

Centre of Maritime Health and Society

Strategic plan 2020-2024

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Centre of Maritime Health and Society, CMSS

CMSS is a research unit providing research and documentation that can help optimize the working environment, health, safety and the shipping economics within industries, such as shipping companies, the fishing industry, ship yards, industry suppliers, off shore companies, wind power industry, as well as supporting maritime educational institutions and authorities.

CMSS is the result of a merger in 2011 between two maritime research units at SDU; the former Centre of Maritime Health and Safety (Health faculty), which was established in 1992, and the former Centre of Maritime Research and Innovation (Social Science faculty). This merger aimed to strengthen and promote the synergies between the two maritime research fields. CMSS is funded by the Danish state and received 4.0 million DKK in 2018. In addition, external funding is applied for.

The strategic plan for 2020-2024 is structured in stages, including the following elements: Mission, vision, and core areas. The strategic plan is revised annually, to the extent that is needed.

1 Mission and vision

1.1 Mission

The mission of CMSS is to establish relevant research-based knowledge contributing to:

- the establishment of healthy, safe and stimulating working conditions in maritime jobs in line with the development of the society and the needs of the maritime industries;
- ensuring the best possible conditions for the maritime industry related to environmental and business economics.

1.2 Vision

The vision of CMSS is to play a leading role nationally and internationally in its core areas:

- Conducting research at the highest international level, contributing to an innovative and sustainable maritime industry with healthy and safe workplaces,
- Offering advice and disseminating knowledge and methods to stakeholders, including governments, social partners, and maritime safety consultants, based on high quality research and in collaboration with Danish and international research institutions,
- Training future researchers in the maritime field in the areas of health and safety,
- Building strong work relations with acknowledged national and international partners, with regard to research and education,
- Launching concerted efforts to ensure optimal visibility of the Centre within the Blue Denmark, including presence in relevant activities in the national maritime cluster, Maritime, Innovation and logistics Denmark (MARLOG) and contributing with knowledge that can create impact in the form of new projects, new educational modules, innovation or collaborations that can enhance the former.

1.3 Objectives 2020-2024

CMSS has the following overall objectives:

- To identify, explore and address present and future health and safety challenges in the work environment of the maritime setting,
- To identify, explore and address present and future environmental and business economic challenges in the maritime industry,
- To develop and contribute to maritime education in the core areas of CMSS,
- To develop skills and competencies of the staff to get academic qualifications that are in line with requirements of University of Southern Denmark,
- To ensure that the research within CMSS contributes to the existing knowledge and has an impact on The Blue Denmark in matters of safety, health, environmental economics and business administration,
- To assist The Danish Maritime Authority on matters relating to maritime health and safety,
- To engage in addressing and including United Nations Sustainable Development Goals (UN SDGs) relevant to the Centre,
- To develop the visibility of the Centre.

2 Core areas

2.1 Research

CMSS aims at offering different types of research activities relevant to maritime health and safety. This includes the impact of interventions on employees' health and well-being, the development of work arrangements, the maritime labor market and environmental and business economics. In addition, CMSS intends to identify and describe occupational health indicators and risk factors, and furthermore, to plan, implement and evaluate interventions, policies and solutions related to risk management, analyses and development of (good) practice so that they contribute to the promotion of healthy and safe maritime workplaces.

The core areas of research within CMSS are:

- Maritime Health and Safety
- Environmental and business economics

CMSS strives to enhance close collaboration with other SDU units and other faculties to guarantee multi-disciplinary, theory-based and methodologically high-level research, supervision and teaching. In addition, CMSS aims for close collaboration with leading national and international maritime and other relevant research institutes as well as the Blue Denmark to ensure innovative, relevant and sustainable research initiatives. Development of methods and application-oriented strategies is highly prioritized. In order to meet the research aims to the highest degree, CMSS also applies for external competitive research funding.

CMSS will create research programmes with consideration to research agendas within the SDU research network, BlueSDU, the Danish national Maritime Research Alliance (MRA) and MARLOG, including thematic areas such as automation and Green shipping. The UN SDGs that are relevant for the research strategy of CMSS will also be included.

The work with the UN SDGs has been initiated and will continue. The UN SDGs relevant to the research undertaken at CMSS, include the 5 goals below:

UN SDG 3: Ensure healthy lives and promote wellbeing for all at all ages,

UN SDG 4: Quality education,

UN SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all,

UN SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development,

UN SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels,

UNSDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development Finance.

CMSS objectives for the individual UN SDGs will be discussed at the CMSS seminar to be held in the first quarter of 2021, with the intention to devise concrete action points for each goal. For example, it can be mentioned that the current SEEDS project is launched as a project under UN SDG 3, and is discussed together with the shipping company involved, as such.

2.1.1 Maritime health

The aim of the research activities within CMSS in relation to maritime health is to produce knowledge that contributes to healthy and health promoting maritime workplaces and to prevention of lifestyle-related diseases among workers in the Blue Denmark. The following fields will be targeted:

- Research on the psycho-social work environment and health, including creation of knowledge that contributes to healthy and attractive maritime workplaces where employees thrive and without risk of psycho-social and somatic illness, and where a high ability to work is retained.
- Research on the relationship between fatigue, stress and working conditions, social relationships and corporate culture aiming at preventing and reducing fatigue and stress.
- Research on the relation between work-related physical and mental exposures and the ability to work, including the relation to sick leave and job retention, disability and retirement.
- Research on the maritime health care system including register studies on causes, outcomes and costs related to seafarer's contacts to Radio Medical Denmark.
- To develop the CMSS database entitled BLUE, consisting of seamen, fishermen and offshore workers. These register-based data will be linked to mortality, hospitalization, cancer, sickness absence and other relevant information from different registers.
- Research about lifestyle; such as diet, exercise and smoking among maritime employees, as well as motivational factors, policies and structural conditions on board to promote and facilitate healthy lifestyle and workplaces.
- To develop and strengthen the existing epidemiological and register-based research of CMSS.

2.1.2 Maritime safety

The aim of the research activities within CMSS in relation to maritime safety is to produce knowledge and develop activities within:

- Trends in maritime accidents and injuries in relation to fishery, merchant marine and offshore.
- Prevention measures of accidents and improvement of safety in workplaces within the maritime industry.
- Associations between working conditions and occupational disorders.
- Other relevant research programs based on CMSS data on accidents, injuries and diseases.
- Research in maritime human factors, interaction between humans and technology, challenges surrounding increases in automation and technology complexity in the maritime industry, and the mitigation of human error.

2.1.3 Current thematic research areas

Here follows a presentation of the short-term thematic health and safety research areas within CMSS;

- Based on the specific area of interest for The Danish Maritime Authority, focus in 2019-2021 will be given to acquire funding, collaboration and undertake research within the thematic area of automation.
- Work environment for fishermen will be a research focus in 2019-2021, searching for projects relating to optimisation of work environment for fishermen.
- Cardiovascular diseases for maritime professionals will be a specific focus in 2019-2024, including the employment of a Ph.D. student to work on a project within this area.
- Health promotion and safety for seafarers will be a thematic area of focus for 2020-2021 and funds for concrete projects will be applied for.
- Establish consultation to DMA in relation to anti-corruption (seafarers and port workers), accidents and injuries, including issues relating to Green shipping during 2020-2022.
- Analysis of medicine utilisation of the medical chest onboard vessels, a project collaboration together with Radio Medical in 2020-2021.

2.1.3 Maritime environmental and business economics

The aim of the economic research activities within CMSS is to advance use and management of natural resources in the marine environment and promote an understanding of how the maritime sector interacts with society in multiple, overlapping dimensions.

With the research program within economics, CMSS aims to generate knowledge that promotes understanding of how the maritime sector interacts with society in multiple, overlapping dimensions. These dimensions focus primarily upon environmental quality, regulation, decision-making and management, industrial competitiveness, and innovation.

The research on economics is focused on the following themes:

- Ways of incorporating key environmental values into decision-making in the maritime sector (internalization of externalities). Increased understanding of interlinked aspects of environmental quality (e.g. air, water, climate), local, national and international environmental legislation, and long run maritime onshore and vessel infrastructure investments in innovation and technological change.
- Advancing approaches that integrate ecological and economic models that can help improve the design and evaluation of marine resource management as well as identify regulatory needs, associated costs and socioeconomic implications.
- Identifying gaps in ocean governance and addressing key future environmental challenges in ways that accommodate the needs and interests of multiple stakeholders - from small-scale users of marine resources (e.g. fisheries management) to the shipping industry (e.g. adaptive management in the maritime sector).

2.1.3.1 Current thematic research areas

Here follows a presentation of the short-term thematic research areas for economic research areas within CMSS;

- A focus will be on circular economy in relation to ship recycling within the shipping industry.
- Focus will be given to work environment for fishermen.

2.2 Research dissemination

CMSS aims at disseminating research-based knowledge for the benefit of the maritime world. The research results are published in the academic field, but CMSS additionally disseminates research results to central actors in the maritime sector, i.e. authorities, labour market stakeholders, advisors and other users of research-based knowledge. Therefore, awareness of the research within CMSS is expected to increase among actors

in the maritime sector as well as among national and international partners. CMSS strives to:

- Disseminate systematically the centre's own research, i.e., information on scientific articles and reports as well as on new and ongoing research projects.
- Disseminate results and activities via CMSS newsletters as well as by the CMSS website.
- Participate and give presentations at national and international conferences, seminars etc.
- Offer presentations at maritime educational institutions, public conferences, and information meetings for stakeholders and partners.

2.3 Education

In collaboration with SDU and other universities, CMSS participates in the education and supervision of students and upcoming researchers, e.g. BA, MSc Ph.D. students and postdocs with an emphasis in the maritime area at CMSS. This gives CMSS the opportunity to communicate the Unit's research results. Additionally, the researchers at CMSS support the maritime education at respective academies and other training institutions. It is essential for the Blue Denmark that its current and future needs of knowledge on maritime health, work environment and safety, and environmental and business economics are addressed. New talented and qualified researchers are therefore needed in these research areas. To ensure this, CMSS aims to:

- Supervise, educate and censor bachelor, master and Ph.D. students emphasising on the maritime area.
- Be available for education and training of students in relevant educational institutions, maritime schools, etc.
- Attract and train talented researchers to ensure the best possible recruitment base for future researchers, so that CMSS and other relevant maritime research environments can continue to provide health and safety research of high international quality.
- Participate in the development of courses within relevant programs. These may include:
 - BSc and MSc in relevant academic programs at SDU and partner institutions,
 - Development of seafarers' skills and competencies together with Blue SDU, MRA and SDU in general,
 - Program on risk and safety management,

- Development of competencies among maritime doctors, general practitioners, specialists in occupational health and other relevant disciplines according to the Maritime Labor Convention 2006,
- Organization or contribution of short courses on maritime topics.

3. Core areas – Impact

The primary output of the core areas is new and applicable knowledge for the maritime field in terms of scientific publications, reports and popular scientific communication as well as teaching and supervision of students. The effects of these outputs are:

- Increased awareness among authorities, collaborators, and other maritime stakeholders of the research performed by CMSS as well as the general knowledge about maritime work environment, safety, health and environmental and business economics.
- Increased knowledge to facilitate maritime authorities and companies in the Blue Denmark to focus their efforts and policy development on health, safety and work environment as well as on environmental and business economics.
- Facilitating implementation of research results within the maritime industry to improve health, safety and work environment of employees of The Blue Denmark.
- Identification of future challenges within the maritime field concerning health, safety, work environment and business economics.
- Increased recruitment of new talented and qualified researchers in the field and competence development of employed Senior researchers at the Centre, to ensure a high and sustainable level of quality research.

3.1 Current themes

A new visibility memo has been drawn up and efforts have been set in motion to promote the Centre more. This work will continue and a staff seminar on the subject is planned for December 2020. Further concrete action plans will be devised, based on the staff seminar and deliberations in management which will ensure the process continues, on a steady course.