

Product Line Management—Convergence of Architectures and Market Analyses for Operational Benefits in Maritime Safety and Security

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Abstract This paper describes a method for product line system architecture applied to the Maritime Safety and Security domain. This approach aims to reconcile interests and concerns from various stakeholders in this domain: (i) End-user organisations and their operational needs, taking into account evolving economic, social and political constraints; (ii) Engineering teams, building product architectures, and managing product and solution development, and (iii) Sales and Marketing Teams, collecting and managing market needs and trends. Architecture and engineering data is exploited, using a customer-centric meta-model implemented to aid decision-makers from both business and technology perspectives, allowing them to understand and predict ROI of development of new system capabilities and to synchronize operational and technical roadmaps for affordable capabilities.

The approach is built using following architecture standards:

ANSI/AIAA G-043A-2012 Guide to preparation of Operational Concept Document

ISO/IEC/IEEE-42010:2011 Systems and software engineering—Architecture description

ISO/IEC-42020 (draft) Systems and software engineering—Architecture processes.

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