes do not submit reliable measured values due to product build-ups; in general, float switches do not meet hygienic requirements concerning cleaning capability and sterilization. The LFP Inox is the ideal solution for such applications.

RELIABLE FOAM SUPPRESSION AND CERTIFIED HYGIENIC DESIGN

Thanks to the measurement principle of time domain reflectometry (TDR), i.e. of guided radar, the LFP Inox is capable of differentiating reliably between liquid media and foams or built-up deposits. Based on the maximum measuring range of 4,000 mm, the CIP- and SIP-resistant measurement probe can be cut as desired all the way down to 200 mm. It is made of FDA-compliant, foodgrade stainless steel that features a surface roughness of Ra = 0.8 µm. This facilitates residue-free cleaning, minimizes the possibility of build-ups, thus preventing hotbeds for bacteria and other microorganisms. Just the same applies to the changeable, hygienic process connections of the LFP Inox. The level sensor has been certified by the EHEDG (European Hygienic Engineering & Design Group) and also meets the 3-A hygiene certificate of the US food industry.

PERMITS FLEXIBLE AUTOMATION

The LFP Inox combines continuous level measurement and point level detection. The display, a switchable 4 – 20 mA and 0 – 10 V analog output, respectively, IO-Link for individual parameterization, diagnosis and visualization options, as well as two transistor switching outputs are accommodated in the compact sensor housing that meets the requirements of both the IP 67 and IP 69K enclosure ratings. Simple commissioning, maintenance-free operation, and a high degree of independence regarding the properties of the medium to be measured, which means that the sensor requires no recalibration, result in very substantial savings in time and costs.

Consequently, in technical and economical terms, the LFP Inox is the ideal solution for level measurement in buffering containers of filling plants, for monitoring levels in rinsers and CIP facilities, and in cosmetic and pharmaceutical mixers.

Further product information:
www.mysick.com/products

NEW LEVELS OF PRODUCTIVITY

MORE VISION FOR ROBOTICS APPLICATIONS

ScanningRuler, the new 3D imaging high-end camera from SICK, boosts the performance and cost-effectiveness of robotics applications.

>> Providing highly accurate, reliable and fast 3D measurement datas of stationary objects with a wide field of view, ScanningRuler allows robot systems to locate parts in advanced picking applications and find the optimum gripping position. Packed with state-of-the art technology and clever, innovative ideas, ScanningRuler is the ideal camera to implement high-throughput solutions for use in harsh industrial environments with a single imaging device.

With ScanningRuler SICK brings new levels of productivity to vision-guided robotics. Typical applications that benefit from this high-end 3D imaging camera include random bin picking in processing and assembly lines, parts picking on pallets and trays, determination of picking position of large parts, de-palletizing of pallets and trays, space optimization in box-in-box packaging and palletizing applications as well as completeness checks.

VARIED FUNCTIONS

ScanningRuler is a 3D camera for snapshot 3D imaging of stationary objects with a large field of view/volume of view and a high resolution. The camera allows for full coverage of U.S. and Euro pallets with a single device.

ScanningRuler delivers factory-calibrated point cloud data in millimeters using an integrated sweeping laser. In

Sim-4-Safety: SIMULTANEOUS MONITORING OF UP TO FOUR PROTECTIVE FIELDS

EFFICIENT MACHINE SAFETY BASED ON “FOUR-EYES PRINCIPLE”

Equipping adjacent machines with only one safety component is extremely economical. SICK has adopted this approach as a mission, developing the Sim-4-Safety solution based on the S3000 safety laser scanner and the Flexi Soft modular safety controller. The result constitutes the world’s first safety design that allows monitoring of up to four protective fields simultaneously.

>> More flexibility when operating adjacent machinery, better utilization of available space, complete integration of all safety components featured in a machine with short switch-off times, and high-level economic efficiency due to fast commissioning are the major advantages of the Sim-4-Safety solution.

SIMULTANEOUS SAFETY FOR FOUR HAZARDOUS AREAS

In many production areas, such as tire manufacturing, the process sequences allow operating several machines at the same time. For the first time, Sim-4-Safety now makes it possible to monitor up to four protective fields simultaneously using only one safety laser scanner, i.e. without protective field switching, thus avoiding superfluous safety shutdowns of adjacent machines. In this way, one can protect four hazardous movements, both of a machine as well as of adjacent parts within the installation.

SIMULTANEOUS MONITORING: FASTER AND SAFER THAN SEQUENTIAL SWITCHING OF PROTECTIVE FIELDS

In the case of the S3000, monitoring of the simultaneous protective fields does not require control signals – in contrast to sequential switching of individual protective fields. Therefore, reaction time of the Sim-4-Safety is many times faster than in any possible system configuration involving other safety laser scanners on the market. In this way, the protective fields can be considerably smaller, designed for more efficient use of space. Due to the SICK-specific safe and easy-to-integrate EFI connection (= enhanced function interface), wiring effort is reduced to a minimum.

Flexi Soft MANAGES THE “SAFE BACK FOUR”

Anything the S3000 detects using a scan is signaled by the safety laser scanner directly to the Flexi Soft modular safety controller. In this device, one can conveniently configure shutdown paths and shutdown behavior. Furthermore, the Flexi Soft is open to all safety sensors and safety command devices. In this way, it is possible to supplement the Sim-4-Safety functionality of the S3000 with additional safety-relevant signals as well as sensors that are not safety certified, such as photoelectric sensors and encoders, allowing implementation of a complete overall design.

Further product information:
www.sick.com/scanner-plus

addition to 3D data, a 2D gray-scale overlay is generated that can be used for part identification. This way, ScanningRuler combines the advantages of snapshot and laser triangulation technologies without any need for additional components for external motion. In addition to high accuracy, the ScanningRuler imaging technology excels with high immunity to ambient light conditions and can handle numerous types of surface characteristics and colors of parts.

SUPERIOR APPLICATIONS IN THE AREA OF ROBOTICS AND MACHINE VISION

No external light sources, encoders or additional imaging equipment are required for robotics applications with ScanningRuler as the imaging camera. All components are contained in the rugged IP 65 housing. Together with the features of the imaging technology, this dramatically facilitates the design and development of highly competitive, flexible solutions.

Further product information:
www.mysick.com/products

NEW PERFORMANCE STANDARD IN SUBMINIATURE SENSOR TECHNOLOGY

W2S-2: DETECTING “THE BLACK SIDE”

Innovative technologies constitute the best copy protection – and the new subminiature W2S-2 photoelectric sensor boasts plenty of those. The new LED technology PinPoint 2.0 from SICK is 2.5 times more light-intensive than the previous PinPoint LEDs, ensuring even better switching precision and repeat accuracy.

>> Even things “not graspable” are now detected reliably: Infrablack object with only 1 % diffuse light reflection can be detected dependably at a range of up to 50 mm – thus, the W2S-2 literally “sees the black side” in the positive sense of the word.

NEW ASIC TECHNOLOGY SIRIC® AS CHIP SET OPTIMIZES PERFORMANCE

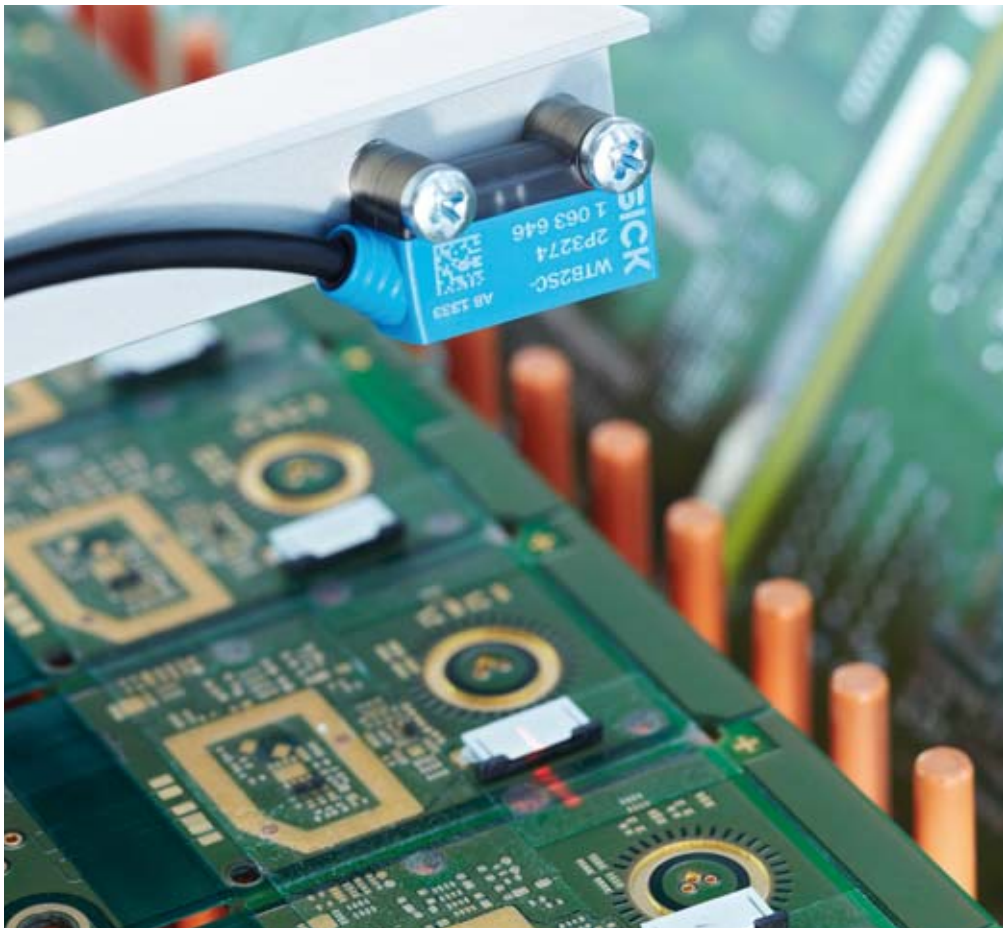
A new feature in the sensors of the W2S-2 product family is also the Opto-ASIC chip set developed by SICK. The SIRIC® chip set uses the increased light intensity of the PinPoint 2.0-LED in such a way that the result is greater sensing ranges and improved functional reserves for through-beam and retro-reflective photoelectric sensors as well as for photoelectric proximity sensors. At the same time, this enables extremely precise background suppression, thus raising switching reliability to a new top level, even in case of critical objects and surfaces.

CUSTOMIZED FACTORY-INSTALLED SENSOR VERSIONS POSSIBLE

The chip set with integrated Smart Receiver Array, first implemented in the W2S-2, also improves the opto-electronic properties of the sensors – but that is not the only thing: It also opens up the option of adapting the photoelectric proximity sensor and the photoelectric sensor in a simple and economical way to specific customer and application requirements. Using IO-Link, one can transfer various automation functions, e.g. debouncing and counting, as a “smart sensor solution” from the controller to the sensor in an intelligent way.

AN INCREASING NUMBER OF MACHINES LIKE IT “SUB-MINI”

The compactness of machines and plants is increasing all the time – at the same time, space available for sensor technology is dwindling. In this regard, the extremely small W2S-2 sensors set a new performance standard. The fields benefitting from this include, among others, robotics and handling applications or applications in pharmaceutical and medical technology where objects with frequently difficult surfaces or shapes need to be detected reliably in cramped spaces, e.g. for gripping and positioning processes. Machine builders are delighted as well with an additional, rather mechanical innovation: The rubbery lead-in of the shock- and vibration-resistant cable runs at an angle of 45°. This allows for flexible and rugged installation of the sensors without restrictions due to any bothersome cable outlet.



Further product information:
www.sick.com/siric

DeltaPac ENSURES FASTER AND MORE RELIABLE PRODUCTION

BRIDGING THE GAP

A technological world first, implemented in unique fashion – that is what the new DeltaPac from SICK represents. The sensor allows reliable detection of objects within a continuous product flow.

>> Generally, until now packages have to be singulated so that one can, for instance, count or detect them by means of photoelectric sensors. DeltaPac renders such separating – frequently implemented using elaborate mechanical systems installed in the conveyor section – a thing of the past.

PATENTED DELTA-S-TECHNOLOGY®

What makes this possible is the patented Delta-S-Technology® from SICK. Two energy scales each featuring two receivers and quadruple LED technology PinPoint 2.0 merge with SICK's SIRIC® ASIC technology and integrated distance measurement. The functional principle of DeltaPac utilizes the edge contours of objects. In the gapless transition from one object to the next, the edges change the reflectance behavior of the package surface. This change in direction of reflectance is used for outputting switching signals. Object contours with radii of up to 20 mm are thus detected reliably. The high-precision evaluation characteristic of DeltaPac ensures detection of even the smallest changes in angle. In this way, one can dependably detect up to 200,000 packages an hour at speeds reaching 3m/s.

CONSEQUENCES FOR THE CONSTRUCTION OF PACKAGING MACHINES

DeltaPac serves to detect objects running in push-push mode. This affords new options when designing packaging machines: One can do both without machine elements used for buffering and without mechanical systems for separating, which saves costs and improves the spatial balance of the machine. The result is smoothing out the product flow since packages no longer topple over and collisions are prevented. Machine downtimes, incorrect picks during package grouping, and quality losses due to crashes are prevented reliably – with positive effects on the packaging machine's utilization of time, energy, and availability.

TAILOR-MADE OPERATING DESIGNS

Fast commissioning without adjustment or well-directed process optimization by means of individual parameterization – SICK has translated the demands by manufacturers of packaging machines into pre-configured devices. Installing, connecting, detecting – the user does not have to deal with extensive operating instructions. The sensor variant featuring IO-Link makes it possible to parameterize the sensor according to operating conditions, e.g. for different packages.

Conveying side-by-side, differentiating from each other, counting and detecting continuously – the solution is DeltaPac from SICK.

Delta-S-Technology® by SICK

Further product information:
www.sick.com/deltapac

WEB SERVER AND FUNCTION BLOCKS FOR FIELDBUS INTEGRATION

„EASY INTEGRATION“ FOR ETHERNET/IP-ENCODER

The AFS60 and AFM60 EtherNet/IP encoders from SICK are the first absolute encoders of their kind equipped with both an active web server and function blocks for fieldbus integration.

>> Featuring a password-protected web server and function blocks and developed specifically for integration of the AFS60 and AFM 60 EtherNet/IP encoders in Allen-Bradley controllers (RSLogix, CompactLogix), the EtherNet/IP encoders made by SICK provide an unprecedented degree of integration convenience and fail safety during installation, e.g. in handling systems, production machinery, pressure systems, or measurement and testing equipment.

VIA WEB SERVER FROM THE TOUCH SCREEN TO THE ENCODER

The web server functionality of the AFS60 and AFM60 EtherNet/IP encoders involves a new level of convenience even at the point of installation. From the moment the encoders are connected to the controller, they cyclically transmit the factory-configured parameter values to the controller. When the web server is called up, entering the encoder's IP address initially causes only parameters relevant to diagnosis to show up and undergo updating. Only upon entering the correct password, is it possible to display the additional web pages for parameterization and configuration. At this point, one can then access the encoder directly. With the setting of the encoder completed, the data undergo updating in the controller – the values in the encoder and in the automation system are identical without noticeable delay.

FUNCTION BLOCKS FACILITATE PROGRAMMING OF DIAGNOSTIC FUNCTIONS

Being the world's only EtherNet/IP encoders, both the AFS60 and the AFM60 provide the possibility of carrying out set-

PRESSURE SWITCH IN HYGIENIC DESIGN FOR THE FOOD INDUSTRY

FIT FOR FOOD AND BEVERAGE

PBS Hygienic is the new electronic pressure switch designed by SICK specifically for measuring and monitoring pressure in the food industry. The selection of material, the structural layout, as well as the process connections were laid out consistently in hygienic design.

>> Pressure switches are used for detecting process pressures. If the applied pressure reaches the preset switching threshold, the transistor output changes its output state. In addition, the PBS Hygienic provides an output signal proportional to the applied pressure (current 4 to 20 mA or voltage 0 to 10 V) geared to further evaluation by the plant control, e. g. for control processes.

CONSISTENTLY HYGIENIC

The wetted parts of the PBS Hygienic are made of high-quality 1.4435 stainless steel. The extremely durable and temperature resistant stainless steel membrane is welded to the process connection in hygienic design without gaps or edges, minimizing the hygienic risk to the operator. The smooth surfaces are gap-free and have no dead spaces, which allows cleaning and sterilizing the PBS Hygienic without residues even when installed, e. g. in CIP and SIP processes. Thus, one can achieve optimized plant availability.

HIGH LEVEL OF INTEGRATION AND OPERATING CONVENIENCE

The housing of the PBS Hygienic can be rotated in two ways. This means that the display and electrical connection can be aligned to match the specific installation situation in the best possible way. Intuitive setup by means of three large pushbuttons and the generously sized display for pressure values and output states provide for reliable and easy set-

tings via the controller by using function blocks. However, it is not only possible to call up, read out, and, to some extent, write preinstalled parameters directly from the controller. The function blocks also enable unparalleled ease of setting up diverse diagnostic functions that optimize fail safety and enhance plant availability. The function blocks of SICK's EtherNet/IP encoders, including operating instructions, are available for downloading directly from www.mysick.com.

The intelligent operating convenience via web server and the function blocks help machine builders, integrators, and end customers benefit "from the very first turn," among other things, from simplified commissioning, substantially reduced programming effort, and access to the encoders via the HMI user interface of the machine, access that is direct and feasible at any time.

Further product information:
www.mysick.com/products

ting of the pressure switch. This pressure switch comes with up to two independent switching outputs, analog output and IO-Link in one device. In case of a product changeover, one can use the automation system via IO-Link to adjust all relevant parameter settings quickly and reliably during ongoing operations. This contributes to improved plant availability and thus to increased productivity.

CONFIGURABLE WITHOUT COMPROMISE

The PBS Hygienic is an innovative electronic pressure switch suitable for gauge, vacuum and absolute pressure measurement within the following ranges: –1 to 0 bar to 0 to 25 bar. This feature and the hygienic process connections enable individual configuration depending on the respective application and installation situation, thus providing a maximum degree of flexibility with respect to pressure and level measurement in hygienic design.

Further product information:
www.mysick.com/products

SAM MONITORS IMPULSES AND ACCELERATIONS

INDUCTIVE, INTELLIGENT, INTEGRATED

Counting impulses and detecting changes in speed one step earlier based on acceleration – this combination unprecedented on the market is provided by the SAM inductive proximity sensor from SICK.

>> A world first, the sensors of the SAM product family in the cylindrical M18 or M30 metal housing, respectively, can be used for the first time optionally as classical impulse monitors or as innovative acceleration monitors. Designed for speeds of 6 to 12,000 impulses a minute – twice as many as in the case of conventional devices – they monitor even fast processes efficiently and cost-effectively. It is possible to monitor acceleration within a range limit of 0.1 to 2 impulses per second² with an impulse train up to a maximum of 1,200 impulses per minute. There is the option of using the SAM sensors either as switching standalone devices or, integrated into an IO-Link environment, they are able to output current measuring data. Configuration occurs accurately and easily using a PC.

VALUABLE SECONDS: MALFUNCTION INDICATION WITHOUT ΔT

Whereas in the case of pure impulse monitoring a period of time will pass until the machine shaft reaches a defined limit value when deviating from its set speed, acceleration monitoring does not have this Delta T (Δt). Since at constant speed, the positive or negative acceleration, respectively, is zero, any change in speed is not detected only by the time a limit value is reached but immediately in case of any acceleration or delay, respectively, that is unequal to zero. The seconds saved in this way are often valuable since they make it possible to immediately signal malfunctions such as slip or overload of the drive train, the tearing of web, sheet, or film material, or the breaking of a drive shaft, etc. Frequently, both damage to machinery and production rejects are reduced considerably in this way.

MORE FLEXIBILITY: MONITORING INDEPENDENT OF SPEED

Thanks to the new acceleration monitoring of the SAM sensors, changes of format and speed are a breeze. Since SAM sensors monitor only changes in the process but not the absolute speed of the impulse train, it is not necessary to readjust the limit values when speeds change. Apart from the savings in time and costs, this also constitutes a definite gain in flexibility.

The intelligent start-up override adjusts automatically to the start-up time required by the machine. This method not only facilitates commissioning but also compensates automatically for unexpected changes of the machine's start-up time.

Simple, flexible, fast, and reliable – the first integrated impulse and acceleration monitor SAM stands for the new, intelligent approach in speed monitoring.

VIDEO
www.sickinsight-online.com

Further product information:
www.mysick.com/products

FOR OPERATORS AND MANUFACTURERS

SERVICE SOLUTIONS FOR SAFE MACHINES AND PLANTS

Safety without any “ifs” or “buts” – this maxim makes SICK’s comprehensive safety service solutions a valuable help for anyone responsible for machine safety. SICK’s seal of quality, “VERIFIED SAFETY,” documents the high level of consulting and engineering services.

>> Protecting people who are handling machines from dangers constitutes a basic moral obligation. Accordingly, this principle is anchored by law in guidelines and sets of regulations worldwide. National differences may exist with respect to the applied methods, but nevertheless all share this primary protective goal.

Meeting this obligation affects by no means only the manufacturer of machines. Operators, i. e. those making available the means of work and production, also have this responsibility, laid down in Germany, for example, in the (German) Act on Health and Safety at Work. Beyond that, an operator frequently becomes a manufacturer as well. This applies particularly when an operator links individual machines to form entire installations, when converting or modifying them, respectively.

Unfortunately, today personal protection measures are too often installed into the finished machine afterwards, and they are regarded as a necessary evil. However, the later implementation takes place, especially with respect to design-related protective measures, the more involved and costly the process becomes. On top of that, one factor often underestimated is the influence that optimum integration of technical protective measures has on the productivity and operability of the machine or plant. If operators are prevented from fulfilling their task, in everyday practice one can often observe that protective equipment has been overridden intentionally, thus even increasing the potential for accidents.

SERVICES FOR SAFE MACHINERY

Unfortunately, it often takes accidents or near-accidents to prompt checking for safety in production facilities. However, services offered by SICK in the area of “optimization and inspection” set in much earlier, prior to an accident occurring. Do benefit from the assessment of the actual safety level by independent experts. As a result of a plant walk-through, you will receive not only an overview of the current status but also recommendations as to how you can bring your facility up to the latest safety level. Using inspections by SICK allows checking or, if required, adapting the effect of the respective protective equipment. It does so with a view to the current use of the machine in accordance with the Act on Health and Safety at Work. The process also involves completion of necessary adjustment and cleaning work at the same time. This approach ensures not only the maintenance of safety but also the availability of the plant. If the relevant action revolves around implementation of safety-related measures when constructing machines, SICK supports you with consulting and engineering services. We will accompany you on the path toward CE conformity.

Do benefit from our experience in risk analysis, preparation of a safety concept, implementation of a concrete safety solution, or in furnishing the required proof that you have implemented the safety functions in accordance with the requirements of the EU's Directive on Machinery. Not least of all, this compliance provides you with legal security.

VERIFIED SAFETY by SICK

VERIFIED SAFETY – SEAL OF QUALITY FOR SICK'S SERVICE SOLUTIONS

With the VERIFIED SAFETY seal of quality, SICK confirms that these services were performed and verified by certified employees and in accordance with defined processes. It documents in writing know-how and process standards at SICK that are valid worldwide. The complete, data base-supported documentation can be traced and retrieved conveniently and at any time.

MUCH MORE ADDED ON TOP

Application and product expertise conveyed in comprehensible ways: With a large number of product-related user training courses, you will quickly and efficiently acquire the necessary knowledge. In this context, the courses offered by the "Training & Education" department also include seminars on CE labeling, product liability, machinery directives, or preparation of "liability-proof" operating instructions. Acting as trainers, our application engineers and service technicians not only convey theory but also provide advice derived from their own practical experience.

With Safexpert, the tool connected to the CE process, we are offering you a means for processing the entire CE process in a structured way. From risk assessment to standards and document management, it is not only design engineers but also management that benefit from the systematic sequence of steps that the TÜV-certified software uses to guide through all phases of CE labeling. In this context, your projects always take into consideration the most up-to-date level the standard. Thus, repeat projects stay in conformity, for instance, since they are checked automatically for possible changes.

THERE ARE GOOD REASONS FOR SAFETY SERVICES FROM SICK

The benefits of the service solutions from SICK speak for themselves. SICK guarantees the safety competence by means of sustained qualification programs involving continuous screening of the employees' state of knowledge. This guarantees reproducible quality of results. Determined processes, a four-eyes principle, as well as traceable documentation establish legal security, for they always represent the latest demands on processes and safety assessments as stipulated by directives and standards. This method enables economical realization of safe machines and plants that can be accompanied with service solutions from a single source throughout all life cycles. The large number of safety specialists worldwide ensures regional proximity and quick presence. This safety expertise is confirmed by a large number of realized projects, showing SICK to be a reliable partner for investment-proof solutions.

With the safety-capable service solutions from SICK, manufacturers, distributors, and operators are always up-to-date in terms of machine and plant safety. In addition, the service solutions give operators and machine manufacturers the possibility of being able to react flexibly to fluctuating order situations. As a result, it is not necessary to make provisions for corresponding resources, making it possible to avoid bottlenecks.

VIDEO
www.sickinsight-online.com

Further information:
www.sick.com/service

FIRST SAFETY COMPETENCE CENTER IN BRAZIL

SICK TAKES OVER THE DISTRIBUTOR AÇÃO SOLUÇÃO

In mid-February 2013, SICK has acquired the previous Brazilian distributor, Ação Solução. As an extension to SICK's subsidiary in Brazil, the company will concentrate on developing further to become the Safety Competence Center in Brazil.

>> With its 30 employees, the Ação Solução Company, founded in 1999, has many years of wide-ranging consulting and solution competence in the field of industrial safety technology. In acquiring Ação, SICK integrates another competent participant into its international safety network in order to be better able to meet regional market demand for automation solutions in the future. Effective immediately, the company's head office in Porto Alegre (southern Brazil) will accommodate a Safety Competence Center that is capable of offering to mechanical engineers, machine manufacturers/OEMs, and operators all of the products from SICK's safety portfolio, including consulting and engineering services.

WORKSHOPS ON GAS MEASUREMENT

SICK AT MERCEDES BENZ WORLD

>> In July 2013, SICK UK held their Ultrasonic Gas Metering and Gas Quality Measurement Workshop at Mercedes World located at the historic Brooklands Motor Racing Circuit close to London. The event attracted 70 delegates from the onshore and offshore gas industries and focused on new products and innovative solutions offered by SICK and partner companies. The day consisted of a mixture of technical presentations and practical workshop sessions covering advancements in Ultrasonic Measurement, introduction of the FLOWSIC500 USM gas flow measuring device and Meeting the Flare Gas Challenge. The day was supported by SpritIT and this gave the ideal opportunity to launch the Flow-X gas flow measuring device to UK customers. The day finished with a social event and all delegates had the chance to be driven around the Mercedes test track by a professional driver in a high power sports car. This was the fourth time the event has been held and customer feedback on both SICK product and the format of the day was extremely positive.

SUCCESSFUL PARTICIPATION IN AUSTRALIAN PACKAGING EXHIBITION

PRESENTED AT THE AUSPACK PLUS AS A COMPETENT PARTNER

The sales team of SICK Australia at the AUSPACK

>> New and long-standing customers were convinced by SICK's presence: Giant banners made it easy to find the booth – and our expert sales and product engineers provided advice and support in clarifying all questions. In addition, the interactive layout using numerous touch screens and trade fair tables enabled visitors to visualize the latest innovative technology used to provide Flexible Automation, Personal Safety, and Quality control.

SICK enthusiastically supported and participated in many events during the exhibition including the Awards of Excellence within the Australian Packaging Institute, World Star Packaging Awards, Australian Institute of Packaging – National Technical Forum and Sponsored breakfast forums. This participation created many opportunities for SICK to develop networks amongst its peers, key decision makers and customers.

"At our exhibition stand we managed to handle many detailed discussions with new and existing customers. The interaction provided a great opportunity for our Sales Engineers to use the interactive displays to demonstrate our expertise in offering possible solutions". says Industry Sales Manager Commercial Goods Tim Baron.

Overall the exhibition was a huge success in promoting the SICK brand as a professional trust worthy partner.

The last LMS2xx produced: farewell all in gold

FAREWELL TO A LEGEND

GOODBYE, LMS2

>> When SICK introduced the PLS, the world's first indoor 2D laser scanner, nearly 20 years ago, this amounted to a revolution in laser measurement technology. A similar device featuring a longer range became necessary in the outdoor area, which in 1996 led to the building of the first LMS2xx. It was a quantum leap for monitoring, positioning, and collision prevention in the open, since the LMS2xx with its rugged design managed to stand up to any kind of environmental influences.

Steadily increasing demand by customers was testimony to this as well. To users, the LMS opens up entirely new dimensions concerning productivity and application areas, e.g. in ports, for protection, in traffic, the steel industry, in mining and machine building, or in robotics technology. In this way, the laser scanner is used in unique applications and familiar places, for instance, to improve lock processes on the Panama Canal, to protect nuclear facilities, or even by NASA. The LMS is employed in numerous toll projects in Germany and all over the world, measuring street environments in 3D. It monitors prisons, villas, museums, or railway stations, and it prevents collisions in container ports.

After almost 17 years, SICK is now discontinuing production of the LMS2xx. However, there is in fact no need for mourning, as its successor is already in place and ready to go: the LMS5xx 2D laser scanner, available both as an indoor and outdoor version. It excels with numerous innovations, making applications even more efficient with added speed, accuracy, reliability, and availability.

AWARDED FOR VEHICLE HOT SPOT DETECTOR AT THE KARAWANKS TUNNEL

GEFAHR/GUT INNOVATION PRIZE FOR ASFINAG AND SICK

In issue 02/2012 of SICKinsight Magazine, we reported on the Vehicle Hot Spot Detector from SICK with integrated LMS511 2D laser scanners. This system has now been awarded the Innovation Prize offered by the Gefahr/gut hazardous material portal.

>> The Vehicle Hot Spot Detector detects overheated vehicles and vehicle components ahead of the tunnel entrance, alerting the control center. By means of an automatic diversion measure, the connected traffic management system prevents vehicles exceeding 7.5 tons from entering the tunnel. In this way, fire or accident disasters due to overheated vehicles – particularly dangerous in the tunnel – can be avoided in time.

In order to live up to the standard of operating the safest autobahns, expressways, and tunnel facilities in Europe, the Austrian highways operator ASFINAG is constantly searching for innovative strategies and solutions. With the Vehicle Hot Spot Detector, SICK makes an important contribution toward this goal. ASFINAG is using this system in the Karawanks Tunnel. This single-tube tunnel measuring approx. 8 km in length has been connecting the Austrian Karawanks autobahn A11 with the highway network in Slovenia leading to Ljubljana since 1991.

In May 2013, the German Gefahr/gut Innovation Prize went to ASFINAG and SICK companies for the Hot Spot Detector at the Karawanks Tunnel at a festive gala event. Under the patronage of Heinrich Vogel Publishers, Gefahr/gut specialist journal, a 17-member panel of experts from all areas of hazardous materials handling honors with this prize companies that have developed and introduced an innovative solution for increased safety in handling hazardous goods.

Starting operation in May 2012, the Vehicle Hot Spot Detector at the Karawanks Tunnel has managed so far to detect more than 300 overheated trucks and busses, preventing them from entering the tunnel.

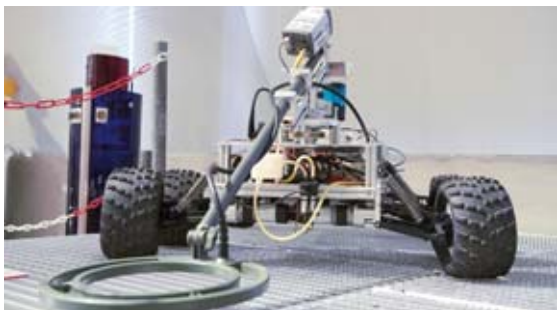
SICKinsight[PLUS]

TECHNISCHES MUSEUM WIEN – WORTH A TRIP

ROBOTS, ELECTRICITY, ACCIDENTS, AND PEOPLE

The Vienna Technical Museum fires enthusiasm with numerous exhibits as well as a broad spectrum of workshops, guided tours, and presentations. Two electrifying exhibitions make the beginnings of safety technology tangible, explaining how robots become a human reality.

>> The exhibits keep what the grandiose exterior of the museum promises. A wide variety of thematic areas, such as heavy industry, everyday life, energy, musical instruments, or the "medien. welten" ("media.worlds") exhibition satisfy the most diverse interests of every visitor. The museum, opened in 1918, puts thousands of exhibits on different topics on display, covering an area of 20,500 m². Among the highlights certainly ranks the Etrich-Taube, one of the first airplanes produced in large numbers, the legendary Mercedes W 196 "Silberpfeil," or the Egger electric motor, doomed to failure for technical and economical reasons. Visitors may also marvel at the first construction by Ferdinand Porsche, the Lohner-Porsche electric vehicle dating from 1900, featuring an advanced wheel hub motor.



STEFAN JELLINEK AND THE "DARK SIDES" OF ELECTRICAL TECHNOLOGY

The exhibition entitled "Going live – Electrical technology and Pathology" looks at the efforts of the Austrian Stefan Jellinek, who meticulously documented and evaluated accidents caused by electricity, thus doing pioneering work in accident prevention. The risks emanating from electrical current are illustrated by pictures from Jellinek's publication entitled "Elektroschutz in 132 Bildern" (Electrical Protection in 132 Images). Lightning and lightning-related accidents are given their own area, as are recent high- and low-voltage accidents. Protective gear still used today is also shown, e.g. the oversized model of a residual current circuit breaker.

Yet another highlight of the exhibition, however, is a self-experiment on the topic of "Feel the current," which invites adventurous visitors to feel different types of electricity under supervision.

ROBOTICS FROM THE MIDDLE AGES ALL THE WAY TO THE FUTURE

Are robots "beings" or "machines"? How do robots work? What is the influence of science and fiction on reality? Questions like these are clarified in the exhibition entitled "Robots – Men and Machine?" More than 1,000 m² of exhibition space illustrate the history, present, and future of robotics based on fantastic-looking medieval automata, toy robots, huge industrial robots, or futuristic "tin mates" of the kind familiar from the "Star Wars" movie Complementary to the exhibition, a range of activities offered includes interactive workshops such as the "Robot Workshop", the "RoboLab" or the "ROBOTS School Program." The exhibition is open until 8 December 2013, so get going and immerse yourselves in the history of robotics.

Further information:
www.efa-automuseum.de

SICK WORLDWIDE

Australia
Phone +61 3 9457 0600 · 1800 3 3480 2 – tollfree
sales@sick.com.au

Austria
Phone +43 22 36 62 28 8-0
office@sick.at

Belgium/Luxembourg
Phone +32 2 466 55 66
info@sick.be

Brazil
Phone +55 11 3215 4900
sac@sick.com.br

China
Phone +86 4000 121 000 · info.china@sick.net.cn
Phone +852 2153 6300 · ghk@sick.com.hk

Czech Republic
Phone +420 2 57 91 18 50
sick@sick.cz

Denmark
Phone +45 45 82 64 00
sick@sick.dk

Finland
Phone +358 9-25 15 800
sick@sick.fi

France
Phone +33 1 64 62 35 00
info@sick.fr

Germany
Phone +49 211 5301-301
kundenservice@sick.de

Great Britain
Phone +44 17 27-83 11 21
info@sick.co.uk

Hungary
Phone +361 371 26 80
office@sick.hu

India
Phone +91 22 4033 8333
info@sick-india.com

Israel
Phone +972 4 688 1000
info@sick-sensors.com

Italy
Phone +39 02 27 43 41
info@sick.it

Japan
Phone +81 3 3358 1341
support@sick.jp

Canada
Phone + 1 905 771 1444
information@sick.com

Netherlands
Phone +31 30 229 25 44
info@sick.nl

Norway
Phone +47 67 81 50 00
austefjord@sick.no

Poland
Phone +48 22 837 40 50
info@sick.pl

Romania
Phone +40 356 171 120
office@sick.ro

Russia
Phone +7 495 775 05 30
info@sick.ru

Singapore
Phone +65 6744 3732
sales.gsg@sick.com

Slovenia
Phone +386 (0)1-47 69 990
office@sick.si

South Africa
Phone +27 11 472 3733
info@sickautomation.co.za

South Korea
Phone +82 2 786 6321/4
info@sickkorea.net

Spain
Phone +34 93 480 31 00
info@sick.es

Sweden
Phone +46 8 680 64 50
info@sick.se

Switzerland
Phone +41 41 619 29 39
contact@sick.ch

Taiwan
Phone +886 2 2375 6288
sales@sick.com.tw

Turkey
Phone +90 216 528 50 00
info@sick.com.tr

United Arab Emirates
Phone +971 (0)4 8865 878
info@sick.ae

USA and Mexico
Phone +1 (952) 941 6780
info@sickusa.com

More at **www.sick.com**

SICK AG
Erwin-Sick-Str. 1
79183 Waldkirch · Germany
Phone +49 7681 202-0
Fax +49 7681 202-38 63
info@sick.de · www.sick.com

Imprint

Publisher:	SICK AG · Postfach 310 · 79177 Waldkirch · Germany · www.sick.com · Phone +49 7681 202-0 · Fax +49 7681 202-38 63 · info@sick.de
Managing editors:	Andreas Esslinger · andreas.esslinger@sick.de · Stephanie Rott · stephanie.rott@sick.de
Editors:	Regina Elzenbeck · regina.elzenbeck@sick.de · Tobias Maillard · tobias.maillard@sick.de Ingrid Rathfelder · ingrid.rathfelder@sick.de · Marc Schätzle · marc.schaetzle@sick.de
Layout:	ad:johnson Kommunikation · 76133 Karlsruhe · www.adjohnson.de
Printing:	Druckerei Furtwängler · 79211 Denzlingen · info@druckerei-furtwaengler.de
Translator:	Dr. Erwin D. Fink · 79106 Freiburg · info@transmedia-translations.com
Pictures:	SICK AG, www.ausloeser-fotodesign.de, Audi, BMW, Fotolia.com

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HOW TO RECOGNIZE A PIRATE WITHOUT A WOODEN LEG.

THIS IS SICK

Sensor Intelligence.

Daniel is a product manager at Bosch Packaging Technology in Waiblingen, Germany. Daniel told his nephew he's a pirate hunter, too. Since 10% of the medicine available worldwide is a fake and sold in counterfeit packaging, someone has to ensure the authenticity of pills. Daniel is that someone, and he's fighting product piracy using all means. With code readers, scanners, encoders, fork sensors, and photoelectric sensors made by SICK, he develops highly secure packaging technology. The original products can now be separated from the fakes using micro-logos, labels, color codes, special inks, and biological and chemical markers. Daniel has become the scourge of every product pirate. His nephew has become his biggest fan. We think that's intelligent. www.sick.com