



## Australia's science agency identifies seven megatrends that will shape the next 20 years

A once-in-a-decade report from CSIRO, Australia's national science agency, identifies seven global megatrends that hold the key to the challenges and opportunities ahead.

With an outlook to 2042, the report *Our Future World* revisits CSIRO's 2012 report of the same name, exploring the geopolitical, economic, social, technological, and environmental forces unfolding around the world, predicting their likely impact on Australia's people, businesses, and governments.

The seven global megatrends are adapting to climate change; leaner, cleaner, and greener; the escalating health imperative; geopolitical shifts; diving into digital; increasingly autonomous; and unlocking the human dimension.

"From resource scarcity to drug-resistant superbugs, disrupted global

trade, and an increasingly unstable climate threatening our health and way of life – these are just some of the challenges we face," says CSIRO Chief Executive Larry Marshall. "But these challenges also tell us where the most powerful innovation can be found, when we see a different future and leverage science to create it."

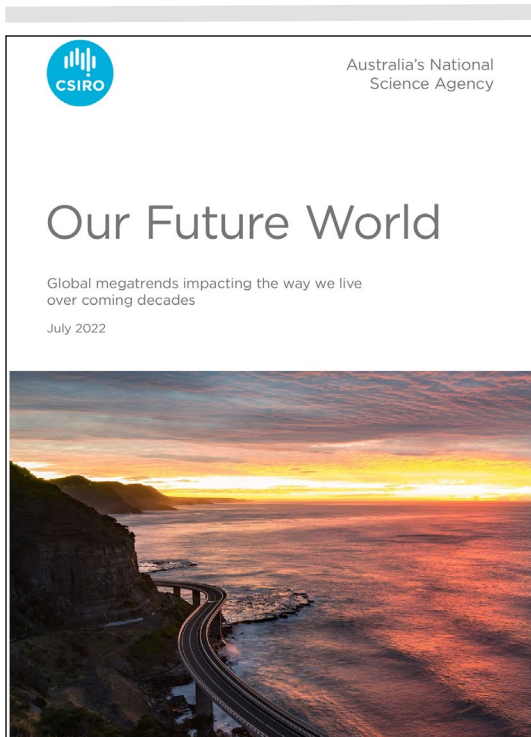
Following is a snapshot of the megatrends:

1. Adapting to climate change: with natural disasters expected to cost the Australian economy almost three times more in 2050 than in 2017, we can expect to be living in a more volatile climate, characterized by unprecedented weather events.
2. Leaner, cleaner, and greener: an increased focus on potential solutions to our resource constraints through synthetic biology, alternative proteins, advanced recycling, and the net-zero energy transition. By 2025, renewables are expected to surpass coal as the primary energy source.

3. The escalating health imperative: the post-pandemic world has exacerbated existing health challenges posed by an aging population and the growing burden of chronic disease. One in five Australians reports high or very high levels of psychological

distress, and there is heightened risk of infectious diseases and pathogens resistant to modern antibiotics. There is now a burning platform to also respond to our health risks and improve health outcomes.

4. Geopolitical shifts: an uncertain future, characterized by disrupted patterns of global trade, geopolitical tensions, and growing investment in defense. While the global economy shrunk by 3.2% in 2020, global military spending reached an all-time high of \$2.9 trillion, and Australia saw a 13% increase in cybercrime reported relative to the previous year.
5. Diving into digital: the pandemic fueled a boom in digitization, with teleworking, telehealth, online shopping, and digital currencies becoming mainstream. Forty percent of Australians now work remotely on a regular basis and the future demand for digital workers is expected to increase by 79% from 2020 to 2025.
6. Increasingly autonomous: there has been an explosion in artificial intelligence (AI) discoveries and applications across all industry sectors over the past several years. Within the science domain, the use of AI is rising with the number of peer-reviewed AI publications increasing nearly 12 times from 2000 to 2019.
7. Unlocking the human dimension: a strong consumer and citizen push for decision-makers to consider trust, transparency, fairness, and environmental and social





governance. While Australia saw a record level increase in public trust in institutions during the pandemic, this “trust bubble” has since burst, with societal trust in business dropping by 7.9% and

trust in government declining by 14.8% from 2020 to 2021.

Claire Naughtin, one of the report’s lead authors, says, “Like aircraft engineers would use wind tunnels to test

the robustness of new aircrafts, we can use these megatrends to develop, test, and refine future strategies to ensure they are robust, whatever the future holds.”

*Source: CSIRO*



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