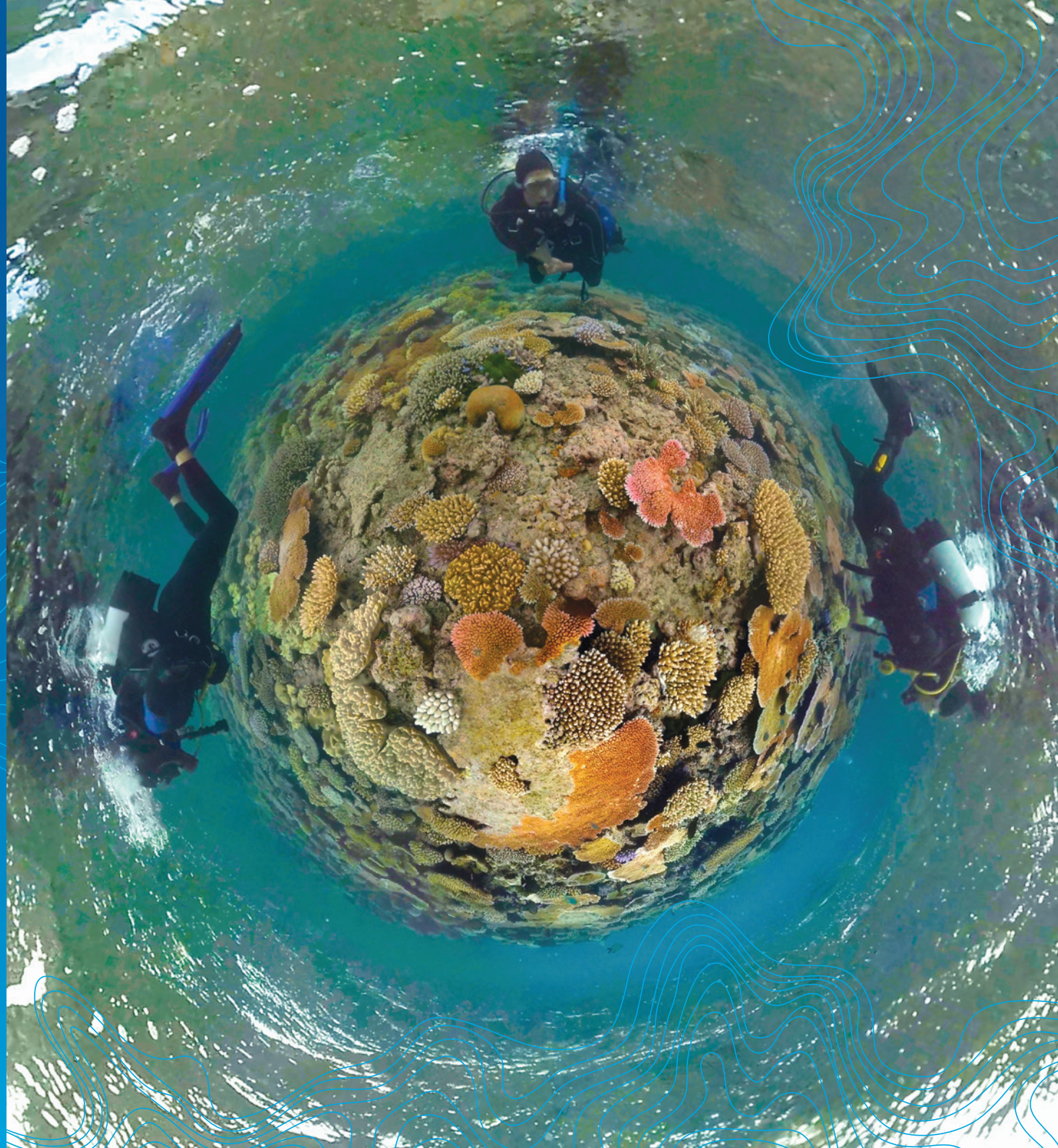
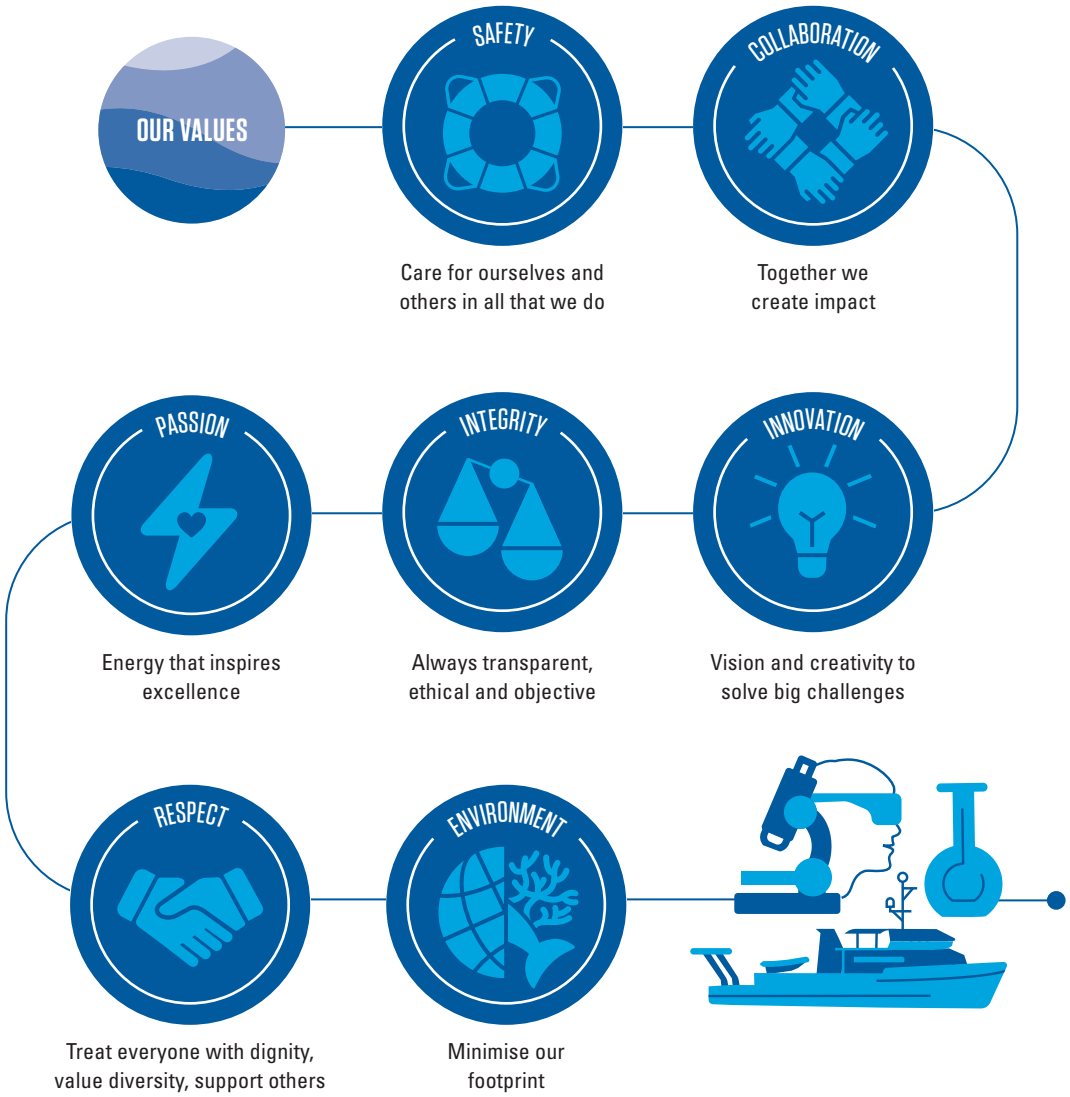
Australian Government

Australian Institute of Marine Science

Australian Institute of Marine Science Strategy 2025



THE WAY WE WORK



INTRODUCTION

This AIMS Strategy 2025 updates and replaces the previous AIMS Strategic Plan 2015-2025. It is intended to guide our research and investments within AIMS and to signal our strategic intent in the public domain. This new strategy builds on and incorporates elements of the 2015-2025 document, but recognises that much has changed since that document was developed in 2014.

The intent of Strategy 2025 is to provide a concise, clear and compact description of AIMS' key research and development priorities for the next seven years. More detailed research plans will be provided in AIMS annual Corporate Plans and will link to our annual budget statements — all part of our mandated reporting requirements to government.

Each element of the strategy is accompanied by a specific strategic target that will allow AIMS, and the nation, to track progress towards our objectives. The targets are ambitious, but these are challenging times for the marine environment, and there is much to be done.

These targets are intended to add depth to the annual objectives established by the AIMS Budget Statements. Measurement methodology will support each target and enable standardised and transparent assessment. Some of these methodologies are widely used in other industries, while AIMS and others will need to develop further methodologies over the next few years.

In each case, the seven-year targets in Strategy 2025 will be broken down into annual Key Performance Indicators (KPIs) in our Corporate Plans, ensuring that each measure can be clearly traced back to the objectives established by the AIMS Budget Statements. These targets will serve as milestones for gauging progress and will be referenced in our annual performance statement.

CEO MESSAGE

Australia is a marine nation. Our marine estate is the third largest in the world, with our exclusive economic zone covering 10 million square kilometres. This huge area is home to some of the most diverse and iconic ecosystems and species on the planet. Eighty-five per cent of Australians also live on or near the coast, and the oceans have a special place in the national psyche.

Our blue economy, which includes fishing, aquaculture, tourism and offshore oil and gas, makes a significant contribution to the nation's prosperity – over $74 billion a year – which is expected to eclipse $100 billion a year before 2025.

Despite its importance, too much of our marine estate remains virtually unexplored and poorly understood. And as our population grows, a combination of pollution, over-exploitation and the effects of climate change increasingly threaten the health of our oceans. The challenge for the 21st century is clear: manage our oceans sustainably so we can continue to enjoy the economic, environmental, social and spiritual benefits they provide for generations to come.

The Australian Institute of Marine Science (AIMS) was established in 1972 by an act of Parliament, with headquarters in Townsville, on the doorstep of the Great Barrier Reef (GBR). Early on, the reef was a major focus of our work, and that has continued to this day. Along the way we have grown to include laboratories in Perth and Darwin, and a broad mandate as the nation's tropical marine science agency.

Our work now includes a significant portfolio of projects supporting offshore and coastal industries, working with Traditional Owners in the north, and supporting policy development for state and commonwealth governments.

Our world-class research infrastructure includes two modern, purpose-built coastal research vessels (one in the north-west, the other on the Great Barrier Reef), and the National Sea Simulator, the world's most advanced research aquarium complex. Our scientists are among the best in the world in their disciplines, and AIMS routinely ranks in the top three marine science organisations in the world.

Because we focus exclusively on tropical marine science and systems, AIMS is uniquely placed to provide the expert advice and solutions required to help preserve our fabulously rich and diverse marine estate, and underpin its sustainable use. This document sets out a bold strategy for the nation's tropical marine science agency, building on our reputation as trusted advisor to government and industry for more than 40 years.

The strategy is based on extensive surveys of our stakeholders' needs, and aligns with key national and with international priorities such as the National Marine Science Plan and the Reef 2050 plan, and with international frameworks such as the UN Sustainable Development Goals.

Over the next several years, we will sharpen our focus on delivering real, positive impact to the nation and doing so in a measurable way. We will increasingly supplement our traditional monitoring role with a strong focus on delivering science-based solutions to the key challenges faced by our oceans.

And we will build new capabilities in critical areas such as coral reef restoration, ecological modelling, decision science and the application of new technology to significantly increase the reach and alacrity of our science. The safety of our people, collaborators, contractors and those with whom we share the oceans remains paramount.

AIMS Strategy 2025 contains clear, measurable targets with which we will track our progress towards our objectives. These targets will be cascaded down into our annual Corporate Plans, Annual Report, research plans and our staff's individual performance plans and assessments.

Perhaps, most importantly, this document reaffirms our dedication to our key values, including being a partner and employer of choice, and to providing the most objective, transparent and high-quality marine science available anywhere in the world, for the benefit of all.

Paul Hardisty

OUR MISSION

To provide the research and knowledge of Australia's tropical marine estate required to support growth in its sustainable use, effective environmental management and protection of its unique ecosystems.

Photo credit: Nick Thake

ACHIEVING OUR MISSION

To accomplish our mission, AIMS will deliver three long-term impacts that improve tropical marine health, create national benefits and protect coral reefs from climate change. We will achieve this by using our core capabilities and enhanced capabilities to build on our legacy while aligning with national and international priorities.

DELIVERING LONG-TERM IMPACTS

AIMS is part of a team that includes our research collaborators, clients, stakeholders and end-users. When governments, communities and industry adopt our science and solutions, it creates positive environmental, social and economic benefits for our marine estate. This is impact.

Impacts are usually realised years after the research is completed and are often beyond the researchers' ability to control. AIMS will endeavour to work with the end-users of our science to help ensure its appropriate implementation, and to track, document and communicate the positive impacts that result over time.

AIMS will deliver the science to help realise three key long-term **IMPACTS** for the nation:

Improve the health and resilience of marine and coastal ecosystems across northern Australia

- AIMS acknowledges that for some ecosystems, improvements in health and resilience may not be feasible. In such cases, maintaining current levels of health will also create positive impact by lessening levels of damage over what they would have been without the use of science-based solutions.
- AIMS will work with partners to develop a set of indices designed to measure health and resilience of tropical marine ecosystems. This work will enable the measurement of progress and the attribution of AIMS' contribution to improvement.
- This impact is linked with responsibilities assigned to AIMS in the Reef 2050 Long-Term Sustainability Plan.

Create economic, social and environmental net benefits for marine industries and coastal communities

- Each year, the Australian government and other bodies invest a considerable amount of money into AIMS. The science we produce underpins real benefits to Australians, industries and ecosystems. The scale and breadth of these positive impacts justifies this investment.
- Measurement of economic, social and environmental benefits is widely practised in a range of industries and government sectors. AIMS will start to track, measure and quantify the net benefits[1] our science helps to produce.
- Understanding and measuring these benefits will require AIMS to remain engaged with stakeholders long after our research outputs have been delivered. This will better enable AIMS to understand the future research needs of those stakeholders.

Protect coral reefs and other tropical marine environments from the effects of climate change

- Climate change is a major challenge and beyond the ability of any one organisation, or nation, to solve. It will take collective global effort. However, AIMS and its partners can contribute significantly to the challenge of helping marine ecosystems, such as coral reefs, better survive and recover from the effects of climate change.
- Unchecked, climate change will significantly worsen the health of many valuable marine ecosystems. AIMS will continue to develop science that underpins practical solutions to lessen the scale, severity and pace of this decline. Our work in this area will complement and integrate with the other two impact areas.
- Reef restoration and adaptation science will be a key focus for AIMS going forward.

1 Net benefits are the accumulated positive environmental, social and economic benefits resulting from application of science and solutions, minus any associated negative implications.

MEASURING OUR SUCCESS — IMPACT TARGETS

AIMS will work with stakeholders to track progress with two **IMPACT TARGETS**. By 2025 AIMS science will underpin:

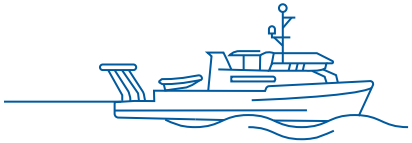
I1 At least $100m per annum in environmental, social and economic net benefits for tropical Australia

- We will assess the value to the nation of applying our research findings, and use these assessments to supplement impact stories.

I2 A net improvement in the health of marine ecosystems in northern Australia

- AIMS will lead the development of tropical marine health indices for key ecosystems, including coral reefs, which will be used to measure net improvements. This will include gauging the effectiveness of reef restoration and adaptation efforts, in line with the goals of the Reef 2050 plan.
- Improvement will be measured against current and projected baselines. For instance, reducing the current rate of decline of an ecosystem or returning the system to stability are improvements.
- This target captures improvements related to better management of the cumulative effects of all stressors, including climate change.

APPLYING OUR CORE CAPABILITIES



To deliver impact, AIMS applies **CORE CAPABILITY** in:

Large-scale and long-term ocean monitoring

- AIMS has been monitoring the state of Australia's tropical marine estate for more than three decades, with targeted programs on the Great Barrier Reef and the North West Shelf. AIMS' unique infrastructure capabilities have supported these large-scale, long-term programs, which include two purpose-built coastal research vessels, oceanographic moorings and several sensor networks. AIMS is now the custodian of Australia's largest coastal ocean and reef-related data sets.
- Australia's marine environments are changing at an unprecedented rate. Traditional management regimes need to be strengthened, and new and innovative interventions must be developed to maintain their health and resilience. A commitment to long-term monitoring is essential to describe ecosystem status and trends across scales, to enhance understanding of processes that underpin system resilience, and to determine the effectiveness of management interventions.

Risk assessments of pollution and other cumulative impacts

- Building on our unique data holdings, AIMS deploys specific scientific capability within dedicated research programs to investigate the cumulative impacts of acute and chronic pressures on Australia's marine environment, both in the field and laboratory.
- The state-of-the art National Sea Simulator gives AIMS unprecedented ability to quantify the impacts of single or multiple simultaneous pressures operating at local scales (e.g. dredging, nutrients, pesticides, sediment, metals) and global scales (sea temperature, acidification).

Analyses and prediction of ecosystem function and change

- Core to delivering impact is the ability to predict likely future ecosystem states in order to evaluate potential policy and management options that ensure the ongoing health and resilience of Australia's tropical marine systems. AIMS' understanding of these systems, underpinned by our unique scientific, data and infrastructure capabilities, enables AIMS to deliver end-to-end science for national and international benefit.

SUPPORTING OUR CAPABILITIES

World-class research infrastructure, unique data sets, high-performing and diverse teams, collaborations and continually improving systems support our core capability.

- AIMS will continue to invest in maintenance and modernisation to ensure that we have safe, fit-for-purpose, world-class platforms and facilities for conducting marine science. We will continue to provide our collaborative partners with access to our vessels and laboratories.
- AIMS will maintain and further develop our marine observation infrastructure to integrate the data into decision-support tools. We will build on our reputation for delivering timely and practical data products through continued development of data management systems, numerical models and visualisation techniques.
- We will continue to invest in our people to ensure that we have the breadth and depth of capability to address current and future marine science needs. Leadership, stakeholder engagement and project management are key focus areas in the early years of this strategy. We will also maintain our strong educational program, particularly through co-funded postdoctoral positions and PhD scholarships as part of joint ventures with some of Australia's leading universities.

ENHANCING OUR CAPABILITIES

To further improve our science quality and deliver impact, AIMS will develop **ENHANCED CAPABILITY** by:

Working with stakeholders and partners to turn our science into solutions

- AIMS has a long history of monitoring the tropical marine environment. Increasingly, we are shifting our focus to developing practical solutions to achieve positive impact for the nation.
- Solutions will range from developing new strains of temperature-resistant corals, to innovative deployment methods for those corals during reef restoration, to developing new approaches to the challenges of marine dredging, and working to significantly improve the rigour and effectiveness of decision-making in the marine environment.

Embedding new technologies and the latest data science into our core capabilities

- AIMS will invest in a step change in the application of technology and data science across the entire life cycle of our activity. This will include enhancing automated data collection, data analysis, curation and storage. Big data, machine learning and artificial intelligence, and the mining of our already extensive data collections will be focus areas.
- In deploying new technology to increase information output, AIMS will also improve the quality of that information and the rate of information generation, and we will work to drive down the unit cost of information.

Building effective, evidence-based decision-support systems

- AIMS will work with partners to create the next generation of decision-support systems and tools, integrating ecosystem and oceanographic models with adaptation pathway and socioeconomic prioritisation models.
- Helping our stakeholders make optimal decisions, underpinned by science, is one of the key ways AIMS will help to deliver lasting impact.
- Complex issues require sophisticated understanding of trade-offs; the costs of action; the benefits of action and where, when and to whom they accrue.

Working with Traditional Owners to create new shared research that integrates Indigenous knowledge of sea country with other sciences

- AIMS will build its internal cultural competence and meaningful partnerships with Traditional Owners of sea country in northern Australia to deliver impactful research for both Indigenous and non-Indigenous Australians.
- We will focus on bringing together Indigenous knowledge with other areas of science to create new insights into our marine systems, as conditions and circumstances allow. We will seek to share the results of this work to help improve impact in all of the areas we work.

MEASURING OUR SUCCESS — ENHANCED CAPABILITY TARGETS

By 2025, AIMS will meet these **ENHANCED CAPABILITY TARGETS**:

EC1 Deliver five iconic projects, greater than $10M in value, which demonstrate solutions for our stakeholders

- As an organisation, we have a long track record of delivering large, high-profile projects. Our 30-year uninterrupted monitoring of the Great Barrier Reef, and 25-year continuous collaboration with industry to monitor Scott Reef in WA, are examples of legacy iconic projects.
- AIMS' mission is to deliver marine science for the national good. After several decades of focusing on understanding our marine estate, we are evolving into an organisation that is developing solutions to our stakeholders' challenges.
- We will deliver solutions to stakeholders by applying effective decision-support systems within major projects.

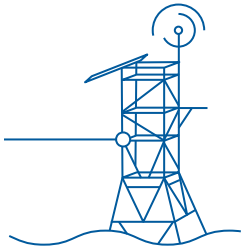
EC2 Employ technology to double our yearly information output at half the unit cost in half the time

- By applying breakthrough technology, AIMS will free up our scientists to focus on providing the science and solutions that will deliver impact for our stakeholders.
- By deploying linked autonomous systems and automated analysis, AIMS will seek to increase the productivity of our teams and accelerate the conversion of data into information products and the insights that will drive impact.

EC3 Undertake science collaborations with Traditional Owners in key projects focused on sea country

- Project collaborations will be implemented where possible, based on the wishes of Traditional Owners and the availability of suitable research opportunities.
- AIMS will publish and share findings jointly with Traditional Owners, which explore how best to integrate science and traditional knowledge, the positive impact that can result, and ways to enhance and build on the process.

BUILDING ON A STRONG LEGACY



AIMS will enhance its **REPUTATION** as:

Trusted advisor to government, industry and the Australian public

- Government and industry need timely, accurate and relevant information to manage and operate in our marine estate. AIMS will continue to play a pivotal role in providing impartial authoritative advice on key issues, and thus build on our reputation as trusted advisor in matters of marine science.
- A better-informed public leads to an improvement in the quality of discourse about key issues in the marine environment. AIMS will build on its reputation for providing high-quality, easy-to-understand, definitive information on the health of our tropical marine environment, and on the options available to create improvements.

Partner and employer of choice

- Delivering the best science requires dedicated teams of highly qualified and motivated people. AIMS will work to provide a workplace environment, culture and opportunities that will attract and retain the very best talent from around Australia and the world.
- AIMS will work with collaborators from across the research sector in Australia and abroad to deliver impact science. Whether leading a project, or in a supporting role to another institution, AIMS will exemplify a spirit of teamwork and respect.

One of the top three marine science research institutions in the world

- There are many ways to rank performance of institutions. AIMS is already a global leader in academic science output in our field. Over the coming years, AIMS aspires not only to maintain this distinction, but also to become known as one of the leading marine science organisations in the world for delivering impact science.

PERFORMANCE TARGETS

AIMS will have:

P1 Year-on-year improvement in safety performance

- Our highest priority is the health and wellbeing of our staff, collaborators, volunteers and visitors. We operate in challenging environments and undertake activities where active care is required to manage the health and safety of our workers.
- AIMS responds to this challenge with an organisation-wide approach to risk management and a relentless focus on developing our safety culture and systems. We recognise that safety management is intrinsically linked with our science quality and delivery through superior planning of our work.
- We will use the Total Recordable Injury Frequency Rate (TRIFR) to measure our safety performance.

MEASURING OUR SUCCESS — PERFORMANCE AND REPUTATION TARGETS

P2 Year-on-year improvement in science excellence, remaining in the top three marine science research institutions in the world

- We will measure this improvement with citation impact and the delivery of triple-bottom-line value.
- What is considered excellent today may simply be ordinary tomorrow, so we must continually seek opportunities to improve the quality of our science, while maintaining its relevance and utility.
- By using a spectrum of indicators that measure our output and its adoption, we will ensure our work will remain of the highest standard.

P3 Year-on-year improvement in culture survey results

- An engaged culture, where organisational values are consistently on display, improves overall performance and makes AIMS a partner and employer of choice.
- AIMS will actively listen to our staff via a range of mechanisms, including culture surveys, and enact follow-up plans to ensure an engaged, healthy and continuously improving culture.
- AIMS' culture will be measured using survey techniques that allow internal and external benchmarking.

P4 Experience net external revenue growth of at least 25% by 2025

- External revenue is vital to maintaining the breadth of capability in AIMS and to delivering our impact goals. It also reflects the trust that government and industry put in our science.

REPUTATION TARGETS

By 2025, AIMS will have a:

R1 Net Promoter Score of 75 as trusted advisor among key stakeholders

- We want the partnership experience with AIMS to be such that our collaborators and partners become champions for our science and how we go about our business.
- The Net Promoter Score is a widely used method to measure a customer's willingness to recommend an organisation's products or services to others.

R2 Tenfold increase in awareness by the Australian public

- AIMS is one of Australia's publically funded research agencies.
- Awareness of who we are and what we do helps the public understand the value that AIMS provides to the nation, and of our central role in tropical marine science.
- We will measure public awareness of AIMS and our research priorities through a familiarity score, stakeholder surveys and social media metrics.

R3 25% reduction in carbon emissions, 25% in solid waste to landfill and 10% fresh water use

- Many of the issues that AIMS deals with in the marine environment are a result of environmental pressures. We need to show leadership in ensuring that we conduct our own operations in the most sustainable way possible.

ALIGNING WITH NATIONAL AND INTERNATIONAL PRIORITIES

AIMS' strategy aligns with and supports:

The Australian Institute of Marine Science Act (1972)

- As a publicly funded research agency, AIMS is tasked by our Act to respond to our Minister. Requirements of AIMS are set out in a statement of expectations, issued periodically by the Minister.

The needs of our stakeholders

- AIMS consults on an ongoing basis with its key stakeholders in government and industry. We also conduct regular surveys of the science and research needs of a broad range of Australian and international organisations. These will continue to inform development of our strategy.

Australia's national science and research priorities

- AIMS will continue to align with the nation's evolving science priorities.

Australia's National Marine Science Plan

- AIMS has been a key leader in the National Marine Science Committee since its inception, and is a strong advocate of the plan it has produced. AIMS will continue to support and contribute to the Committee and ensure the plan continues to evolve to meet the needs of the nation.

The Reef 2050 Long-Term Sustainability Plan

- This document sets out an integrated vision and action plan for maintaining and enhancing the health of the Great Barrier Reef through the next decades.
- It assigns AIMS and its partners responsibility for ecosystem health actions.

The United Nations' Sustainable Development Goals (SDGs)

- Through the impact we help create, AIMS' research contributes to SDG 1 (no poverty), 2 (zero hunger), 5 (gender equality), 8 (decent work and economic growth), 13 (climate action) and, most notably, 14 (life below water).

IMPLEMENTING THE STRATEGY

We are a strategy-led organisation. The high-level directions and objectives set out in this document, and the over-arching budget statements, cascade down into detailed implementation plans and form the basis for our research and investment decisions. This strategy articulates the long-term vision for how AIMS will fulfil its remit under the guiding legislative and financial frameworks of the *Australian Institute of Marine Science Act 1972* and the AIMS Budget Statements.

This strategy links directly to our annual Corporate Plan, detailed research and business plans, and the annual performance appraisals of our staff. The strategy is reviewed every three years to ensure it is up to date and relevant, and progress towards targets and KPIs are reported yearly in our Annual Report.

OUR TARGETS

AIMS ACHIEVEMENTS BY 2025

IMPACTS

I1 At least $100m per annum in environmental, social and economic net benefits for tropical Australia

I2 A net improvement in the health of marine ecosystems in northern Australia

ENHANCED CAPABILITY

EC1 Deliver five iconic projects, greater than $10m in value, that demonstrate solutions for our stakeholders

EC2 Employ technology to double our yearly information output at half the unit cost in half the time

EC3 Undertake science collaborations with Traditional Owners in key projects focused on sea country

PERFORMANCE

P1 Year-on-year improvement in safety performance

P2 Year-on-year improvement in science excellence, remaining in top three marine research institutions in the world

P3 Year-on-year improvement in culture survey results

P4 Experience net external revenue growth of at least 25% by 2025

REPUTATION

R1 A Net Promoter score of 75 as trusted advisor among key stakeholders

R2 A tenfold increase in awareness by the Australian public

R3 A 25% reduction in own carbon emissions, 25% in solid waste to landfill and 10% fresh water use

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