THE RACE TO OPTIMIZE THE DIGITAL THREAD AND MANAGE THE DIGITAL TWIN

Blueprint for Business and Digital Harmonization
the path to integrated process excellence driven by

CM2
The ICM team looks forward to seeing you at our 30th Annual Integrated Process Excellence Symposium being held at the Wyndham Grand Bonnet Creek Resort in Orlando, FL during September 18-20, 2017.

We will have two and half days of keynote and break-away sessions. Our speakers are cross industry executives within aerospace, agriculture, automotive, building infrastructure, defense, medical, regulatory, and technology.

The sessions will be focused on best practices for tangible business transformation with a central theme of: The foundational element of the 4th industrial revolution is a proper CM network leading to integrated people, processes, and products that communicate cohesively within a functional Internet of Things.

Early Bird Registration ends May 31. Early bird registrants shall be entered to win an Apple iPad Mini 4, a VIP Room Upgrade or Beats Wireless Headphones.

Our break-away sessions and extended networking breaks provide opportunities for cross-industry lessons learnt whilst ensuring maximized exposure for your products and/or your services.

For additional information contact us at services@icmhq.com.

Joseph Anderson
Vice President of Services
# Symposium Agenda Overview

The 30th Annual Integrated Process Excellence Symposium • September 18 - 20 •

## Monday, September 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am - 8:00am</td>
<td>Registration, Breakfast, and Exhibits</td>
</tr>
<tr>
<td>8:00am - 12:00n</td>
<td>Keynote and Break-Away Sessions</td>
</tr>
<tr>
<td>12:00n - 1:00pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00pm - 5:00pm</td>
<td>Keynote and Break-Away Sessions</td>
</tr>
<tr>
<td>5:00pm - 8:00pm</td>
<td>Reception for All Attendees</td>
</tr>
</tbody>
</table>

## Tuesday, September 19

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am - 8:00am</td>
<td>Breakfast and Exhibits</td>
</tr>
<tr>
<td>8:00am - 12:00n</td>
<td>Keynote and Break-Away Sessions</td>
</tr>
<tr>
<td>12:00n - 1:00pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00pm - 5:00pm</td>
<td>Keynote and Break-Away Sessions</td>
</tr>
</tbody>
</table>

## Wednesday, September 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am - 8:00am</td>
<td>Breakfast and Exhibits</td>
</tr>
<tr>
<td>8:00am - 12:00n</td>
<td>Keynote and Break-Away Sessions</td>
</tr>
</tbody>
</table>

## Courses on Wednesday-Friday

- Fundamentals of Integrated Process Excellence
- Optimization of the Software Lifecycle
- Refresher Seminar for IPE/CM2 Grads
**Fundamentals of Integrated Process Excellence**

This course describes the CM2 approach to integrated process excellence and how to overcome the limitations of traditional configuration management. A company cannot be lean and efficient if the internal processes and requirements are not properly identified, structured, linked and owned.

This course will describe:

- what it means for an organization to operate in the corrective action mode.
- the magnitude of the intervention resources being spent on corrective action by most organizations.
- the root causes for corrective action stem from deficiencies in requirements that stem from deficiencies in the change and document validation processes.
- the process improvements needed to overcome business deficiencies.
- how to calculate the cost of CM and cost of Sales.
- a CM2 based business plan and how it is used to identify the core business processes and owners.

**Optimization of the Software Lifecycle**

This course describes how the CM2 model for configuration management and integrated process excellence can be applied to software. The challenge boils down to what you believe. You either expect software code to come out right-the-first-time, or you do not. The CM2 model is designed to ensure that code comes out right-the-first-time.

This does not mean software development is not an iterative process. It is where the iterations take place that is most important. With CM2, the customer and the developer gain a good grasp of what the overall product is going to be at an early point in its lifecycle. With CM2, the development effort is led by a cross-functional team whose members have the full range of needed expertise. The same members serve as the change review board. Change decisions are made quickly and, if approved, implemented promptly.

CM2 is a waterfall model with spiraling at each level. It excels at ensuring that software design definition is clear, concise and valid.

**Refresher Seminar for IPE/CM2 Grads**

The basis for CM2 and its underlying principles have not changed since the 6-course series leading to certification was introduced in 1986. The underlying theme is still the same; improvement in the ability to accommodate change and keep requirements clear, concise and valid. Most refinements are derived from the expanded emphasis on business process infrastructure and restructuring of the CM elements therein.

As of 2017, there are over 10,000 CM2 grads. Prior to 2000, CM2 grads were faced with two major challenges — weak management support and inadequate software tools. Significant progress has been made in both areas since 2000. CM2 implementations have been increasingly successful accordingly. Improvements to the CM2 model and improved implementation techniques have also been significant.

This course serves to bring our CM2 grads up to date and reenergize their crusade to improve their CM process.
MEET THE GLOBAL IPE/CM2 CONGRESS
INSPIRE. CONNECT. MENTOR. SUPPORT.

TODD EGAN
ICM (Chair)

MARTIJN DULLAART
ASML (Co-Chair)

MIKE MCKINNEY
Sub-Zero/Wolf (Secretary)

SUSANNE LAUDA
AGCO

CRYSTAL REED
Navy

DUKE JOY
Boeing

RACHEL HOLYOAK
Orbital ATK

PAUL NELSON
Orbital ATK

MAX GRAVEL
Gulfstream

WOUTER MOLLERS
ENGIE

EDDIE KOLESAR
Esterline

CHRISTINA SIGRIST
BOSE

JANE CAVICCHI
BOSE

SCOTT WERTEL
Nammo Talley

CATIE JELINSKI
Molnlycke Health Care

SCOTT WILKS
Delphi

ROBERT LAFOND
TE SubCom

CHRIS SALDANHA
Orbital ATK

STEVE WATTS
Airbus

JOSEPH ANDERSON
ICM
THE THREAD IS INTEGRATED PROCESS EXCELLENCE
The Quest for Digital Transformation

*Over the next five years nearly $10 trillion will be spent by businesses and governments on digital solutions.*

Most organizations struggle with the ability to manage information accurately for the enterprise or throughout the product/solution lifecycle. How to maintain the digital thread from the baseline to the planning bill, then from the planning bill to the order bill, and finally from the order bill to the actual as-built record is a major challenge. Knowing which requirements, at which revision level, to use at any point in time is another. This failure creates a high level of intervention resource expenditure and an inability to track fielded configurations. This drives significant warranty, recall, and concession costs that can have devastating impacts on the business.

To tap the power of the *digital thread* and to facilitate a true *digital twin*, all facets of the organization and all lifecycle phases are reliant upon the Enterprise Configuration Management (ECM) process. Activities driven through the digital thread impact the digital twin with a constant barrage of changes making the ability to manage the digital twin that much more complex. How an organization identifies, structures, links and assigns ownership to its requirements and internal processes directly affect its ability to successfully and efficiently perform the intended mission or achieve its business objectives. If this activity is ignored or done incorrectly, an organization pays severe penalties in the form of intervention resource expenditure. Those expenditures are the unplanned time, money, and resources expended to compensate for quality and schedule problems. When quality and schedule problems dominate the energy an organization expends on a daily basis, corrective action becomes the standard “way of working”. Changing that environment requires an understanding of how current processes relate to best practices and the culture change that is needed to make the transition.

A structured and effective methodology for documenting, validating, releasing, and changing requirements is paramount. Requirements management is the foundation for the digital thread. Organizations struggle with the ability to define and maintain the digital architecture needed to support Software, Hardware, Systems, Facilities and Infrastructure throughout the entire lifecycle. The inability to effectively manage the Digital Thread creates a high level of corrective action in every phase of the lifecycle. Configuration management is the major backbone of requirements management and requirements management is a major building block in the creation and management of the digital thread. Understanding that relationship is imperative when defining the future mode of operating.

CM2 establishes the roadmap that facilitates an organization’s ability to create a world-class enterprise digital thread. This is achieved through the application of a set of proven principles and techniques. When properly applied, this improved business model enhances the development, structuring, and managing of requirements throughout the enterprise. Organizations continually struggle to define a fast and efficient change management process. Many organizations have changed or replaced their change process multiple times without understanding the dynamics of change or the building blocks needed to facilitate change management. Struggles with item re-identification decisions and the required level of
visibility of changes directly impact the ability to develop and maintain the digital twin. The management of change includes understanding it’s impact throughout the entire organization and the total product/solution lifecycle.

The inability of an organization to successfully manage the digital thread ties directly back to their inability to effectively manage change. Most organizations have subject matter experts (SMEs) identified for each key discipline, but rarely do organizations have a SME focused on the management of change. It is imperative that your organization 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 your digital twin is accurate. Once the power and efficiency of the CM2 closed-loop and fast-track change methodology are implemented, an organization’s view and perspective of their change management process will shift from it being a necessary evil to it being a true competitive advantage.

Organizations continue to be disappointed with the results of efforts to implement improvements to legacy PDM, PLM, and/or ERP systems. Even when opportunities for specific improvements are identified, they struggle with the ability to achieve successful implementation. These improvement projects are oftentimes reduced in scope and still experience cost overruns and missed schedules. The negative experiences described above are also realized when an organization launches a process reengineering project. These common failures are not the problem...they are simply symptoms of an underlying bigger issue. The number of organizations that have achieved integrated process excellence is smaller than it should be. This is because most organizations continue to use configuration management (CM) in a limited role, only applying it to design information. Those organizations process a high volume of deviations and waivers; use redlines and assume firefighting is normal business practice.

In order to achieve Integrated Process Excellence an organization must break the many paradigms generally associated with configuration management’s limited role. The phased transition from that limited approach to CM2 is a major culture change that must be carefully planned and managed. The foundation of that new culture is the ability to change faster and document better. The application of that ability is extended beyond design information to include all requirements for the enterprise, and the enterprise deliverables throughout all of the lifecycle phases. Keeping all of those requirements clear, concise, and valid at all times is the goal...a very achievable goal.

Modeling and managing intelligence is where most organizations are failing during their quest for AI and digital transformation. What happens if your organization doesn’t take the time to address inefficient and possibly broken legacy processes? What happens if your organization doesn’t configure its respective digital transformation correctly? The answer to the questions is simple. The answer is sunk cost.
Over 1800 companies have chosen

FNSS | General Electric | General Motors | Go-Go
Gulfstream | Hewlett-Packard | Honeywell | IBM
Lear | Lockheed Martin | Motorola
Now the choice is yours | NAMMO Talley | NASA
NATO | Navy | Nike | Nokia | Oracle
Orbital ATK | Philips | Pratt & Whitney | Raytheon
Rolls-Royce | Sandia National Laboratories
Sprint | St. Jude Medical | Sub-Zero/Wolf
TE SubCom | Whirlpool | Woodward
Zimmer | www.icmhq.com
ONE VERSION OF THE TRUTH.
ONE VOICE TO THE CUSTOMER.

Stay Connected:

- info@icmhq.com
- 720 – 627 - 5114
- 2870 Bryant St., Denver, CO 80211
- @cmii2ipe
- https://www.linkedin.com/company/institute-of-configuration-management
- www.icmhq.com