ACHIEVING SUSTAINABLE ENTERPRISE TRANSFORMATION

CM2 CERTIFICATIONS

CLEAR | CONCISE | VALID
WE CANNOT SOLVE OUR PROBLEMS WITH THE SAME THINKING WE USED WHEN WE CREATED THEM.

-Albert Einstein
WHAT IS CM2?

CM2 is the global enterprise standard for change and configuration Management. CM2 provides a comprehensive methodology for managing the configuration (hierarchical set of information) of a product, system, and/or service throughout its life.

As product complexity increases and organizations become more reliant on their supply chains, managing the change process and communicating change status across many groups inside the organization and into the supply chain is an increasing challenge. Ineffective or poorly managed change processes can leave organizations struggling to improve quality, reduce time-to-market and manage costs.

With CM2, change and configuration management extends beyond design information to include all requirements for the enterprise, plus your product, service, and solution deliverables throughout your business lifecycle phases.
BENEFITS

The Value:

- Continuing Education Units are offered through our partnership with Purdue University.

- Increased efficiency with a defined configuration process that provides control and improves visibility with dynamic traceability.

- Cost reduction by having detailed knowledge of all the elements of the configuration which allows for rework to be avoided.

- Your business will have greater agility while shifting from a corrective action mindset to one that thrives on continual improvement.

- Efficient and effective operating standards and procedures that transform the legacy business models of the past.

- Closed-Loop change management that reduces the risk, improves communication, and shifts the focus from engineering to the enterprise.

- A future where your organization offers the largest portfolio, fastest delivery time, and greatest customer experience.
EDWARDS LIFESCIENCES
CM2 allows the enterprise to reduce rework and release capacity for continued innovation. In addition, CM2 is the needed framework to standardize and align our processes. IpX provides the methods for organizational alignment.

GULFSTREAM
Successful implementation of the IpX CM2 Baseline and Closed-Loop change process is prerequisite to achieve the end-to-end configuration traceability driven by the needs of the model based design and the digitalization of the enterprise.

ASML
The CM2 Closed-Loop change process has many interactions with the processes from all the sectors involved in the change. The CM2 workflow process drives the progress of the change while the sector processes drive the content of the change.

AGCO
CM2 ensures the digital thread and twin are clear, concise, and valid.

NORTHROP GRUMMAN
Complex missions require partnerships to reduce risk and help ensure success. Delivering robust Enterprise-level Integrated Process Excellence (IPE) is a complex mission. Organizations typically partner together to increase the likelihood of each achieving their mission and to amplify their reach. Partnering strategies as well as recent Northrop Grumman Innovation System successes enabled by partnering shall be shared.

IpX Training has provided a common foundation and language for NGIS alignment.

NAMMO TALLEY
Don’t reinvent the wheel! The tools for a gated process already exist with CM2. Use them!

CUMMINS
Implementation of the CM2 Baseline and Closed-Loop process is the foundation for the control and delivery of product information in a consistent manner that will allow for the incorporation of Industry 4.0 principles across all business groups.
When companies realize the value of elevating configuration management out from the shadow of engineering, they begin to see the real benefit of connected systems that are promised by technology but never achieved by technology alone.

IpX proudly serves over 1800 worldwide customers representing multiple industries.

All striving for enterprise excellence and sustainable digital transformation.
CM2—Professionally certified leaders from Aviation, Automotive, Healthcare, Energy, Consumer Products, Medical Devices, and Technology have come together to create a cross functional industry forum to benchmark best practices and provide a resource to the IpX community.

**Mission Statement**
To advance and promote the successful implementation of Integrated Process Excellence (IPE) and CM2 throughout all industries worldwide.

### 2019 Members

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<tr>
<th>Name</th>
<th>Company</th>
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<tbody>
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<td>Martijn Dullaart</td>
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<td>Ray Wozny</td>
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NETWORK WITH THE GLOBAL IPE/CM2 CONGRESS
INSPIRE. CONNECT. MENTOR. SUPPORT.

MARTIJN DULLAART
ASML (Chair)

EDDIE KOLESAR
IpX

MIKE MCKINNEY
Sub-Zero/Wolf (Secretary)

CRYSTAL REED
Navy

PAUL NELSON
Northrop Grumman

AMY MUELLER
Purdue University

SCOTT WILKS
Aptiv

DUKE JOY
Boeing

CATIE JELINSKI
Mölnlycke Health Care

MAX GRAVEL
Gulfstream

GARY D’SOUZA
AGCO

CHRISTIE SPAULDING
GE Aviation

RACHEL HOLYOAK
Northrop Grumman

CHRISTINA SIGRIST
BOSE

STEVE WATTS
Airbus

SCOTT WERTHEL
Nammo Taalby

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Cummins

KRUPAL PATEL
Omron Microscan

GREG RUSS
Cummins

BARIS KOCABAŞOĞLU
FNSS

TODD EGAN
IpX
ENTERPRISE TRANSFORMATION STARTS WITH YOUR PEOPLE
To ensure sustainable digital transformation leading organizations must create conditions for continual excellence of personnel and improvement of professional skills of employees. They must deploy methods for modernization of production and the transition to the most advanced principles of work organization. Industry leaders will dedicate resources to the formation of support for the manufactured products throughout entire life cycle, development of the modern industrial culture and procurement of high and stable quality of their products.
**Course CM2-01**

Foundation of Operational Excellence

*Your journey for reshaping legacy business processes and systems starts here.*

This course presents a structured and effective methodology for documenting, validating, releasing, and changing requirements. In addition to providing methods for reducing intervention resource costs. It addresses the process enhancements that an organization must make in order to accommodate change and keep all requirements clear, concise, and valid.

**Course CM2-02**

Requirements and the CM2 Baseline

*Increasing the performance of your organization with requirements that are clear, concise, and valid.*

This course focuses on the foundational elements of requirements management including the structuring and ownership of all product, solution, and business requirements. It will detail the first steps in the creation of the Digital Thread...the concept and development phases of any project.
This course also addresses the cultural changes that must be understood and implemented to facilitate the needed improvements in the change process. The end goal is to always present the organization with requirements that are clear, concise and valid. That can only be achieved by a fast and efficient process that accommodates change.

This course will address the importance of Enterprise Configuration Management and introduce the roles, responsibilities and workflows required for a world-class organization to efficiently manage change. Thereby ensuring that the digital thread remains intact throughout the entire lifecycle of the product/solution, and that the digital twin is accurate.
Course CM2-05
Optimizing the Digital Thread
Planning and managing the complexities of the digital thread

This course introduces critical additions to the process flows and roles previously defined in the Enterprise Configuration Management process. These additions are critical to the management of the Digital Thread and visibility of the Digital Twin in the operation and maintenance lifecycle phase.

Course CM2-06
Achieving Enterprise CM2 Implementation
Completing the climb towards operational excellence

This course provides the path to achieving Enterprise Configuration Management (ECM), the enabling process needed to improve an organization’s tools and other core business processes. It includes a step-by-step simulation for establishing the proper foundation to successfully implement any identified tool or process improvement opportunity.
CM2 COURSES

Course CM2-07
Executing the Digital Thread and Twin
Breaking through the legacy paradigms of antiquated processes and solutions.

CM2-07
This course introduces a 2-phase approach to be used for creating the foundation to enhance the efficiency of each core business process. It will identify the key elements that must be in place reaffirm that the proper approach is to define the process first, then select the enabling tool.

Course CM2-08
Enabling Digital Transformation
Process and device will be inseparable; physical things become part of the enterprise process.

CM2-08
This course will describe how planning bills and order bills are created and maintained within the PLM, ERP, ALM, and CLM tools. It will describe how to use work authorizations to close the loop on order bills and ensure that the correct documents are utilized. It will describe the CM2 approach for managing and leveraging metadata and how to optimize reuse.
Course CM2-09

Application Workshops for Achieving Enterprise Excellence

Tangible business and digital transformation starts today

CM2-09
This hands-on course focuses on shifting the paradigms that are most important and also the most challenging to those implementing CM2. Course participants will perform a variety of roles and, by the end of the third day, they will have performed all facets of the CM2 process.

Course CM2-10

Operational Excellence Overview

The root causes for quality, schedule and cost problems reside in the domain of CM.

CM2-10
This awareness course will show how application of the CM2 principles can eliminate quality, schedule and cost problems and how to transition from the corrective action mode to the continual improvement mode.
CM2 COURSES

Course CM2-12
Tailored CM2 Business Application
Practical knowledge for all functions within the enterprise.

Course CM2-13
Optimizing the Software Lifecycle with CM2
Your journey for reshaping legacy software processes starts here.

CM2-12
The content of this course includes key elements, principles and building blocks of the CM2 Model which are extracted from courses CM2-01 through CM2-04. Although normally taught by IpX, this course may also be taught by a host instructor.

CM2-13
This course describes how the CM2 model for configuration management (CM) can be applied to software. The challenge boils down to what an organization believes. Organizations either expect software code to come out right the first time, or they do not. Its process will be designed accordingly.
Course CM2-15
Operational Excellence Bootcamp
*Reshaping Legacy Processes and Systems through Business and Digital Transformation*

This course is for executives and upper-level managers. It provides an in-depth review of the IPE/CM2 model for process improvement and enables each attendee to gain a better understanding of the strengths and weaknesses of their own processes.

Course CM2-16
Refresher Seminar for CM2 Grads
*Improvements to the CM2 model and implementation techniques*

Improvements to the CM2 model and implementation techniques have been continual. This update and refresher seminar serves to bring our CM2 grads up-to-date with the latest enhancements and re-energize their crusade to improve their business processes.
Based on the CM2 enterprise operating model and modern digital platforms, there will no longer be a difference between information and material because products will be dynamically linked to their application and supporting information.

- Efficient and effective business processes supported by modern digital platforms that allow organizations to move across industry will eliminate the legacy silo centric business models.

- Process and device will be inseparable; physical things become part of the enterprise process.

- Functional competencies must come together in order to recognize the full potential and opportunity of Industry 4.0.
LOCATIONS AND OPTIONS

Our global instructors enrich our mission with decades of real-world experience in both the public and private sectors.

We offer three options for taking our courses:
1. Attend courses at a public site, and join in cross industry discussions and benchmarking.
2. Take the courses online, and get instant exposure to industry best practices.
3. Have the courses brought on-site with tailored discussions on issues facing your company.