



# OPEN CLASS 3D EXCHANGE CONSORTIUM KICK-OFF

03 FEB 2021, MATTHIAS GRAU





# We are

- an **independent** company specializing in PLM consultancy services and engineering solutions.
- **experts** in providing leading global manufacturing companies with the support they require for designing and optimizing their internal and cross-enterprise **development processes**.
- the **specialist** for distributed engineering processes involving **heterogeneous** IT systems.

# The PROSTEP Group



More than 25 Years Experience - 230 PLM Experts - 200 Customers - 12 Locations

- Founded in 1993
- Offices
  - Darmstadt (headquarter)
  - Berlin, Hamburg, Hanover, Cologne, Munich, Saarbrücken, Sindelfingen, Stuttgart, Wolfsburg
  - USA: Troy (MI)
  - Poland: Wroclaw
- Revenues Group: ca. 42,7 Mio. €
- 290 Employees
- TOP-shareholders:



Mercedes-Benz AG



SIEMENS

VOLKSWAGEN  
AKTIENGESELLSCHAFT



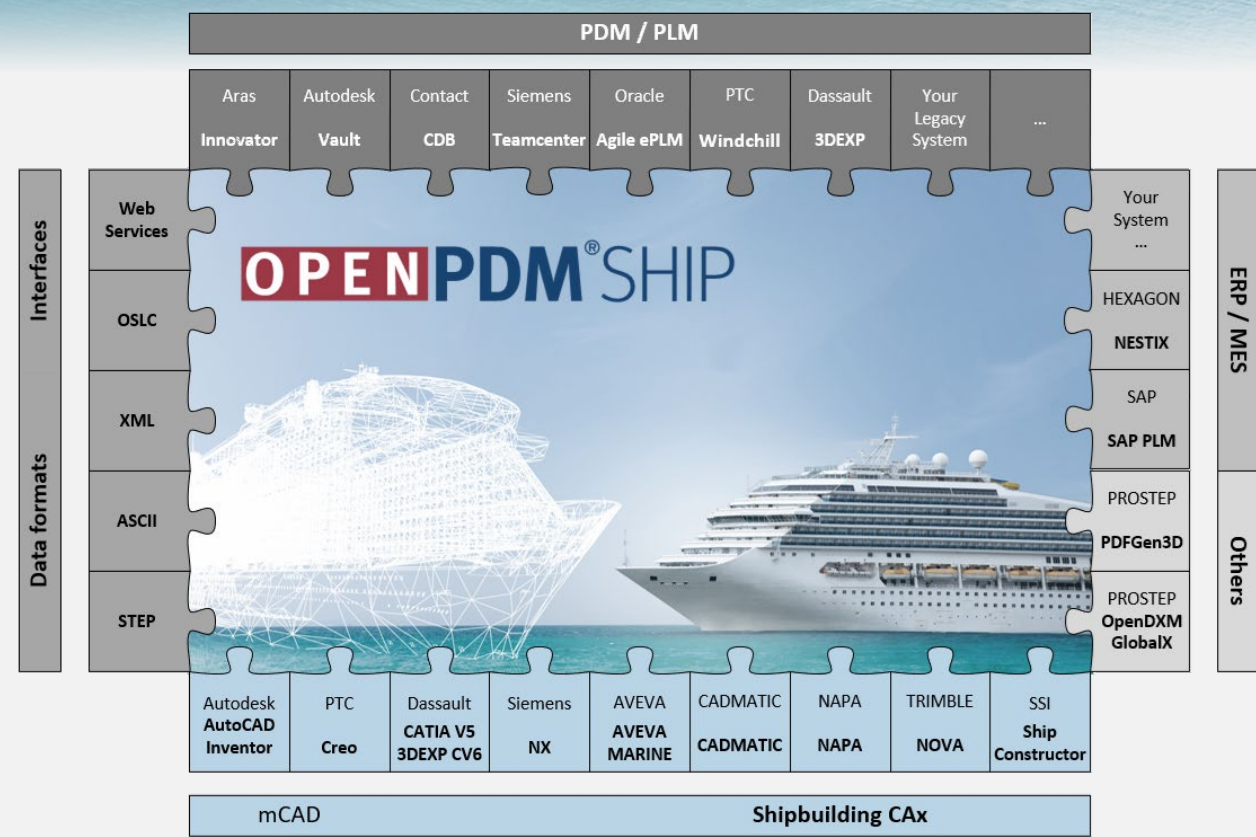


# PROSTEP

- ✓ Strategy Consultancy
- ✓ Concept & Solution Consultancy
- ✓ Implementation of IT & Process
- ✓ PLM/IT-Integration as a Standard Product

## We speak Shipbuilding – IT & Business

### Shipbuilding-related PLM Vendor Partnerships



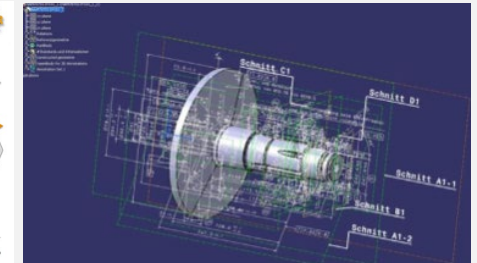
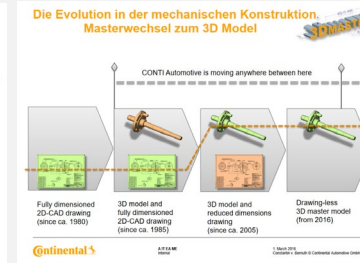
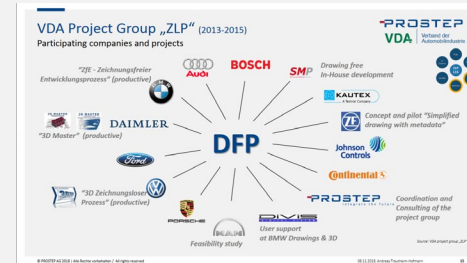
### Customers (selection)



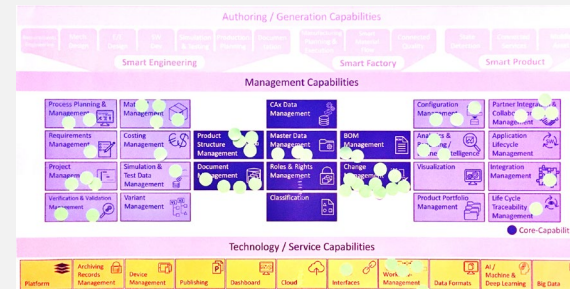
# Motivation for PROSTEP



- Improving product development processes to get rid of paper and drawings started 15 years ago in industries such as auto and aerospace
  - PROSTEP has been an active driver since then

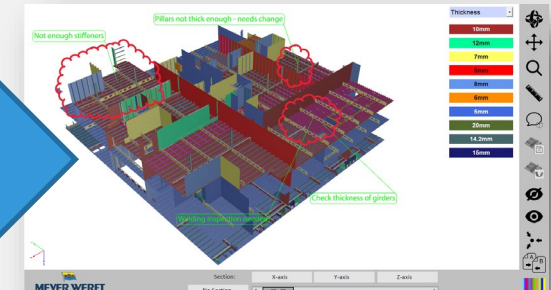
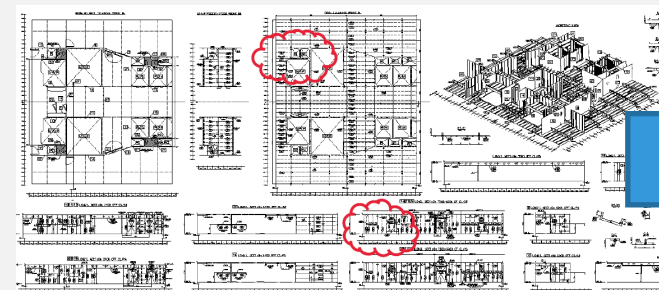


- Marine & Offshore is one of the key industries for PROSTEP – track record starting 2006
- PLM in M&O is different and similar to other industries at the same time – but important
  - Config Mgmt, Engineering Change Mgmt, Collaboration ranked with highest priority



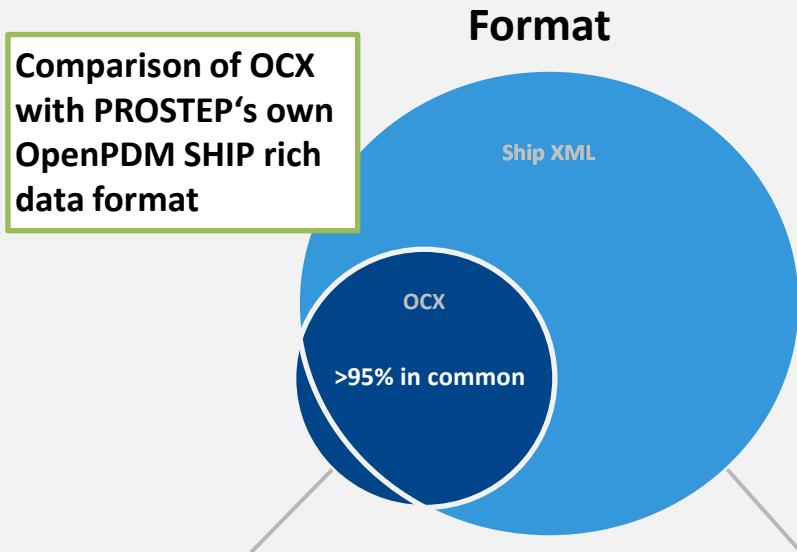
taken from:

- Pilot with MEYER Werft and DNV in 2018

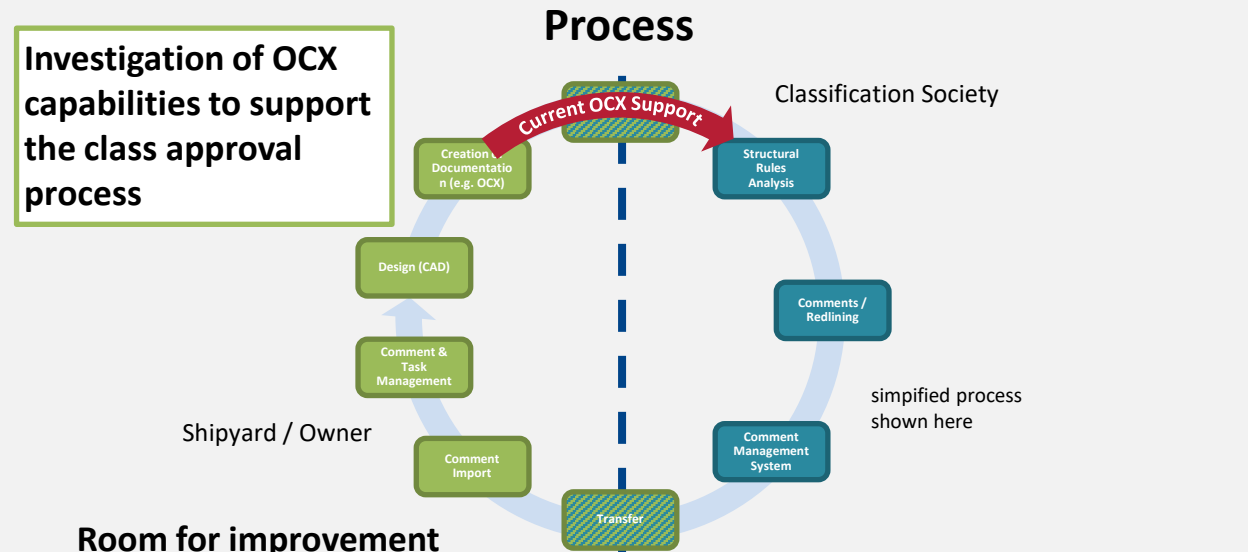


# PROSTEP Analysis of OCX

**OCX is a format to support topological and feature based (shipbuilding design) semantics not found in existing exchange formats (such as IGES, STEP, JT) for class approval related data exchange scenarios in order to complement (and eventually replace) (paper-) drawings**



- Focus on information needed for Class Approval (incl. some topology, functional description, ...)
- Tanks & Compartments (spatial and logical structure)
- Superset of internal data models of major shipbuilding CAD systems covers Basic / Detailed Design and Production
- Full topological information (incl. exact limits, material offset, design rules) and full parametric features (holes, cutouts, endcuts, ...)



## Room for improvement

- Outbound transfer envelope
  - meta data (model & process related)
  - visualization of content
  - digital signature and certificate
- Return transfer envelope
  - Class comments and annotation
  - visualization of content
  - digital signature and certificate
- Archiving of approval process data
- Import of class response into shipyard systems
  - Transfer of comments & annotations into PLM and/or CAD
  - Creation of workflows / tasks needed to address comments
- IP Protection
  - Checks to ensure only necessary information is transferred

# Closing Thoughts - Next Steps

- OCX has the potential to become a commonly used data exchange format for classification purposes in shipbuilding industry
  - so far, OCX focuses on data structures optimized for class approval
  - the process perspective including
    - end-2-end process coverage
    - configuration and change management
    - traceability of exchanges
    - comments and annotations as digital data
    - ...
- are hardly supported and may not be supported by the OCX specification
- this leaves room for complementary solution components where PROSTEP can bring value on the table – in discussion with industry partners

## Next Steps for PROSTEP

PROSTEP's business model is based on standards and industrial consensus building – we will further observe acceptance of OCX specification in the industry and consider joining the OCX consortium as an active member

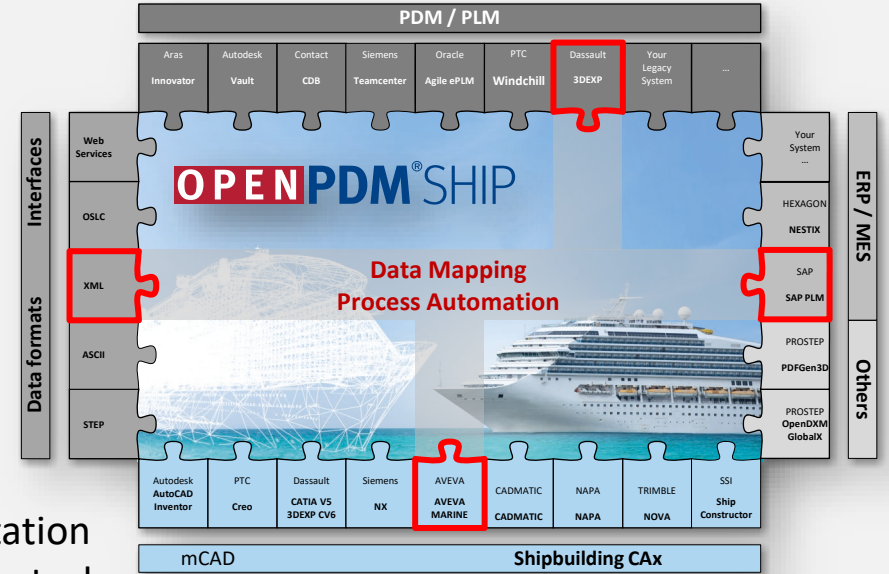
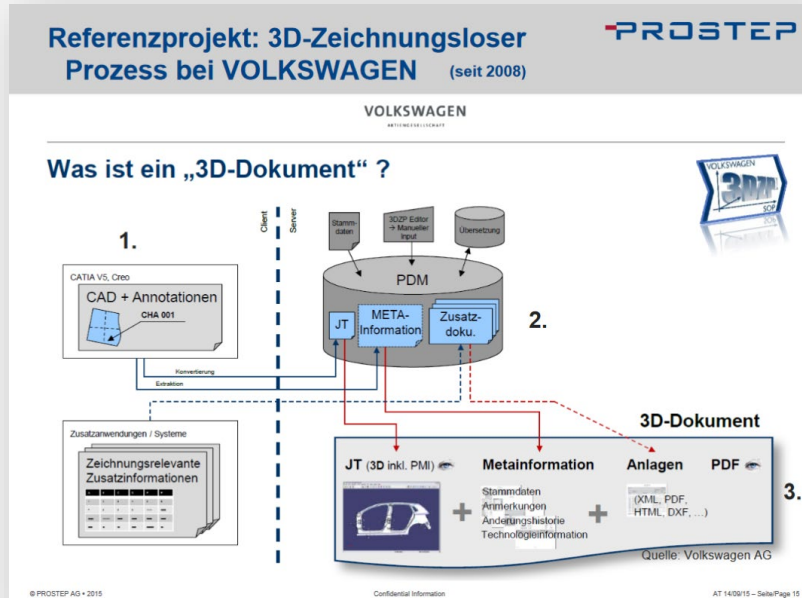


# PROSTEP Competencies to Implement an OCX-based Class Approval Process

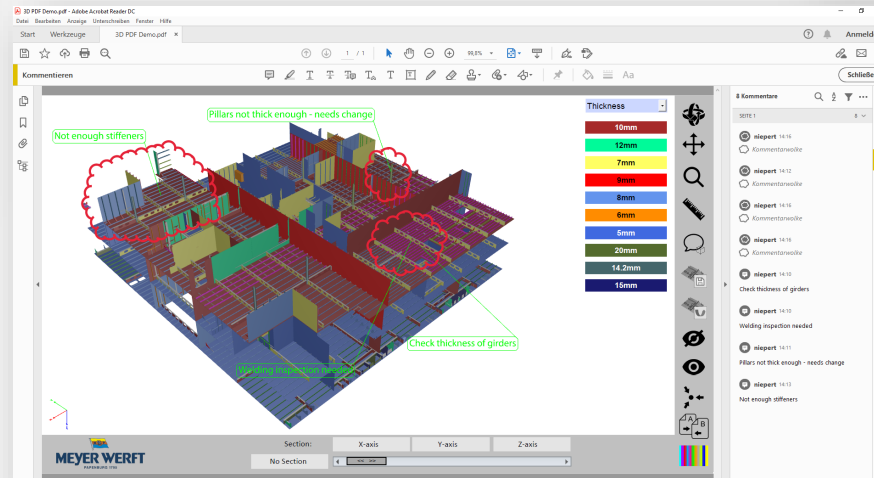


OOTB Integration capability with major PDM/ERP and shipbuilding CAD systems

Paperless / drawingless process implementation competency from automotive, aerospace & mechanical engineering



Process development and implementation using (3D)PDF format and technology stack

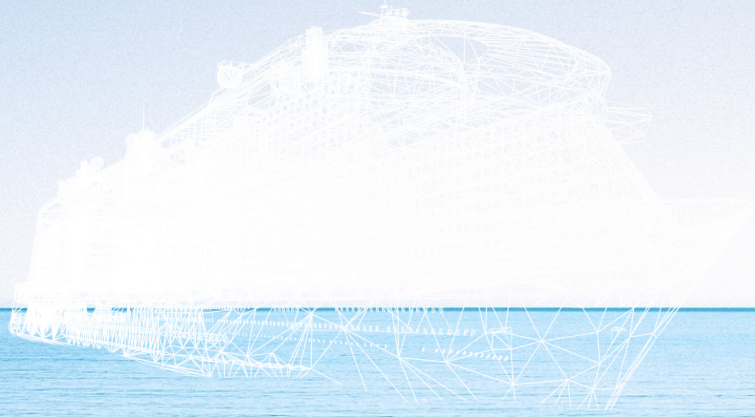


Link to OpenPDM SHIP video: <https://vimeo.com/423043680>



The logo for PROSTEP, featuring the word "PROSTEP" in a bold, blue, sans-serif font. A small red horizontal bar is positioned above the letter "P".

**PROSTEP**



# THANK YOU!

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