



Australian
Industry and
Skills Committee

AUTONOMOUS MARITIME SYSTEMS

Case for Change

Name of allocated IRC: Maritime IRC

Name of the SSO: Australian Industry Standards

1. Administrative information

For a list of the products proposed to be reviewed as part of this project, please see **Attachment A**.

Name of IRC(s):

Maritime

Name of SSO:

Australian Industry Skills Standards

1.1 Name and code of Training Package(s) examined to determine change is required

MAR - Maritime Training Package

2. The Case for Change

For information on the job roles to be supported through the proposed qualifications updates, enrolments data, completion rates, and the number of RTOs delivering these qualifications please see **Attachment B**.

2.1 Rationale for change

This Case for Change proposes to develop new training products for maritime Autonomous Maritime Systems (AMS), Autonomous underwater vehicles (AUV) and underwater surface vessels (USV).

The products, including eight new Units of Competency and three new Skill Sets, will be developed for the following emerging job roles:

- AUV Assistant Operators
- AUV and USV Operators
- AUV and USV Technicians
- Existing job roles in the maritime industry that require skills and knowledge in Autonomous Marine Systems (AMS).

The Maritime IRC and industry have identified that the Autonomous Maritime Systems (AMS) market is experiencing a period of high growth. As a result of this and the increased uptake and application of new technology by commercial and defence sectors, there is a growing demand for dedicated AMS, AUV and USV training.

Industry is supporting a national and standardised approach to training for AMS, AUV and USV. There is currently no autonomous training for underwater operations (AUV and USV) available for industry.

The skilling of workers in AMS, AUV and USV related job roles will be hindered if no nationally agreed competencies are available. This will impact hydrographic survey, oil and gas, offshore renewables and civil defence companies.

2.2 Evidence for change

Industry has provided the Maritime IRC with a comprehensive analysis of AMS, USV and AUV technologies which confirms:

- the Asia Pacific AMS market is forecasted to register highest Annual Growth Rate between 2020-2023
- these technologies are utilised in offshore industries, civil defence sector, search and rescue, environmental research, hydrographic and oceanographic and hydrographic surveying and environmental research, and
- employers associated with these industries have confirmed they will utilise the Units of Competency in the Training Package to train their employees (new and existing).

2.3 Consideration of existing products

This Case for Change is proposing to develop new training products as there is no existing product in the Training Package for the job roles associated with AMS, AUV or USV.

2.4 Approach to streamlining and rationalisation of the training products being reviewed

Given this project is for the development of new Units of Competency proposed in no streamlining or rationalisation is required.

3. Stakeholder consultation

3.1 Stakeholder consultation undertaken in the development of Case for Change

For a full list of industry-specific stakeholders that actively participated in the stakeholder consultation process undertaken to develop the Case for Change, please see Attachment C.

The Maritime IRC formed a sub-committee of subject matter experts to evaluate the need for Training Package development related to AMS, AUV and USV.

Development of the Case for Change also involved consultation with stakeholders via the following communication mechanisms:

- Stakeholder webinars
- Face to Face meetings (Virtual)
- AIS Website
- Stakeholder networks
- Teleconferences
- Emails

The work was outlined during a webinar which included representatives from all States/Territories and regional areas of those jurisdictions. Feedback on the proposed work was invited during the webinar.

The work was posted on the Engagement Hub of the AIS website and feedback invited.

Notification of the opportunity to provide feedback through the Maritime webinar, or in writing through the Engagement Hub, was provided to over 924 Maritime sector stakeholder subscribers including industry representatives from across the states/territories in rural, regional and remote areas.

In addition to this, online/video consultation, email correspondence and promotional activity via targeted communications including social media. A recently developed Engagement hub on the AIS website provides a one stop portal for information about how all stakeholders can participate and inform Training Package development work.

3.2 Evidence of Industry Support

For a list of the issues raised by stakeholders during consultation and the IRC's response to these, please see Attachment D.

The Maritime IRC, on the recommendations of its sub-committee, supports this Case for Change.

No objections to the development of new Training Package products were raised during the consultation process. There is strong support of the need of up-to-date products for the Maritime industry.

The project work was outlined during a webinar conducted for the Maritime industry on 12 March 2021 which had 44 participants representing enterprises, industry associations and peak bodies, regulators and RTOs.

No questions about the work were posed in the Q & A section of the webinar.

The proposed work was also detailed in the Engagement Hub of the AIS website for stakeholders to review and provide feedback, and no issues were raised in response.

3.3 Proposed stakeholder consultation strategy for project

*Note: For a full list of industry-specific stakeholders who are planned to be contacted to participate in the stakeholder consultation process undertaken for this project, please see **Attachment E**.*

Key Industry stakeholders have been identified in consultation with industry regulators, associations, and the Maritime IRC which includes sub-committee members with expertise in AMS, AUV and USV.

AIS, on behalf of the Maritime IRC, will promote the opportunity to contribute through stakeholder webinars, the AIS website, EDM's, AIS newsletter and public notifications.

Stakeholders will also be notified of key milestones throughout the life of the project, including requests for feedback on draft materials.

Stakeholder engagement and consultation will occur over the life of the project via a combination of the following methods:

- Direct engagement: Face to face consultations, Site visits, Phone, emails, video/teleconferencing meetings
- Industry forums and conferences
- Webinars
- Online feedback mechanisms
- STA direct engagement

Given the size of Australia and that all stakeholders are not centrally located in major cities, a range of consultation strategies will be used so stakeholders in rural, regional and remote areas, and in smaller jurisdictions have multiple avenues to provide feedback. The project will leverage the Maritime stakeholder network.

These include industry advocacy, representation, advice, networking opportunities, business promotional opportunities.

This includes but is not limited to, online/video consultation, email correspondence and promotional activity via targeted communications including social media. A recently developed [Engagement Hub](#) on the AIS website provides a one stop portal for information about how all stakeholders can participate and inform Training Package development work.

4. Licencing or regulatory linkages

Licensing and regulatory requirements relevant to AMSA (Australian Maritime Safety Authority) and the International Maritime Organisation (IMO) will be incorporated into the AMS, AUV and USV training products. This will be done in consultation with nominated representatives from AMSA.

5. Project implementation

5.1 Prioritisation category

It has been proposed that this be a routine project conducted over a twelve-month period.

5.2 Project milestones

Key project milestones include:

AISC project approval – June 2021

Draft 1 consultation – November 2021

Stakeholder validation – March 2022

Quality Assurance – April/May 2022

Final consultation with states and territories – June 2022

CfE submitted for approval – 30 June 2022.

5.3 Delivery or implementation issues

No delivery or implementation issues have been identified to date.

6. Implementing the Skills Minister's Priority reforms for Training Packages (2015 and October 2020)

Training delivery information will be provided within the supporting Companion Volume Implementation Guide (CVIG). This guide exists to provides clear and useful information for implementers and educators

Access and equity will be described and addressed with advice on reasonable adjustment for learners.

Foundation skills will be identified and described against the Australian Core Skills Framework (ACSF) and skill cluster known as the foundation skills for work framework.

The sub-committee has identified that the proposed new product will be suitable for use by multiple industry sectors. This includes operators of AMS, AUV and USV in industries including oil and gas, civil defence, hydrographic surveying, search and rescue, environmental protection, offshore renewables, air crash investigations and oceanographic research. Pathway information on specific maritime job roles including pathways into related occupations will be provided in the CVIG.

The proposed new product will develop skill sets which can be utilised by new and existing employees across multiple industries. Information on how industry expects these skill sets will be utilised will be included into the CVIG.

This Case for Change was agreed to by the Maritime IRC

Name of Chair

Signature of Chair

Date

Attachment A: Training Package components to change

Australian Industry Standards Limited

Contact details: David Dixon - Chief Operating Officer

Date submitted: TBA

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review (endorsement date, nature of this update transition, review, establishment)	Change Required
2	Autonomous Maritime Systems	Unit	MARH993Y	Apply knowledge of AMS fundamentals	NA	New
2	Autonomous Maritime Systems	Unit	MARH992Y	Apply knowledge of AMS operations and systems	NA	New
2	Autonomous Maritime Systems	Unit	MARH991Y	Apply knowledge of AUV systems and operations	NA	New
2	Autonomous Maritime Systems	Unit	MARH990Y	Conduct AUV technician operations	NA	New
2	Autonomous Maritime Systems	Unit	MARH989Y	Conduct AUV operations	NA	New
2	Autonomous Maritime Systems	Unit	MARH988Y	Apply knowledge of USV systems and operations	NA	New
2	Autonomous Maritime Systems	Unit	MARH987Y	Conduct USV technician operations	NA	New
2	Autonomous Maritime Systems	Unit	MARH986Y	Conduct USV operations	NA	New
2	Autonomous Maritime Systems	Skill Set	MARSS99985Y	Basic Operations for Autonomous Marine Systems (AMS) Skill Set	NA	New
2	Autonomous Maritime Systems	Skill Set	MARSS99984Y	Autonomous Underwater Vehicle (AUV) Operator Skill Set	NA	New
2	Autonomous Maritime Systems	Skill Set	MARSS99983Y	Unmanned Surface Vehicles (USV) Operator Skill Set	NA	New

Attachment B: Job role, enrolment information, the number of RTOs currently delivering these qualifications

Please set out the job roles to be supported through the updated qualifications, enrolment data over the past three years in which data is available for each qualification, completion rates for each qualification, and the number of RTOs delivering these qualifications.

The units are currently packaged within skill Sets only. The review will look at incorporating the Units of Competency into existing qualifications. Job role data and enrolment data is not available as these are emerging job roles.

Job role	Qualification to be updated to support the job role	Enrolment data (for the past three years)	Completion rates (for the past three years)	Number of RTOs delivering (for the past three years)
	MARH993Y Apply knowledge of AMS fundamentals	NA	NA	NA
	MARH992Y Apply knowledge of AMS operations and systems	NA	NA	NA
	MARH991Y Apply knowledge of AUV systems and operations	NA	NA	NA
	MARH990Y Conduct AUV technician operations	NA	NA	NA
	MARH989Y Conduct AUV operations	NA	NA	NA
	MARH988Y Apply knowledge of USV systems and operations	NA	NA	NA
	MARH987Y Conduct USV technician operations	NA	NA	NA
	MARH986Y Conduct USV operations	NA	NA	NA
	MARSS99985Y Basic Operations for Autonomous Marine Systems (AMS) Skill Set	NA	NA	NA
	MARSS99984Y Autonomous Underwater Vehicle (AUV) Operator Skill Set	NA	NA	NA
	MARSS99983Y Unmanned Surface Vehicles (USV) Operator Skill Set	NA	NA	NA

Attachment C: List of stakeholders that actively participated in the consultation process of the Case for Change

Active participation has included 49 stakeholders from the following organisations across all states and territories within Australia:

1. Industry Reference Committee (IRC) Representatives
2. Employers (Non-IRC)
3. Peak Industry Bodies
4. Unions
5. Regulators
6. RTOs
7. MAR IRC sub-committee for AMS, AUV and USV
8. Other/Consultants

Attachment D: Issues Raised by Stakeholders during consultation on the development of the Case for Change

Stakeholder Type	Issues Raised	IRC's Response to Issues Raised
Industry Reference Committee (IRC) Representatives	There were no issues raised at this time.	N/A
Peak Industry Bodies	There were no issues raised at this time.	N/A
Employers (Non-IRC)	There were no issues raised at this time.	N/A
Regulators	There were no issues raised at this time.	N/A
Registered Training Organisations (RTOs)	There were no issues raised at this time.	N/A
Training Boards/Other	There were no issues raised at this time.	N/A
State and Territory Training Authorities (STAs)	There were no issues raised at this time.	N/A
Unions	There were no issues raised at this time.	N/A

Attachment E: List of stakeholders to be contacted as part of the development of the Case for Endorsement

The Case for Endorsement development will involve contacting 49 stakeholders from the following organisations across all states and territories within Australia:

1. Industry Reference Committee (IRC) Representatives
2. Employers (Non-IRC)
3. Peak Industry Bodies
4. Unions
5. Regulators
6. RTOs
7. MAR IRC sub-committee for AMS, AUV and USV
8. Other/Consultants