



Australian Government

Australian Maritime Safety Authority

# Applying human centred design for developing safety management system standards in maritime operations

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**Australian Maritime Safety Authority**



# AMSA's role

We are Australia's national agency responsible for maritime safety, protection of the marine environment, and maritime aviation search and rescue.

As Australia's national regulatory body, we promote the safety and protection of our marine environment and combat ship-sourced pollution.





# My role in AMSA

Ensure a proactive approach to safe vessel operations through the following functions:

- Marine incident management
- Develop National Compliance Plan
- **Implement Safety management systems**
- Seafarer welfare (MLC)
- Certificates of operation and exemptions
- Authorisation of vessel traffic services
- Crewing determinations (SOLAS)

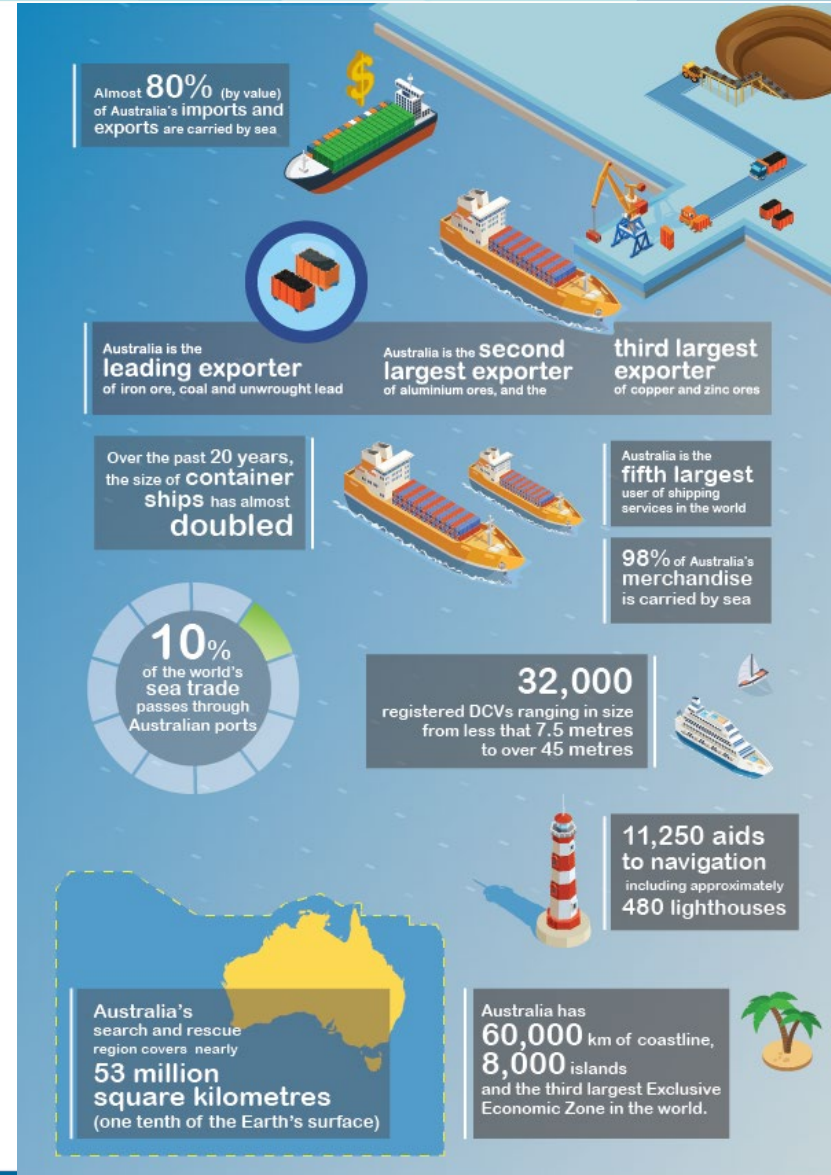




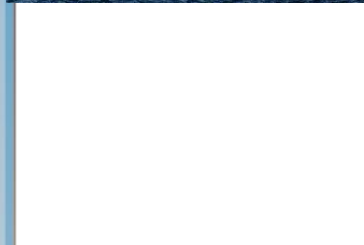


# AMSA's Operating environment

- 99 % of Australia's international trade carried by sea
- more than 30,000 port calls by 6,315 uniquely identified international commercial ships
- national level, Australia's domestic commercial fleet - made up of around 32,000 vessels
- AMSA took service delivery of domestic commercial vessels in 2018



## International Commercial Ships



## Domestic Commercial Vessels (32,000)





Domestic  
Commercial  
Vessels

range in size from less than 7.5 metres to over 45 metres

operate across a range of industry sectors

hire and drive vessels, to barges and passenger ferries, as well as fishing vessels

disparate safety cultures and divergent attitudes towards regulation across the fleet

mandatory for all vessels to have a safety management system







# SMS requirements for DCVs

all domestic commercial vessels are required to have an SMS as per the legislation (Marine Order 504)

similar format as per SMS ISM requirements but with some more prescriptive requirements

one-size fits all approach to SMS for domestic commercial vessels

similar regulatory obligations apply irrespective of vessel size and complexity of operations

regulatory exemption mechanism allows for variability in safety implementation



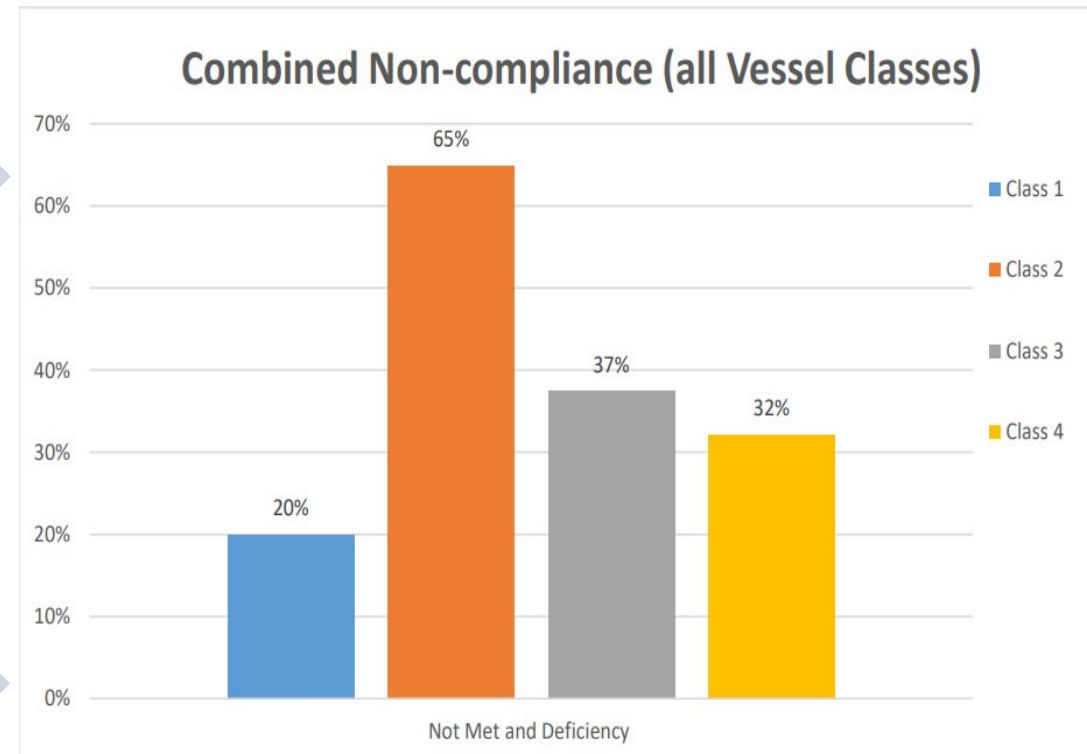
# Background – Information gathering during COVID

## Identified

- larger operators (PAX) had a reasonably compliant SMS
- small operators and non passenger vessels tended to be the most **non** compliant with SMS








## Further issues

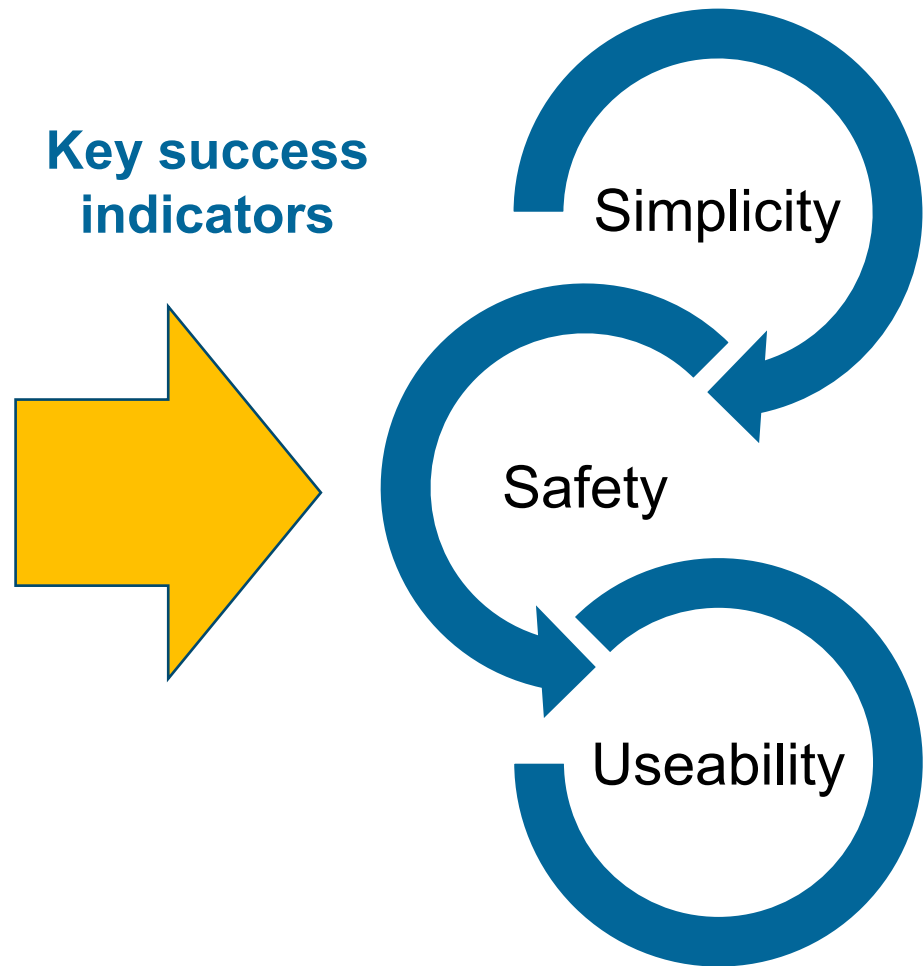
- Current SMS requirements not commensurate with small/less complex operations
- Outsource to consultants
- Use cut-and-paste approach (static document)
- 'Tick regulatory box' approach





# Aim of Project

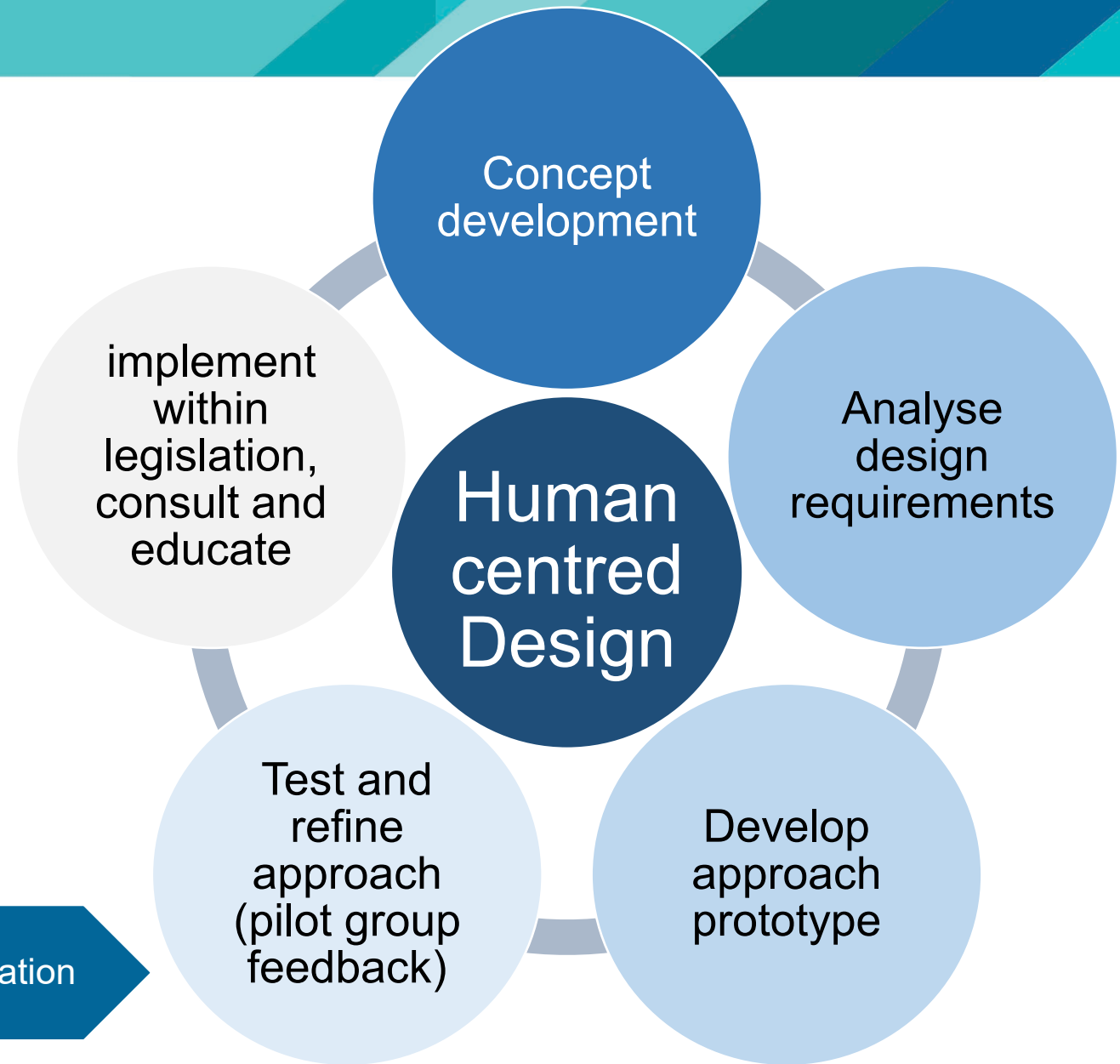
-  reduce complexity
-  deliver a simplified approach to safety management for small and simple operations
-  Use a **human centred design** approach
-  engage with our regulated community to inform our work
-  integrate revised requirements into domestic maritime legislation
-  target stakeholder group – vessels less than 7.5m (non passenger) – around 12,000 vessels
-  opportunity presented while MO504 is under review







# Approach Phases for simplified safety management system



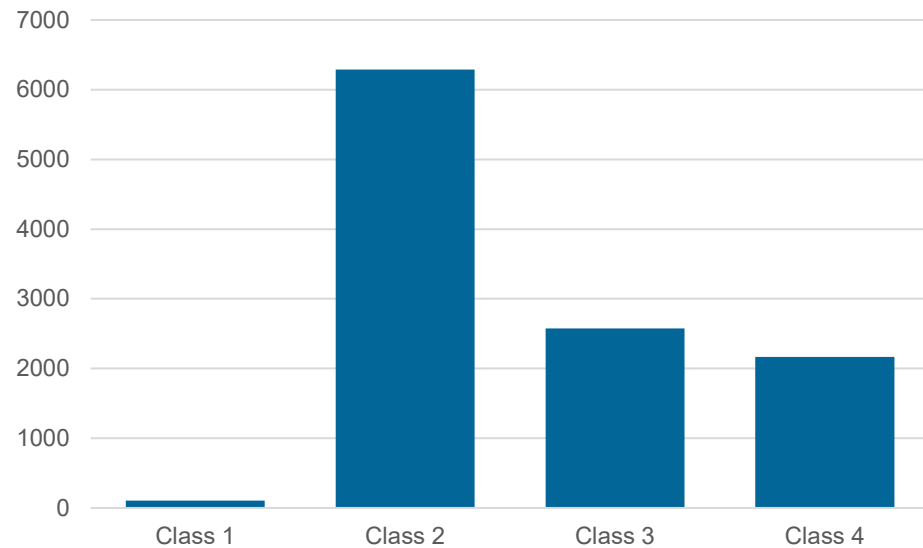
Operations

Policy and Regulations

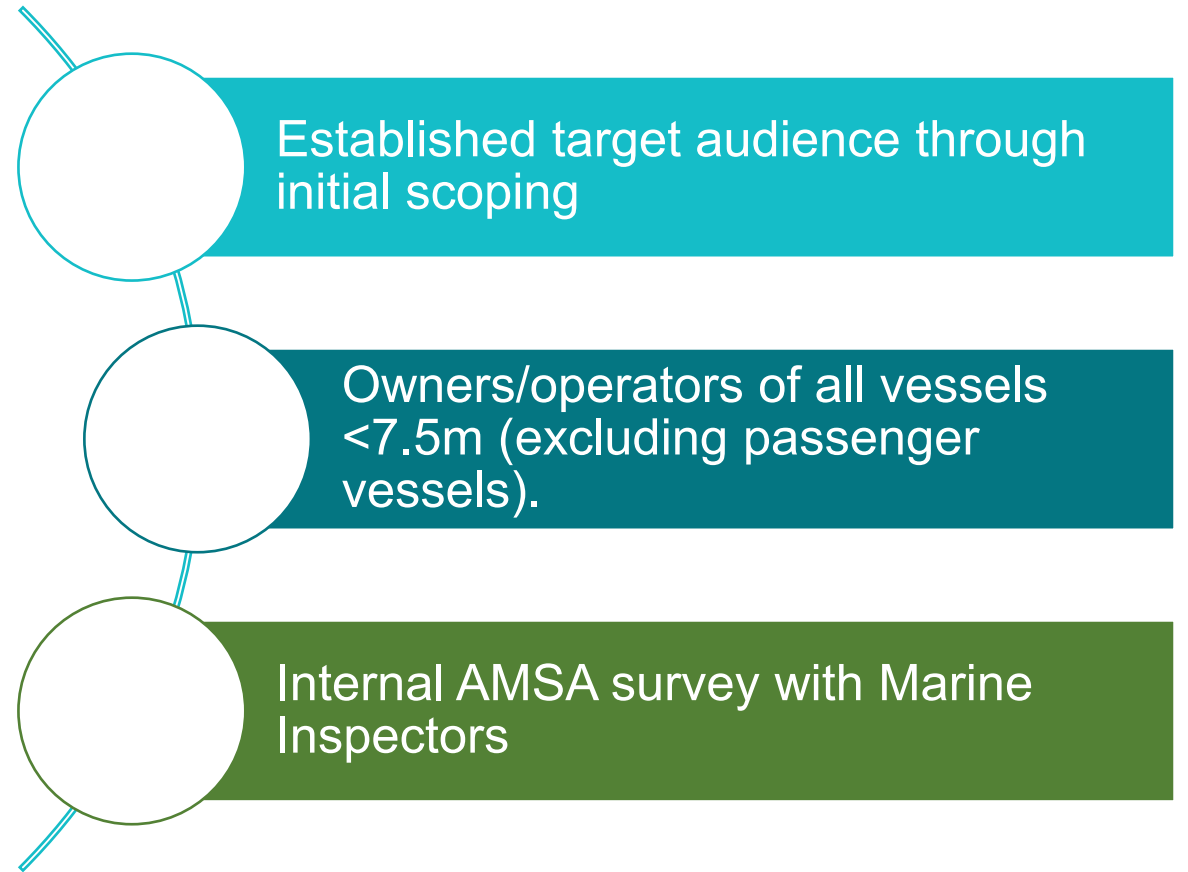
Implementation



concept  
development



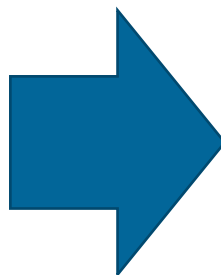
Vessels less than 7.5m





# Internal AMSA Survey

- Marine inspectors cohort (n=12)
- Outliers removed from data
- Requested to rate SMS requirements based on importance to safety
- Initial results indicated



## Rated as high

- Risk assessment
- Emergency preparedness
- Maintenance of vessel and equipment
- Logbook

## Rated as medium

- Vessel and contact details
- Resource and personnel (crew and training)
- Procedures for onboard operations
- Follow up of hazardous occurrences
- Verification review & evaluation

## Rated a low

- Owners responsibility and authority statement
- Designated person
- Master's responsibility and authority statement





Analyse  
design  
requirements



External survey conducted in 2022

Understand user views regarding  
SMS generally

Identify user view on which parts  
of the SMS keep them safe

Owners/operators invited to  
participate using targeted approach

# Survey Respondents

Digital survey supported with outbound call campaign

890 respondents across the domestic fleet

Fishing operators comprised 40.5% (361) of all respondents

60% (531) of respondents were single operators or had one additional crew member

Queensland (32.2%) and NSW (28.9%) made up the majority of respondents although all states and territories were represented

Regional and remote operators represented 79% (703) of all respondents



The Australian Maritime Safety Authority (AMSA) are planning to design a simplified safety management system (SMS) for small vessels. We want to hear from you what your current experiences are with creating and maintaining a SMS and how AMSA can improve this experience for you.

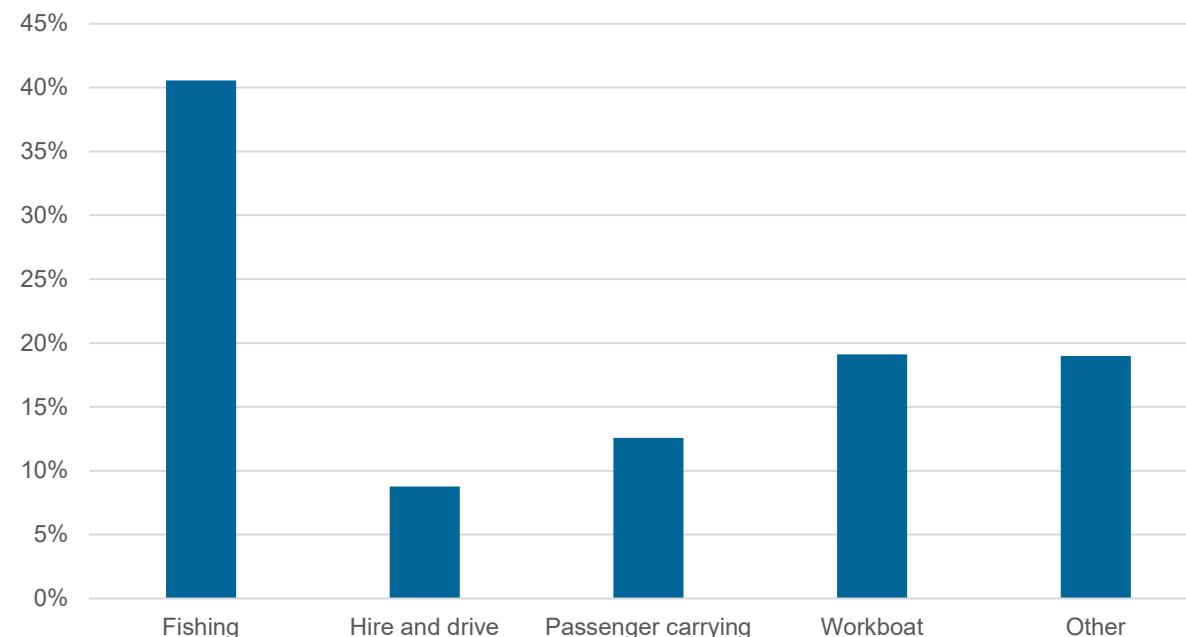
This survey should take you less than 10 minutes to complete.

Our goal is to keep people safe with a simplified safety management system.

This survey is anonymous and your responses will be kept confidential.

What is the main purpose of your operation?

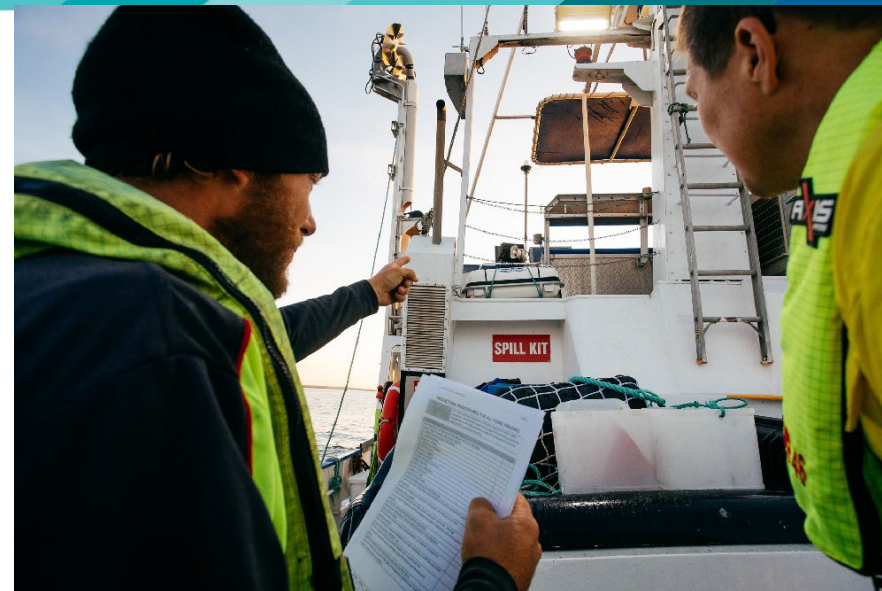
<input type="checkbox"/> Fishing
<input type="checkbox"/> Hire and drive
<input type="checkbox"/> Passenger carrying
<input type="checkbox"/> Workboat
<input type="checkbox"/> Other





# Preliminary Results

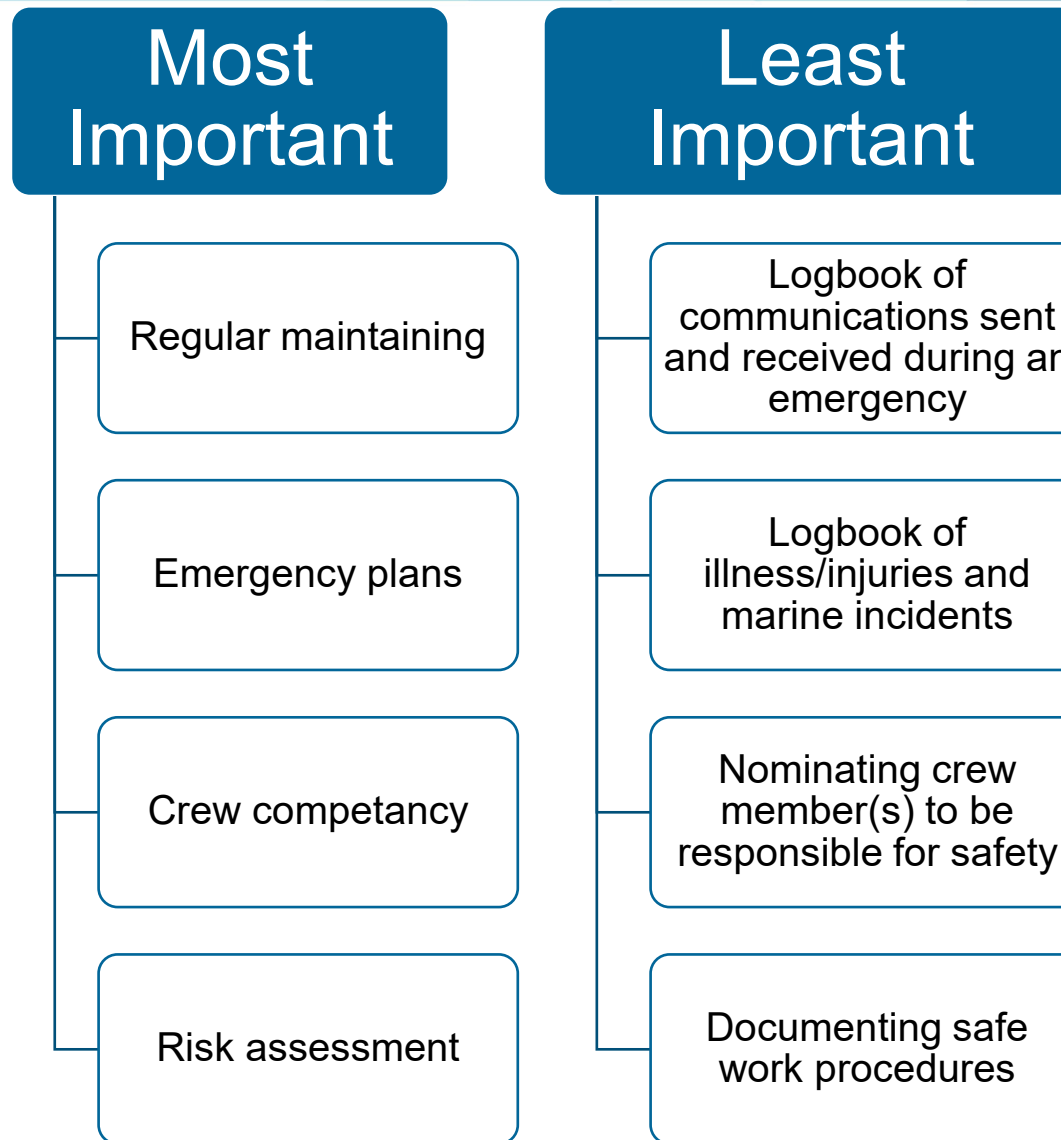
- 94% of respondents indicated that they have an SMS
- 26% found the process of creating or maintaining an SMS too complicated
- 20% used a consultant to create their SMS with the majority indicating it is too hard to do themselves
- 48.5% indicated that the main reason they think an SMS is required is because they have to comply







# Parts of SMS that keep you safe





# Parts of SMS important for your business

## Keep me safe

Regular  
maintaining

Emergency  
plans

Crew  
competency

Risk  
assessment

## Good for business

Regular  
maintaining

Emergency  
plans

Crew  
competency

Risk  
assessment



Develop  
approach  
prototype

- Education and guidance to highlight benefits of SMS relevant to small operations
- Simplified SMS focus on critical aspects (quality vs quantity)
- Supporting templates
- Business and safety

Maintenance

Emergency  
preparedness

Risk assessment

Crew competency





Test and  
refine  
approach  
(pilot group  
feedback)



Held four industry focus group meetings  
(6-9 participants) 90-120 minutes

Locations in QLD, WA, NSW

Obtain further info to refine simplified  
SMS.

Test core elements identified in prototype



# Outcomes from focus groups

- simplified SMS prototype was well received
- operators indicated that they know their risks – they can develop their risk assessment but guidance needed
- operators will determine emergency procedures based on their vessel and operations
- vessel regular maintenance is important – requested simple supporting guidance
- AMSA should be aware of costs associated with regulatory burden





Marine Order 504 (Certificates of operation and operation requirements — national law) 2018

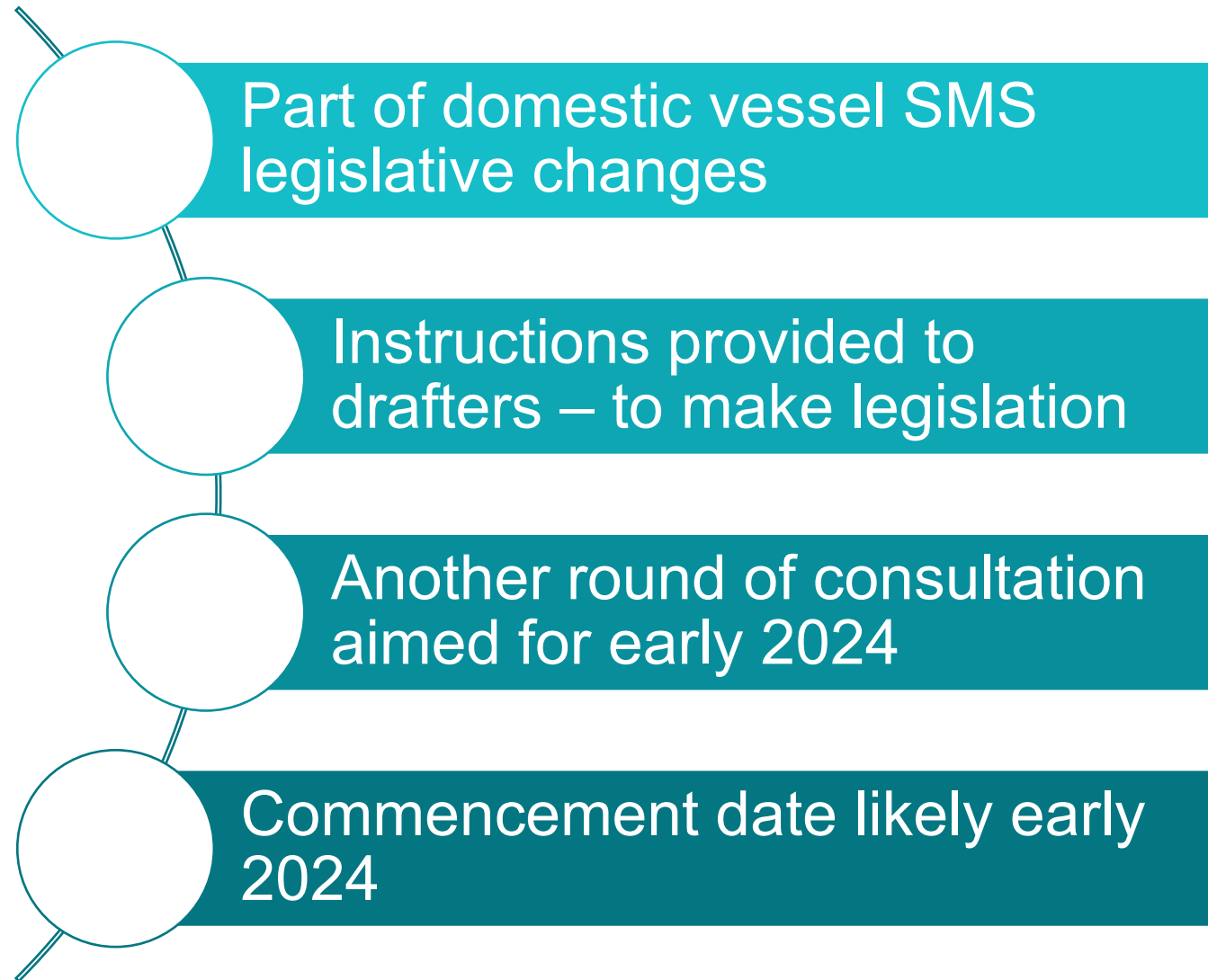
made under the *Marine Safety (Domestic Commercial Vessel) National Law Act 2012*

Compilation no. 1  
Compilation date: 31 May 2020

This compilation was prepared on 18 March 2020 taking into account amendments up to *Marine Order 504 (Certificates of operation and operation requirements — national law) Amendment Order 2020*

Prepared by the Australian Maritime Safety Authority

implement  
within  
legislation,  
consult and  
educate







## Future outlook



Test the merits of this approach to broader application
Monitor success of simplified SMS approach
Continue to assess appropriateness of regulatory settings, including the eligibility criteria

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Continue to assess appropriateness of regulatory settings, including the eligibility criteria

In preparation for internal consultation - October 2023

### New simplified SMS requirements for low-risk DCVs

Currently, MO504 provides a one-size fits all approach to SMS for DCVs.

AMSA has identified that this approach is not appropriate for smaller and less complex operations with many operators having user-experience issues and difficulties implementing the SMS requirements outlined in Schedule 1 of MO504.

To address this problem, AMSA commenced a project in 2021 focused on developing a simplified SMS approach for low-risk DCVs. This involved extensive consultation with industry to design a safety management solution that would keep smaller operators safe and meet their needs, while maintaining the correct risk-based regulatory stance and oversight.

The following table of drafting instructions outlines AMSA's policy position on the safety management system requirements for DCVs that meet the below vessel criteria. The purpose of these proposed changes is to simplify the safety management system structure and requirements to improve safety outcomes and reduce the administrative burden on small businesses.

AMSA also intends to use the simplified SMS approach for smaller and lower complex vessels to test the merits of broader application. AMSA intends to monitor the success of the simplified SMS approach, including analysing incident and deficiency data to test the impact the simplified SMS approach is having on safety outcomes, and assess whether the regulatory settings, including the eligibility criteria, are appropriate.