



NEW TECHNOLOGIES IN TRANSPORT AND THE SHIFTING TIDES OF RESPONSIBILITY

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REPORT OF THE MSC-LEG-FAL JOINT WORKING GROUP ON MARITIME AUTONOMOUS SURFACE SHIPS (MASS) ON ITS SECOND SESSION

... there **should be a human master responsible for a MASS**, regardless of mode of operation or degree or level of autonomy;

... such **master may not need to be on board**, depending on the technology used on the MASS and human presence on board, if any; and

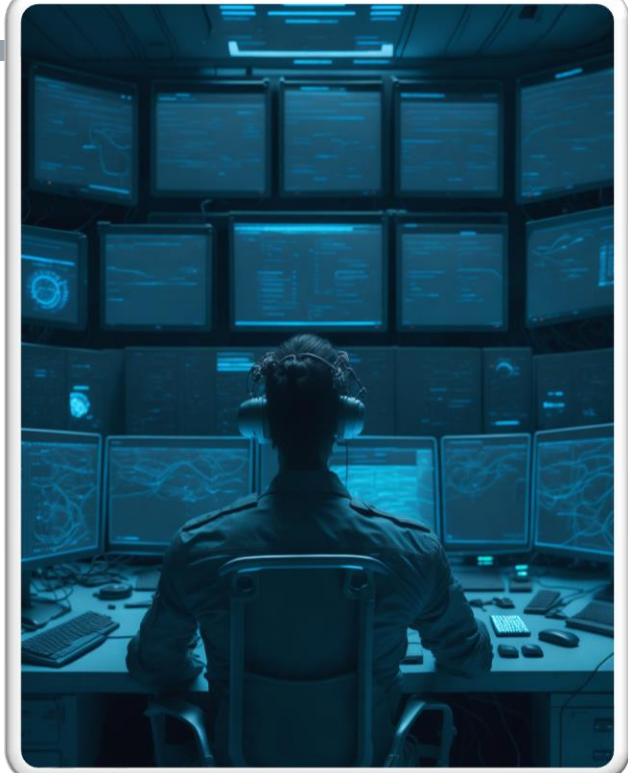
... regardless of mode of operation or degree or level of autonomy, the master of a MASS **should have the means to intervene when necessary**.



Shipowner



Manufacturer



**Backend
Operator**

NEW ENTRANTS, NEW RULES AND NEW MARKETS

TESTING THE IMO APPROACH

01

Are there any examples where an AI system operator/producer has taken over a responsibility for damage?

02

Are there any examples where a vehicle is in operation without human capacity to intervene into the dynamic control tasks?

03

Are there any examples where a human intervention is impossible?

NON-MARITIME LAW LEGISLATION WORTH OF CONSIDERATION

UN Regulation 57 on
Automated Lane
Keeping Systems and
the 1968 Vienna
Convention – in force

The EU AI Act -
proposed

EU Directive on
liability for defective
products - proposed

The relevant international law has introduced the concept of „vehicle systems” and „automated driving systems” that no longer require a human driver having a dynamic control over the motor vehicle (real-time operations and tactical functions) on a sustained basis

LVL 3 and LVL 4 semi-automated driving is allowed under prescribed conditions in an increasing number of jurisdictions

On the national law level, this has allowed for different consideration regarding the amendments to the responsibility schemes,...

... in some cases, introducing a shared responsibility between vehicles owners, producers and/or insurers, and,

... in some cases, the responsibility of automated driving system operators and manufacturers

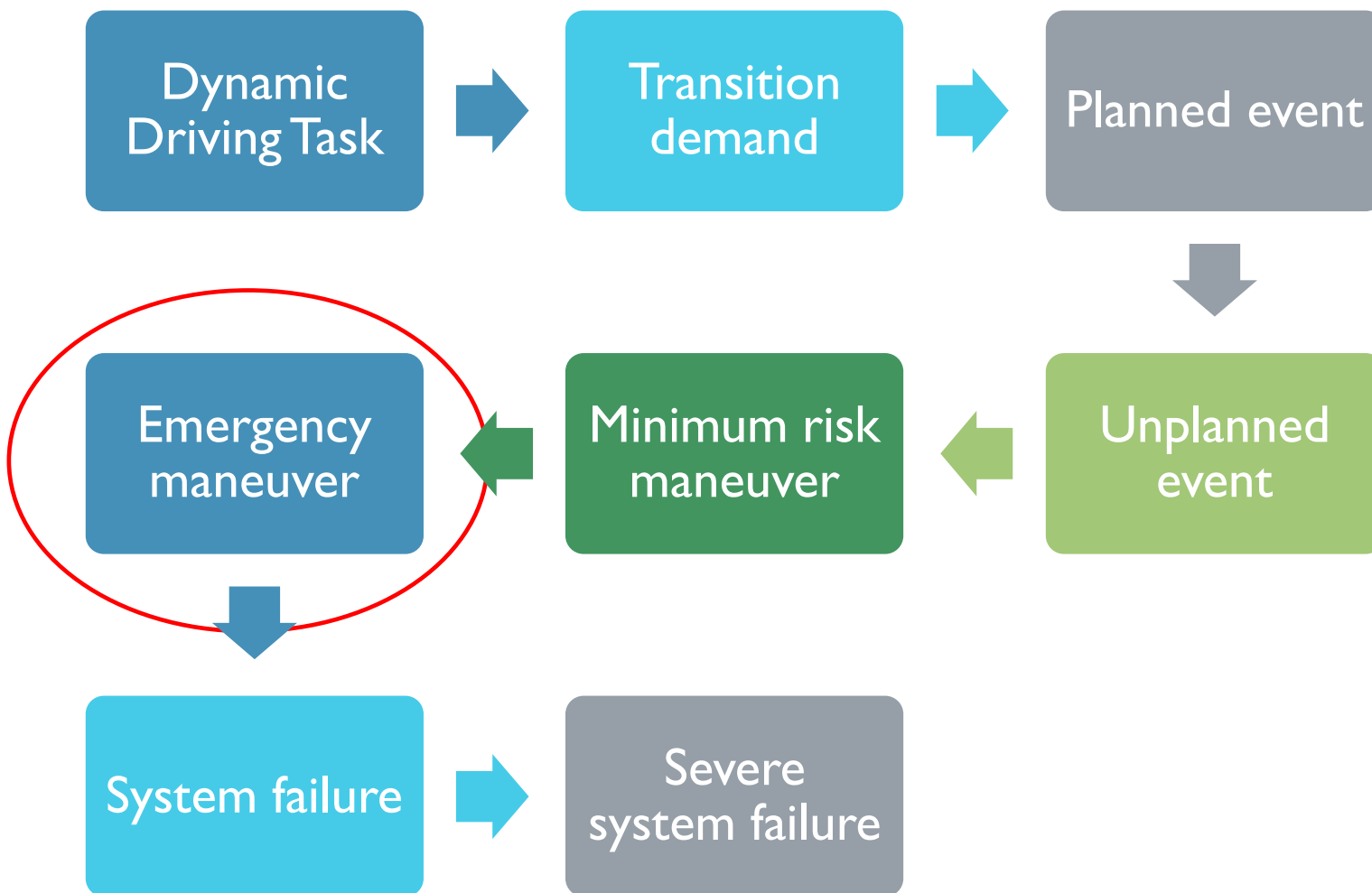
ROAD SECTOR

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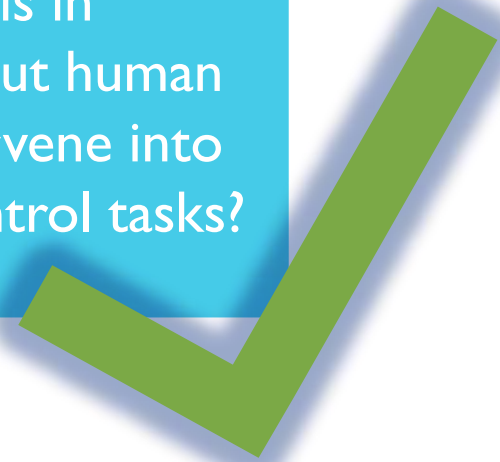


TERMS RELEVANT
FOR LATER
RESPONSIBILITY
AND LIABILITY
ASSESSMENT
BETWEEN THE
INVOLVED
PARTIES

TESTING THE IMO APPROACH

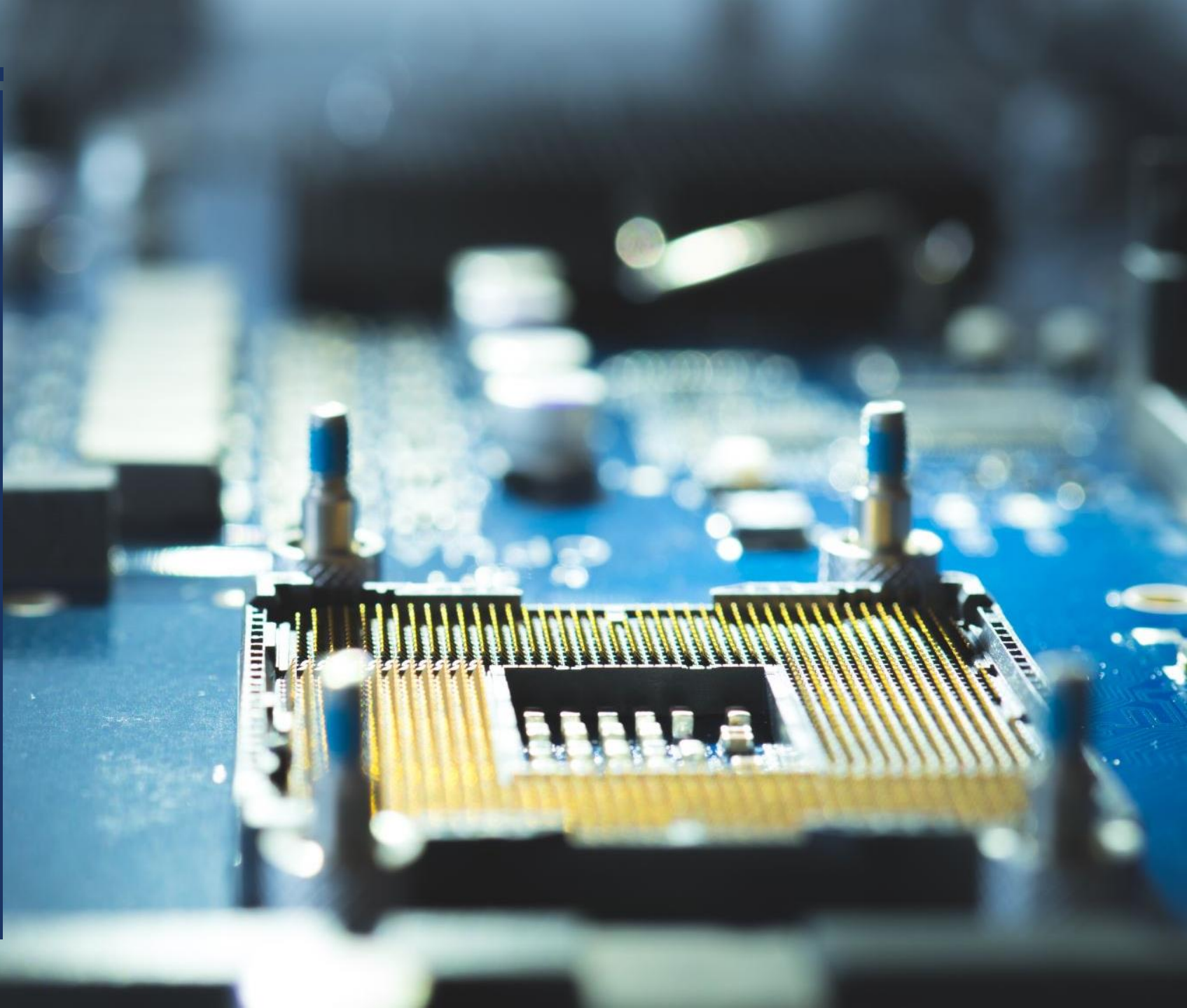
02

Are there any examples
where a vehicle is in
operation without human
capacity to intervene into
the dynamic control tasks?



PRODUCT LIABILITY AND „MAKERS”

- **Producers as service providers**
- Without **continuous service and connection with the product**, **product fails** to provide the expected results and quality (defective product)
 - *the effect on the product of any ability to continue to learn after deployment;*
- Currently, **producers as backend operators** are providing various services to vehicles (OS updates, software updates, navigation maps' updates, GPS service, advanced driving assistance services, automated driving assistance systems' updates...)
 - *'related service' means a digital service that is integrated into, or inter-connected with, a product in such a way that its absence would prevent the product from performing one or more of its functions*



AI ACT



- *'artificial intelligence system' (AI system) means software that ... can **generate outputs** such ... **predictions**, ... or **decisions** influencing the environments they interact with*
- Risk-based approach
- Obligation to maintain a plethora of systems (risk management, data governance, record-keeping, human oversight...)
- Some of such systems will require continuous provision of services by third parties (**backend operators**)
- Data training
- Decision-making capacity critical for **ocean voyages**

TESTING THE IMO APPROACH

03

Are there any examples
where a human
intervention is impossible?



AI EXPLAINABILITY

- COLREGs Rule 2(b): ... *a departure from these Rules necessary to avoid immediate danger.*
- **How will an AI system interpret the rules and decide on whether and why to apply the Rule 2(b) exemption?**
- If the decision is based on the processing of data and analytical capacity of systems and services provided by a producer and backend operator, and a human operator has no access to the vessel nor control over the vessel, the question remains on how to assess the issue of responsibility for damage resulting when such systems and services fail to provide favorable results



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... regardless of mode of operation or degree or level of autonomy, the master of a MASS **should have the means to intervene when necessary**.

Even if he has no means to connect to the vessel or navigate the vessel?
Even if the vessel acts autonomously based on the

The whole point of fully autonomous vessels is to allow a possibility of having

It may not always be possible to reach a vessel from a remote operational center.

Must such an occurrence automatically trigger a breach of master's obligation?



THANK YOU FOR
THE ATTENTION



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