

**NEC PLM Solution that drives the future of Manufacturing**

# **Obbligato**

## Introduction of Product

September, 2021

NEC Corporation

# PLM Solution of NEC Obbligato Product Overview

Please visit our web site

<https://www.nec.com/en/global/solutions/obbligato/>

Please watch the introduction video "Obbligato in three minutes".





# Obbligato

# Evolving PLM

**Evolving in past, present and future**

## Innovation

**From Japan to Global  
Highly resistant to change in trends, Drives the future of Manufacturing**

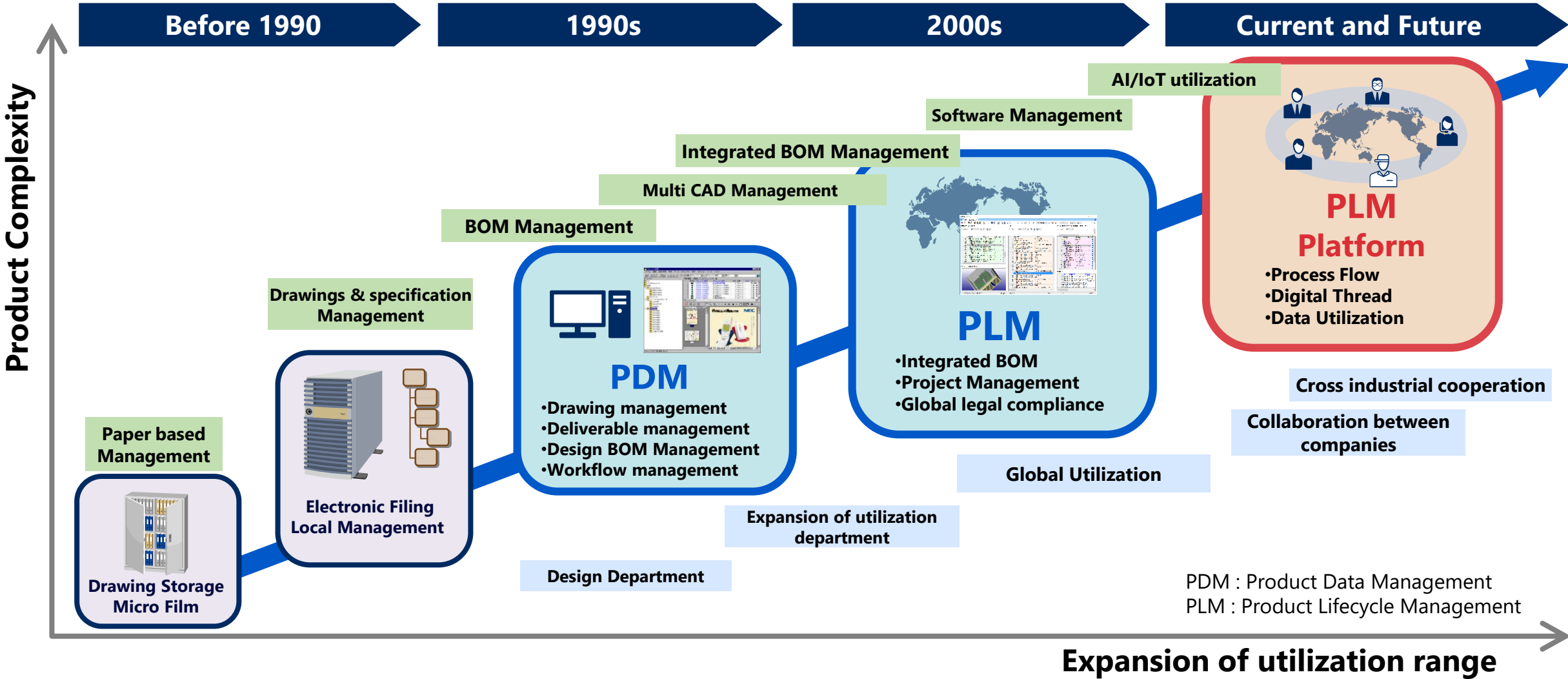
## Continuity

**Growing along with the customers and continue to use with ease for 25 years as a PLM Top Vendor in Japan**

**Contribute to business growth as a potential development engineering platform in the future**

# Vision of Obbligato: Evolving PLM Platform

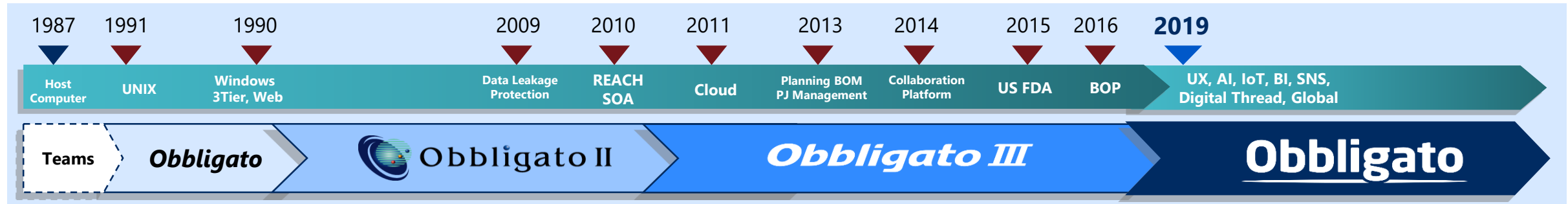
Evolving into PLM platform that analyzes and utilizes data in future from sharing and storing of engineering data by PLM





# Long-selling products to be backed by many implementation results

The business continued while evolving for a long time-period of 30 years since the sales started in 1991. Introduced by more than 1000 companies and used by NEC Group company-wide PDM system as a platform to strongly support Japanese manufacturing industry



## Top domestic share for 26 consecutive years

Obbligato remained at number one for 25 consecutive years from 1995 to 2020 in the PLM product domestic market performance

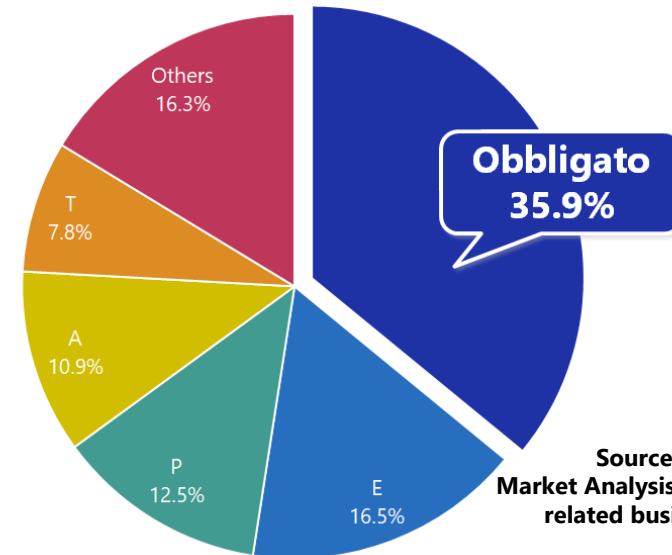
## Introduced by more than 1000 companies

Used for a long time-period by a wide range of users, mainly in the discrete and manufacturing industry of electrical equipment, industrial machinery, transportation equipment, etc. In recent years, the introduction has been active in CPG※ and raw material industry. ※CPG : Consumer Packaged Goods

## In-house usage at NEC group companies

Since 2015, there have been company-wise rollout of Obbligato from individual to mass production, and NEC can propose know-how that standardizes the design process for various business formats.

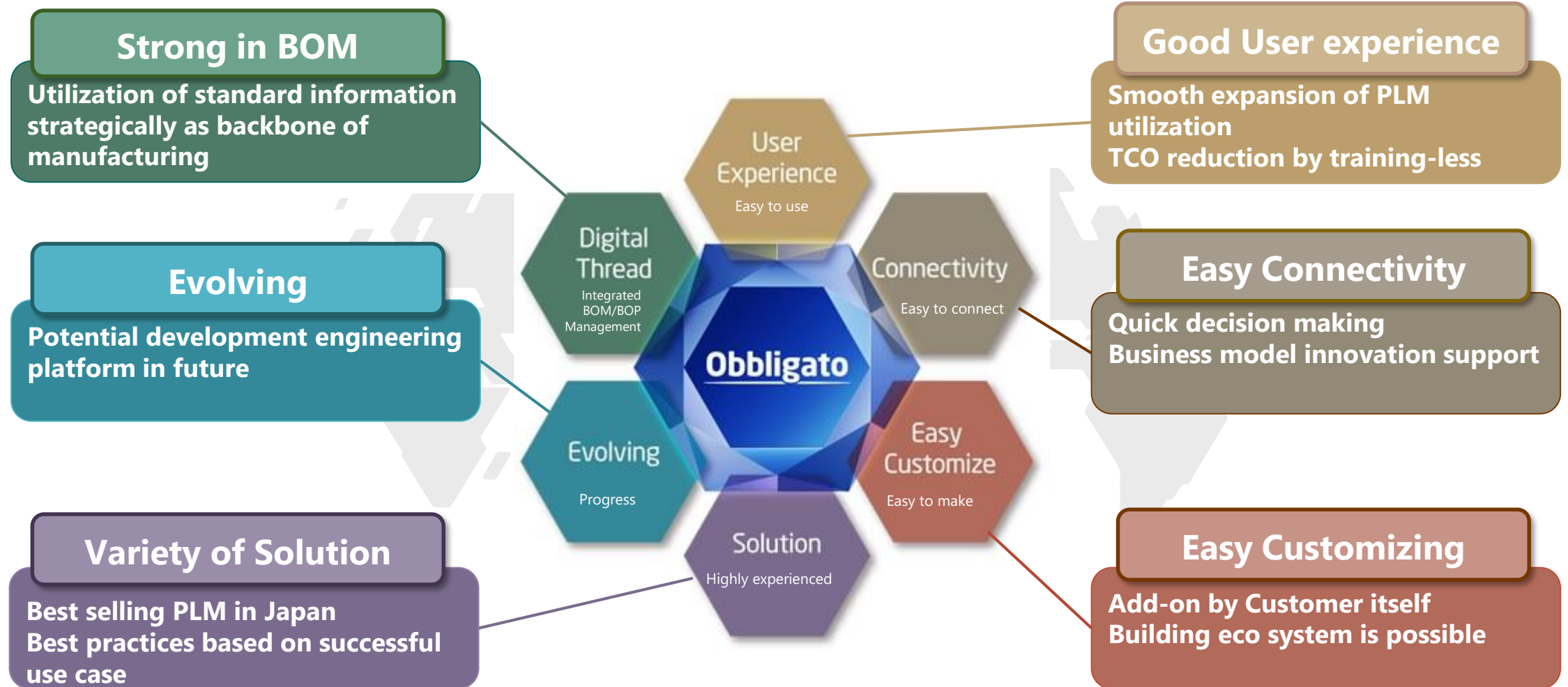
FY2020 PDM/PLM Product Share  
(By No. of delivery, site in Japan)



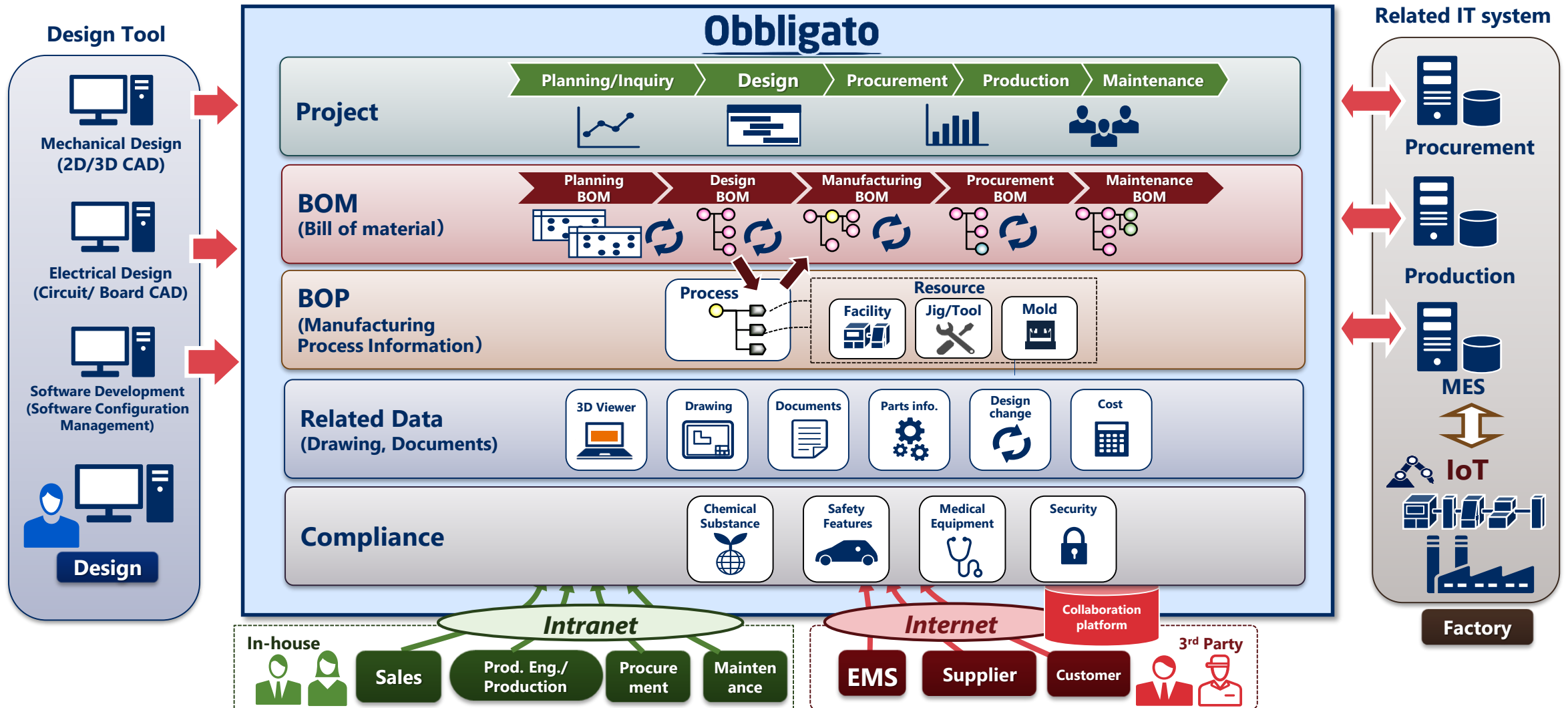
Source: Techno Systems Research  
Market Analysis for Mechanical CAD/PLM  
related business in FY2020 (Aug.2021)  
(Japanese Market)

# Features of Obbligato

Obbligato have 6 features for supporting your engineering and manufacturing



## Integrated management by connecting various technical information generated in product life cycle





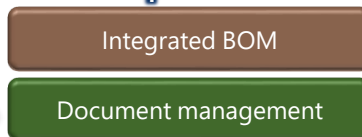
Required solutions can be composed on a step by step basis according to your challenges or priority level of implementation

### Best Practices, Solutions for operation and industry



#### <Enhancement example>

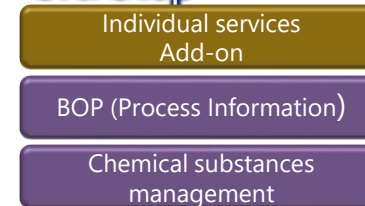
##### 1st Step



##### 2nd Step



##### 3rd Step



...

Expand the system with a small start, and expand step by step

**PLM can be launched at low cost with high quality in short lead time**

## Parts Management

- Parts type management
- Parts history management
- OR parts

## Product Structure Management

- BOM expansion / impact analysis, difference extraction
- Baseline
- Integration BOM

## BOM Editor

- Matrix BOM
- Drag & Drop editing UNDO／REDO
- Export/Import

## Configuration Management

- Serial number BOM

## Product Management

- Product information management
- Product type management
- Option management

## Process Information Management

- Process management
- Resource management
- BOM/BOP relation management

## Document management

- Directory, Classification, Attribute, Version
- Native data, Preview data
- Bulk print

Contents server

Large capacity file transfer option

## CAD Data management

- 3D CAD direct linkage
- 3D CAD data management

## 3D CAD Connector

- CAD data management system cooperation

## Similar shape Search

- Similar shape search, Similar display
- Attribute group Search

## Product Definition management

- Product definition
- Dependence matrix
- Value combination rule setting

## Project management

- WBS management
- Milestone management
- Gantt chart editing

## Task management

- Task information management
- Work progress management

## Resource management

- Work load status confirmation
- Resource graph

Security function expansion option

Quality event management option

## Engineering Change Order management

- Design change info management
- Configuration difference display

## Activity management

- Concurrent review
- Review status management

## Cost management

- Cost management by period
- Costing
- Exchange rate management

## Contained Chemicals management

- Contained chemicals aggregation
- Investigation request/receipt management
- Regulatory management /Format support

## Chemicals Balance management

- Base management (PRTR)
- Inventory management
- Emissions management

Supplier cooperation extension option

External system interface option

## ★ Collaboration Platform

## ★ Electric CAD Viewer

## ★ Data Loss Prevention

## Basic Functions

- Workflow
- Personalize
- Dynamic model

- Version management
- E-mail sending
- Portal server

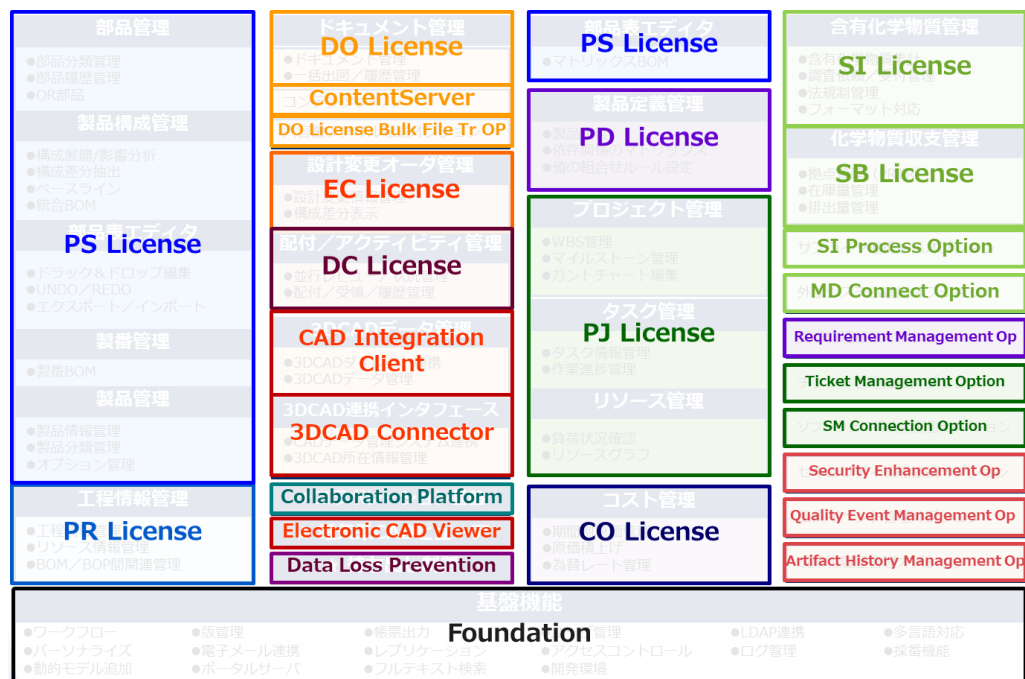
- Form print
- Replication
- Full text search

- User management
- Access control list
- Development environment

- LDAP authentication
- Log management

- Multilingual support
- Numbering function

Provide an Optimum license system for a large number of users



- ◆ "Floating license" which needs one for the number of users for which each license is used at the same time
- ◆ You can select and implemented on step by step basis from required business license
- ◆ Commonly used basic functions are provided with server license
- ◆ Can be shared even by multiple companies (e.g. Manufacturing subsidiary in overseas)

You can implement your system by the required functions at required time with minimum cost

◀Enhancement example▶



Analyzes many implementation experiences and generate system integration asset and industry type template with these know-how and knowledge

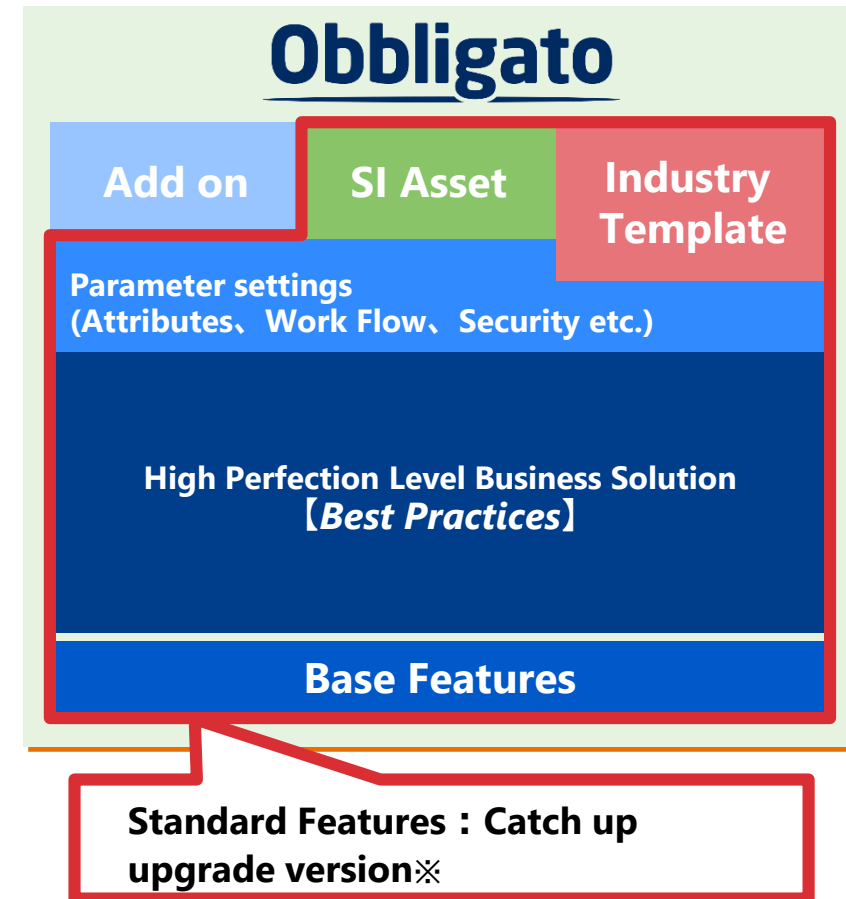
Implementation at Low Cost, High Quality and Short Period is possible by utilizing templates

## ● System Integration Asset

- Creates Template of typical add-on program source and specifications of typical add-on program which is not specialized to Industry Type
- Contents of System Integration Asset
  - Program Source, Specifications etc.

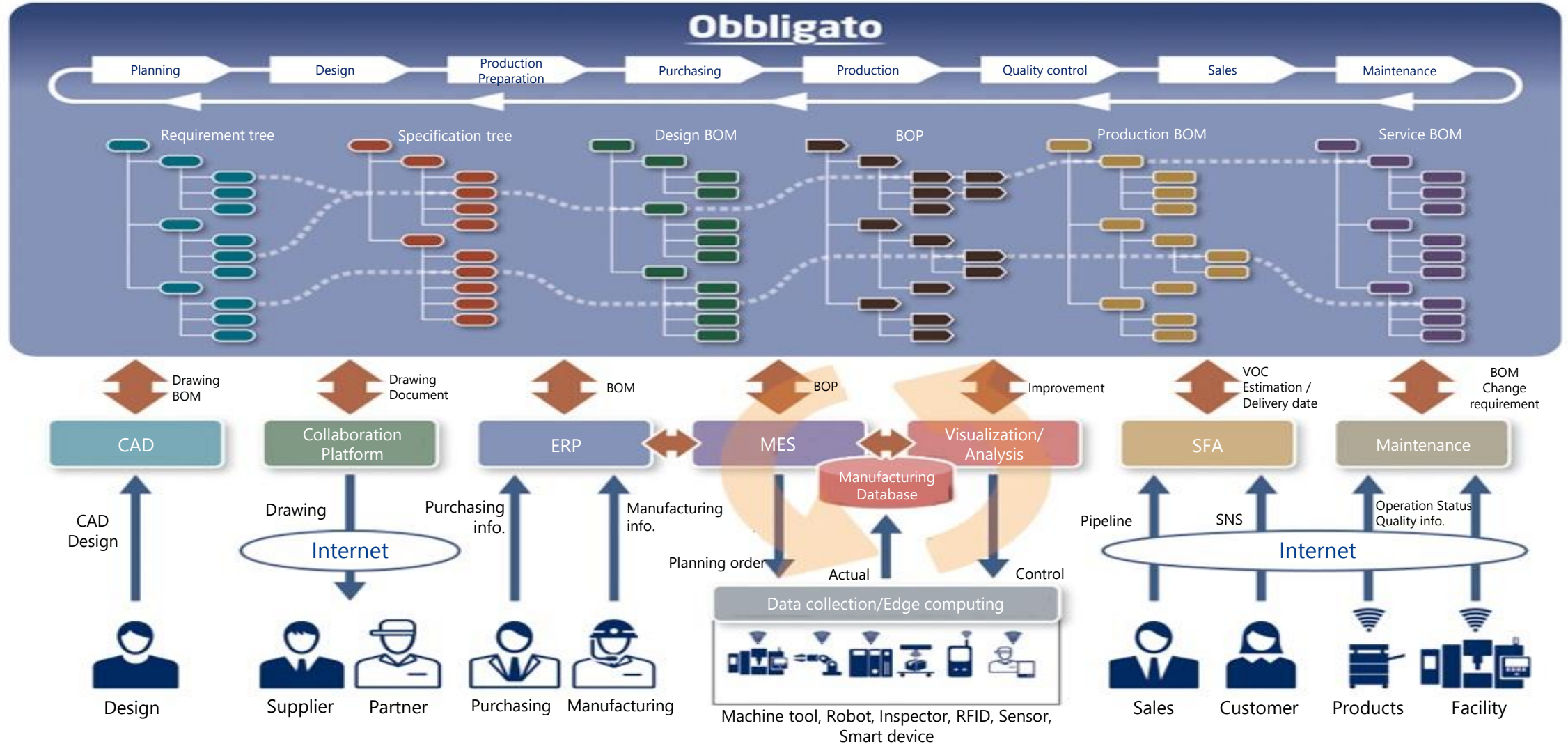
## ● Industry type template

- Product lineup for Automotive parts, Industrial machinery and Medical equipment industry
- Creates Template of know-how specialized for Industry type by analyzing the PLM implementation experiences.
- Contents of Industry type template
- Business model, IT system model and Prototype



※Operation needs to be confirmed, if it is modified as per the customer requirements

Obbligato collects and connects data and learns digitally as the backbone of manufacturing





The background features several thin, light-colored lines that sweep across the right side of the slide, creating a sense of movement and design.

## \Orchestrating a brighter world

NEC creates the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential.

\Orchestrating a brighter world

**NEC**