GLOBETECH
Passion for ICT at sea

PTM BERGEN 2026 // LARS V. SOLBAKKEN

Improving Shipboard Software Quality & Communications

The two bottom steps. And why they are mostly about people.




Moving servers out of basements was easy.
Moving responsibility was the real work.

Who owns it?

Customer management, not only their IT department.

Standard platform:
One standard platform, not one per customer.

Separated roles:
Distinct owner, operator, user, and keyholder.

Executive clarity:
Management knowing exactly what they bought.




The ship is the basement.

CORE QUESTION 01

What would get better software on board?

Better software starts with shore owning the execution platform.

Fleet standardisation
Harmonised OS and segmented ship networks.

Updates from shore
Test once, deploy fleetwide centrally.

Brownfield reality
Map existing vessels without newbuild requirements.

Ownership rule: Fleet IT on shore owns the platform. The technical director enforces it.


They see the top step. Nobody sees
the stairs.

CORE QUESTION 02

Can vessels use cloud software and LLMs?

Yes, if the organisation respects the stairs, not just the cloud.

One rule set, three tiers
Company assistant for all. Approved tools for company data. Private tools never touch company data.

Cloud insight, local operations
Analysis and LLMs in the cloud. Navigation, safety and operations local, with a local way back.

Three answers, then budget
Which data. Where does it live. What happens when the link drops.

Who owns it? The management team owns the rule set and the degrade rule. Every department learns the staircase.

CORE QUESTION 03

Can we make connectivity robust enough?

Connectivity is a utility. Shore must own it so vessels never think about it.

Managed gateway:
Multi-orbit routing across LEO, GEO, and cellular.

Fleet traffic policy:
Operations prioritised, business second, crew third.

Commercial diversity:
Single vendor dependency is a commercial risk.



Who owns it?
Shore IT owns the gateway.
Management absorbs price risk.

CORE QUESTION 04

Virtual machines managed from shore?

It is not the future. It is in service today. The barriers are organisational.

Controlled images:
Strict centralised configuration change control.

Proven recovery:
Restore tested from shore when encryption strikes.

IT and OT separation:
A hard line between business IT and safety critical systems.



Who owns it?
Shore operations acts as operator.
Crew retains user role.


Every vendor has a key. Nobody knows how many.

CYBER GOVERNANCE

What is the price of running everything from shore?

No remote access without approval, a time limit and a recording.

Known paths
Every vendor path on board inventoried and owned.

Zero standing keys
Access exists only while approved, time limited and recorded.

Compensating controls
Segmentation covers the gap when you cannot patch tomorrow.

Who owns it? Security on shore approves access. No vendor holds a standing key.

Four questions, one answer: who owns what.

BETTER SOFTWARE
Shore owns the platform. No application without sign off.

CLOUD AND LLMs
Management owns the rule set and the disconnected case.

CONNECTIVITY
Shore owns the gateway, the traffic policy and the price risk.

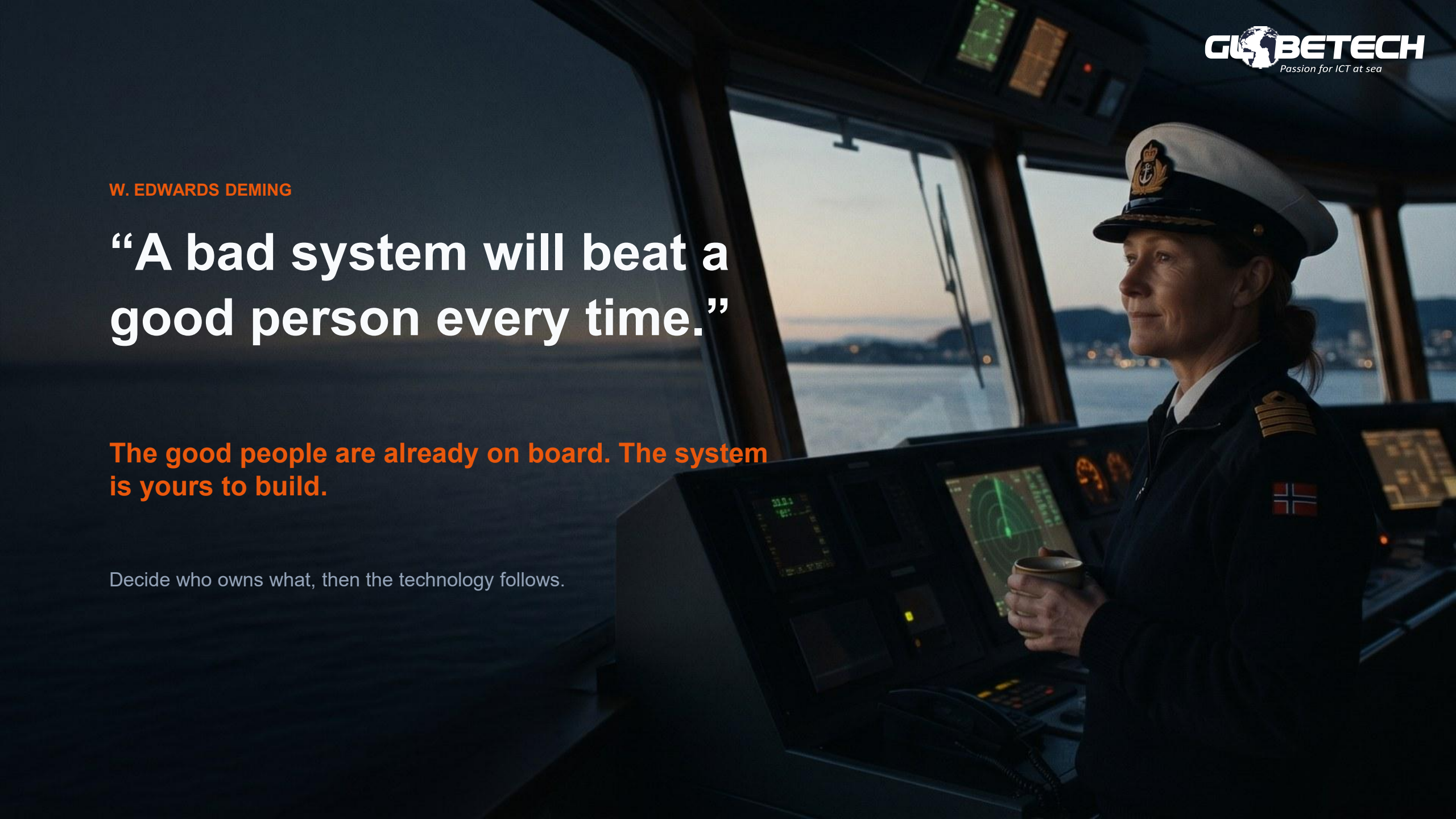
VIRTUAL MACHINES
The operator role moves ashore. The crew keeps the user role.

THE KEYS
Security on shore approves every session. No standing vendor keys.

RECOVERY
Management asks for proof of restore, not for a backup policy.

Key takeaway: Ownership is the one thing the vessel cannot decide for you.





GLOBETECH
Passion for ICT at sea

W. EDWARDS DEMING

“A bad system will beat a good person every time.”

The good people are already on board. The system is yours to build.

Decide who owns what, then the technology follows.