



Vehicle innovation

Toyota is continuously innovating to develop vehicles that meet the needs of the market both now and into the future. Our research focuses on vehicles powered by a range of alternative fuels and vehicles with the potential for automated driving. Meanwhile we continue to work towards vehicles that are safe for everyone, and that maintain the standards of quality, durability and reliability that people expect from the Toyota brand.

Globally, Toyota is actively engaged in creating environmentally friendly, safe and intelligent vehicles that will enable mobility into the future.

As society moves away from fossil fuels, there are a number of alternative vehicle drivetrains being developed. Toyota is responding to this by investing in innovation across a range of vehicles including hybrid, electric and fuel cell.

At the same time, there is increasing interest in automated vehicles. Since the 1990s, Toyota has been engaged in research and development of automated driving technology, with the aims of eliminating traffic casualties and delivering freedom of mobility for everybody, including senior citizens and other people who require extra support. Our approach seeks to build a relationship between humans and cars where the fun of driving is combined with convenient and safe automated driving.

Our vehicle innovations also maintain a focus on core fundamentals such as safety, quality, durability and reliability.

These developments sit within a broader re-imagining of integrated, intelligent transport systems that will enable sustainable mobility into the future. In Australia, Toyota is contributing to the conversation with regulators and industry bodies helping to shape this future.



The Toyota Concept-i, launched in 2017 as a concept vehicle, leverages the power of artificial intelligence to anticipate people's needs, with a focus on building an immersive user experience. The vehicle learns with the driver to build a meaningful and human relationship. It offers a choice of automated or manual driving, seamlessly monitoring both road conditions and driver attention to help navigate dangerous driving conditions. The vehicle's interface uses light, sound and touch to communicate critical information with the driver and passengers when and where it is needed.



We were extremely excited to welcome three **Mirai fuel cell** vehicles to Australia in July 2016 for local trials and stakeholder engagement. Fuel cell vehicles are fuelled by hydrogen, an energy source that can be produced from both renewable and non-renewable sources. The motor is powered by electricity generated from a chemical reaction within a fuel cell between hydrogen and oxygen from the air, which leaves only water as a by-product. The vehicles offer comparable performance to fossil fuel-powered vehicles, but are quiet, can be refuelled in a few minutes, only emit water and produce no greenhouse gas emissions or other pollutants.

The three Mirai vehicles have been on display at various events, including the opening of the Centre for Hybrid Energy Systems at the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the 2017 Macedon Ranges Sustainable Living Festival, and the 23rd Intelligent Transport Systems World Congress. Since Australia does not currently have the infrastructure to support fuel cell vehicles, these demonstration vehicles are supported by their own portable hydrogen refuelling station.

Vehicle quality and safety

Vehicle quality and safety are of the highest importance to Toyota and our stakeholders. Our goal is to have vehicles that are safe for everyone, and we constantly look for ways to prevent accidents and to minimise damage in the event of an accident.

Our research and development focuses on understanding the most common causes of accidents and creating technologies to prevent or mitigate those accidents. By learning from actual accidents we continually raise vehicle safety standards. Extensive detail is provided on the Toyota global website at www.toyota-global.com.

In Australia, automotive safety is measured by the Australasian New Car Assessment Program's (ANCAP) rating system. ANCAP is a subsidiary of the global New Car Assessment Program and has corresponding bodies across the world which implement its crash-testing program. Seven Toyota vehicles were tested during the reporting period, including the new sub-compact SUV, the C-HR. All achieved the maximum five stars, in line with our commitment to vehicle safety.

The ANCAP standard will be transitioning to align with European requirements by 2018. Toyota Australia is working closely with ANCAP to understand, and be ready to meet, the new test protocols.

Toyota Australia works with a range of stakeholders in Australia including the FCAI's technical committee (via fortnightly telephone meetings), the Department of Infrastructure and Regional Development (DIRD), and various state departments of transport, to ensure that all Toyota products comply with Australian Government safety requirements.

Information about Toyota and Lexus vehicles sold in Australia, including specifications and safety features, can be found on our website at www.toyota.com.au or www.lexus.com.au.

Our guests want to know that their vehicles will be reliable as well as safe. In the 2016 Annual Auto Reliability Survey conducted by Consumer Reports, Lexus and Toyota retained the top two ranks for auto reliability, based on over 500,000 consumer surveys.

For those vehicles that we manufacture in Australia, we remain committed to producing vehicles of the highest quality and will continue to until the final day of production, so that our 'last car = best global car'.

Recalls

When safety recalls are required, we follow the FCAI's code of practice. This comprehensive process includes dealer notifications, press advertisements, letters to impacted customers and government notification. We also publish recall information on our website.

During 2016/17, Toyota and Lexus vehicles were involved in 20 recall campaigns due to potentially faulty parts. In August 2016, nearly 15,000 Toyota 86 vehicles were recalled due to a potential loss in power steering assist, and in November, 12,000 HiAce vehicles were recalled due to automatic transmission operation. Repairs were offered free of charge to guests. Recalls resulting from faulty airbags produced by manufacturer Takata, continued to be a major issue in 2016/17 with Toyota Australia recalling an additional 119,000 Toyota Corolla, Yaris and Rukus vehicles in March 2017, the majority of which were Corollas.

Information on all Australian product recalls, by category and brands, can be found on the Australian Competition and Consumer Commission's recall site: www.recalls.gov.au.

Counterfeit parts

Counterfeit parts are a significant issue in Australia, and can pose safety risks for our guests. In January 2017, over 500,000 counterfeit car parts bearing the logos of 15 car manufacturers including Toyota, were seized following a raid in the United Arab Emirates. Many of the parts were likely destined for Australia.

These counterfeit parts can be so close in appearance to the genuine parts that even professionals can have difficulty telling

them apart. However, they have not been tested by Toyota and may not meet our rigorous quality and safety standards. Toyota Australia's National Parts and Accessories division works to educate a range of different inspection agencies around the country on what to look for in detecting counterfeit Toyota parts and accessories at our borders.

The FCAI website, www.genuineisbest.com.au, provides information for consumers and encourages the purchase of parts from authorised genuine part dealers only.

Vehicle emissions

We recognise that emissions from our vehicles contribute to climate change and air pollution, and that this is important to our customers and other stakeholders. Tailpipe emissions include hydrocarbons, particulate matter, carbon monoxide and nitrous oxides.

All of our vehicles meet or exceed the Australian Standard ADR 79/04 Emission Control for Light Vehicles. This standard, which requires manufacturers to comply with the European Union's Euro 5 Standard, has applied to all new models less than 3.5 tonnes since 1 November 2013 and to all models since 1 November 2016.

In Australia, we work actively with government and industry regarding standards and policy in the local context. During the reporting period, Toyota Australia was an active participant in the Australian Government's Ministerial Forum on Vehicle Emissions. Toyota Australia is committed to working with the government to introduce a mandatory emissions standard to deliver policy certainty to both consumers and industry.

We are also active in advocating the need for relevant infrastructure and complementary measures to encourage the uptake of low emission vehicle technology, consistent with international approaches.

Globally, Toyota continues to innovate to reduce CO₂ emissions through improved vehicle fuel efficiency and the development of hybrid, electric, plug-in and fuel cell vehicles. Our commitment, as detailed in Toyota's Global Environment Challenge 2050 on [page 39](#), is to reduce vehicle CO₂ emissions by 90 per cent by 2050, in comparison with 2010 levels.

In 2017 Toyota sold its ten millionth hybrid car globally, including 96,822 Toyota and Lexus hybrid vehicles sold in Australia to date (as at 1 April 2017). The vehicles have each saved their owners substantial petrol use and together have averted millions of tonnes of CO₂ emissions.

Cumulative hybrid sales in Australia

