GE Oil & Gas
Part Catalogs Management

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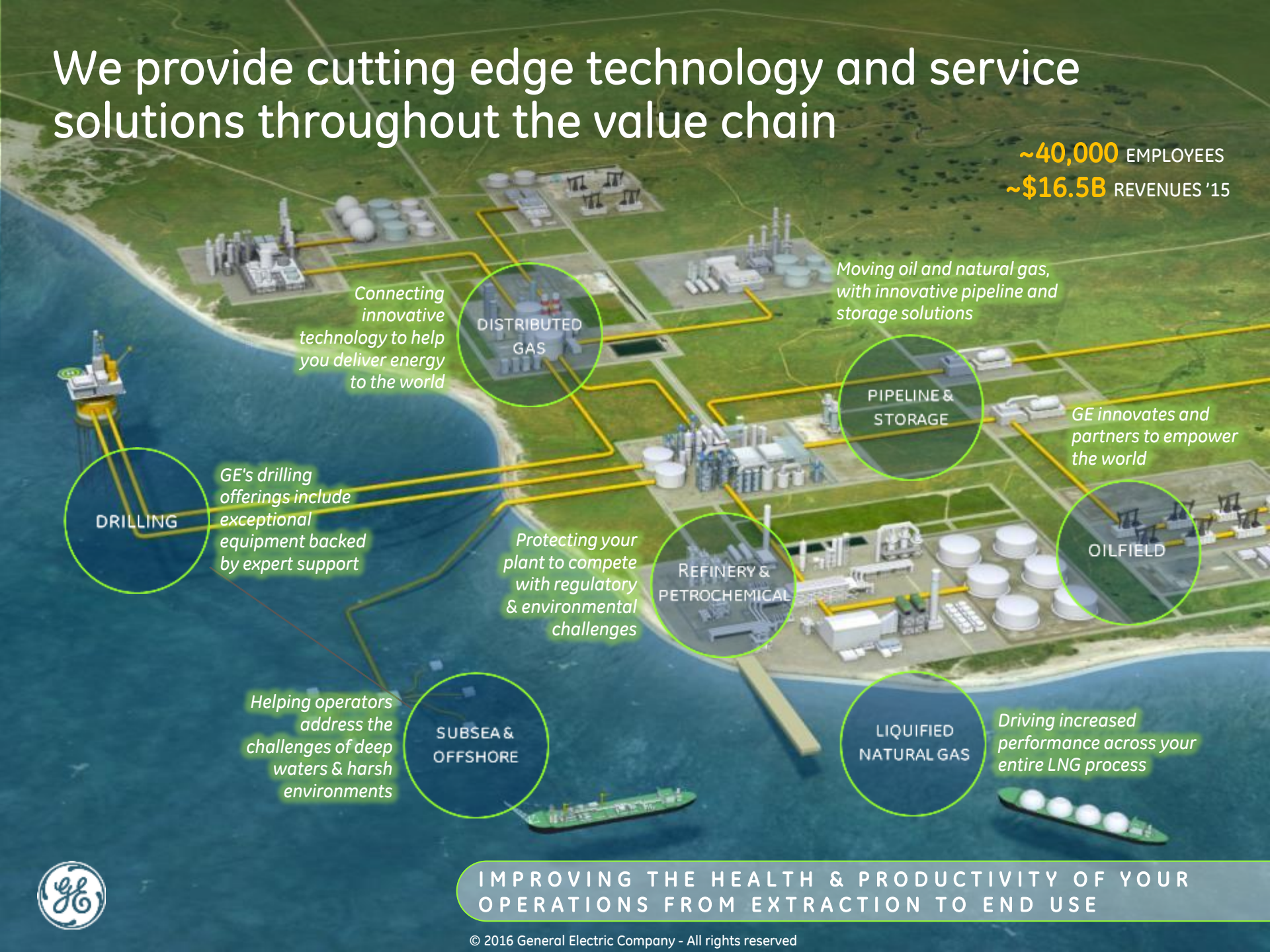
Imagination at work

We provide cutting edge technology and service solutions throughout the value chain

~40,000 EMPLOYEES

~$16.5B REVENUES '15



IMPROVING THE HEALTH & PRODUCTIVITY OF YOUR OPERATIONS FROM EXTRACTION TO END USE

AGENDA

- Business Case
- From a paper based approach… to digital catalogs
- What's Next
- Lesson Learned

Business Case

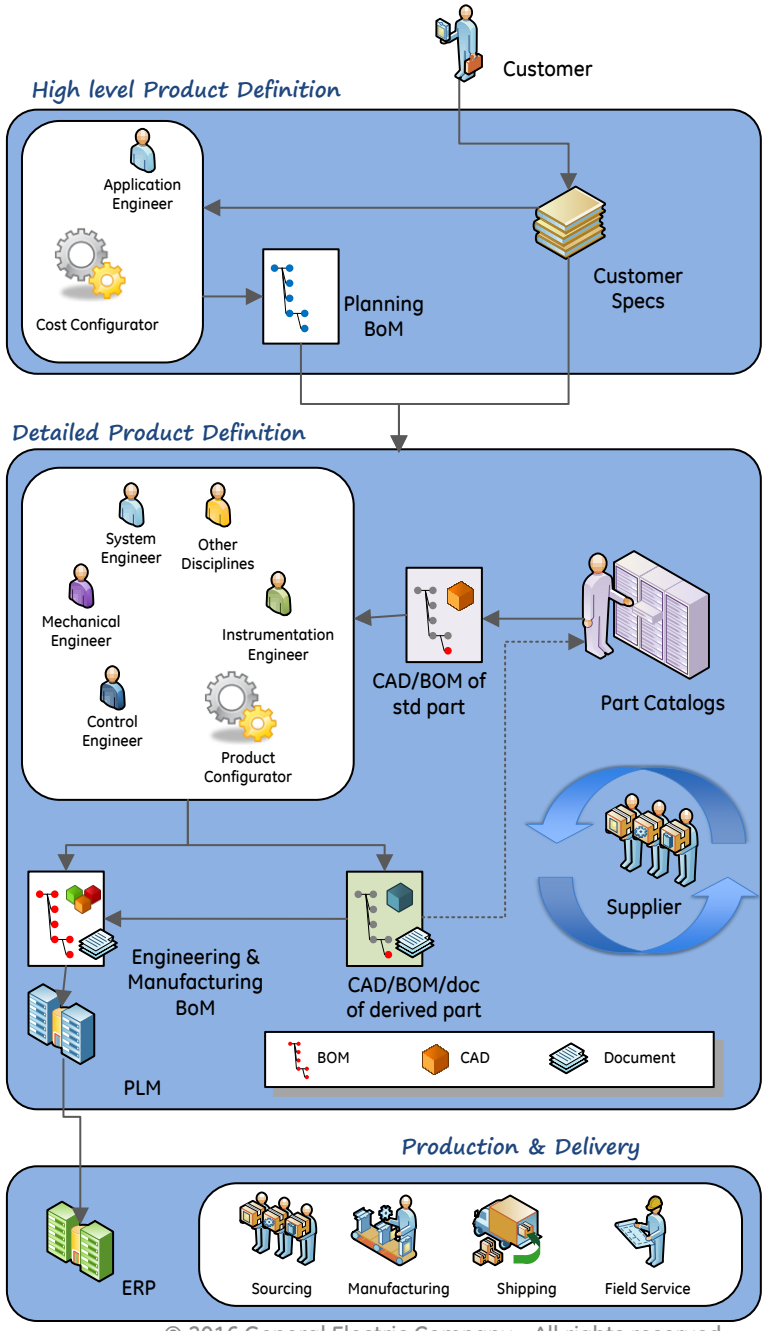
The Oil & Gas context

Engineering-to-order… increasing complexity of Customer requirements

Product **variations** continuously growing

High **variability** of disciplines and design tools in a global environment

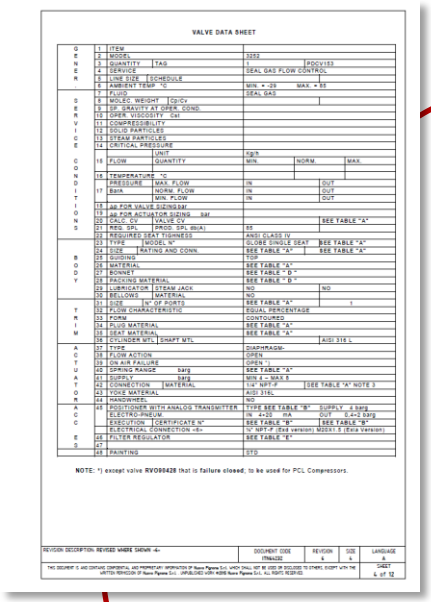
Continuous demand for **shorter lead time** and **lower costs**



Problem Statement

Standardized & commercial parts

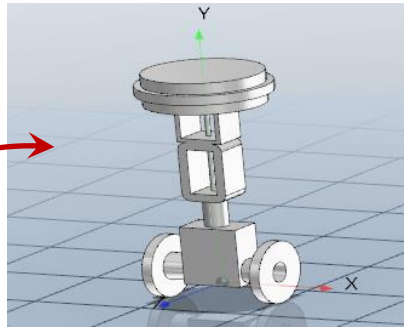
40%



Based on smart codes

- Metadata and **transactional data** not available for part search/selection
- Manual and **cumbersome** process to Search/Create standard parts in PLM (BoM and CAD)
- **Classification** in PLM cannot manage complex rules to generate smart codes… need to create upfront all potential instances

CAD



Project Goal

Parts selection and creation time reduction and data reuse increase

Project goal

In scope

- Full Text Search
- Attribute Search
- Geometrical Search
- Teamcenter® Integration
  - Add BOM item in existing BOM structure
  - Add CAD Model in existing assembly
  - BOM Code Creation
  - Automatic Classification

Out of scope

- Other Integrations
- Custom design Part Selection
- Custom design Part Creation

From a paper based approach… to digital catalogs

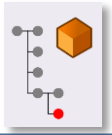
From a paper based approach…

Standard Document

Builds the code reading the standard document

PLM search

Searches the BOM Code in Teamcenter® (and the corresponding CAD Model if needed)



BoM management

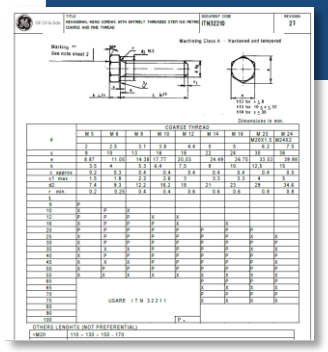
Uses the BOM code if present (and the CAD Model where applicable)

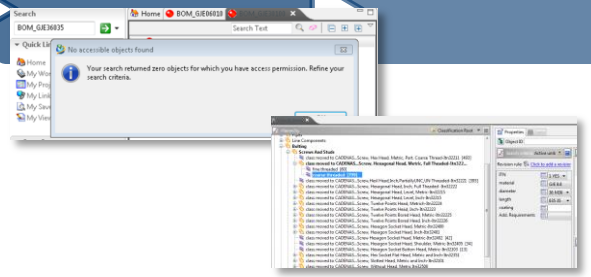
New BoM code creation

If not present in Teamcenter creates a new BOM Code using Teamcenter® Classification

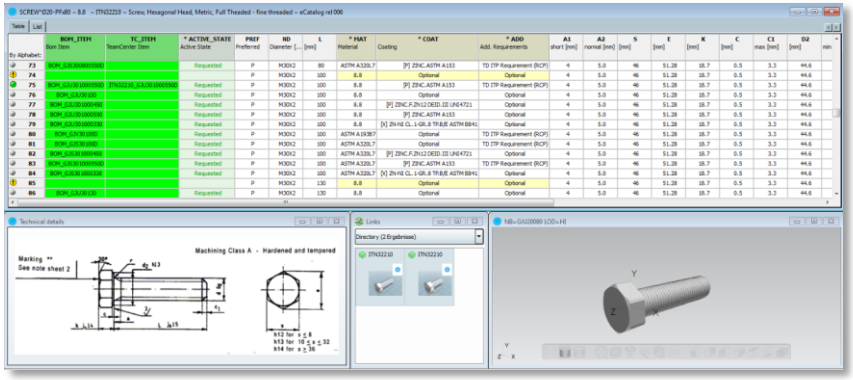
CAD management

Requests to admin to create a Part Family member in NX®





...to Digital Catalogs

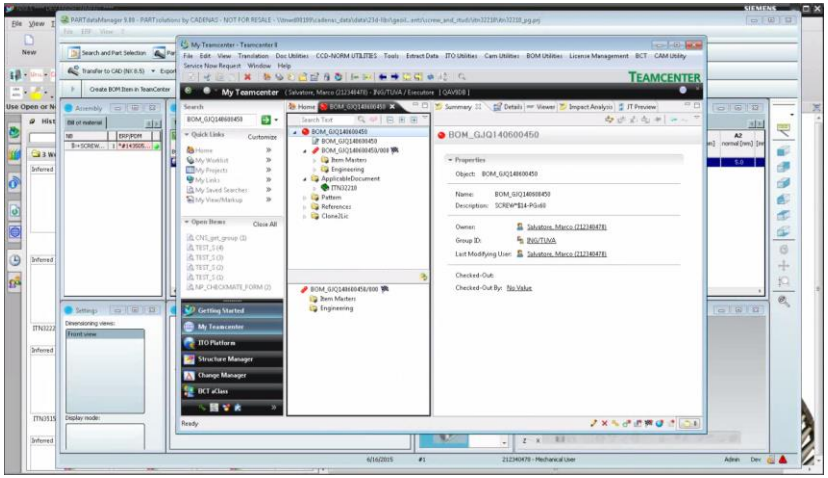


- **All standardized & commercial** codes managed through a **rule engine**
- **Functional Searches** (based on Attributes)
- **Geometrical Searches**
- Geometric/Metadata **Part Comparison**
- **BOM** and **CAD model Description** dynamically created

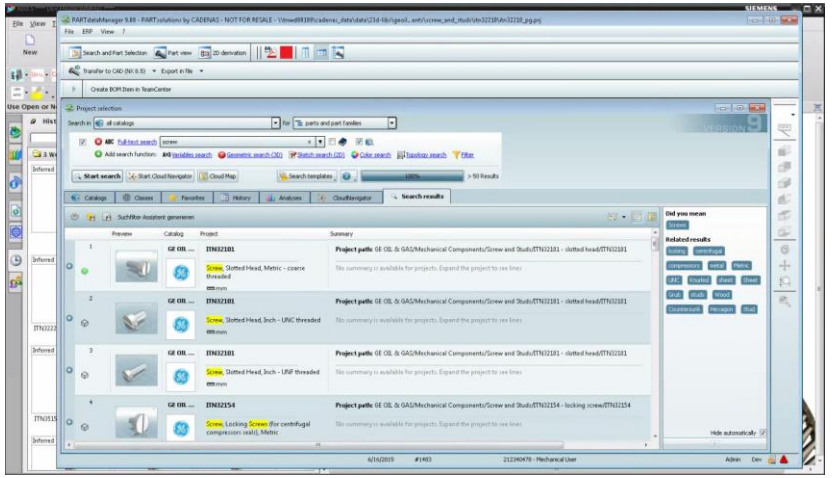
The Designer searches for a component starting from its attributes and, if never used before, creates BOM code and CAD Model in one click

Demo Video

BOM code creation

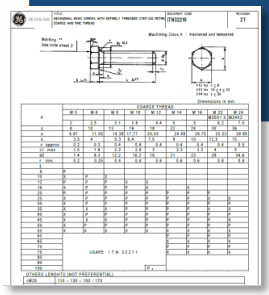


Functional search



To-be process overview

Standard Document
Embedded in CADENAS®



Catalog search
Searches the BOM starting from a code and/or Functional search in CADENAS® PartDataManager

BoM management
Uses the BOM code and the CAD model if already existing in Teamcenter®

TEAMCENTER NX

New BoM code creation
If never used before, creates a classified new BOM Code

TEAMCENTER

CAD management
If never used before, creates a CAD model linked to the BOM code in Teamcenter®

NX

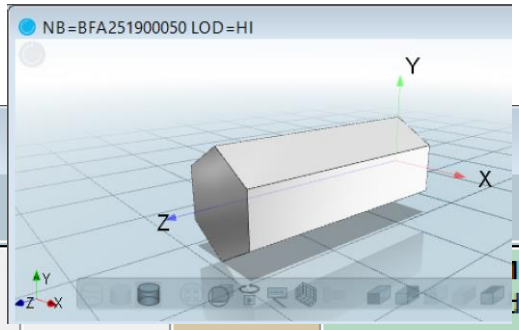


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Table | List

	PREF Preferred	* MAT Material	S Exagon [...	TOLL Toll. [mm]			
20	P	[P] S235JRC EN 10277-2 (Fe360B)	19.0	0/-0,13	2,45	50	ITN14113_007_A_001.pdf

Benefits

Engineering productivity to search and create standard parts

Data consistency for parts generated through a rule engine

Automatic classification (metadata and geometric) enabling similarity searches

Enables future scenarios of data federation from external databases

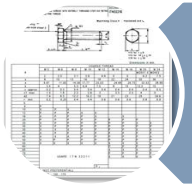
What's Next

The road to a Strategic Part Selection process

AVEVA® Instrumentation Interface – to create Instrumentation datasheet starting from a Digital Catalog

Rulestream® Interface – to configure complex systems starting from classified Standard components

A new Part Selection Process based on information coming from different data sources (supporting "informed decisions")… **data federation**

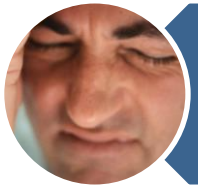


Enable part selection process for "Derived Codes", including creation and management of **datasheets** from templates

Lesson Learned

Lesson Learned

The transition between the old and the new process for Standard Components is critical (impossible to «turn the key» or plan a massive data migration)



The selection of an Out Of The Box solution doesn't mean it is painless… need to **customize** the software solution according to business requirements / existing processes / interfaces

Rigor of rules and conventions is a critical aspect when we speak about catalogs and classification (in terms of data meaning and classification structure)

It is difficult to accelerate the creation of part catalogues with a single partner with both IT skills and product knowledge