



MECBIO
MECHANICAL & BIOLOGICAL TREATMENT

Composting and recycling solutions

World-leading technology together with local and global experience

With over 65 years of combined Australian and international recycling industry experience, the team at MECBIO have established partnerships with some of the world's leading suppliers to assist Australian entities to **shift the dial** in terms of the **Circular economy**.

Together with our exclusive partners, MECBIO are a full-service provider for the recovery of organic waste and the recycling of various other wastes including C&D waste and plastics recycling.

Our mechanical and biological solutions for food and garden organic waste builds on extensive know-how and years of experience. We can control the entire project and operation cycles to help our customers avoid costly duplications, suboptimal technological solutions and maintain consistent uptime. Our solutions combine quality, creativity and technological expertise to craft a plan that is a tailor-made one stop solution. Our mechanical solutions for other waste types brings to Australia some of the best performing equipment from around the world delivering high reliability at minimal operating cost.

Each of the key members of the MECBIO team have a level of expertise and experience which rarely exists within the Australian recycling market. **This experience comes from a combined 60+ years operational knowledge developed across Australia, the United Kingdom, Europe, North America, Asia and the Middle East.**

The key members have jointly and separately worked on some of the world's most advanced treatment facilities including in vessel composting, anaerobic digestion, mechanical biological treatment and waste-to-energy plants.

MECBIO are able to design build, install and service state-of-the-art mechanical and biological waste recovery facilities for organic wastes as well as other streams. MECBIO also supply a range of specialist waste processing equipment either as facility builds or standalone items.

We are the exclusive Australasian distributor for the following international specialist recycling organisations:



Our partners

For biological waste treatment techniques:



Resources are scarce and valuable. WTT aim to maximise the re-use of nutrients in the food chain and utilize their renewable energy potential. WTT cooperate with MECBIO to deliver technology for building sustainable and state-of-the-art organic waste treatment facilities. WTT have delivered over 125 comprehensive waste treatment facilities all over the world. These facilities include, Pre-treatment / decontamination, Composting, Dry Anaerobic digestion, Bio-drying, RDF production, Post-treatment / Refining, facility air and water management facilities. The WTT know how draws on advanced global experience to push boundaries and apply the best available technology to reduce greenhouse emissions.



The WTT biological processes and systems control the entire project and operation cycles to help customers avoid costly duplications, suboptimal technological solutions and maintain consistent uptime. MECBIO together with WTT combine quality, creativity and technological expertise to craft a plan that is tailor-made to your specific needs. A one stop solution.

For shredders, screens, rendering equipment and autoclaves (based out of Belgium):



RENTEC is known worldwide as a leading manufacturer of high duty, robust machines for waste processing and rendering applications. A Belgian manufacturer that has been designing, engineering, building, installing and maintaining machines and installations since 1985.

Thanks to the continuous development of practical solutions to the specific problems of our customers, RENTEC have built up an excellent global reputation.

RENTEC uses a well-considered approach. We listen, design, develop and improve. After production and assembly, each machine is extensively and thoroughly tested in our workshop to assure it meets the highest quality requirements. Once delivered to your site we take care of final assembly, commissioning, and testing.

RENTEC builds robust, reliable machines for the following industries:

Recycling:

For the mechanical treatment of solid waste products, RENTEC provide shredders, bag openers, screens & conveyor systems.

The RENTEC stationary slow speed pre-shredder range:

- **The RAPTOR** monorotor shredder with hydraulic drive is suitable for household waste and biodegradable waste streams.
- **The DINOSAURUS[®]** double-rotor shredder with hydraulic drive is ideal in waste-to-energy plants (to sort and recover recyclables) as well as in biogas and composting installations.
- **The TRIREX** triple-rotor shredder with hydraulic drive and large square input hopper, is suitable for bulk loading by a large-capacity polyp grab. It can be used for shredding and conditioning of all kinds of waste.



RENTEC build screens for the correct separation of fines (ECODISC[®]) or for the removal of oversized parts (SCALPEL) to avoid clogging in the subsequent separation line. Together with MECBIO, they build turnkey shredding and screening solutions completed with a total range of modular conveyor systems.

Autoclaves:

RENTEC builds autoclaves according to the specific requirements of the client or project. Direct steam or compressed air brings the pressure inside the autoclave up to 30 bar. Heating is obtained by steam or hot air using electric registers or thermal oil.

For pelletising post-consumer and post-industrial plastic waste (based out of Spain):

ALTERO

recycling machinery

The Altero brand was born out of the merger of a human team with more than 20 years' experience in the plastic recycling sector and the company Aranow Packaging Machinery with more than 16 years spent manufacturing machinery for product packaging on a global scale.

Our technical team has built its long professional career on installing and repairing different types of machinery for thermoplastic recycling. For years it even took on the role as the technical support team in Spain for the leading brand in the sector. Implementing the Lean system and completely computerising the production processes has allowed us to focus our efforts on maximum efficiency.

Post consumer recycling products:

- **Velox** for maximum performance, efficiency and durability in recycling very demanding and difficult to process materials.
- **Duplo** copes with heavily printed materials. It has a cascade design which is optimised to remove very large amounts of gases and volatiles.



Post industrial recycling products:

- **Optima** is optimised for the recycling of production losses and post industrial plastic waste
- **Aqua** has state-of-the-art technology for PET production. Specific design minimises the IV drop with a simple and reproducible recycling process



Total process control:

- We incorporate the **latest generation measuring technologies and sensors** to monitor and control all the critical elements and parameters of the process. This allows us to incorporate messages and visual elements on the control screen, that help the operator to maintain a steady process.
- All the information generated by the measurement systems is stored to **allow big data analysis** and training of predictive algorithms.

For depackaging systems (based out of Italy):

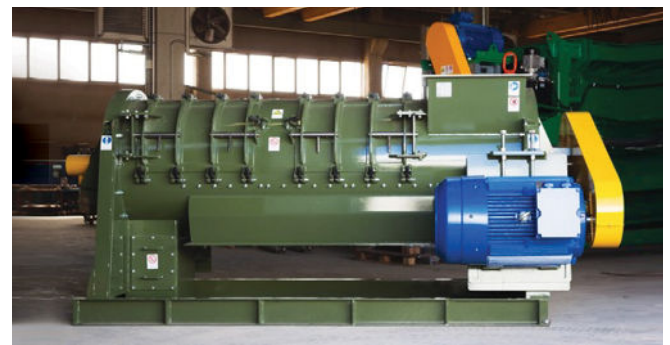


Ecomade is a company specialised in the design, development and implementation of machines and systems for processing waste.

Food depackaging:

The Wombat separator

The patented separator technology provides the perfect separation method for input materials which are particularly difficult to screen (for processing the organic fraction from the collected household waste etc.). They are resistant to contaminations, easy-to-use and easily accessible. That minimises your maintenance expenses. The separators have frequently been applied in the recycling industries. Furthermore, Ecomade's separators are used to prepare flows of organic matter so that these are suitable for processing in fermenting and composting installations.



The Ecomade Separators are made for processing Biowaste or de-packaging food waste. Built with a sturdy steel frame equipped with inspection doors. Inside, a rotor equipped with special hammers and mallets makes a division of the material to separate

Our partners

the contaminants (mainly plastics and metals) still present in the organic flows to create a clean organic stream. The machine is loaded from above and discharges all processed material, liquid and clean plastics from below by gravity.

The separators can be automatically fed by automatic conveying systems to dose the material. The waste is centrifuged by the internal rotor, and the combined work of the hammers and mallets drains the liquid/semi liquid part from the lower perforated grids, while the plastics are cleaned and transported to the discharge outlet. During the work cycle, the use of water/liquids keeps the grids clean and at the same time improves the quality of the waste plastics (works with water and without water). The machine components are made of materials that guarantee efficiency and durability.

For full installation and machinery engineering (based out of Spain):



Leblan, specialises in the design, manufacture and installation of plants and machinery for the crushing, classification and washing of aggregates, concrete production plants and Municipal Solid Waste (MSW) treatment plants, biomass and handling.

Leblan deliver facilities for compost processing, glass recovery, for Construction and Demolition Waste (CDW), Non Hazardous Industrial Waste (NHIW), Incineration. Bottom Ash, automation of loading and transport systems for all types of materials, decontamination of soils, etc.

Together with MECBIO Leblan carry out "turnkey" permanent and mobile facility projects based on a study of the customer's needs, offering comprehensive

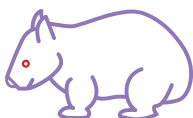
advice on the selection of equipment and excellent after-sales service.

Leblan are capable of developing special projects for adjustments' resolution and for the renewal of plants with obsolete treatment processes, as well as elaborating automatic systems for composting parks loading and unloading, the collect and the dispatch of fertilizers. Our developments also include specific solutions for bulk materials sorting and transport.



Machinery development

Leblan model complex dynamic systems and predict their behaviour, obtaining the physical quantities with which we do the dimensioning of equipment' components. After a rigorous study of the specific needs of each application. Leblan give machines technical characteristics which enable high performance, adapting to input materials' requirements and to the several processes in which they are integrated.



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