

Key Facts

Codes of practice are practical guides to achieving the standards of occupational safety and health required under legislation and apply to anyone with a duty of care in the circumstances described.

The Code of Practice for Agricultural Mobile Field Machinery with Autonomous Functions in Australia has been developed with input from grain producers throughout Australia with manufacturer support and technical input from Australia, the US and the EU.

In late 2019, the process for developing the Code was agreed to between Grain Producers Australia, the Tractor and Machinery Association (TMA) and Society of Precision Agriculture Australia (SPAA).

A Code Development Committee – comprising machine members of the TMA, SPAA and GPA with producers, manufacturers and technical representatives – was convened to drive this process.

The joint-project between GPA, SPAA and TMA and process of drafting and writing the Code has been led by farm technology expert, Dr Rohan Rainbow, working on contract to GPA.

Following development of a draft Code over 10 months, stakeholder consultation started in October 2020, with the final document completed in February 2021.

The Code is designed to provide guidance on: mobile machinery with semi-autonomous and autonomous functions used in agriculture field operations; and developing and evaluating safe work procedures for use of such machinery.

Examples of such machinery used in grain farming operations include: planting, spraying, fertilising and harvest operations.

This Code has been written for in-field, on-farm operation only and doesn't cover the use of autonomous or semi-autonomous equipment for on-road use or on public land, or the use of UAVs.

It was developed with input from the Western Australian Department of Mines and Petroleum using the "Safe mobile autonomous farming in Western Australia – Code of Practice" as an initial discussion template for its development.

Its development has also been supported in principle by the Western Australian Department of Primary Industries and Regional Development – Agriculture and Food.

Peter O'Loughlin, a Senior Inspector at the WA Department of Mines, Industry Regulation and Safety, has provided considerable insight and guidance in support of the Code's development.

Following adoption, the Code Development Committee intends to review the Code within 12-18 months of wider scale commercialisation of autonomous agricultural equipment.

The Code will be treated as a 'living document' and can also be amended to include future technology advancements such as spray drift sensors, smoke sensors and leader-follower systems for future transport on public roads. It has also been designed to align with emerging ISO standards and developments for this technology.

The Code is supported by findings of an independent technical review of Technologies, Regulations and Operating Standards for Field Based Autonomous Agricultural Machinery delivered by the University of Southern Queensland, with funding from the Grains Research and Development Corporation, Cotton Research and Development Corporation and Sugar Research Australia.

International groups that have engaged with the project to understand progress on the Code's development and adoption in Australia include; the American Equipment Manufacturers (Association), VDMA and CEMA (EU) and the OECD Tractor Codes Technical Working Group (to which Australia is not a signatory).

During this engagement, the UK has indicated they are also planning to develop an industry autonomy code of practice based around the Australian Code.

A recently released [report](#) analysed the global market for Autonomous Farm Equipment and estimated its value at US\$77.8 billion in the year 2020 (AUD\$106b). This analysis also projected the market to reach US\$199.8b (AUD\$272b) by 2027, growing at a CAGR of 14.4pc over the period 2020-2027. This increase is forecast to be driven by growing government and private sector investments in intelligent agriculture, as the future of sustainable farming. Australia's initial share of this forecast expected to be significant.