

# MBSE Workshop

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GLOBAL PRODUCT DATA  
INTEROPERABILITY  
**S U M M I T**

**2016**

# Full Disclosure

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Worked Professionally for Pratt & Whitney, Boeing, Lockheed, Raytheon, ...

Adjunct Professor of Mechanical Engineering BYU

- ❑ 30+ Years Researching and Developing Engineering Methods & Tools
- ❑ Directed Over \$15M in CAx/PLM Research & Development



Founder/President of Synchronized Engineering Technologies

- ❑ Commercializing Multi-user CAD
- ❑ Commercializing InterOp CAD



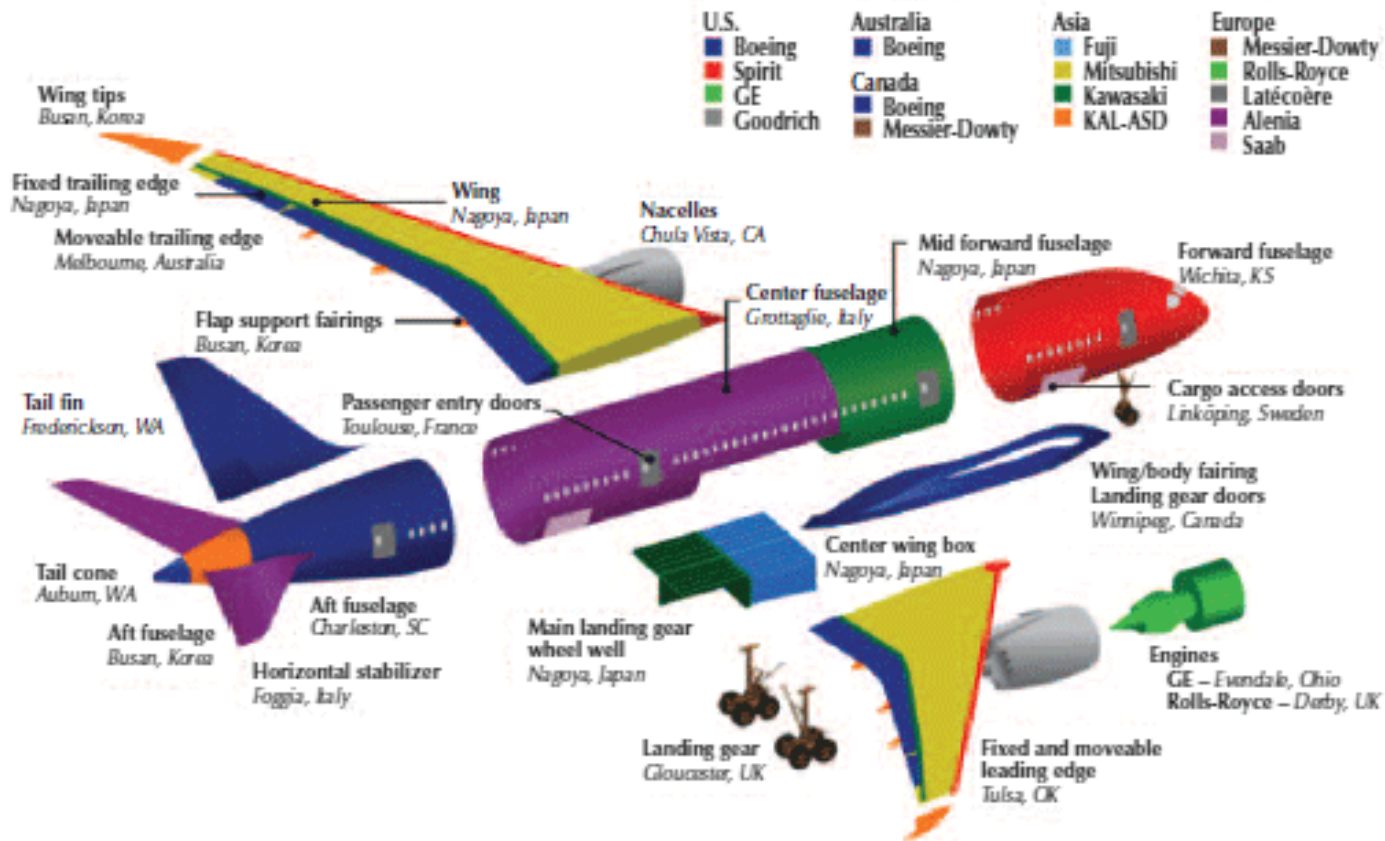
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# Shared Global Design (SGD)

Decentralization, Outsourcing, Off-shoring, etc. of Design and Engineering.

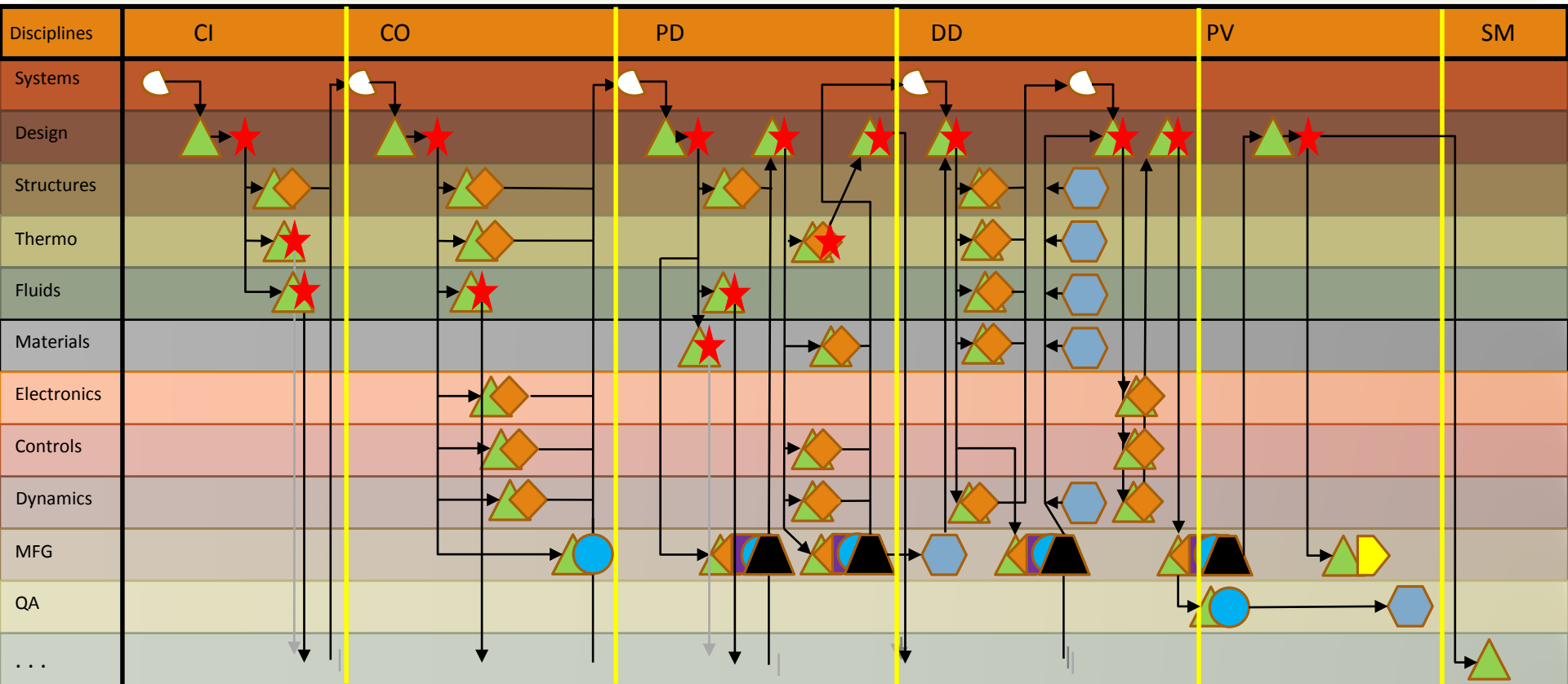


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# ESW Part Flow Map

Detailed work instructions for the best proven method to produce a product or service, and is the baseline upon which to improve.



- PLM/Modeling
- Analysis
- Validation
- Planning
- Tooling
- Purchasing
- TranslationS
- Parameters
- Production



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# Engineering Collaboration (EC)

Working together across disciplines to create value while sharing virtual and/or physical space.



Gen 1: Town Hall



Gen 2: WebEx



Gen 3: Presence

# Groups & Standards

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**OASIS** ... consortium has more than 5,000 participants representing over 600 organizations and individual members in more than 65 countries.

- **OSLC** ... (1) IBM; (8) ActewAGL Distribution, Cisco, Fujitsu Limited, Mentor Graphics Corporation, PTC, Red Hat, Software AG, The Boeing Company; (10)AIT Austrian Institute of Technology, Bank of America, Dassault Systemes SA, EADS France, Ericsson, pure-systems GmbH, Raytheon Company-SAS, Siemens AG, Swedish Royal Institute of Technology, Tasktop Technologies Inc.

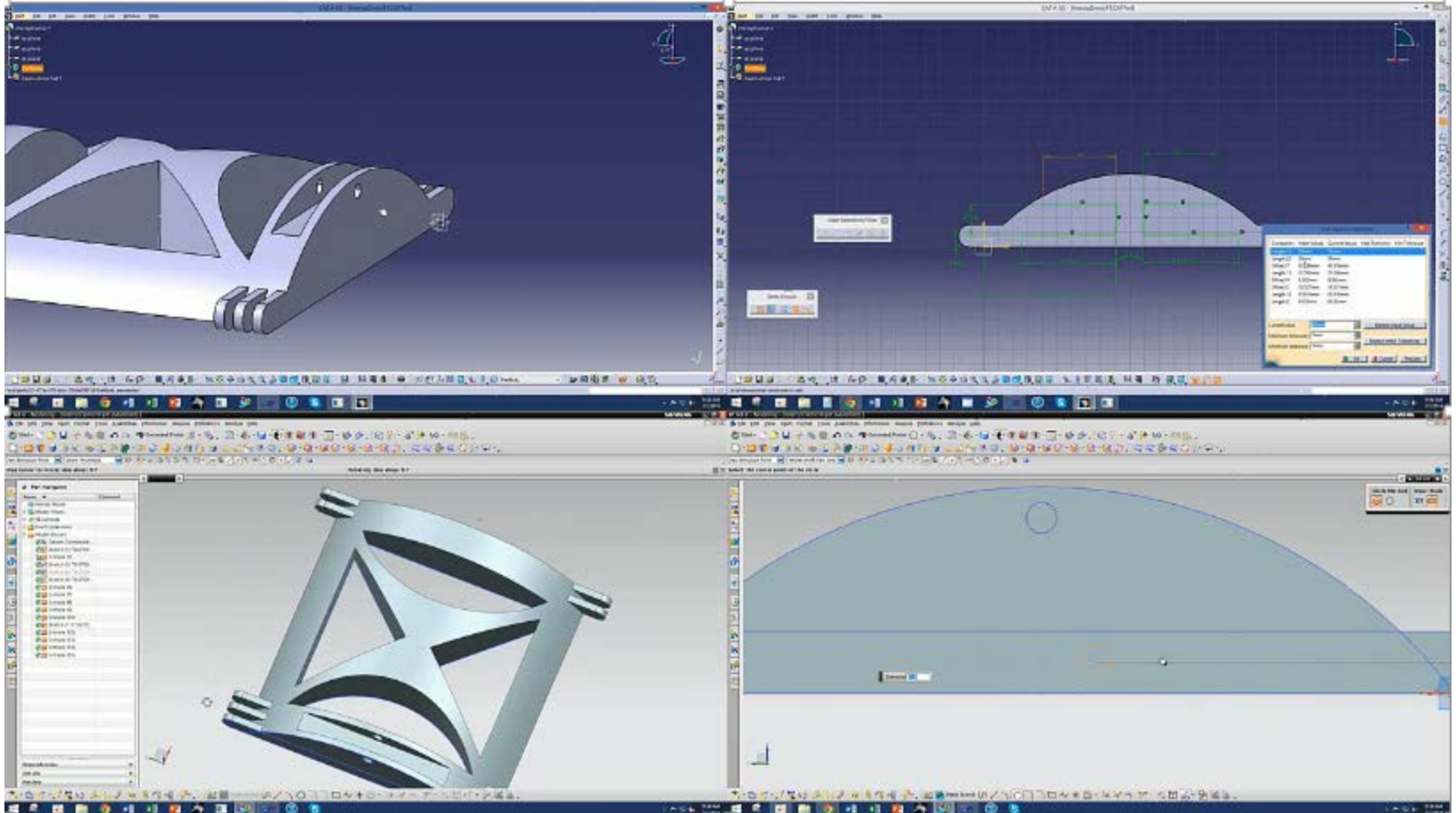
**SysML** ... members include hundreds of organizations including software end-users in over two dozen vertical markets (from finance to healthcare and automotive to insurance) and virtually every large organization in the technology industry.

**Modelica** ... a non-profit, non-governmental organization (~20 companies) with the aim of developing and promoting the Modelica modeling language for modelling, simulation and programming of physical and technical systems and processes.

- **FMI** ... a group of companies, institutes and universities organized under the umbrella of the Modelica Association Project Function Mock-up Interface



# Multi-CAD Tools for EC & SGD

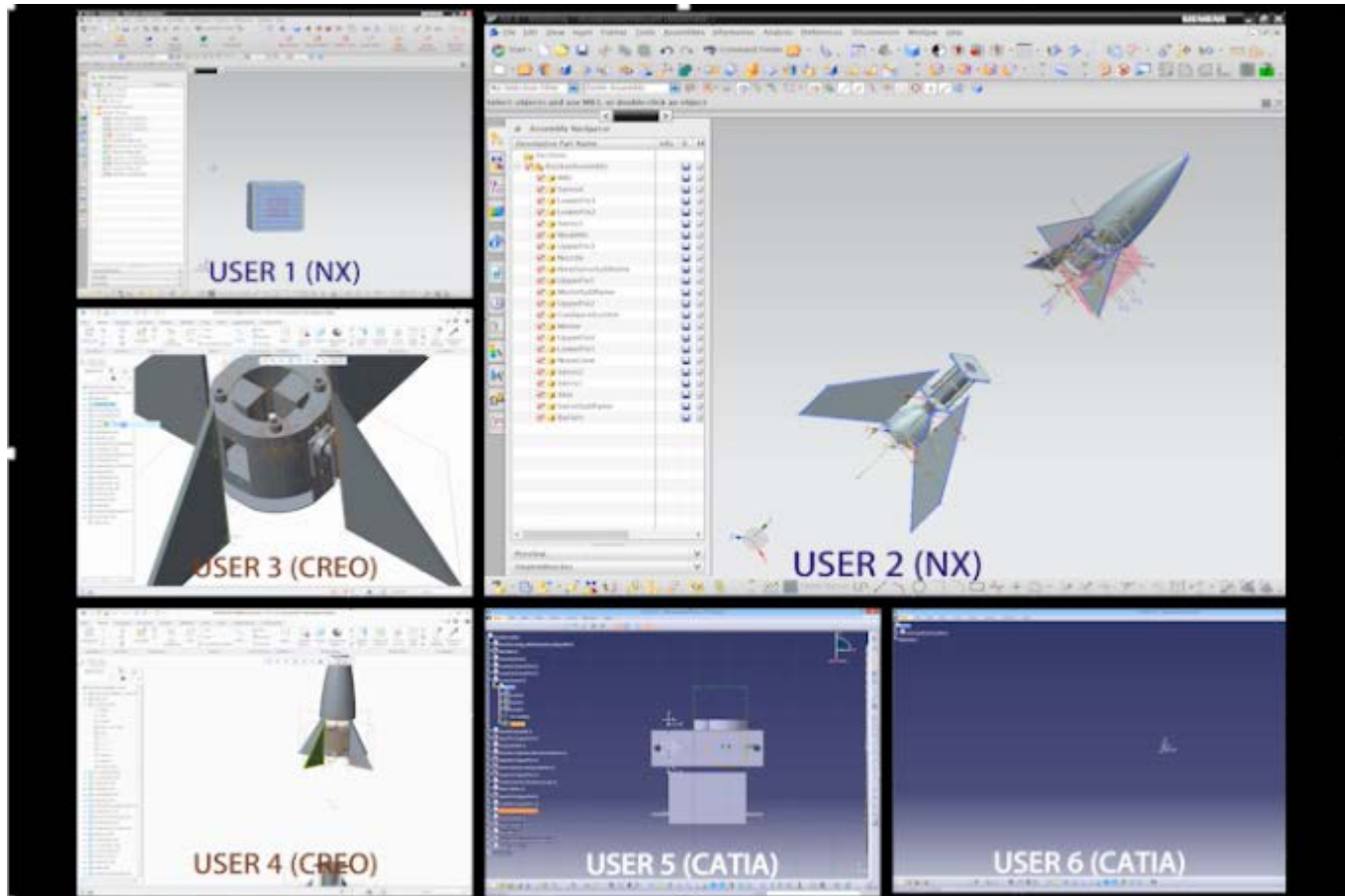


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# Multi-CAD Tools for EC & SGD

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