HighSpeedBoat OperationsForum

RI. SE

# Mission-Suitability Assessment Framework for Marine Vehicles (**M-Score**)


Pahansen de Alwis, Ph.D.
Naval Architect/Shock & vibration exposure expert
Pahansen.DeAlwis@ri.se

Magnus Wikander
Naval Architect/Hydrodynamic performance expert
Magnus.wikander@ri.se


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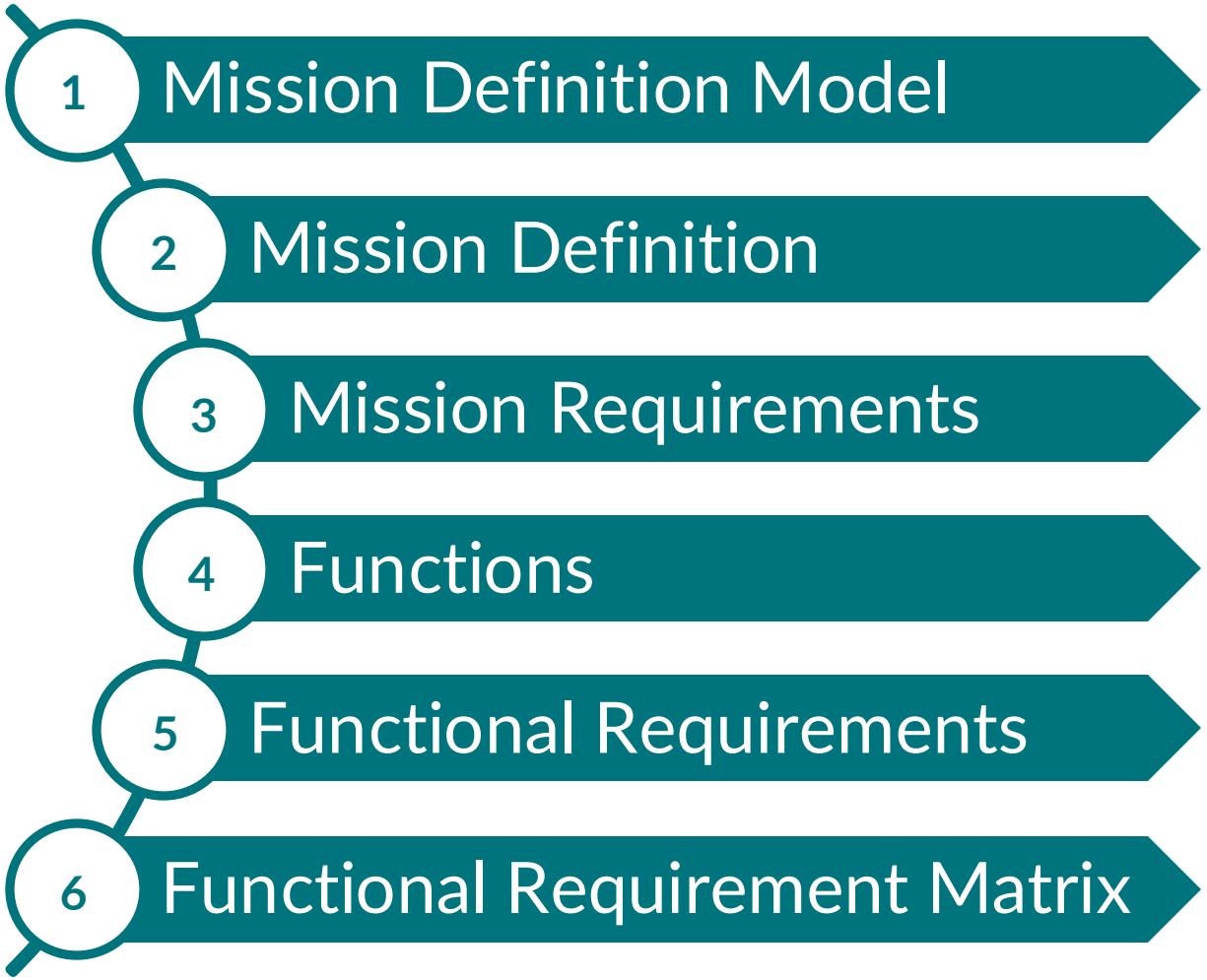
# M – Score

*(The mission suitability assessment framework)*



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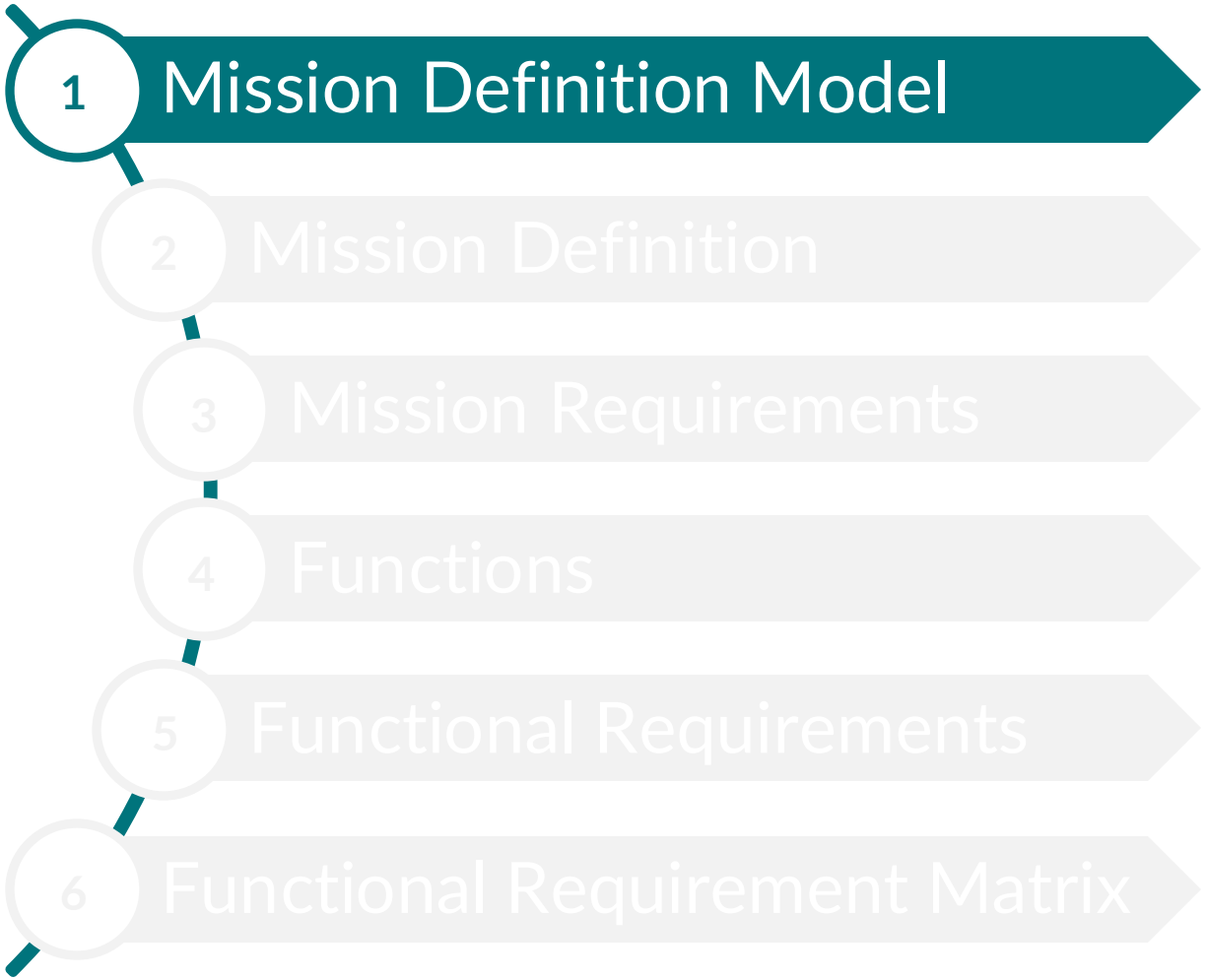


- **Guidelines for developing a detailed mission definition for any ship**
- **Questionnaire**
- **Six chapters**

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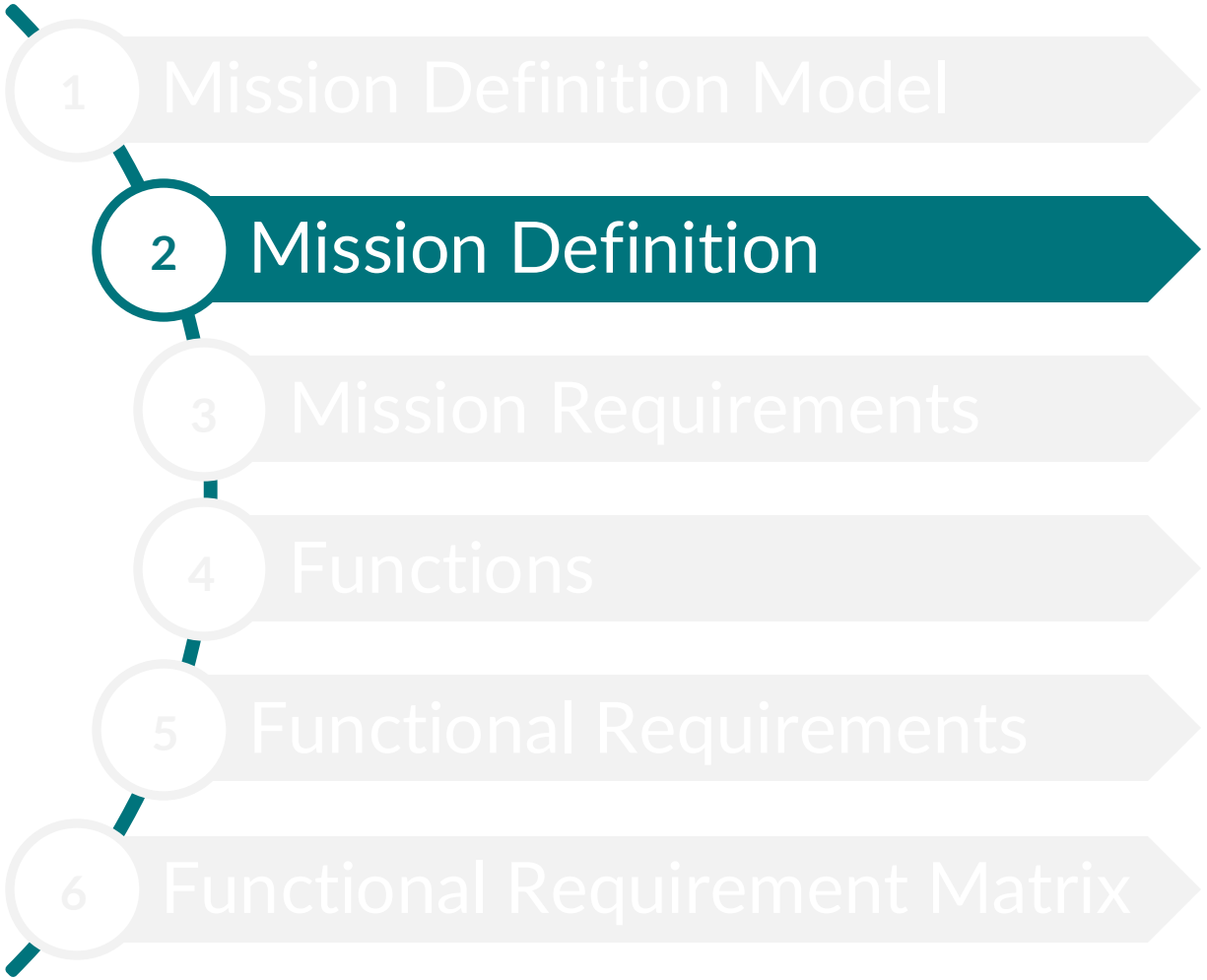


- **Detailed document describing the purpose and scope of the ship's mission**
- **Requirement specification**
- **e.g. Transport cargo from Port A to Port B within N days**

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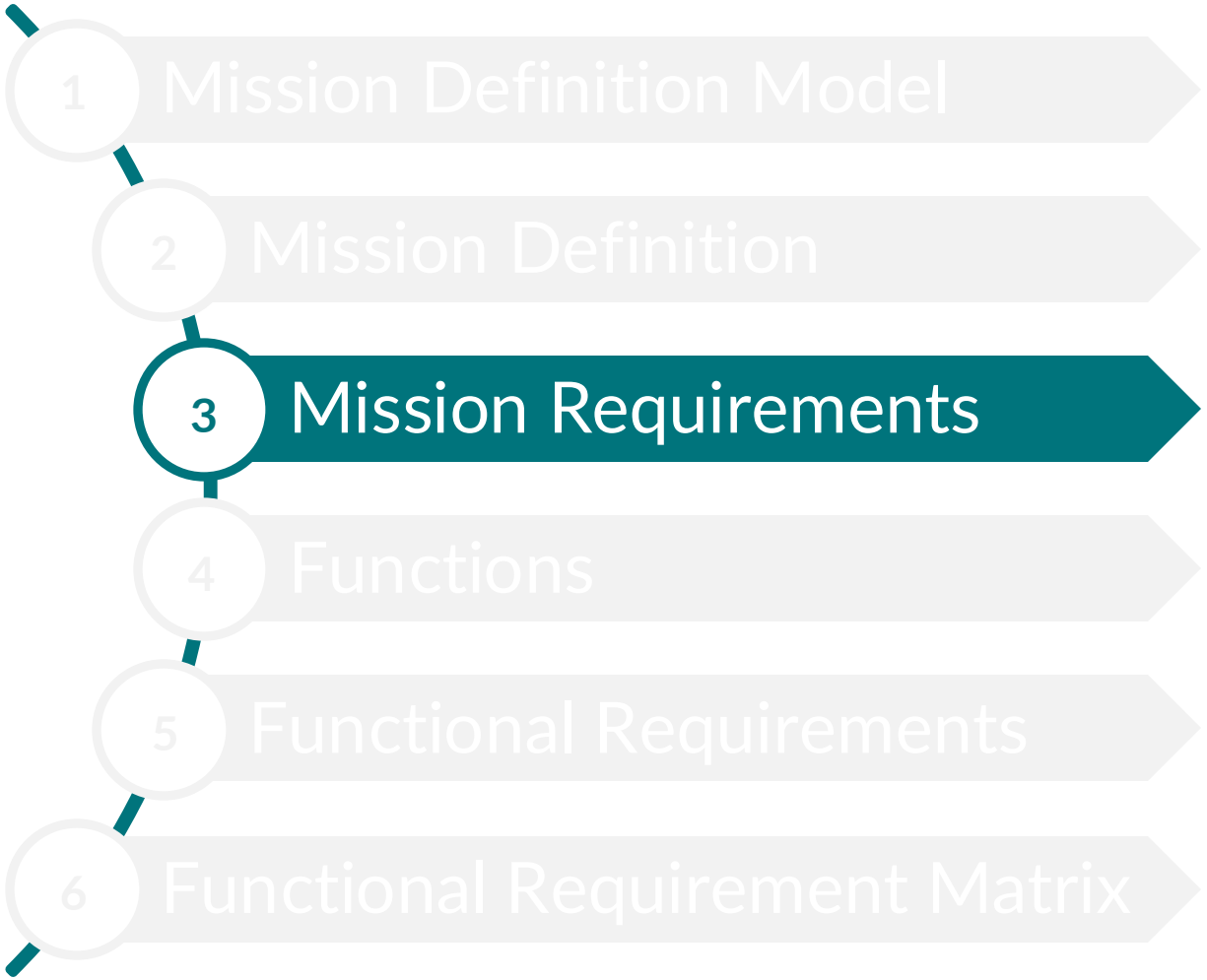


- **Draw mission requirements from the mission definition**
- **e.g. The ship must travel X nautical miles within N days in sea state K**

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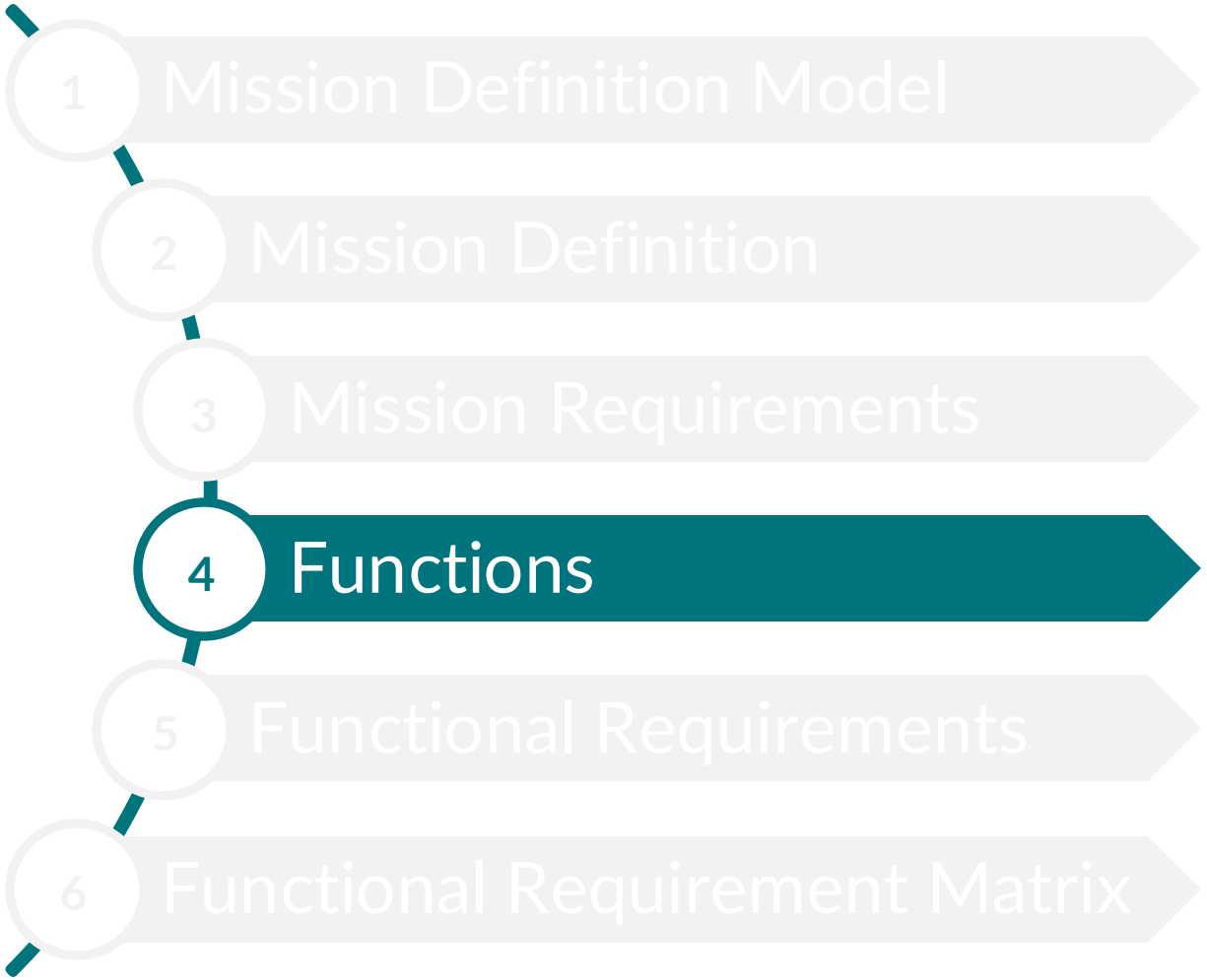


- **Identify functions required to fulfil the mission requirements**
- **Quantifiable parameters**
- **e.g. The function of travel time requirement is speed**

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1. Mission Definition Model
2. Mission Definition
3. Mission Requirements
4. Functions
5. **Functional Requirements**
6. Functional Requirement Matrix

**Words** → **Numbers**

- **Determine minimum functional requirements**
- **e.g. The functional requirement for speed might be Y knots**

# M – Score

*(The mission suitability assessment framework)*

| Mission | Function | Functional Requirement | | | | | | | | | | | | | | | Results |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Human | | | | Environment | | | | Economy | | | | Society | | | |
| $M_x$ | $F_1$ | $R_{1.1}$ | $R_{1.2}$ | . | $R_{1.n}$ | $R_{1.1}$ | $R_{1.2}$ | . | $R_{1.n}$ | $R_{1.1}$ | $R_{1.2}$ | . | $R_{1.n}$ | $R_{1.1}$ | $R_{1.2}$ | . | $R_{1.n}$ | $R_1$ |
| | $F_2$ | $R_{2.1}$ | $R_{2.2}$ | . | $R_{2.n}$ | $R_{2.1}$ | $R_{2.2}$ | . | $R_{2.n}$ | $R_{2.1}$ | $R_{2.2}$ | . | $R_{2.n}$ | $R_{2.1}$ | $R_{2.2}$ | . | $R_{2.n}$ | $R_2$ |
| | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| | $F_n$ | $R_{n.1}$ | $R_{n.2}$ | . | $R_{n.n}$ | $R_{n.1}$ | $R_{n.2}$ | . | $R_{n.n}$ | $R_{n.1}$ | $R_{n.2}$ | . | $R_{n.n}$ | $R_{n.1}$ | $R_{n.2}$ | . | $R_{n.n}$ | $R_n$ |

6 Functional Requirement Matrix

- **A system of partial differential equations**

# M – Score

## The mission suitability assessment framework

Make better decisions, get the boat/ship/unit that is most fit for purpose!

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