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Bonfiglioli @ IFAT 2024: Sustainable Solutions for Resource Management

Bonfiglioli is ready to tackle the challenges ahead at IFAT 2024 (Booth B6323/422), the leading global trade fair dedicated to water, sewage, waste and raw materials management, scheduled to be held in Munich from May 13th to 17th, with its comprehensive range of innovative **solutions** for **recycling** processing and machinery, biogas generation and water treatment.

Bonfiglioli's Commitment to the 3 R's: Reduce, Reuse, Recycle

To ensure top-tier operational excellence and optimal outcomes in the recycling process, Bonfiglioli designs and manufactures tailored solutions for light and heavy-duty-tasks in waste material collection, downsizing and sorting. The solutions are crafted with utmost customization to meet the requirements of each customer.

For light-duty applications such as Reverse Vending Machines (shredding or compactor) and standalone shredders, Bonfiglioli offers solutions renowned for their high reliability and extended operational lifetime. For RVMs, the company provides a comprehensive package solution comprising the EVOX CP coaxial gearbox, marked by its smooth surface and compatibility with industry standards, the internationally certified MXN asynchronous low-voltage e-motor - available in the IE3 Premium efficiency class - known for its modularity, reliability and energy efficiency and the extremely versatile AxiaVert smart inverter. This boasts a wide range of advanced integrated functional safety capabilities and can be integrated into IoT applications. The second product bundle designed for RVMs includes the W Series universal worm gearbox paired with an exceptionally compact asynchronous motor from the MXN Series, both CUS and CCC certified.

Regarding standalone shredders, Bonfiglioli is going to showcase a planetary gearbox from the 300 Series. Incredibly compact and resistant to shock loads, it is combined with a BX Series asynchronous Three Phase motor, guaranteeing reduced operating costs, energy saving and control flexibility, and an ACU (Active Cube) inverter. Specifically developed for automation machines, it boasts several enhanced functionalities, such as: Cyclic Synchronous Positioning (CSP) mode, brake control and encoder evaluation. Moreover, the new single axis controlling servo, induction and synchronous reluctance motors, offers high dynamic response, high performance and application versatility. Active Cube is available with various communication protocols, guaranteeing the broadest connectivity with the most advanced control technology.

For **heavy-duty** applications, Bonfiglioli presents two solutions dedicated to recycling plants and, more specifically, to **primary shredding** and **sorting machines**.

For the former, the **R3 Series** is displayed, featuring planetary gearboxes offering peak torgue ranges from 80,000 to 129,000 Nm and gear ratios ranging from 92 to 115. Equipped with sensors that measure performance, consumption and real duty cycle of the machine, the Series delivers condition monitoring and predictive maintenance services through an IoT platform. One of its key elements is the **functional portal** which makes it simple to **monitor and report on the operating**

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status of components and act on warnings and alarms. It provides **insights and advice** on scheduling **RUL-based maintenance**, as well as monitoring usage, uptime and performance. Moreover, it offers an **alerting function** sending notifications on how and when to manage maintenance.

For sorting machines, Bonfiglioli has developed a solution which combines a **helical in-line gearbox of the CP Series** with a globally certified **electric multi-voltage IE3 Efficiency MXN motor** and a **decentralized inverter of the DGM Series**, equipped with a brake rectifier module option, automatic starting torque optimization and sensorless vector control.

Bonfiglioli backs biogas

Bonfiglioli is firmly engaged in helping the world transition to sustainable energy, and biogas is a booming sector where its products and maintenance services can give added value. To that aim Bonfiglioli offers **gearmotors** that can handle **material mixing at variable power** and speed ratios, **threshing and transport** of both **solid** and **grain** material. Their reliability and durability is already trusted by German machinery companies which use them in agitators. The bundle showcased at IFAT is composed of a helical bevel **gear unit** from the **HDO Series**, tailored for **biomixers** and **agitators**, which is **ATEX certified** and engineered with exceptional shock load resistance. The HD Series, both in the parallel (HDP) and right angle (HDO) configuration, can operate in the harshest environment, as well as in explosive atmospheres and guarantees low maintenance costs and long time service intervals.

Efficient and compact solutions for water treatment

From desalination to purification, the water & wastewater sector is complex and demands reliable solutions to guarantee continuous operational flow. With a comprehensive range of automation products, Bonfiglioli can provide **effective solutions** for various applications in support of wastewater treatment plants, where easy maintenance, adaptability, compactness and high torque values are demanded. Precise control over drive speed, water flow and pressure are key elements enabling to offer energy-saving solutions for pumps, conveyors and filters commonly adopted in wastewater processes. At IFAT 2024 Bonfiglioli displays a helical parallel gearbox of the HDP Series, here applied to an aerator. Perfectly customizable, also in combination with other gearbox solutions, it is IoT ready and implemented with the Condition Monitoring service. Bonfiglioli's products and solutions are meticulously designed to meet the rigorous demands of the applications executed by aerators, mixers, and agitators which are devices specifically engineered to introduce air or other gases into liquids, facilitating processes such as oxygenation or other chemical reactions. They feature capabilities to withstand high radial loads, ensure mechanical separation between the lubrication chamber and output, regulate speed effectively, and thrive in aggressive atmospheres. Additionally, remote control and preventive maintenance solutions are available options, ensuring seamless integration with the primary application requirements.

Bonfiglioli's participation at IFAT underscores its steadfast **commitment** to fostering a **sustainable future**. This approach permeates all aspects of its **pioneering** activities, with the development of both **products** and **processes**, following the principles of the **green economy**. Aligning seamlessly with IFAT's objectives, the Company is dedicated to offering **technologies** able to transform waste into

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valuable resources, leveraging **IoT** to optimize efficiency and continuously endeavoring to reduce its **environmental footprint**.

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 26 commercial sites, 20 production sites, a wide distribution network comprising more than 550 partners, and can count on over 4.800 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 <u>www.bonfiglioli.com.</u>

Media relations | Lbdi Communication – Beatrice Cevolani – <u>b.cevolani@lbdi.it</u> – Chiara Ravanelli – <u>c.ravanelli@lbdi.it</u> - Ginevra Fossati – <u>g.fossati@lbdi.it</u> Tel. + 39 02 43 91 00 69 – Skype Lbdi_PR

Internal & External Communication Manager | Bonfiglioli - Laura Manfredi - Laura.Manfredi@bonfiglioli.com