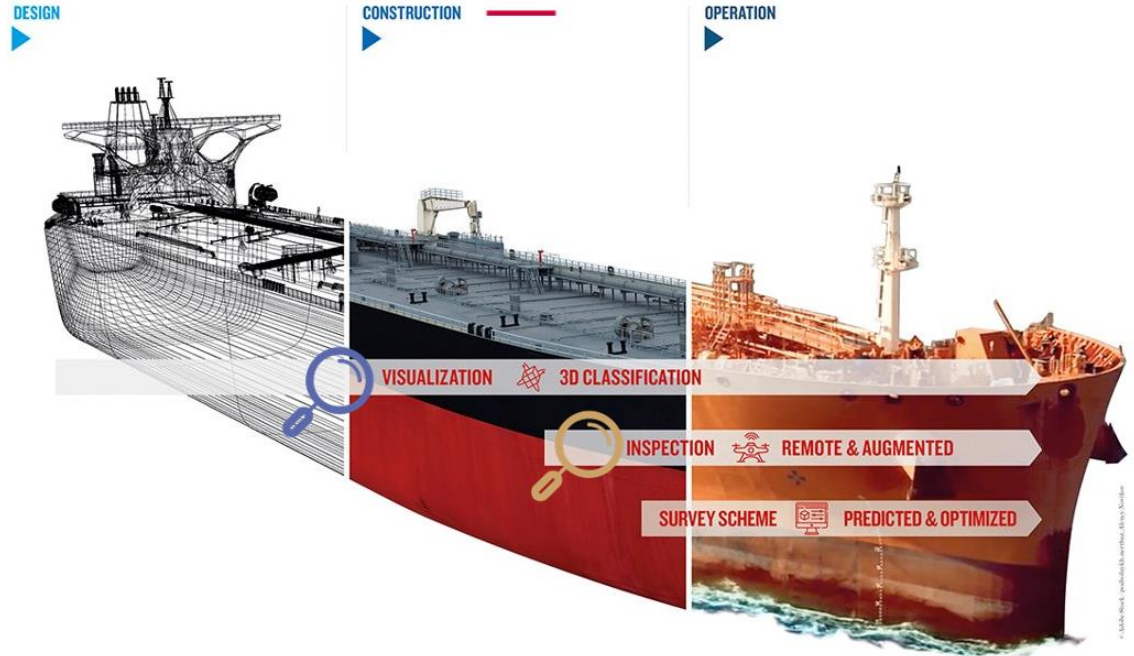


# 3D CLASSIFICATION PROJECT & DIGITAL TWIN



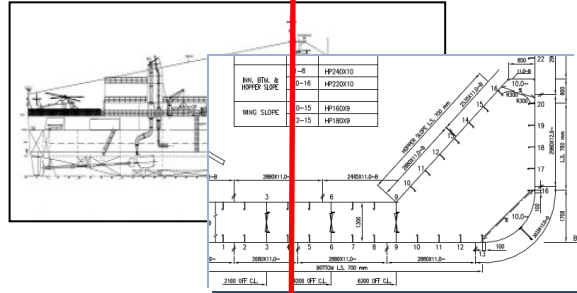
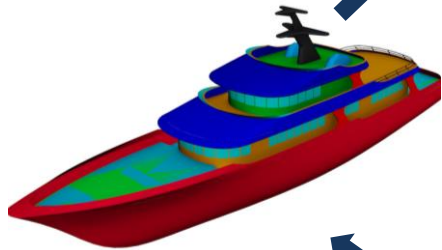
28 Settembre | 03 Ottobre 2020

**Luca GHERSI**  
BUREAU VERITAS Marine & Offshore

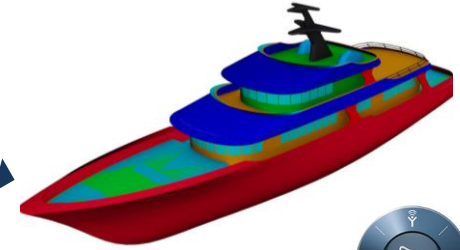


# Current situation of classification process

Shipyards / Designer



BV



HydroStar



VeriSTAR

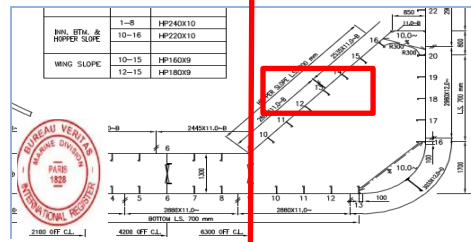


MARS

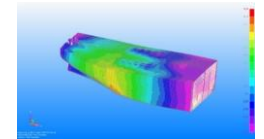
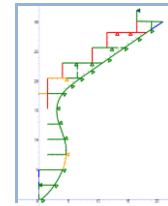


VeriSTAR

Hull



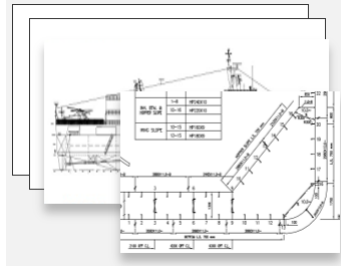
Comments



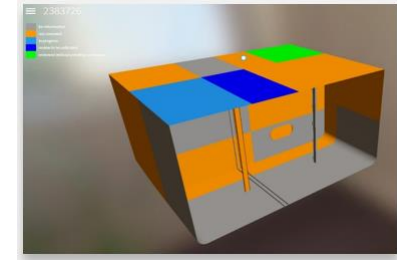
# 3D Classification

## Objective

From a batch of  
2D Drawings...



...to one single  
3D Model



## Benefits

NO replication in 2D drawings **reduce shipyard workload**



**Speed up** the process  
of design verification

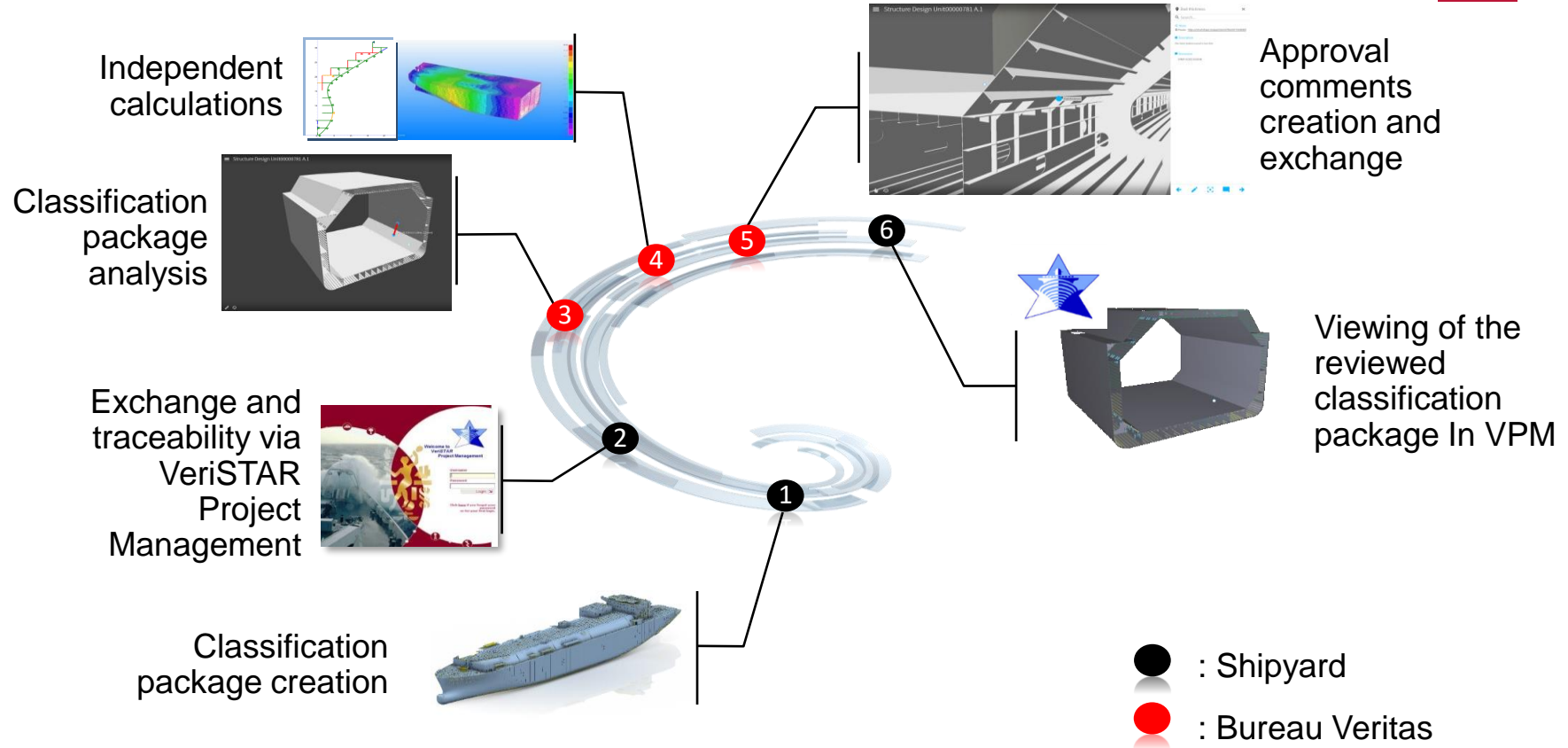
No more inconsistency due to different revisions of  
drawings improve **quality**

**Enhance collaboration** and improve customer experience

One model for all application  
**reduce calculation time**



# Workflow of the approval process



# Exchange and traceability via VeriSTAR Project Management (VPM)



Web-based collaborative platform for project management where all actors (including shipbuilders and owners) can review, edit and exchange information on a real-time basis.

- VeriSTAR Project Management:
  - To manage the exchange of the 3D Classification package and comments



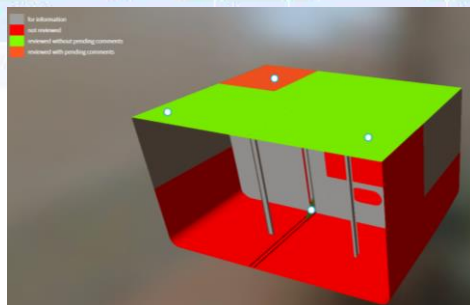
My Favorite Projects | Last Events | Comments | Reports Received | Drawings

Expected | Posted | Registered | In Progress | Reviewed | Rejected

Posted drawings - (no filter)

Project	Applicant desc.	Drawing Nbr.	Rev.	Rev. Date	Title	e-Drawing	Posted on
<a href="#">SIM1601311</a>					General Arrangement		20 May 2016
<a href="#">SIM1601311</a>					Midship Section		20 May 2016

(2 records) Page : 1 on 1 OK



# First 3D Classification

## Frigate in 2019



## Developments:

Hull approval comments management at yard  
**without 2D drawings**

Support an **open format** called **OCX**

3D design approval for **fire safety** (next step)

## Summary of the benefits:

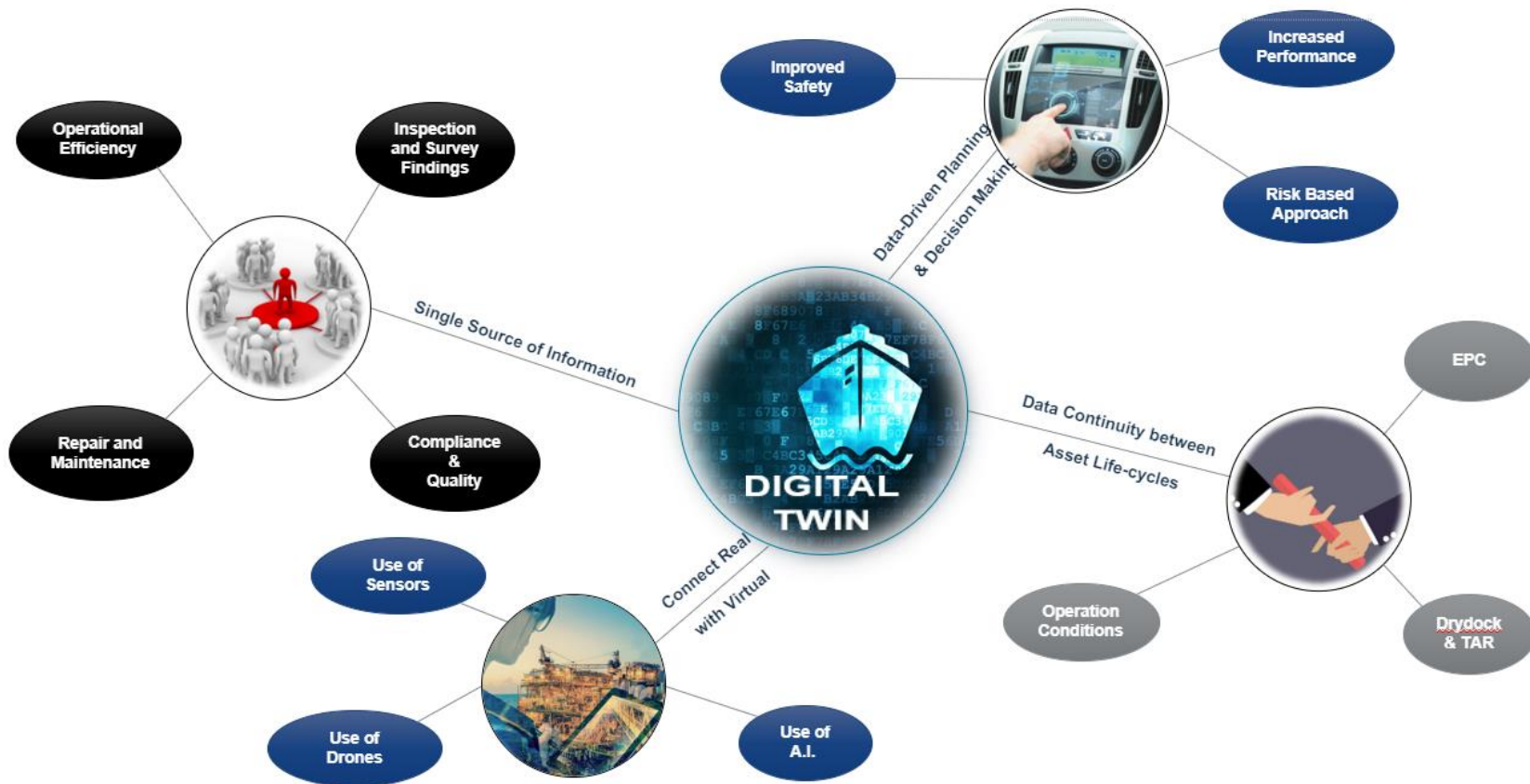
Use 3D model to avoid generating 2D drawings  
**reduces shipyard workload**

**Speed up** the process of design verification with a powerful generation of calculation models that  
**reduces calculation time**

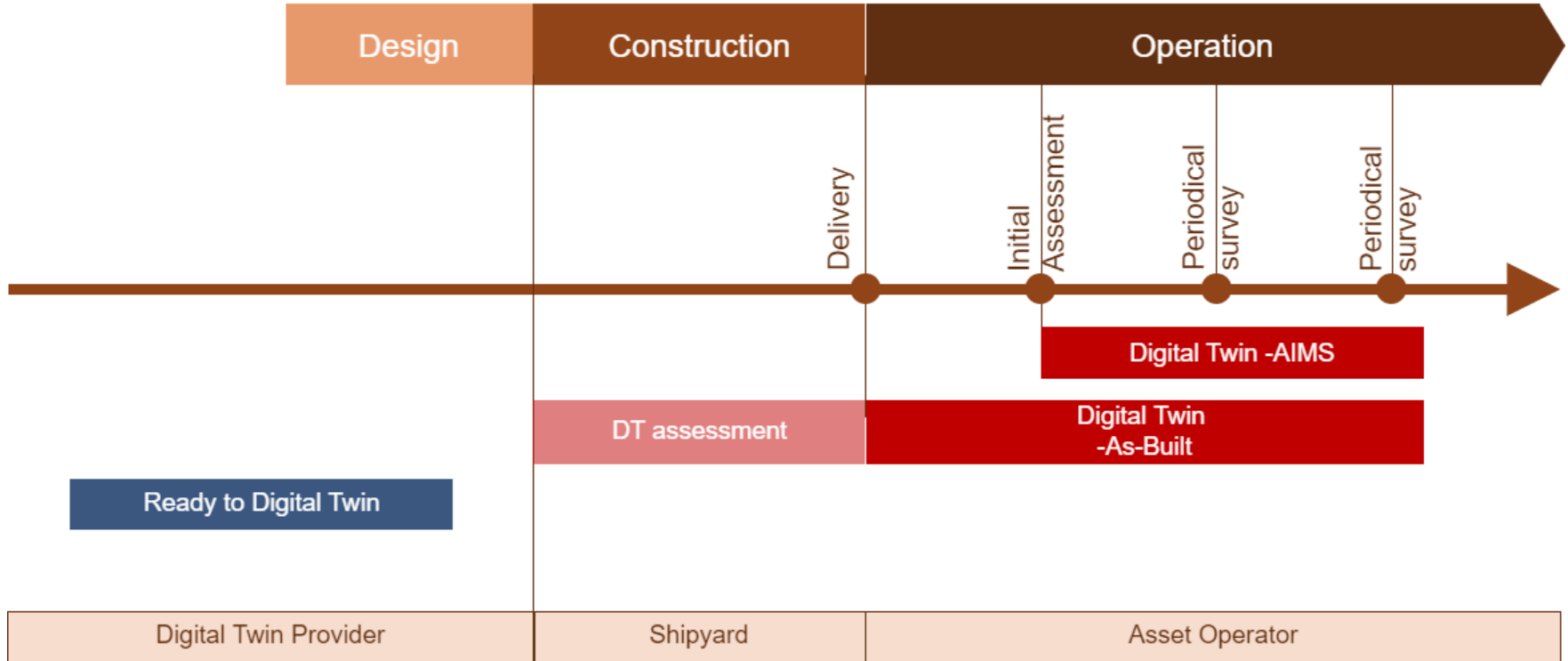
No more inconsistency in drawings revision management  
**improves quality**



# BV M&O Digital Twin



# BV M&O Digital Twin – New Assets





# Predicted & Optimized Survey Scheme

INSPECTIONS  
& SURVEYS

Remote  
& Augmented



## WHEN?

From planned surveys to predictive

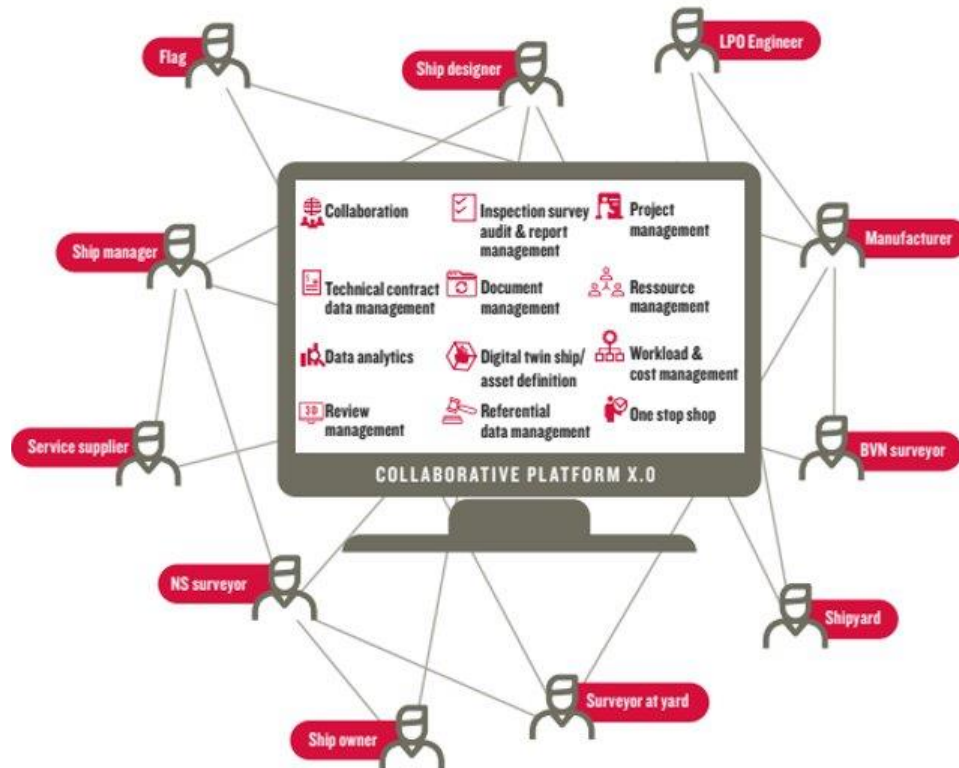
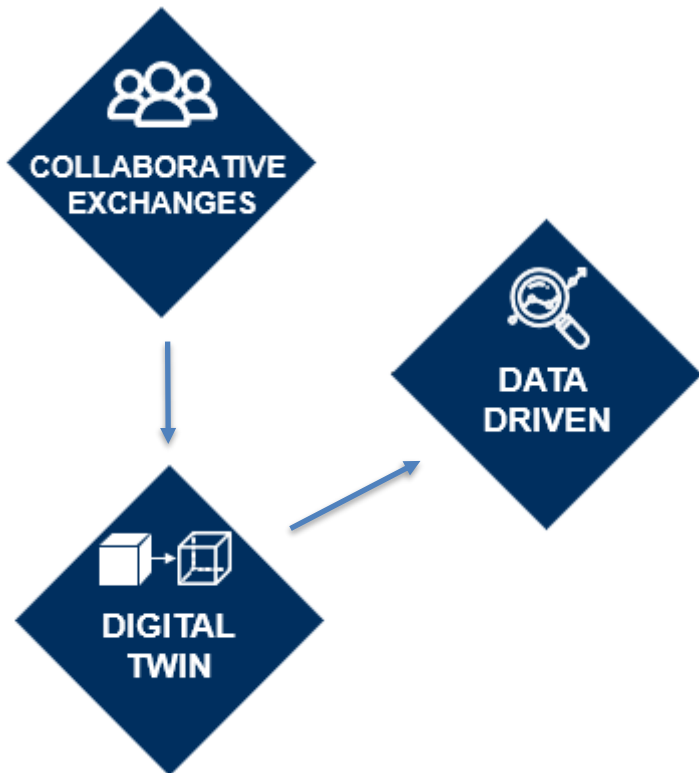
- ✓ When needed
- ✓ Anticipate maintenance
- ✓ Improve quality

## WHAT?

From prescriptive inspection scope to risk-based

- ✓ Focus where critical
- ✓ Optimized asset maintenance
- ✓ Reduce OPEX costs
- ✓ Improve safety onboard

# DIGITAL CLASSIFICATION Collaborative Platform





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***Move Forward with Confidence***