

PRESS RELEASE



Bonfiglioli drove evolution @SPS Parma 2024

Calderara di Reno, Bologna, 31st May 2024 – Bonfiglioli showcased its latest products at the recent edition of SPS, the trade fair dedicated to industrial automation, which took place in Parma from the **28th to the 30th of May**. At the **booth E010 in the Hall 3**, Bonfiglioli gave ample space to some of its complete mechatronic solutions designed for **intralogistics, packaging, wood working and Industrial Robotics applications**. Transversal to all these applications is the **IoT platform**, to which a special focus was dedicated.

Streamlined Operations: Bonfiglioli's Expertise in Intralogistics and Packaging

For **intralogistics processes, i.e. belt conveyors and rolling conveyors** two different packages were displayed: the first one is specifically designed for post & parcel and airport baggage handling systems and it consists of a compact, **right-angle bevel gear unit of the A Series**, the energy efficient **IE4-certified BSR synchronous reluctance motor** and a **DGM decentralized inverter**. The innovation is represented by the Z-Sensor directly connected to the inverter: it allows collecting data on-site and transmitting them via a Profinet-based fieldbus, as well as forward them to Bonfiglioli's PLC/IoT system which supports the **MQTT standard protocol**. The second solution, developed for rolling conveyors, combines the **EVOX CP helical in-line gearbox**, with a modular, reliable and energy efficient **MXN e-motor** and an **inverter of the AxiaVert series**. Its modular structure and great process versatility make this drive adaptable to meet diversified requirements and compatible with a wide range of motors (asynchronous, synchronous and synchronous reluctance). Moreover, it integrates several advanced functional safety capabilities and flexible communication protocols complying with automation and Industry 4.0 standards.

For **primary and secondary packaging**, Bonfiglioli offered a wide range of compact, modular, dynamic solutions dedicated to drive and control systems for both Horizontal Fill Form Seal (HFFS) and Vertical Fill Form Seal (VFFS) machines that provide proper conveyor transfer of material to an unwinder for sealing with a single roll of film. For flow pack packaging processes Bonfiglioli showcased a solution incorporating a **BMD synchronous servomotor**, a **right-angle gear unit of the A Series** and the **AxiaVert inverter**. Moreover, visitors had the opportunity to experience first-hand the two solutions developed by Bonfiglioli for the **management of two axes** and both featuring a **DGM decentralized inverter** based on EtherCAT and a **BSR synchronous reluctance motor**. The first solution is characterized by a sensorless PTP (Point-to-point Positioning Mode) which allows detecting the position by moving an object from one point to another without using internal and external encoders. The second solution, which has been successfully field-tested, relies on torque mode and is suitable for pre-stretch operations in wrapping machines.

A further solution, engineered for palletizers, consisted of a **BMD servomotor** which ensures the highest dynamic performances and resistance to high overloads without risk of demagnetization, and a precision planetary inline gearbox of the **TQ Series**, which is appreciated for its high torque density, high overload capacity, exceptional precision and low vibration.

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Introducing AxiaVert: Bonfiglioli's Premium Frequency Inverter

A special focus is dedicated to **AxiaVert**, the premium series of frequency inverters offering integrated functional safety, precision and control for any industry and process. Highly dynamic and extremely performing, AxiaVert ensures complete flexibility and supports a wide range of Ethernet fieldbuses. At SPS AxiaVert was featured in two hybrid systems. In the first one it was combined with a **BMD servomotor**, in the second one with a **BMS servo gearmotor**, both characterized by the innovative **single-cable technology** and both managed in **PTP or Master/Slave operating mode**. The high resolution of the encoders used on BMD/BMS motors allows to achieve an infinitesimal precision positioning and therefore, it represents the best choice for challenging applications, above all in motion, labelling and filling fields. The most important innovation is represented by the shielded single cable applied to the servo motors, which represents a huge advantage in terms of simplification during installation and space saving: one single cable means one single connector, i.e. one single attachment point upstream with the drive and downstream with the servo motor.

Shaping excellence with Bonfiglioli's cutting edge solutions for wood working

Bonfiglioli showcased an **entire machine** consisting of the highly dynamic **AxiaVert inverter**, a **BMD single-cable servomotor** – specifically developed for rounding units – and a **LC Precision Planetary Gearbox** of the **Effective Line**. Its output design ensures great compatibility for easy retrofits and a high level of freedom in projects development and great compatibility for easy retrofits. The Precision Planetary Gearboxes – PPG – Effective line are specifically designed for systems with medium requirements for precision, dynamics and torque density. By driving the spindle with **AxiaVert**, **Bonfiglioli** is able to offer **safety functionality**: the inverter can now detect potentially unsafe situations, reducing the number of sensors and related wiring. This advantage adds to its high value motion and control features, as well as great accuracy.

Tomorrow's collaborative Robotics with BlueRoll applied to AMRs and AGVs

In the field of mobile robotics applications, Bonfiglioli displayed **BlueRoll**: the high-performance, wheel-mounted gearmotor platform for AGVs and AMRs, featuring an ultra-compact and energy-efficient design for a long operating cycle. The modular drive system is available in three configurations, *Basic, Advanced and Compact*, with a customisable single gearbox load ranging from 360 to 1020 kg and a maximum speed of 2m/s. A **compact servo gearmotor** of the **BMS Series**, together with a combined solution composed of a **TQ high precision planetary inline gearbox** of the Performance Line and a **BMD permanent magnet AC low voltage synchronous motor**, were also showcased at the booth. The **BMS Series'** main advantages are excellent compactness, high torsional stiffness and low moment of inertia, making it the ideal solution for applications that require highly precise positioning, accuracy and efficiency. Thanks to its space-saving machine design, along with a wide range of options, the BMS Series enhances performance through the synergy between permanent magnets, synchronous motors and precision planetary gearbox technologies. According to the application requirements, in terms of speed torque and operation cycle, it is also possible to select the suitable gear motor choosing between the BASE, MEDIUM or HIGH overspeed variants.

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Selcom & Bonfiglioli: the perfect synergy for Complete Industrial Application Solutions

At the trade fair, the synergy between Selcom and Bonfiglioli became evident through the presentation of complete solutions that combine Selcom's expertise in electronic innovations with Bonfiglioli's comprehensive mechatronic systems. Selcom and Bonfiglioli have joined forces to deliver fully-fledged solutions integrating electronics as motion controllers, PLCs, sensors, displays and inverters for drives and power transmission gear motors to meet the highest market standards. Selcom's solutions include the integration of controls into electrical driving cabinets, being a "one-stop shop" partner for our customers.

Several tailor made proposals were displayed, among others: a DC-DC converter for battery-powered applications, TFT displays with touch screen function and a generator for induction welding. Selcom's innovations are also applied to welding, sensors and the monitoring and diagnosis of electrical parameters in the packaging sector.

Bonfiglioli unlocked Industry 4.0, driving efficiency with complete IoT Solution

Downtime, sudden breakdowns, high maintenance costs, and short life spans are critical issues for industrial machinery manufacturers and operators. Bonfiglioli addresses these challenges as a technological partner, offering **comprehensive IIoT solutions** that include **Condition Monitoring, Predictive Maintenance** services, and post-sales support. Through its IoT platform, Bonfiglioli employs **Z and W sensors** to monitor gearboxes and motors, collecting data on performance, consumption, and real duty cycles. The Z-Sensor features accelerometer, magnetometer, and temperature sensor functions, while the W-Sensor digitizes external sensor data and transmits it wirelessly. These sensors, along with an IE3 (or IE4) asynchronous low-voltage MXN electric motor and a CP coaxial gear unit from the EVOX platform, demonstrate high efficiency, low noise, flexibility, and modularity. This predictive maintenance service helps prevent damage and downtime by making key data accessible and allowing for advanced technical service planning. Bonfiglioli's solutions offer **enhanced transparency, control, and efficiency**, ultimately improving the overall quality and reliability of industrial machinery.

Bonfiglioli Group

Bonfiglioli is a worldwide designer, manufacturer and distributor of a complete range of gearmotors, drive systems, planetary gearboxes and inverters, which satisfy the most challenging and demanding needs in industrial automation, mobile machinery and renewable energy. The Group serves more industries and applications than any other drives manufacturer and is a market leader in many sectors; its two business units - Industry & Automation Solutions and Mobility & Wind Industries - embody all the expertise and experience acquired over the years in the respective industries. Established in 1956, Bonfiglioli operates worldwide in 80 countries with 23 commercial sites, 18 production sites, a wide distribution network comprising more than 550 partners, and can count on over 4.700 professionals. Excellence, innovation and sustainability are the drivers behind the growth of Bonfiglioli as a company and team and represent the guarantee of the products and services quality offered its clients. More information available at www.bonfiglioli.com.

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