BALTIMARI

BONUS BALTIMARI policy brief no. ……

This policy brief is a component product of the BONUS BALTIMARI research project, "Review, Evaluation and Future of Baltic Maritime Risk Management" which examined the uptake of maritime risk research by the Baltic Sea region maritime authorities. Highlights of the research by the World Maritime University include best practices in Baltic Sea States and suggested measures to improve knowledge utilization.

WHY DISCUSS RESEARCH UPTAKE?

Maritime transportation is the lifeblood of the global economy, and the Baltic Sea region is no exception. Maritime transportation brings varied attendant concerns of risk of fire, collision, grounding, oil spills, etc. Maritime risks trigger both, maritime risk research and maritime policy and regulations. In an ideal case, risk research and maritime policy closely follow each other. In reality, however, the communities of science and policy-making could be quite removed from each other.

"Research is not used, as a can opener is used." *(Huberman, 1987)*

At least 35 different maritime risk related projects have been concluded in the Baltic region since 2005 addressing diverse topics such as traffic, winter navigation, ship design, accident prevention and response, ecological safety, environmental practices, efficient management and future challenges (See *Box 1* for examples). As deliverables, these research projects yielded guidelines, training materials, open access tools, frameworks and models. A question that arises is whether the outcomes intended to serve as an aid in decision support, policy implementation, design, planning and operations are utilized as expected.

Box 1. **Examples of maritime risk research in the Baltic Sea region.**	
HELCOM BRISK, (2011)	SAFGOF (2011)
ChemBaltic (2013)	FAROS (2015)
BONUS STORMWINDS (2017)	HELCOM OpenRisk (2018)
Next Generation SmartResponse Web (2016)	HELCOM Seatrack Web (2019)

Utilization of valuable knowledge on maritime risk is determined by the structure and characteristics of policy-making, where research is one among various components of many information and beliefs. Incidentally, the United Nations (UN) is observing 2020-2030 as the Decade of Science for Sustainable Development. The International Maritime Organisation recognizes that sustainable maritime shipping is integral to sustainable development and, therefore, in its role as a specialized agency of the UN, is supporting its initiative by adopting renewed measures for clean, efficient and sustainable shipping. The European Union, HELCOM and individual member States are both, leading and following suit, collectively and individually taking regulatory and policy measures in furtherance of the international efforts.

It is critical to understand that research uptake is not a one-shot event that starts and ends with receiving a research paper but rather a cumulative process comprising numerous stages through which policymakers exert efforts to utilize knowledge in making decisions. *Box 2* enumerates the six-stage process.

Box 2. **The six-stage, knowledge utilization process.**

1. Research is received.
2. Research is read and understood.
3. Policy makers discuss research with peers.
4. Policymakers cite research in their report.
5. Policymakers exert efforts to adopt the research result in their work decisions.
6. Policymakers decisions are influenced by scientific research.

WHAT IS THE PROCESS OF RESEARCH UPTAKE?

Research uptake may be envisaged as a highly interactive, PUSH-PULL process comprising of research institutions and researchers attempting to push research into the policy-makers domain and, maritime authorities and industry exerting a pull to acquire research, without which uptake would be rare, and no further knowledge would get across. Apart from exclusive factors, partnership and cooperation is common to both, push and pull efforts. *Figure 1* depicts the push-pull factors of research uptake, in which both sides should exert equally for ensuring success of uptake. If any one side slackens, uptake would be diminished.

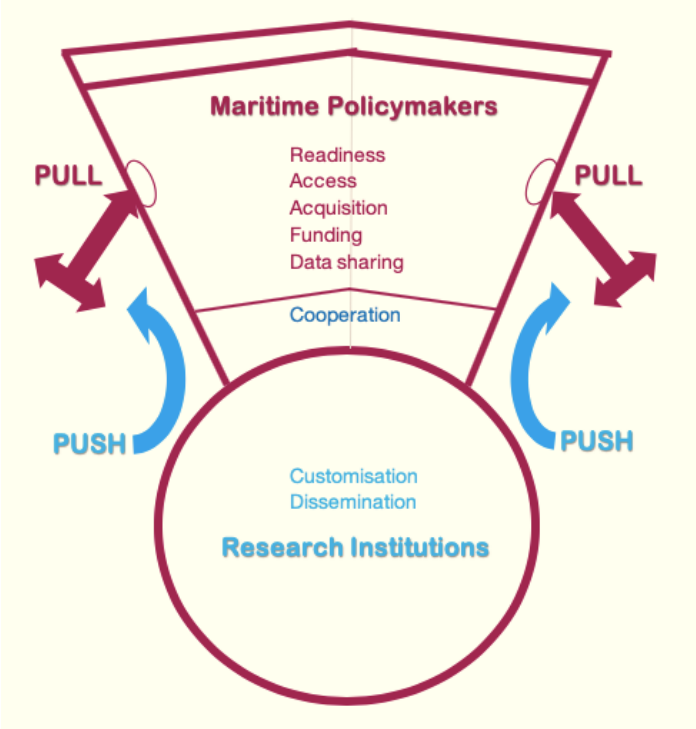

Figure 1. The push-pull research uptake process

WHAT ARE THE SOURCES OF RESEARCH?

Survey results indicated that reception of research is high. About 75% of maritime authorities and industry receive at least some form of maritime risk research. Conversely, a quarter rarely, or never receive risk research. Besides IMO, EU and HELCOM, risk research is received from national sources in the form of government reports, transport administration research project results, and research by national maritime universities. *Figure 2* depicts the sources of knowledge for policy-makers as per the online survey.

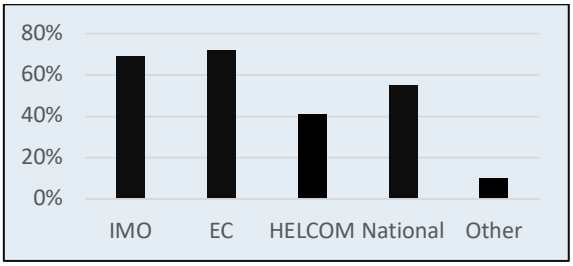

Figure 2. Sources of knowledge for policy-makers

WHAT IS THE STATUS OF RESEARCH UPTAKE?

The World Maritime University utilized a combination of online questionnaire survey and stakeholder workshop to assess the level of uptake of maritime risk research. Maritime authorities and industry in the Baltic Sea region exert relentless efforts for maritime safety and are reasonably well informed about the value of academic research. Research is read, and understood to a modest extent, but does not highly influence policy decisions. *Figure 3* depicts the stage-wise utilization of research. Overall, the research uptake is 41%.

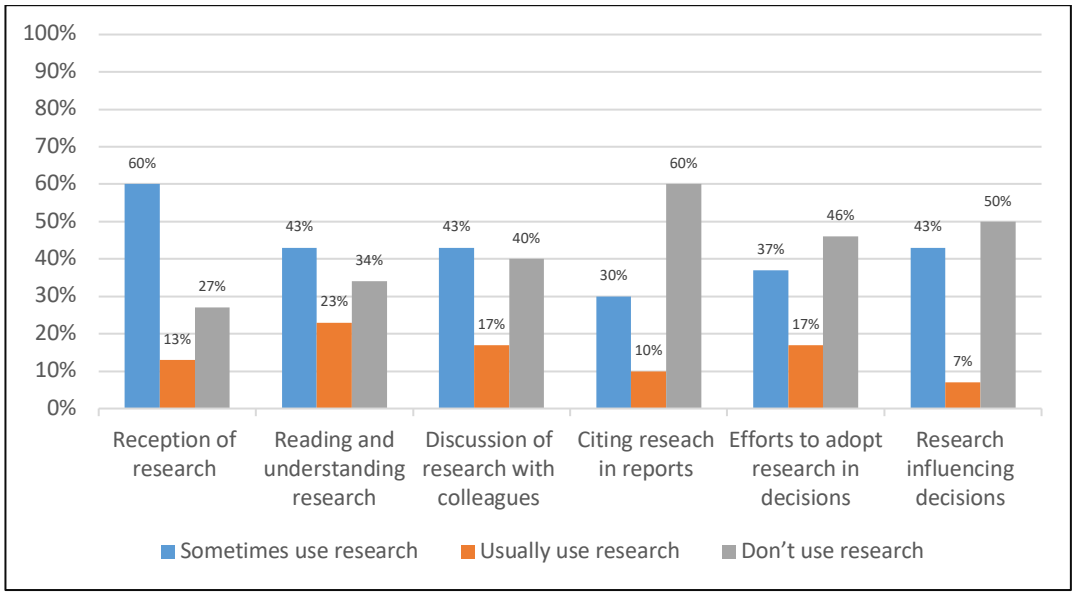

Figure 3. Stage-wise assessment of average research uptake level

WHAT ARE THE KEY CONCERNS TO BE ADDRESSED?

Box 3 lists the set of key concerns on the push and pull side of maritime risk research which need to be addressed for enhancing the research uptake in the Baltic Sea region.

BOX 3. LIST OF KEY CONCERNS TO BE ADDRESSED FOR ENHANCING RESEARCH UPTAKE

PUSH FACTOR CONCERNS	PULL FACTOR CONCERNS
1. Research process does not include policy-makers	1. Training on research appreciation rarely provided
2. Insufficient efforts for transfer of knowledge	2. Access to relevant research limited
3. Focus on producing research regardless of uptake	3. Lack of capacity to read and engage with research
4. No feedback on utilization of research	4. Lack of awareness about current research
5. Research results do not always meet expectations	5. Funding required to raise awareness
6. Research is not customized to policymaker's needs	6. National priorities may precede research uptake
7. Overwhelming variety of scientific tools and models	7. Projects often not linked to scientific issues
8. Research usually requires longer time than available	8. Hardships in acquiring data from authorities
9. Research gives solutions, but not how to implement	9. Not always easy to approach experts in field for data
10. Often, research solutions require further research	10. Academic research marginally influences decisions

WHAT ARE THE BEST PRACTICES IN BALTIC SEA STATES?

Although the uptake of maritime risk research is moderate, the workshop conducted at the World Maritime University identified several best practices of research utilization in the industry, maritime authorities and researchers in the Baltic Sea region. *Box 4* lists the revealed practices, in four clusters.

BOX 4. BEST PRACTICES OF RESEARCH UPTAKE IN THE BALTIC SEA STATES

PRACTIONER	BEST PRACTICE	OUTCOME
RESEARCH ENGAGEMENT AND ACQUISITION EFFORTS		
Finnish Transport and Communications Agency (TRAFICOM)	Collaboration with research institutions e.g. Aalto University, Helsinki University	Research areas addressed
Swedish Shipowners Association	Focuses on four research areas	Ship digitalization and automation, design and technology, behavioural improvement, and competence in shipping industry
Danish Maritime Authority	Frequent partnership with universities in research projects e.g. with the Centre of Maritime Health and Society at the University of Southern Denmark	Maritime accident issues addressed
Danish Maritime Authority	Frequently acquires research from national and regional universities	Training of ship surveyors; developing regulations for passenger ships
COOPERATION AND NETWORKING		
Swedish Shipowners Association	Collaboration between the Finnish and Swedish maritime clusters which is supplemented by conferences	Green and smart shipping
Gydnia Maritime Authority	Integral part of national delegation to IMO; member in government committees and boards; cooperation with Polish Register of Shipping and Polish Maritime	Cooperation and networking for research opportunities and training of researchers
HELCOM	Cooperation with stakeholders through policy workshops	Acquisition of required information through surveys
DISSEMINATION (SCIENCE COMMUNICATION)		
Gydnia Maritime University	Peer to peer meetings, local workshops, and conferences	Science communication
HELCOM	Translation of some project outcomes into other languages	Science communication
BIMCO	Creation of a project platform on the web which hosts various projects e.g., Clean Shipping Platform (CSHIPP)	Science communications, policy papers, and utilization of science in making policy decisions
FUNDING RESEARCH		
TRAFICOM	Funding research projects (sub-contract)	Timely solutions to issues
Swedish Maritime Authority	Funding research, and contributing to research projects	Examples of projects – AIS, Sea Traffic Management, MONA LIZA, and FAMOS
Danish Maritime Authority	Subcontracting research from Technical University of Denmark, CORE law firm, and FORCE technology institute	Emergent issues in autonomous shipping addressed

TAKEAWAYS

Maritime risk research uptake by Baltic Sea maritime authorities and industry is modest and, therefore we propose exclusive pathways for improvement of both, push by researchers and pull by policymakers (*Box 5*), with the exception of mutual engagement, collaboration, cooperation and communication, which is applicable to the authorities and researchers alike.

BOX 5. RECOMMENDATIONS FOR IMPROVING RESEARCH UPTAKE

Recommendations for policy-makers

1. Provide training to employees, particularly those with shorter experience and in lower management levels, on the value of research, and refining skills to interpret research
2. Dedicate time to provide required data, and allow researchers to conduct experiments, interviews, and surveys so that research is more relevant
3. Share research project results nationally, regionally, and internationally
4. Consider fellowships for PhD programmes and post-doctoral research as incentive for early stage researchers and to address research requirements
5. Willingly participate in academic workshops, conferences and seminars
6. Look at past project results, for example at the EU level

Recommendations for research institutions and researchers

1. Focus on new and emerging maritime challenges and risks e.g., digitalisation, autonomous ships, and cyber risks
2. Present direct and timely solutions to problems
3. Take into account end-users needs and consider implementation aspects, particularly financial and other resources of maritime authorities and industry
4. Consider uptake prior as well as post publishing
5. Closely follow international negotiations at the EU and IMO level and keep track of national maritime policy issues
6. Consider setting aside dedicated funding for communication of research and incentivising science communication

This policy brief summarizes the key highlights from the research article, which is under submission to a journal. For sources, citations and more detailed analysis, please email us at ah@wmu.se

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