



Revolutionising plastic packaging and waste

We aim to transform how we make, use, recycle and dispose of plastics through better design, materials and logistics to meet the 2025 Australian Government target to make 100% of packaging in Australia reusable, recyclable or compostable.

The challenge

The intended useful life of plastic packaging is about one year, but 95% of packaging material value is discarded after a single use. Plastic packaging that leaks into the environment can persist for hundreds of years, slowly decaying to microparticles that can constitute a serious threat for marine life and humans.

Packaging recycling rates have stagnated, and there are several gaps in plastic packaging collection, recycling and reprocessing. Australia and Asia are severely affected by plastic pollution. We have a perfect opportunity to develop technological solutions that can be applied worldwide.



What we're doing

We have a multidisciplinary taskforce to address this complex environmental problem from different fronts. Our polymer scientists and biologists are developing new materials to substitute and reduce the use of plastic in packaging and clothes. This includes designing new ways of creating biopolymers more efficiently and improving the biodegradability and mechanical properties of bioplastics. New cloud, platform and blockchain technologies will give rise to new platform business models in plastic packaging logistics and the delivery of goods. New and efficient biotechnology will help degrade microplastics in waterways and recycle and recover the full value of the original material that is respectful to the environment.

Redesigning plastic packaging solutions is becoming an imperative for reducing the environmental, economic and social impact of plastics. We are providing standardized tests to guide and assess new compostable and biodegradable packaging alternatives and new technologies. Our solutions will avoid what is not needed, find and collect what has leaked, degrade what can't be collected and generate value for the material that has lost its use. Each task represents an opportunity for Australian industries, community and government to create new value in a sector that is growing social awareness.

The benefits

Our response, based on our multidisciplinary scientific approach and advanced manufacturing and research facilities, will provide a new perspective on the use, monitoring, waste management and removal of plastic packaging from the environment. With the support of Australian industry and community we can decrease plastic pollution that is leaked into the environment and reduce how long plastic lasts in the environment. This will significantly improve the quality of ecosystems and avert a human health hazard.

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