

Keywords: Compliance matrix • Requirements management • Operational scenario • System architecture • Micro-services •

Compliance matrix model based on ship owners' operational needs

Automation, embedded software, stringent regulation and customer expectations have increased the complexity of ship design and requirements management.

The requirements management approach described here brings two innovations with respect to existing tools used in the shipbuilding industry. First, requirements are assigned to operational scenarios rather than physical components to emphasize the focus on customer needs rather than subsystem optimization.

Second, a tool based on a micro services architecture is introduced to manage scenario-centred "communities of interest" to which system architecture blocks and requirements subscribe depending on their involvement in the scenario.

System architecture, operational scenarios, customer requirements are designed and managed in separate tools and the overall consistency of the design - reflected in the compliance matrix model - is preserved within each "community" they belong to. Collaborative ship design where partners provide diverse contributions to the design of a single vessel could benefit from such an approach •

