

AI in Shipbuilding:

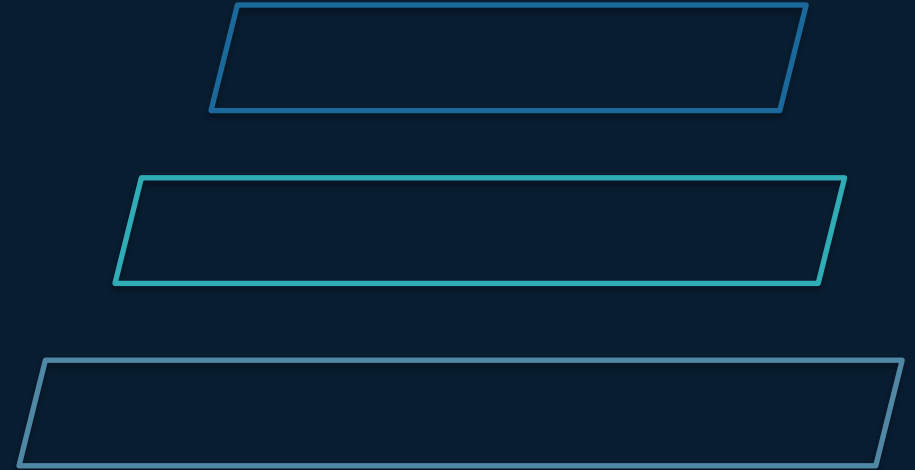
From concept to continuous production

- Svetlin Stoyanov

AI in Shipbuilding

From concept to continuous production

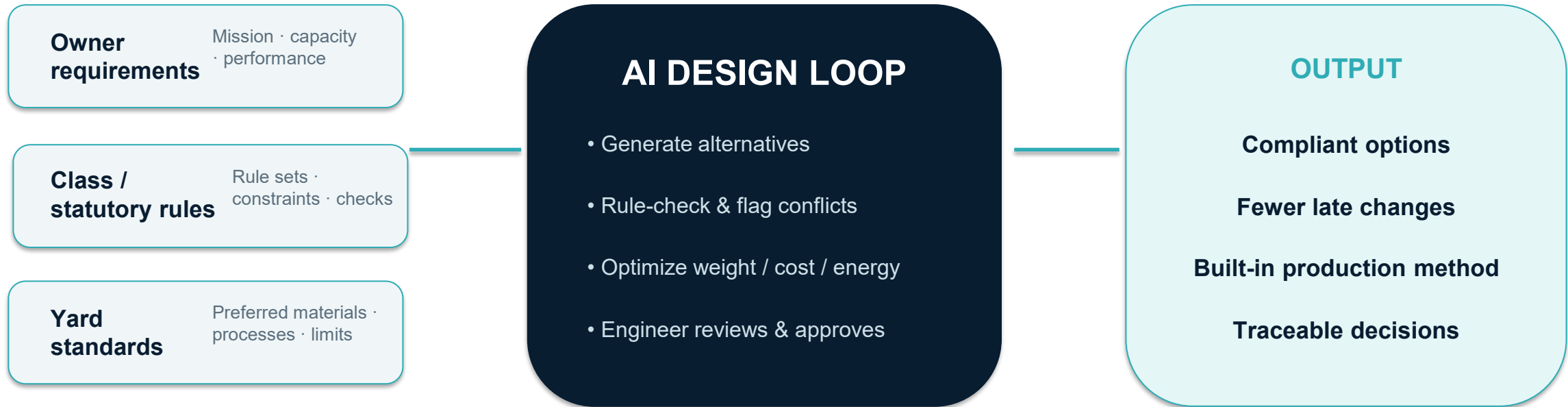
**Design smarter.
Plan leaner. Build continuously.**



AI-assisted design · Lean build strategy · Yard-specific documentation · Robotic production

AI-assisted design — optimized within the rules

The goal is not to replace naval architects. It is to evaluate more compliant design options, earlier and faster.



AI turns the 3D model into a lean, executable build strategy



LEAN SCHEDULE

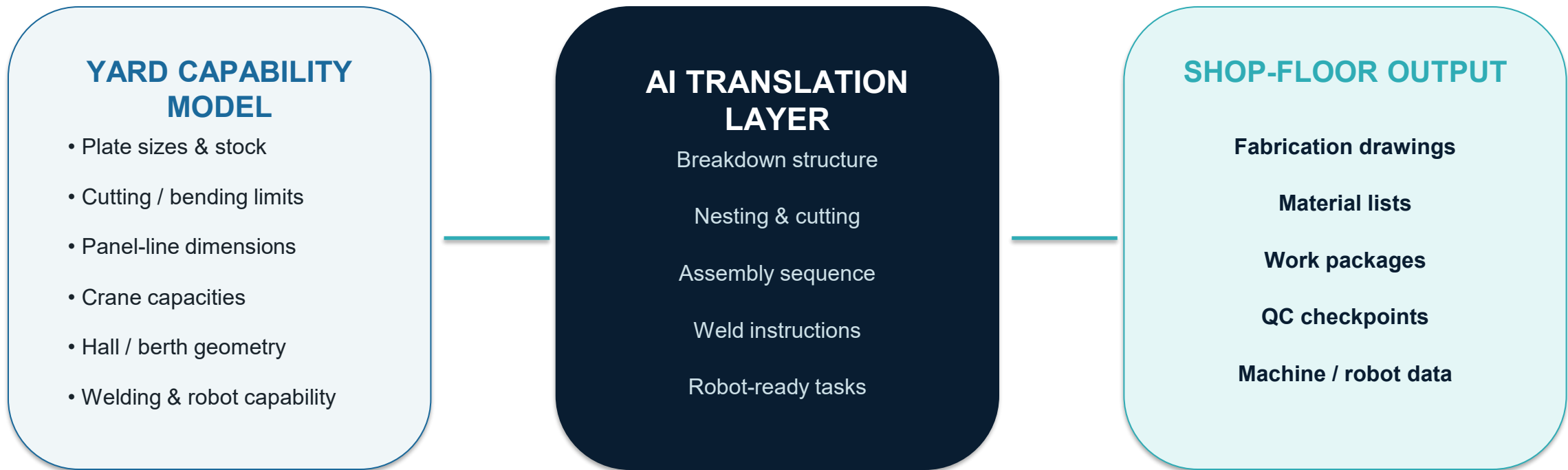


WHAT AI OPTIMIZES

- ✓ Critical path & buffers
- ✓ Crane / hall / berth capacity
- ✓ Crew and trade loading
- ✓ Material availability
- ✓ Dynamic re-planning

Working documentation adapted to the factory — not the other way around

One design requires different production documentation in different yards.



The digital thread should continue all the way to production



Every production result becomes new data: cycle time, rework, quality, delays, robot performance.

That feedback improves the next schedule, the next work package — and ultimately the next ship design.

From automation islands to continuous robotic production

Robotic and Humanoid Manufacturing

From digital design to continuous, high-quality shipbuilding.

Robot-ready work packages

Directly from the digital model

Automated cutting, welding and assembly

High precision and consistency

Humanoid robots for flexible tasks

Material handling, positioning, inspection, assistance

Continuous production

Non-stop operation with human-robot collaboration

Higher quality and safer work environment

Reduced rework and risk



Digital design and planning



Robot-ready documentation



Automated & humanoid production



Quality control and inspection



Continuous improvement

AI ORCHESTRATES THE FLOW

Industrial robots

cutting · welding · repetitive assembly

Humanoid robots

handling · positioning · flexible tasks

Computer vision

inspection · alignment · quality control

AI scheduler

24/7 task allocation and re-planning

The target is not a lights-out shipyard tomorrow — it is a continuously improving, increasingly autonomous production flow.

The AI-native shipyard connects engineering and production into one learning system



AI is most valuable when it does not optimize one department — but the entire shipbuilding system.

Faster design iterations · More realistic schedules · Less rework · Better use of yard capacity · Scalable automation

From concept to production — faster, smarter, more efficient.