



SIEMENS

## 2015 China ZEN

西门子 PLM 软件大中华区 2015 年度技术培训会议

# Industry Catalyst

Li Zhiming

Siemens PLM Software

# Agenda



- Catalyst Overview
- Industry Pillars
- Functional Safety Catalyst for ISO 26262 Compliance



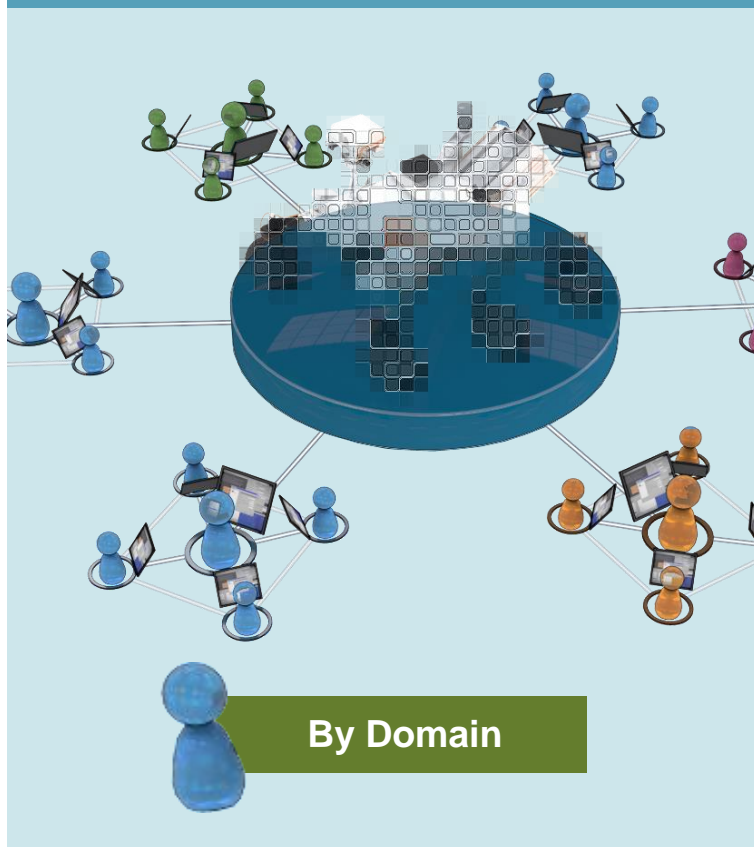
# Agenda



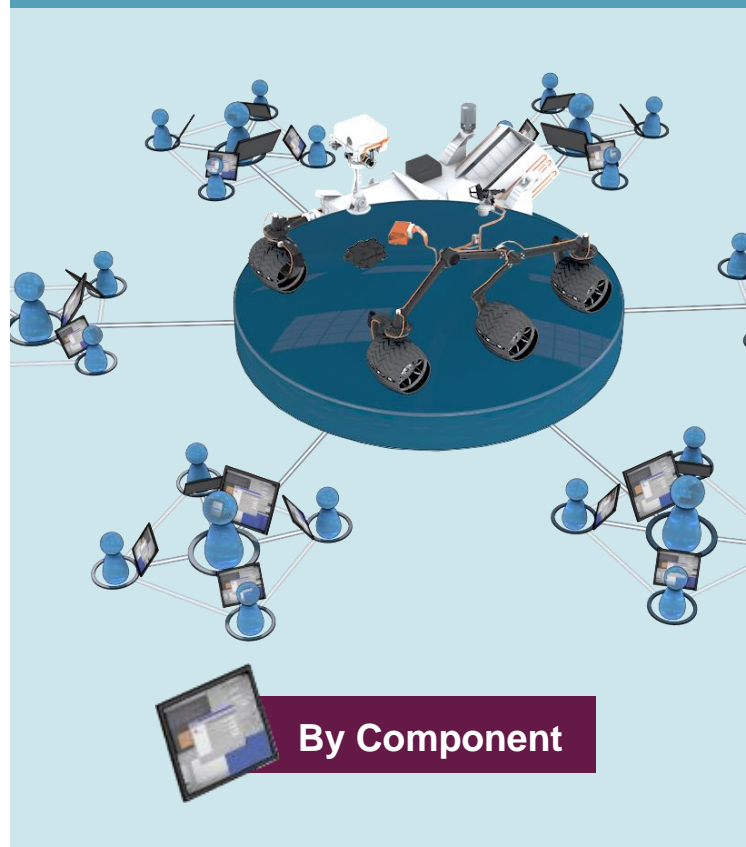
- Catalyst Overview
- Industry Pillars
- Functional Safety Catalyst for ISO 26262 Compliance

## Three views of how to deliver PLM to specific industries

### PDM Domains



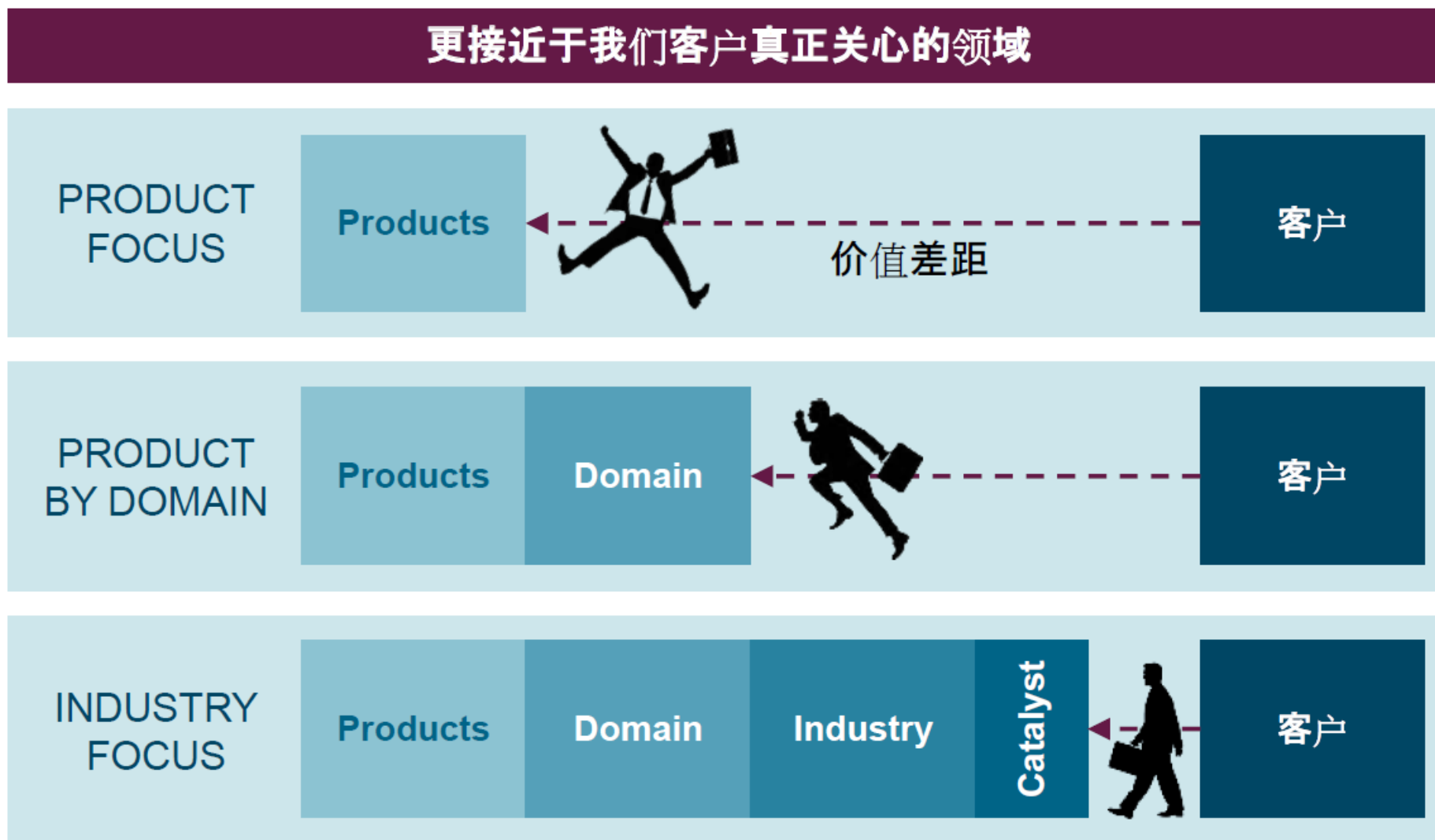
### Industry-branded Components



### Industry End-to-End Process Solutions



为什么走行业路线的市场策略非常关键...



# Industry End-to-end Process Solutions

## Eight Focus Industry Sectors

### Aerospace and Defense



Execution, Globalization, Complexity, Maintainability

### Automotive and Transportation



Environment, Information, Globalization, Safety

### Consumer Products and Retail



Brand Image, Market Speed, Environment, Cost Reduction

### Electronics and Semiconductor



Sustainability, Information, Globalization, Quality

### Energy and Utilities



Sustainability, Information, Globalization, Quality

### Industrial Machinery and Heavy Equipment



Innovation, Environment, Globalization, Service

### Marine



Sustainability, Cost, Globalization, Safety

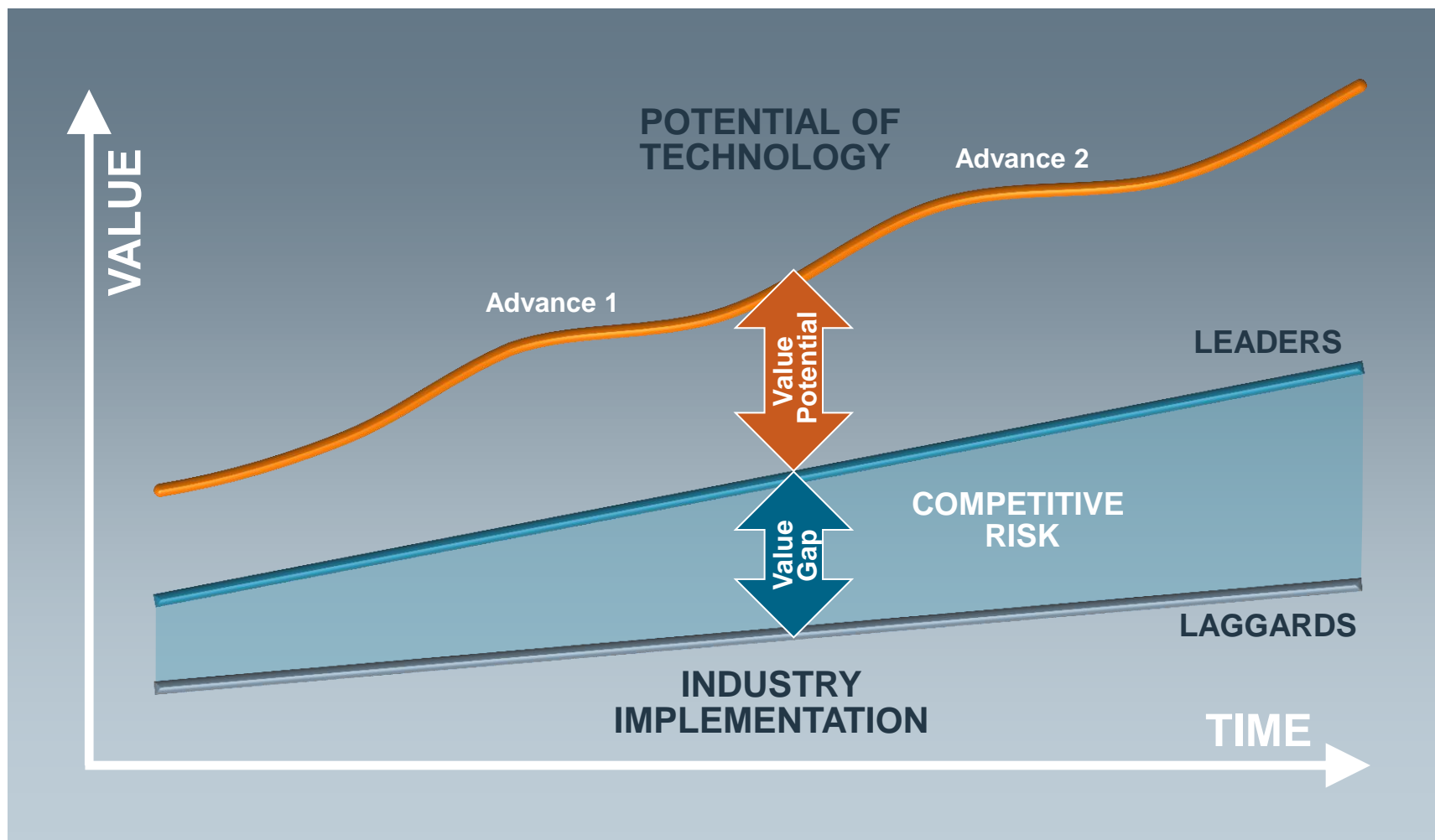
### Medical Device and Pharmaceutical



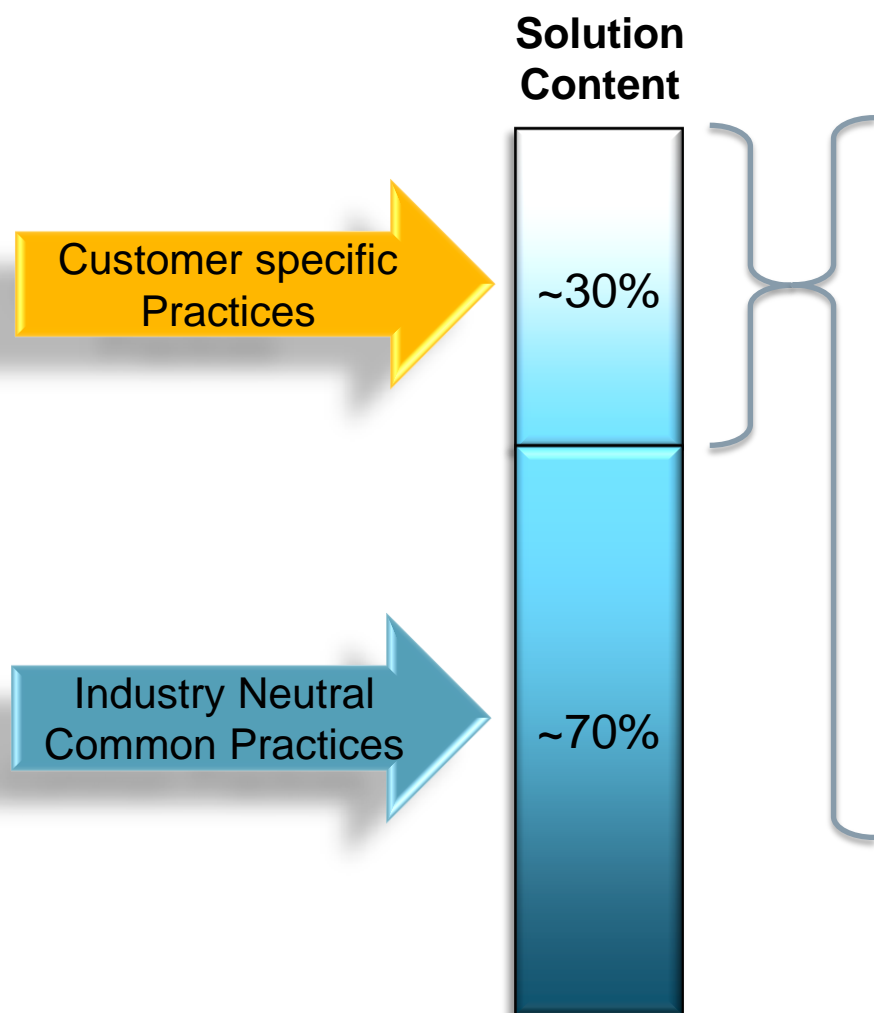
Profitability, Complexity, Globalization, Regulatory



# Industry PLM实施现状



## Current PLM Industry Situation



### Typical PLM Deployments

- Lengthy definition phases
- Business processes not aligned with “Best Practices”
- System configuration required
- Customer acceptance testing
- Customizations prevent timely upgrades
- Some customers locked into old versions



## 发布Industry Catalyst系列



**Industry Catalyst**可以加速特定行业  
实施中的价值回报,同时又能提供一个  
快速适应未来技术发展的环境.



## Industry Catalyst的构成元素



### Industry Best Practices

详细的指南, 可以优化关键的行业过程

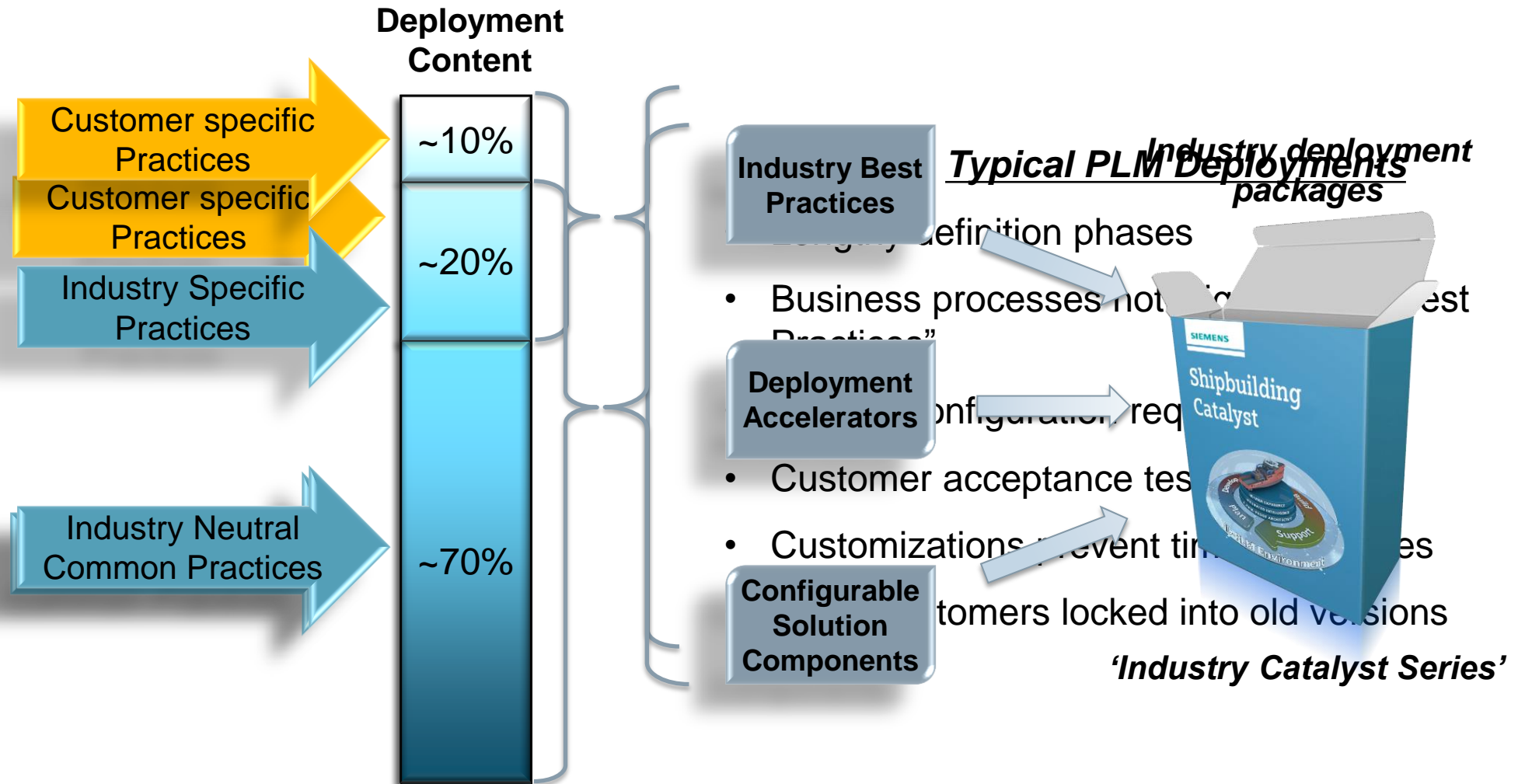
### Deployment Accelerators

经过证明的行业实施步骤, 提高PLM运营效率

### Configurable Solution Components

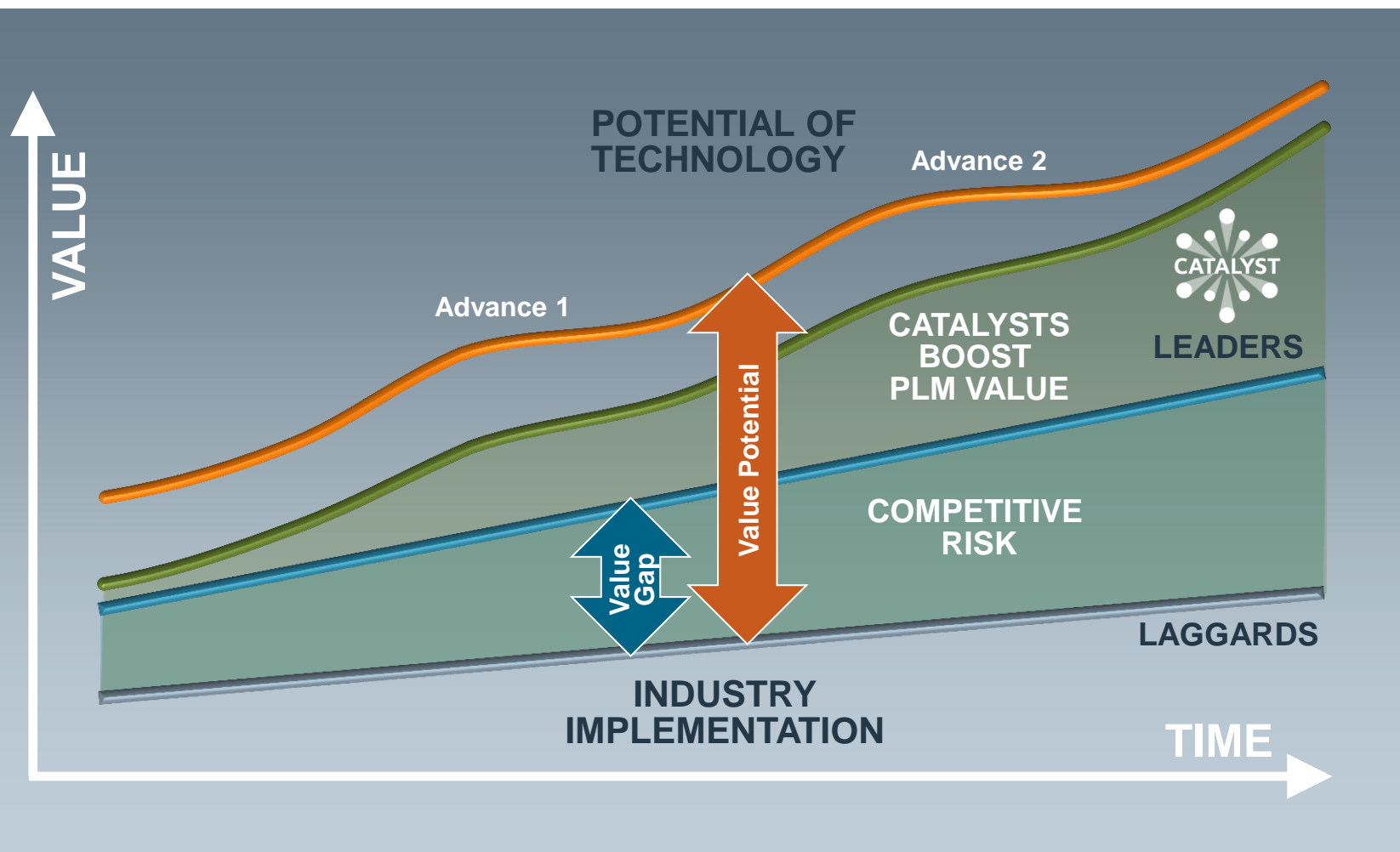
无需编程、通过配置方法, 定制客户的PLM系统的行为





# Industry Catalyst 系列

## 更快地发挥PLM的潜力



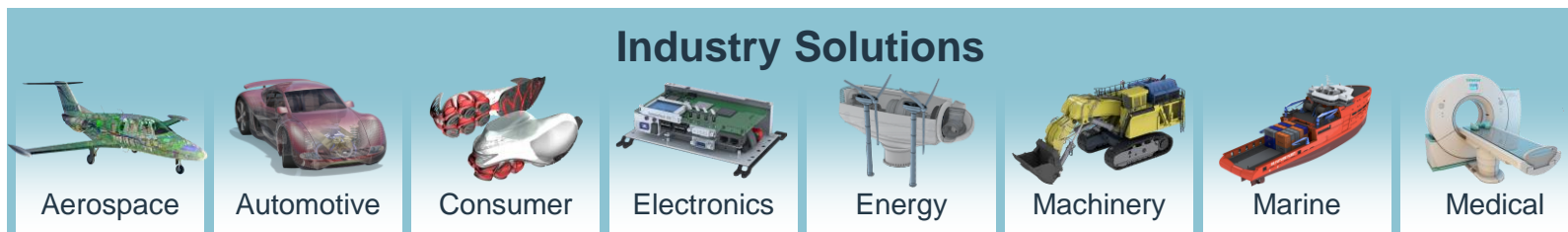
- 简化部署, 快速交付业务价值
- 基于预配置的解决方案组件, 利用行业最佳实践
- 降低部署的成本和时间 (节省~30%的成本和实践)
- 避免了不能适应未来新技术的陷阱



# HD-PLM Industry Solutions

## HD-PLM Immersive Decision-Making Environment

### Industry Solutions



### Products

NX	Tecnomatix	Teamcenter	Fibersim Syncrofit	LMS	Solid Edge
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### Services

High-Definition User Experience

Intelligently Integrated Information

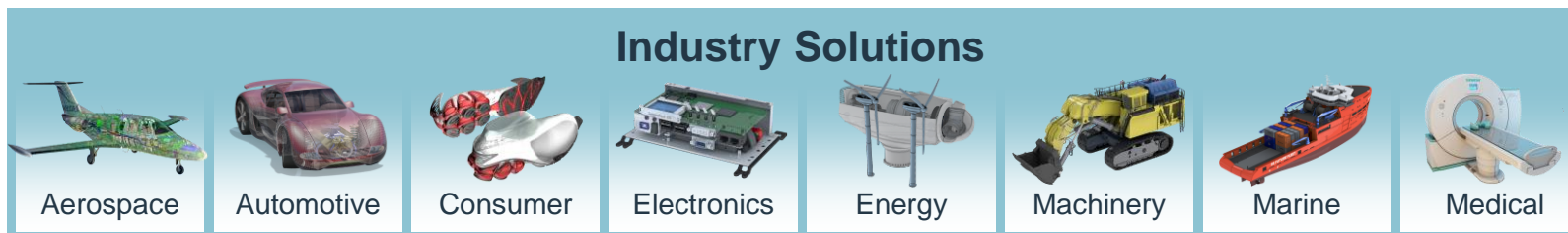
Future-proof Architecture



# HD-PLM Industry Solutions

## HD-PLM Immersive Decision-Making Environment

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### Services

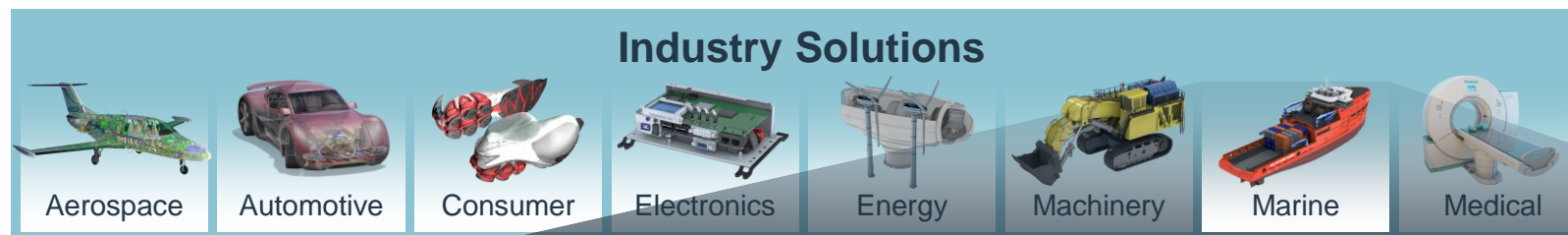
High-Definition User Experience

Intelligently Integrated Information


Future-proof Architecture



# Industry Solution Components




**FUTURE FLEET**



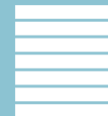
How shipbuilders can capitalize on fleet modernization

**CATALYST**



Preconfigured shipbuilding solution components

**KEY PROCESS PILLARS**



Primary shipbuilding business processes enabled

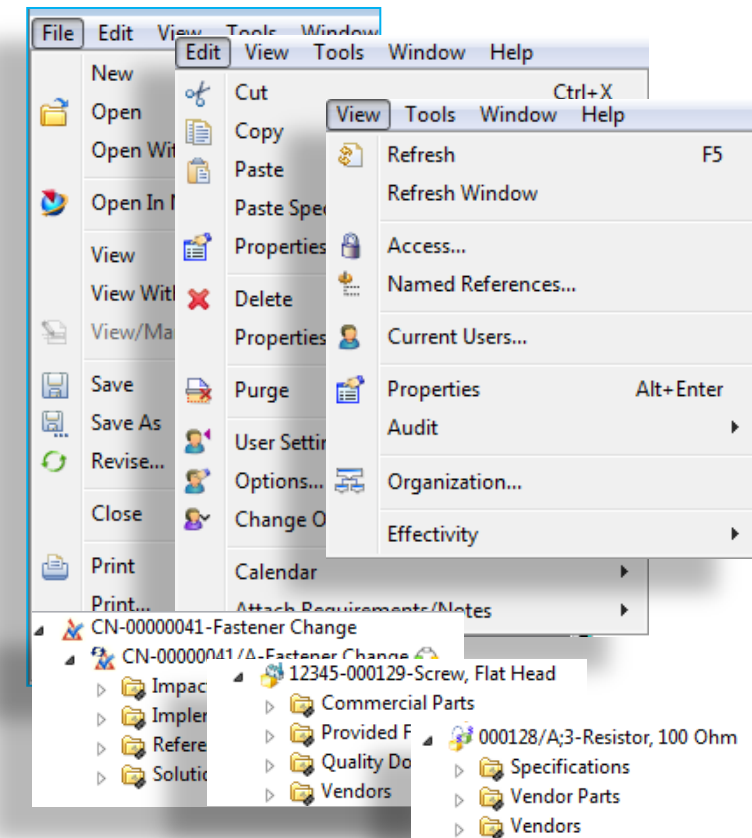
# Industry Catalyst

## Electronics and Semiconductor Example

Siemens PLM Software的电子和半导体行业 Catalyst提供了一个预配置的行业最佳实践的集合, 能够快速部署.

第一个版本的Catalyst主要解决了下列业务过程领域:

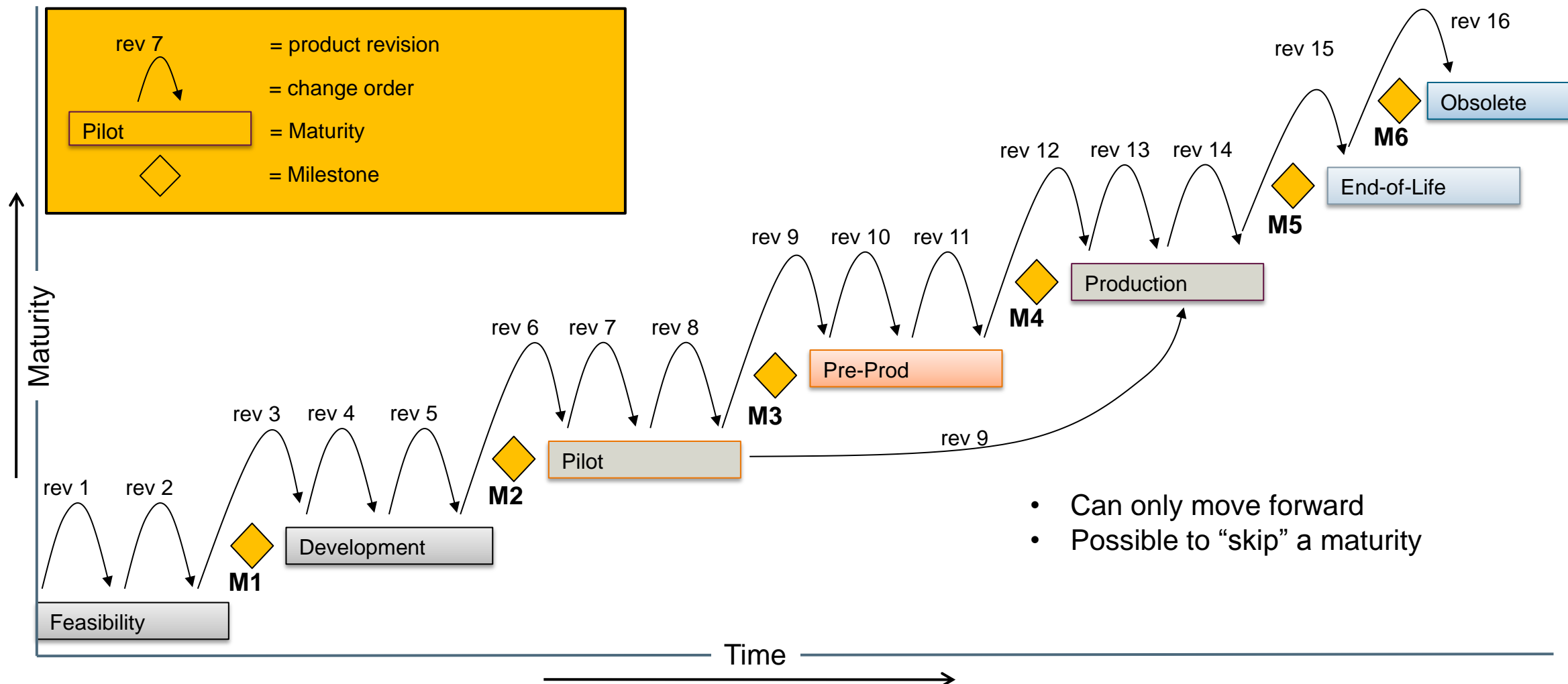
- Type extensions for Parts, Docs, Change
- Enhanced UI (Stylesheets, Command suppression, Display Rules & Hidden Perspectives)
- Product 'Maturity Progression' model
- Pre-configured part & BOM life cycle workflow
- Pre-configured Change life cycle workflow (PR, ECR, ECN)
- Enhanced change management usability





# Product 'Maturity Progression' model

## ... Adopt Common Practices ...



## E&amp;S Look &amp; Feel ...

**Case Assembly**  
Owner: Ed Engineer (ed) Last Modified Date: 30-Jul-2012 23:05 Release Status: Released Type: Design Revision

Overview Attachments History Changes Where Used \* Structure \* Vendor Parts

**Properties**

Name: case\_assy  
Description: 001389  
Maturity Status: Pre-Production  
Release Status: Released  
Date Released: 30-Jul-2012 23:05  
Effectivity: Revision Effectivity...

Owner: Ed Engineer (ed)  
Group ID: Demo  
Last Modifying User: Ed Engineer (ed)  
Checked-Out:  
Checked-Out By: No Value

More Properties...

**Classification Properties**

**Structure Manager**

001389/L;2-case\_assy (View) - Latest Working - Date - "Now"

BOM Line	Item Rev Status	Revision	Quantity	Maturity
001389/L;2-case_assy (View)		L		Production
001415/D;1-a5e_bottom_7206	Released	D		Production
001352/C;1-a5e_frame_7207 x 2	Released	C	2	Pre-Production
001350/C;1-a5e_frame_7204	Released	C		Production
001363/C;1-a5e_outcase_7203	Released	C		Production
001351/C;1-a5e_frame_7205	Released	C		Production
000228/A;1-Flat Head Screw,Socket x 4	Released	A	4	Production

**Summary** Details Impact Analysis Viewer JT Preview

**Case Assembly**  
Owner: Ed Engineer (ed) Last Modified Date: 30-Jul-2012 23:05 Release Status: Released Type: Design Revision

Overview Attachments History Changes Where Used \* Structure \* Vendor Parts

**Parent Assemblies**

Open Selected in Structure Manager

**Structure Manager**

001389/H;1-case\_assy (View) - Latest Working - Date - "Now"

BOM Line	Item Rev Status	Revision
001389/H;1-case_assy (View)	Approved	H
001415/C;1-a5e_bottom_7206	Released	C
001352/C;1-a5e_frame_7207 x 2	Released	C
001350/B;1-a5e_frame_7204	Released	B
001363/B;1-a5e_outcase_7203	Released	B
001351/B;1-a5e_frame_7205	Released	B
000117/D;1-Flat Head Screw,Socket x 4	Released	D

001389/L;1-case\_assy (View) - Latest Working - Date - "Now"

BOM Line	Item Rev Status	Revision
001389/L;1-case_assy (View)		L
001415/C;1-a5e_bottom_7206	Released	C
001352/C;1-a5e_frame_7207 x 2	Released	C
001350/B;1-a5e_frame_7204	Released	B
001363/B;1-a5e_outcase_7203	Released	B
001351/B;1-a5e_frame_7205	Released	B
000116/B;2-Flat Head Screw x 4	Released	B

**001389/G;1-case\_assy**  
Owner: Ed Engineer (ed) Last Modified Date: 30-Jul-2012 23:05 Release Status: Released Type: Design Revision

Overview Attachments History Changes Where Used \* Structure \* Vendor Parts

**History**

Object	Maturity Status	Release Status	Date Released	Owner
001389/J;1-case_assy	Pre-Production			Ed Engineer (ed)
001389/L;1-case_assy	Pre-Production			Ed Engineer (ed)
001389/H;1-case_assy	Pre-Production	Approved	17-Aug-2012 07:23	Ed Engineer (ed)
001389/G;1-case_assy	Pre-Production	Released	30-Jul-2012 23:05	Ed Engineer (ed)
001389/F;1-case_assy	Development	Released	13-Jul-2012 22:56	Ed Engineer (ed)
001389/E;1-case_assy	Feasibility	Released	29-Jun-2012 22:47	Ed Engineer (ed)
001389/D;1-case_assy	Feasibility	Approved	21-Jun-2012 06:05	Ed Engineer (ed)
001389/C;1-case_assy	Feasibility	Released	21-Jun-2012 05:51	Ed Engineer (ed)
001389/B;1-case_assy	Feasibility	Released	21-Jun-2012 05:19	Ed Engineer (ed)
001389/A;1-case_assy	Feasibility	Released	21-Jun-2012 05:19	Ed Engineer (ed)

## Catalyst comes from? E&S Catalyst Example



- **Common Process and Practices Proven in Production (customers and other Siemens divisions)**
- **Solutions vetted by E&S Global Executive Council**
- **“Drink our own champagne”! Proven inside Siemens**
- **Capabilities Proven at Select Customers**
- **Architecture accepts components from 3<sup>rd</sup> parties**

The Deloitte logo, featuring the word "Deloitte" in a bold, dark blue sans-serif font, followed by a small green dot.The PRION logo, featuring the word "PRION" in a bold, dark blue sans-serif font.The Atos logo, featuring the word "Atos" in a bold, dark blue sans-serif font.

**Accenture** - *"The industry catalyst supports clients PLM implementations in the context of a business transformation and as a result realize greater business value and acceptance of the solution."* Sarat Maitin

**Deloitte** - *"Deloitte Consulting's strong industry aligned consulting practice and Siemens PLM Software's strategy will enable both parties to jointly deliver industry focused solutions that combine Deloitte Consulting's lean engineering processes with Siemens software innovation to achieve significant value for our clients."* Brian Meeker

**Atos** - *"With joint industry solutions from Siemens PLM Software and Atos like our new supplier collaboration solution we offer unparalleled value to the market, through consulting, software, integration options and flexible operating models perfectly tailored to meet client's business demands."* Luca Benporath





### ■ Catalyst Licensing

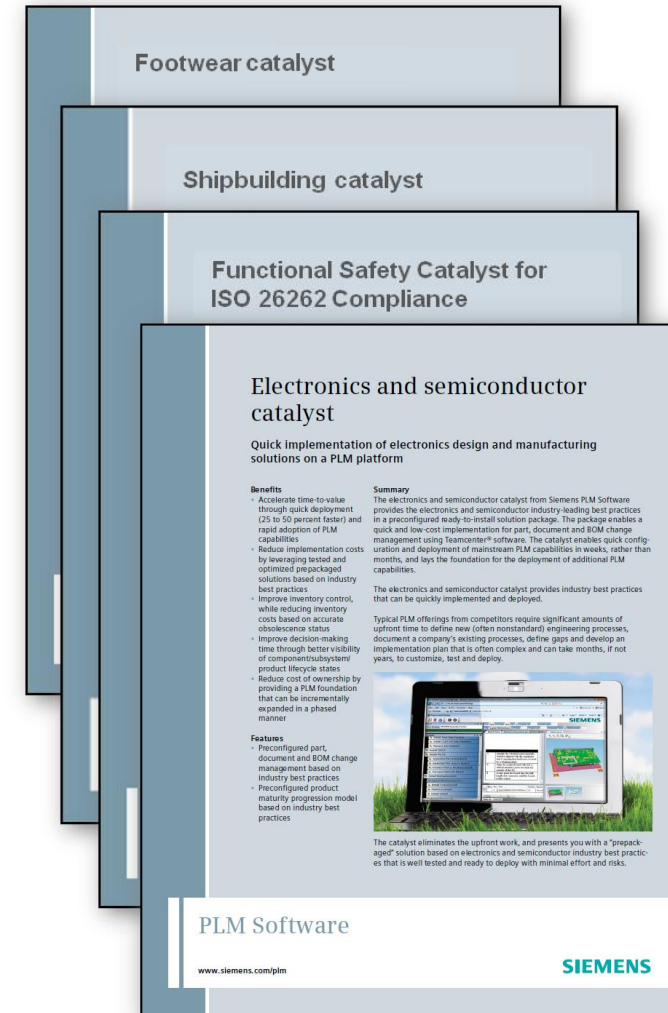
- 软件产品
- 服务器许可证费用和维护费用

### ■ Catalyst Delivery

- 通过GTAC下载和支持
- 在一个包中包括行业最佳实践, 部署加速器和可配置的解决方案组件

### ■ Catalyst Availability Dates

- Automotive Functional Safety– Avail now
- Electronics & Semiconductor – Avail now
- Shipbuilding – Avail now
- Footwear – January 2014



# Industry Deliverables

## Industry Catalysts

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### Industry Best Practices

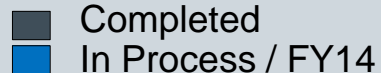
Step-by-step guides for optimizing key industry processes

### Deployment Accelerators

Proven industry implementation procedures to boost PLM performance

### Configurable Solution Components

Configuration aids to personalize the behavior of your PLM system without custom programming



#### **Automotive and Transportation**

- Functional Safety Catalyst

#### **Aerospace and Defense**

- Verification Management Catalyst

#### **Medical Devices and Pharmaceuticals**

- Medical Device Catalyst

#### **Industrial Machinery and Heavy Equipment**

- Industrial Machinery Catalyst

#### **Electronics and Semiconductor**

- Electronics and Semiconductor Catalyst

#### **Consumer Products and Retail**

- Footwear Catalyst (Jan 2014)
- CPG Catalyst

#### **Marine**

- Shipbuilding Catalyst

#### **Energy and Utilities**

- Energy & Utilities Catalyst

## Catalyst Q&A -1

- **Do we have any customer/analysts who will contribute a quote?**
- **Are there any existing industry references or early adopters (comments on value in general)?**

Working on that with the individual Bus Dev leads from Industry. Here is the one from BSH that I have out of a case study. They are not actually using the catalyst but they are totally endorsing the concept.

*The choice of Siemens PLM Software as BSH's PLM partner is paying off in another important way – in reducing the total cost of PLM ownership. Realizing that building interfaces and custom coding add significantly to the cost of the PLM system, Siemens PLM Software has evolved its PLM solution to minimize these efforts. "We could not survive if we had to continue to customize the PLM system as much as we had been doing in the past," says Vasselak. "It's too expensive. The new approach taken by Siemens PLM Software allows us to configure the system to our needs instead of developing custom software. I expect to see a 25 to 35 percent reduction in PLM implementation and maintenance costs as a result."*

*Another way Siemens PLM Software technology reduces the total cost of PLM ownership is by offering a familiar user interface that simplifies learning and ease of use. "I believe we will be able to lower our total cost of ownership by reducing training costs," says Bronowski. "This is particularly important in our growth regions such as Asia and North America where we are employing many new people. It's critical to bring these people up to speed quickly and Siemens PLM Software has made this job easier by offering a user interface that's very much like Windows."*

*Siemens PLM Software product lifecycle management technology is the right choice for BSH's next-generation PLM system, from both the end-user and the management perspective, concludes Bronowski. "With end users, it doesn't matter how powerful a solution is. If they don't like it, they won't use it. Our end users are happy with software from Siemens PLM Software because it is fast, easy to use and it helps them achieve the ultimate goal of creating innovative products. For management, which is extremely cost-driven, user acceptance and Siemens PLM Software's focus on lowering cost of ownership are exactly the things they want to see."*

## Catalyst Q&A -2

- **What's the business value to new customers and existing customers?**
- **Who is our "ideal" target in terms of selling the Catalyst initiatives... existing customers, new customers or both?**

For new customers, in industries where PLM is a relatively new concept, the catalyst greatly reduces the alignment process that every PLM implementation team goes through. Deployment Accelerators that include recommended product selections, network design decisions, configuration procedures, best practices and training for deployment. Each industry solution has been developed in a real-world environment and thoroughly tested by a Siemens PLM industry team. New customers use these proven implementations to rapidly deploy Siemens PLM solutions in production with the assurance that they will perform, scale and upgrade as expected. This is the case with the Shipbuilding catalyst which will have elements that support the entire ship lifecycle.

For existing customers, in industries where PLM use is quite mature, the catalyst will rarely define an end to end product lifecycle process. Instead, the catalyst will focus more on new process areas that the industry is struggling with like functional safety and the implantation of an ISO standard across the industry.

- **Can an existing customer that is using a customized implementation now implement a Catalyst and interoperate between the two?**

Interoperation between dissimilar PLM environments has long been a viable solution for Teamcenter customers. Global multisite has been developed to specifically enable this type of heterogeneous communication. The industry catalysts are fully compatible with global multisite.



## Catalyst Q&A -3

- **Do we sell this once and are done with it or is it some sort of subscription model to go with it including updates or roadmap with more content?**

The Siemens Catalyst Series are products that in addition to the industry best practices do include developed code that does get installed at the customer's site. These products are licensed at the site level, and do have a server license fee as well as a maintenance fee. Their development is guided by an industry roadmap and managed by the Siemens Q-Gate process and their release is achieved through ALRT process. They will be supported by GTAC .

- **What supporting (sales) material do we have?**

Currently there is a full content bill of material for sales that accompany the industry catalysts. It currently includes a Fact Sheet, a Value Presentation, and an update to the Selling Essentials document for the industry.

- **Are there localization plans for the Catalyst initiative... and how will the countries be involved?**

Each Industry Catalyst will be marketed as a part of its individual industry go-to-market plan. To the extent that an individual industry campaign includes program elements for awareness, demand generation or sales enablement the necessary content items will be created and made available for execution in the course of that campaigns execution. Localization will be available for any and content to support execution in the zones and will be funded by the Industries organization. This localization will follow the standard localization process of adoption by country and then executed in the content of one of the localization trains available throughout the 2014 fiscal year.

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## Catalyst Q&A -4

- **Catalyst is being billed as an "OOTB" objective; however, Teamcenter already has RapidStart. How do they differ?**

The two have similar value propositions but the scale to which they target that value is where they differ. Teamcenter RapidStart is positioned as a low-risk, high-value, and industry neutral preconfigured PDM system based on proven product data management best practices. RapidStart boasts a two-week predefined deployment methodology delivering the basic functions of PDM – multi-CAD data management, document management, simple process management, preconfigured roles and functionality, CAD-neutral visualization, Microsoft integration – all delivered with the proven Teamcenter PLM platform.

Conversely, the industry catalysts are very specific to each industry and deliver deployment methodology well beyond the basic functions of PDM to the full product lifecycle. Siemens PLM's Catalyst series accelerate the time and value of each industry implementation while providing an environment for swift adoption of new technology. Each catalyst delivers:

**Business Processes & Practices Model**

**Deployment Accelerators**

**Open and Configurable Industry Solution Components**

## Catalyst Q&A -5

- **How does Catalyst initiative relate to the AdvantEdge initiative?**

AdvantEdge is a tool for managing our collective knowledge for how one might configure and deploy our technology. Generally these are a pretty specific, granular level for our services teams to consume. A Catalyst may consume the best practices found in AdvantEdge, when they meet the specific business process needs for that industry and when they are available. If nothing is available in AdvantEdge to address a specific process area, the capability developed for the Catalyst is consumed by AdvantEdge for use by others.

- **The Confirmation Components seem like a great idea. Do we have best practices defined and fleshed out per-industry? How do we know these are "best practices" versus what we "think" are best practices?**

Yes we do have best practices defined in the areas we have developed Catalysts and End to End Solutions. This does not mean we have them detailed out into a complete set of business processes as there are areas that we have decided not to pursue at that particular time. The last question is quite loaded in my opinion. I would basically respond and say, please define what you think is a "best practice", we can then define what we have relative to that. My general feeling is we have internal best practices based upon our customer/field experience, that we know will work for a customer.

# Agenda

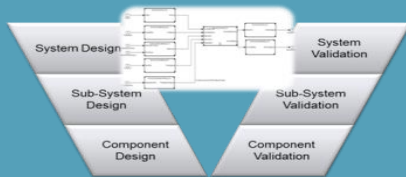


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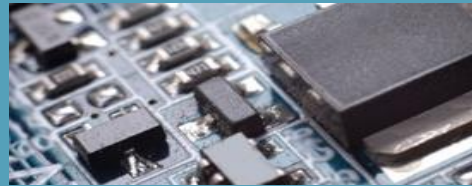
# Industry Highlights

## Automotive and Transportation Pillars

### Integrated Cross Domain Systems Engineering



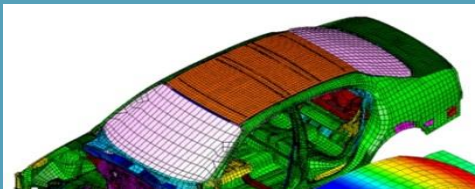
### Automotive Mechatronics and ES/E Process Management



### Vehicle & Powertrain Engineering



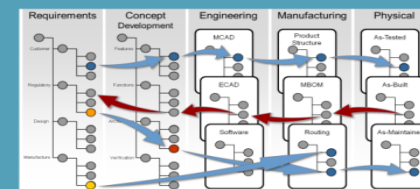
### CAE & Vehicle Simulation / Test



### Integrated Manufacturing Solution



### Structure Management/BOM Management





# Industry Highlights

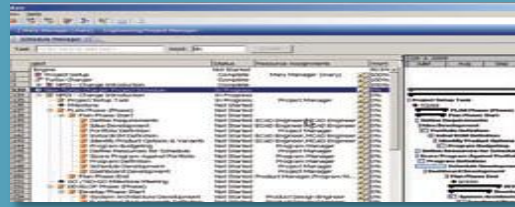
## Electronics and Semiconductor Pillars

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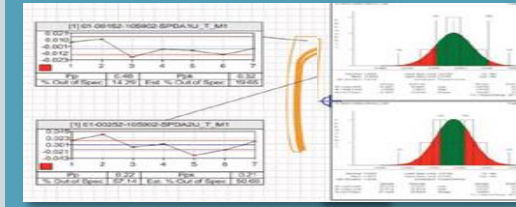
### Unified Electronics System Design & Development



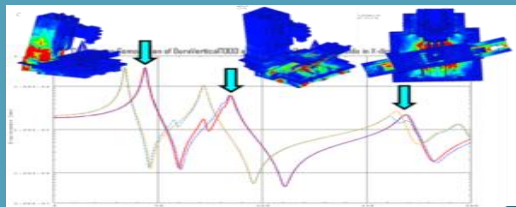
### Synchronized Planning & Governance



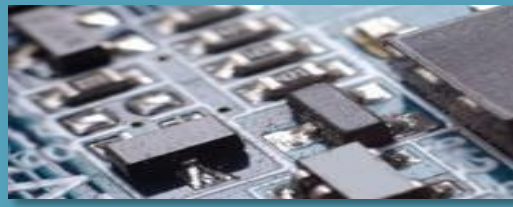
### Collaborative Product Quality Management



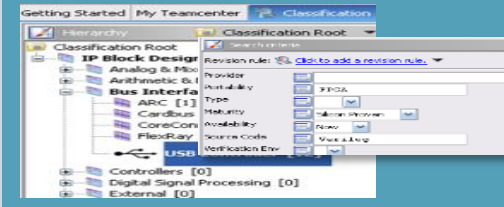
### Smart Manufacturing



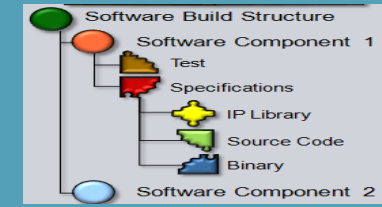
### Virtual Supply Chain Management



### IP and Patent Management



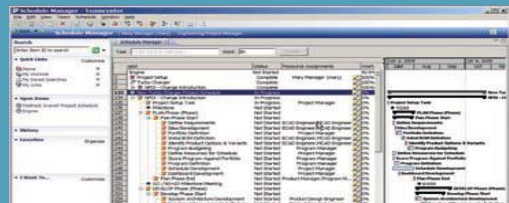
### IC Development Management



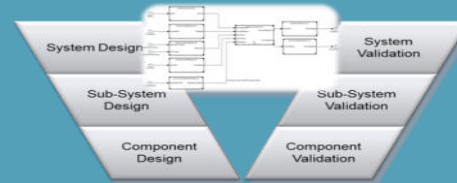
# Industry Highlights

## Aerospace and Defense Pillars

### Program Management



### Systems Engineering



### Product Development



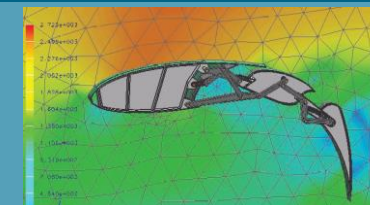
### Manufacturing



### Logistics Planning and Service



### Verification Management



# Industry Highlights

## Consumer Products & Retail Pillars

### Portfolio and Program Planning



### Product Detailed Design

### Raw Materials Management



### Supplier Integration



### Manufacturing and Quality Management



### Sustainability, Green Packaging and Compliance



# Industry Highlights

## Industrial Machinery and Heavy Equipment Pillars

### Part Design Production Process Chain



### Product Variability & Configuration Management



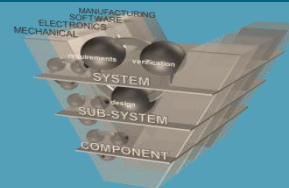
### Product Costing & Cost Management



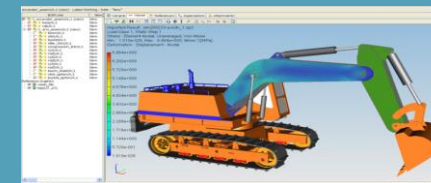
### Closed loop Service



### Systems Engineering

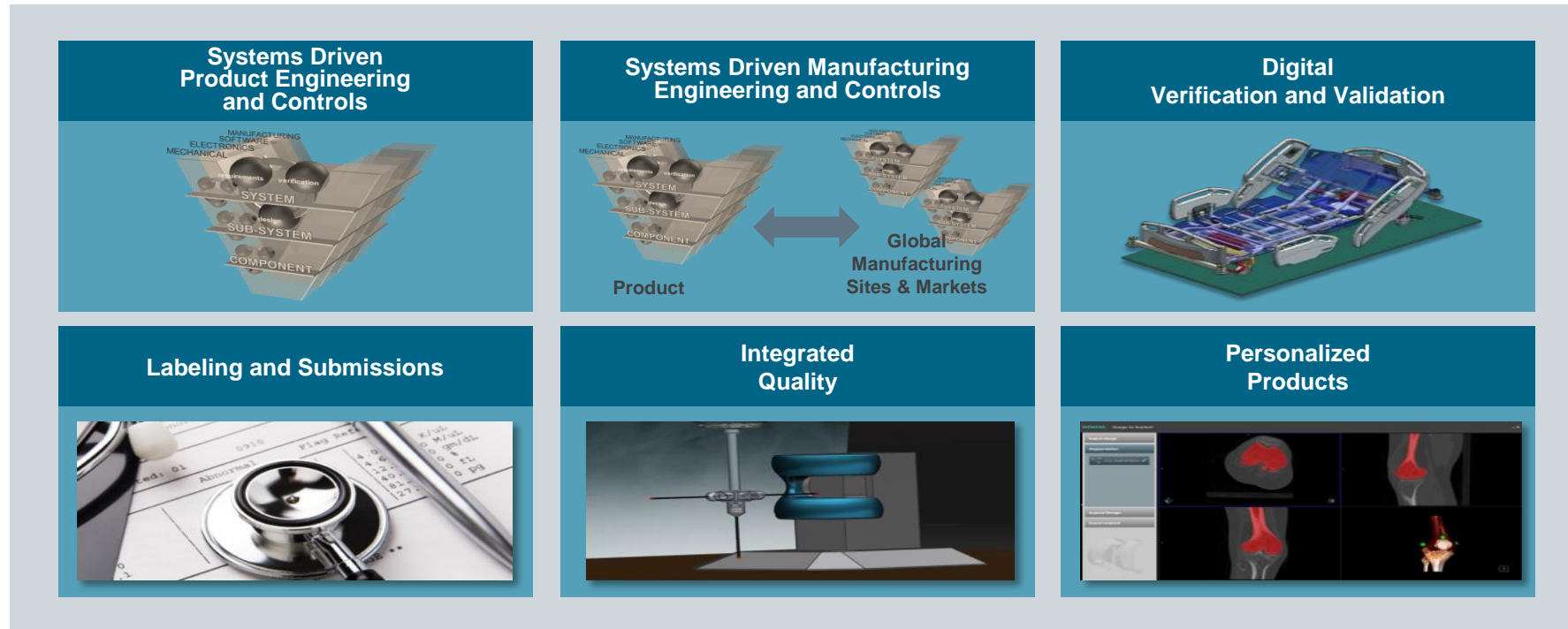


### Advanced Prototyping



# Industry Highlights

## Medical Devices and Pharmaceuticals Pillars





# Industry Highlights

## Energy & Utilities Pillars

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### Equipment Design and Manufacturing



### Plant Design and Construction



### Capital Project Management



### Plant Operations and Maintenance

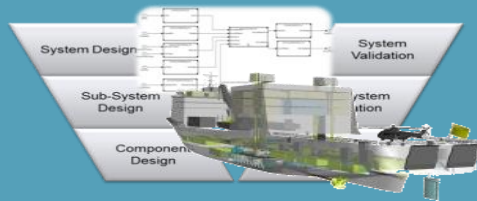


# Industry Highlights

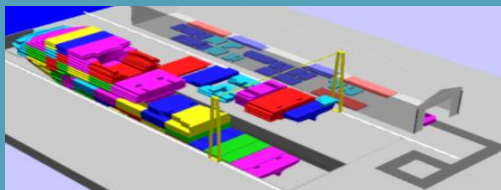
## Marine Pillars

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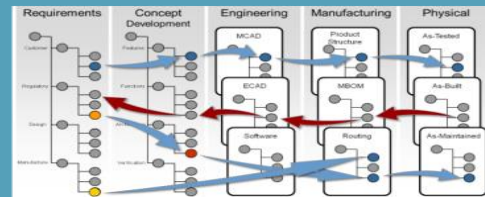
### 4<sup>th</sup> Generation Ship Design & Engineering



### Digital Ship Construction



### Shipbuilding Program & Product Management



### Supply Chain Management



### Ship Service & Support



# Agenda



- Catalyst Overview
- Industry Pillars
- Functional Safety Catalyst for ISO 26262 Compliance (TC030112 NU)



**SIEMENS**

**Thanks**