AMMEGA GROUP

Advanced Belt Solutions for the Battery Industry

gigabelt
FOR BATTERY INDUSTRY

AMMEGA is a global leader in conveyor and power transmission belting solutions, delivering innovation, reliability, and sustainability to a vast global installed base across a diverse range of end markets, including Food & Beverage, E-commerce, Logistics, Paper, Print, Mobility, and Consumer Goods.

***#WeAreAMMEGA* isn't just a tagline, it's the spirit of our global team and a reflection of how we work together to provide the right solutions for over 50 industries.**

Through our unique combination of experience, market expertise, and engineering know-how, we deliver tailored belting solutions for global distributors, leading OEMs, and SMEs. Our network of 190 locations in more than 40 countries makes us the local partner of choice for businesses worldwide.

Our robust global supply chain ensures the timely delivery of mission-critical products to the right place, at the right time.

WE MAKE YOUR BUSINESS MOVE

Ammeraal Beltech · MEGADYNE · JASON · SAMPLA · uni · CHALLENGE · RAPPLON® · Sati Brain Power · chemprene · green belting

WE KNOW
the battery market

Global demand for lithium-ion batteries is projected to reach more than 4,000 GWh by 2030, driven primarily by the mobility sector, including electric vehicles, alongside growth in battery energy storage systems (BESS), consumer electronics, industrial power, and renewable energy applications. Meeting this demand requires scaling global production with safe, efficient, and innovative manufacturing processes.

We support the industry with tailored conveyor and power transmission belting solutions designed to:

- Address diverse manufacturing steps with unique requirements.
- Perform in dry rooms and cleanrooms.
- Offer antistatic, ESD, and ATEX-compliant options for critical processes.
- Support various cell and module formats (cylindrical, prismatic, pouch).
- Ensure low friction, minimal particle generation, and durability.
- Provide modular, flexible designs for evolving production needs.

Our advanced solutions enhance manufacturing efficiency, automation, and reliability to meet the demands of this rapidly growing market.

WHY IS AMMEGA
your belting partner?

AMMEGA's Gigabelt series is trusted by leading Asian and Western battery manufacturers for critical processes requiring cleanroom suitability and other demanding conditions.

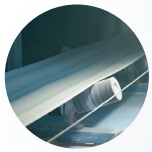
With extensive industry expertise, AMMEGA offers:

- One-stop shop for the entire battery value chain industry's belting needs.
- Broad product portfolio with innovative features like AMMcare and ConnectedBelt for optimised TCO.
- Proven expertise serving top-tier companies in the battery and related industries.
- Global network with 20+ manufacturing sites and 170+ customer service centers.
- Strong focus on sustainability, including EcoVadis Gold certification and alignment with the UN SDGs.
- Reliable support to drive innovation and growth in the battery industry.

AMMEGA AS THE PREFERRED PARTNER FOR THE ENTIRE BATTERY VALUE STREAM

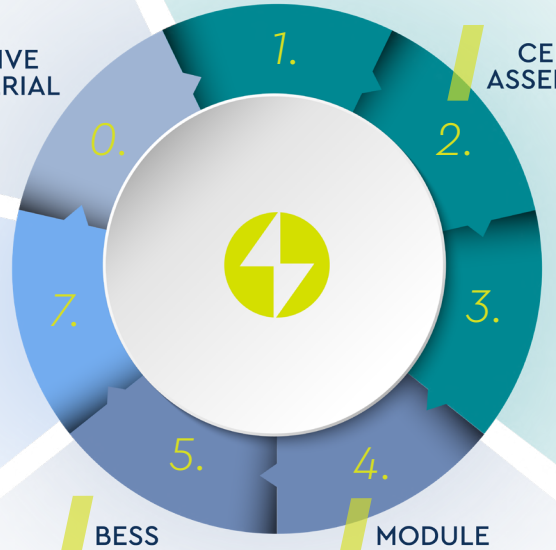
We offer comprehensive solutions for all your conveyor and power transmission belting needs across every stage of the battery industry value chain. Whether transporting electrodes and jelly rolls or stacks under stringent conditions like cleanroom and dry room environments or handling heavy 40-ton BESS containers along the assembly line, our solutions are designed to keep your materials, products, and business moving forward seamlessly.

Abrasion resistant belt for precursor handling
Arcon



Metal chain and PU Timing Belts for vertical stackers

ESD belt for coated electrode transfer & feeder systems
Ropanyl



Flat modular chain for puck transfer
Uni 882

Timing belt for tray transfer system
MEGALINEAR

Fabricated belt with cleats for shredder feeding
Flexam

Heavy load modular belt for system assembly depending on loading capacity
Uni AMB/CSB/ACB/XLB

The battery industry is rapidly advancing, with innovative products transitioning to mass production — a trend expected to continue. This growth presents opportunities and challenges for equipment and conveyor OEMs, which demand innovative solutions.

As a market leader, AMMEGA offers the broadest belting portfolio, including the flexible, high-performance Gigabelt series, tailored to diverse processes and equipment. Supported by expert engineering teams, AMMEGA ensures optimal product selection and exceptional performance.

1. ELECTRODE MANUFACTURING

The core steps in electrode manufacturing include raw material mixing for slurry preparation, coating on aluminium and copper foils, drying, calendaring for desired thickness, and slitting into electrode rolls.

Key requirements:

- Heavy load handling.
- Energy efficiency.
- Cleanroom suitability with no contamination from lubricants or particles.

AMMEGA'S SOLUTIONS AND EXAMPLE APPLICATIONS:

- **Metal chain for roller drive in coating area.**
- **PU timing belts for mixers, calendaring units, drying chambers, coating rollers, and slitting machines.**
- **PU timing belts for vertical stacker cranes.**

2. CELL ASSEMBLY

Cell assembly includes stamping, stacking or winding of electrodes and separators, inserting stacks or jelly rolls into cans, insulation, lid assembly, and electrolyte injection. The transportation of electrodes and jelly rolls/ stacks within a specific process equipment and between the equipment crossing through several quality inspection processes and relevant instrumentation needs suitable conveyor belting solutions.

Key requirements:

- Operation under extremely low humidity and cleanroom conditions.
- Operation at high speed and handling multiple process steps/stations with different takt times.
- Suitability for optical imaging analysis of electrodes – colour, translucence.
- ATEX compliance or ESD, chemical resistance, and ease of cleaning.

AMMEGA'S SOLUTIONS AND EXAMPLE APPLICATIONS:

- **High-speed modular plastic chains (W/O pucks) for jelly rolls/stacks transfer, buffers and accumulators.**
- **Anti-static PU timing belts for jelly rolls/stacks transfers in trays on twin conveyors.**
- **Synthetic PU belts for electrode transfer in optical imaging analysis equipment for quality check.**
- **Specialty belts for electrolyte injection and hole sealing.**

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3. CELL FINISHING

Cell finishing involves formation (initial cell charging in large racks), ageing, and EOL testing & grading (electric performance checks).

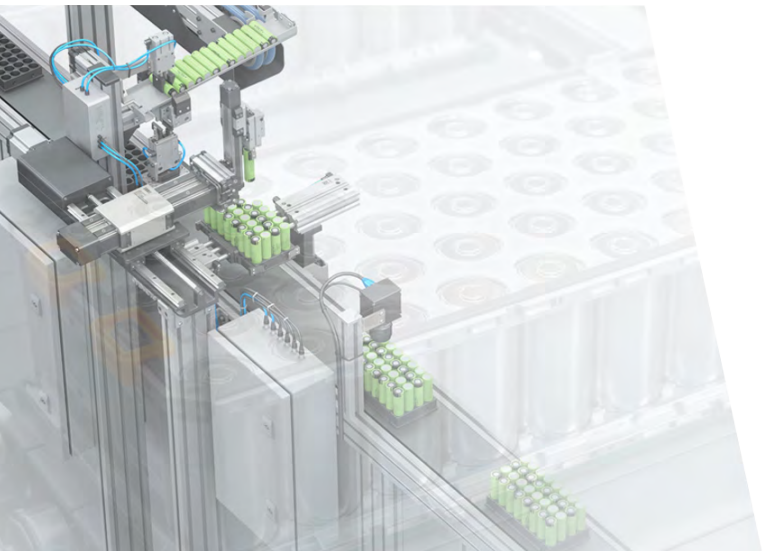
Key requirements:

- Noise and energy efficiency.
- Transport and sorting of varied loads.
- TCO optimisation.
- Ease of commissioning and maintenance.

AMMEGA'S SOLUTIONS AND EXAMPLE APPLICATIONS:

- **Modular plastic chains and belts for moving, sorting trays containing cells to formation lines and to end of line (EOL) testing stations.**
- **PU timing belts for elevator systems handling trays in formation and ageing racks.**
- **HP flat belts for conveyors moving trays to formation and EOL testing stations.**
- **Modular plastic belts for packaging, palletising, and transport preparation.**

4. MODULE AND PACK ASSEMBLY



Module and pack assembly involves pre-assembly (cell inspection, testing, preparation), assembly (cell stacking, insulation, electrical component mounting), and EOL inspection.

Key requirements:

- Speed, heavy load handling, durability, and energy efficiency.

AMMEGA'S SOLUTIONS:

- **High Performance flat belts or modular plastic chains for conveyors in pre-assembly relevant process steps like incoming cell inspection, testing, preparation and transport to cell stacking station.**
- **Plastic modular belts for process conveyance in actual assembly with insulation insertion, mounting of electrical components and end of line (EOL) testing.**
- **PU timing belts for 90-degree turns, diverters, roller tables, robots, and AGVs.**

SUSTAINABILITY

LONGEVITY

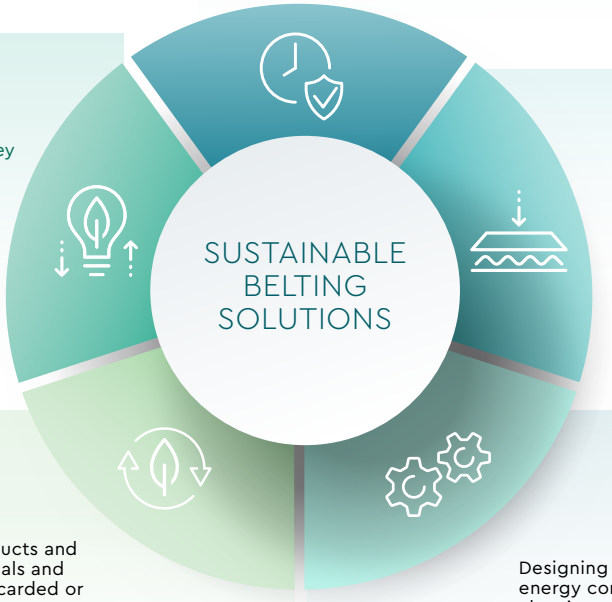
Maximising product lifespan and operability through strategic design, leading to carbon and resource savings.

Engineering more robust, longer-lasting solutions by reducing friction, resulting in less wear and lower energy consumption.

ENERGY TRANSITION

Supporting the transition towards renewable and low-carbon energy, by expanding our customer base across key industries

Integrating our innovative belting solutions into the technologies and operations that are driving the 'green transition'.



MATERIALS

Transitioning to lower impact materials within our products, to improve carbon intensity and reduce environmental footprint.

Shifting to bio-based components, recycled fabrics or lower carbon materials and polymers.

CIRCULARITY

Rethinking our approach to minimise use of virgin materials and reduce waste-to-landfill.

Prioritising circularity through our products and operations, integrating recycled materials and developing end-of-life solutions for discarded or waste belts.

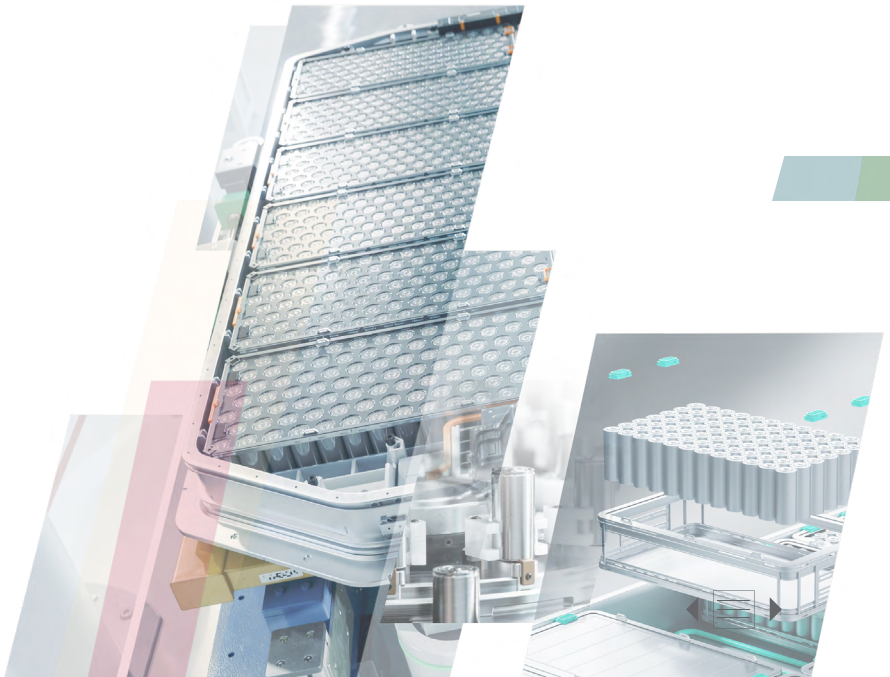
OPERATIONAL USE

Improving our customer experience by addressing in-service client needs, while contributing to collective sustainability ambitions.

Designing bespoke products with minimised energy consumption, reduced noise, easier cleaning and smart support systems to manage downtime and avoid disruption.

SMART BELT SOLUTIONS

REACTIVE 01 >> PREVENTIVE 02 >> PREDICTIVE 03 >> PROACTIVE 04



AMMEGA's ConnectedBelt solution brings predictive maintenance to Industry 4.0 by integrating **advanced technologies.**

With hardware gateways and sensors, users gain real-time data via a dashboard and app, enabling proactive monitoring and reducing downtime, which is very critical for the battery industry.

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