

# Public Summary

## Annex A: Public summary

NAVAIS WP5 aims to develop the platform-based modular product family concept, the corresponding “modularity” principles, the library (database) of modules, the modular design and production processes and supporting tools.

As specified in the WP5.1 Requirements document, the mission for WP5.4 Modular Design Procedure is to define a modular design process and corresponding re-use library, which can be summarized in the following objectives:

The SE Engineering based modular design procedure shall:

- Be business process driven according to a Business Process Modelling standard
- Facilitate the modularity concept as developed in the NAVAIS project
- Identify verification and validation steps in the RFLP structure per measure of effectiveness (MoE) or performance (MoP)
- Identify roles and responsibilities in the RFLP structure
- Shall host automation supported validation and verification procedures against known and applicable design criteria
- Be supported by the 3DEXPERIENCE platform and generate recommendations for further developments on the 3DEXPERIENCE platform

The procedure will be used to setup the demonstrator cases of Modular E-Ferry and Modular Workboat, and to validate the modular product definition principles, the modular production process, approval procedures and simulation tools.

The method for creating the procedure is based on user stories which capture the main capabilities that are needed to conduct system engineering-based modular design which can be applied to a platform based product family, which is termed ‘Configure to Order’. The user stories cover the Concept Definition and Initial Design phase performed by the Design & Proposal business domain, up to and including the Basic Engineering Phase.

The user stories are role based and take the form of a tool agnostic requirement stating:- ‘as a....(role), ‘I need....(task description), ‘so that....(desired outcome)’.

Tool specific use cases are then created, that explain the activities to be performed in the 3DEXPERIENCE platform. The user stories have been used to process flows that describe modularization and product configuration during the D&P and Basic Engineering project phases. Tool functionality available from the 3DEXPERIENCE platform can then be linked to the activities in the process flow. Tool demarcation can then be confirmed to establish which tool is used for which activity, the inputs and outputs for the activities and the data exchange between applications, to support the tool configuration.

In conclusion, the modular design procedure can now be implemented in the latest release of the 3DEXPERIENCE platform, which provides the capabilities for module definition, allocation and simulation for Configure to Order projects, via a library, for both functional and physical modules.





The process for creation and reuse of both module types is now defined and can be combined with the product platform and product configuration process capabilities, that are available in the Out of the Box Product Data Management application. The defined processes will be used for the Ferry and Tug case ship demonstrator teams to verify and validate the NAVAIS ideas. This procedure captures the methods and process descriptions that will be applied in the NAVAIS working environment applications.

The elaboration of the procedure will also take place during the demonstrator phase, to provide training and work instructions to future users and programs that implement the Dassault Systèmes 3DEXPERIENCE platform for Configure to Order projects.

