



LOTAR

LONG TERM ARCHIVING AND RETRIEVAL

A Business Case for Long-Term Archiving & Retrieval of the Model-Based Enterprise's Data

Dr. W. David Williams

PDES, Inc

Board of Directors

Model-Based Sustainment Champion

World
Manufacturing
Forum

Como Lake,
Italy

16 May 2011

- I. Global Drivers of Manufacturing Transformation
- II. PDES's Model-Based Enterprise Vision and Necessity for LOTAR strategies, standards and tools
- III. LOTAR International Roadmap and Status

Part I

Global Drivers of Manufacturing Transformation

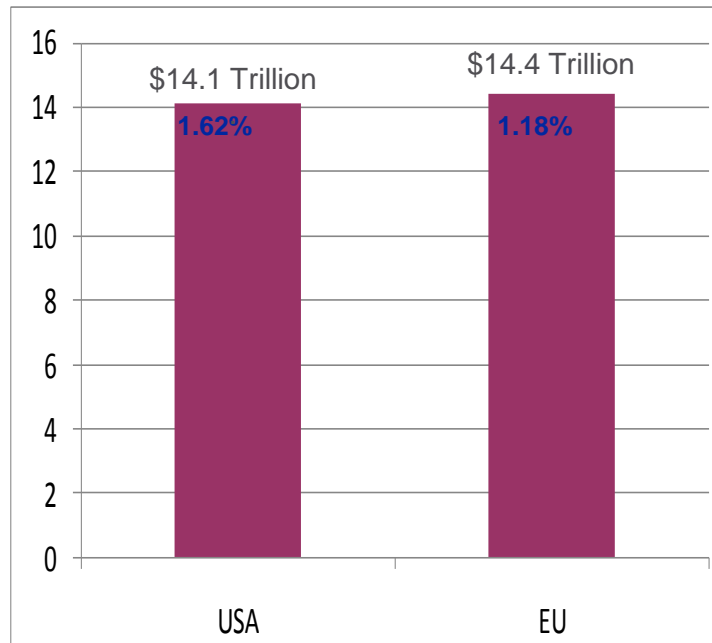
- Product Concept
- Product Engineering
- Process Engineering
- Line/Plant Design and Realization
- Supply Chain Management
- Product Fabrication & Distribution
- Product Lifecycle Support & Service
- Other Regulatory Factors, Contractual and/or Competitive Factors

For many of us the market is demanding more from us and the world is changing

- Respond more quickly to opportunities
- Skills set management
- Intellectual property and knowledge
- Introduction of new technology
- Creation of new processes
- Dynamic Supply chains

A Brief Glimpse into the corner of the
world in which I live and work...
the US and Western Europe

Gross Domestic Production (2009)

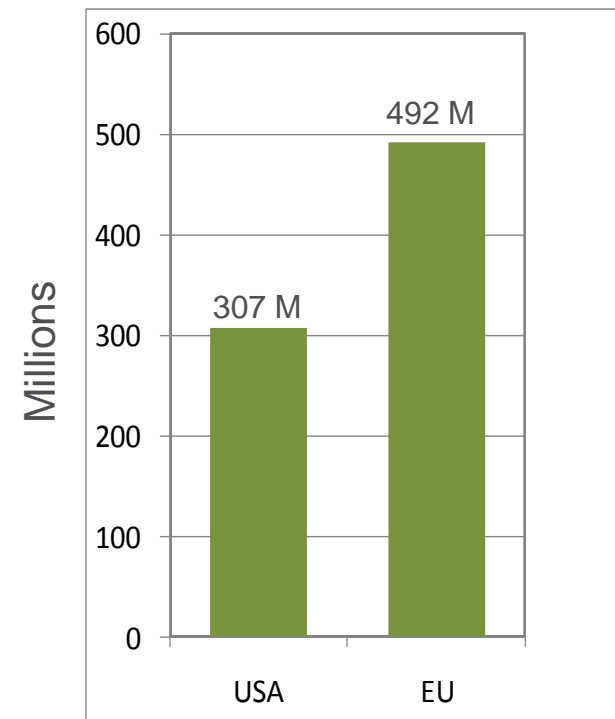


“Per Capita GDP”

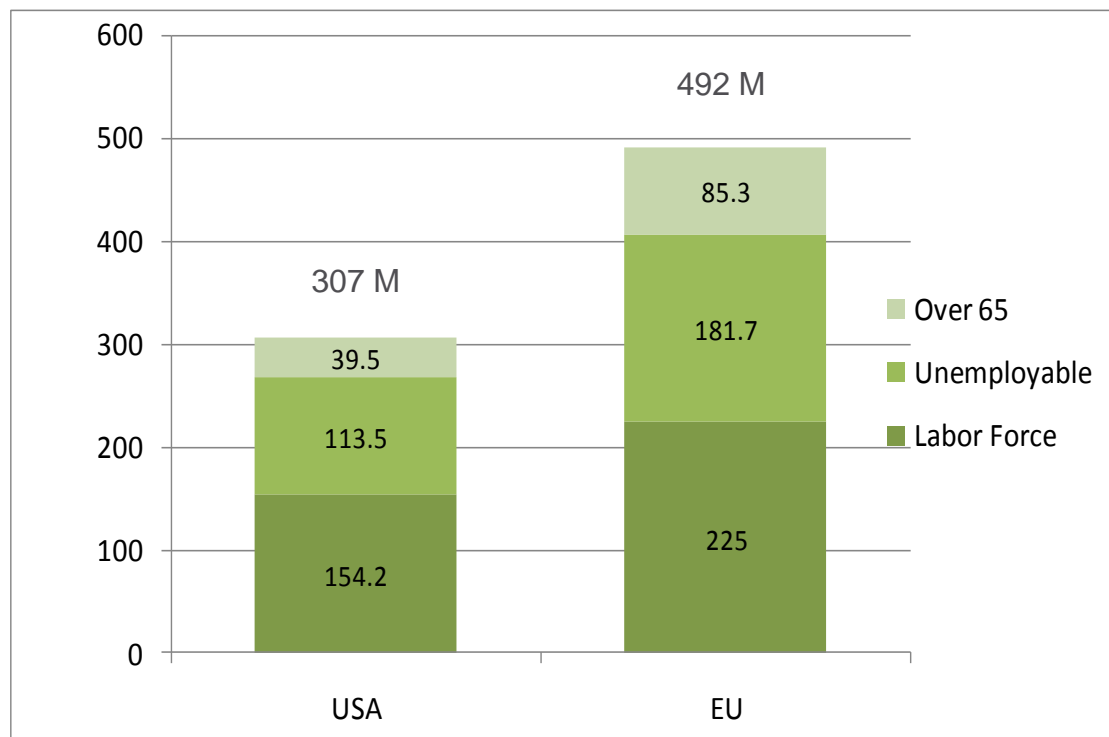
\$45.9K/person – USA

\$29.3K/person – EU

Population (2010 est.)



Source: US Central Intelligence Agency



“Per Worker GDP”

\$91.4K/worker – USA

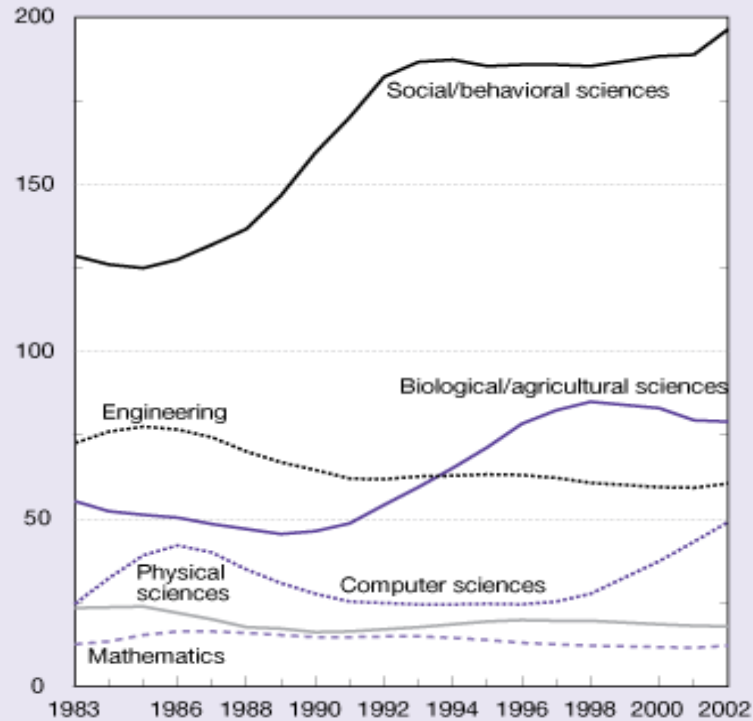
\$64.0K/worker – EU

Source: US Central Intelligence Agency

US Science & Engineering Degrees

Figure 2-10
S&E bachelor's degrees, by field: 1983–2002

Degrees (thousands)

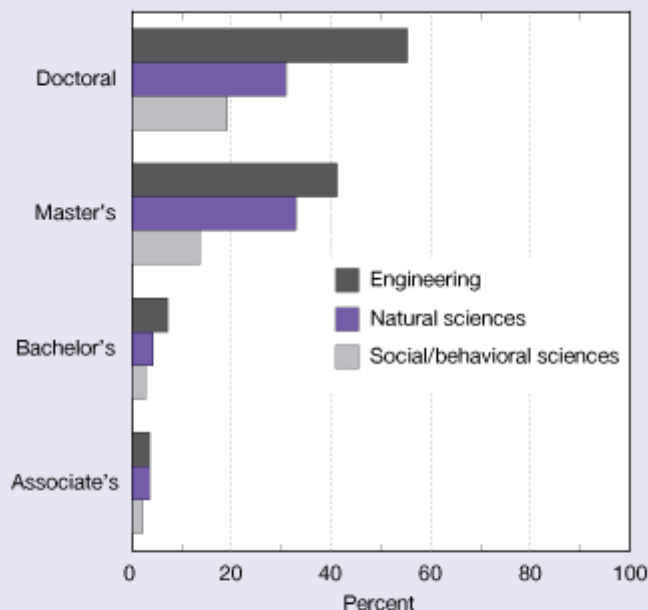


NOTES: Physical sciences include earth, atmospheric, and ocean sciences. Data not available for 1999.

SOURCES: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey; and National Science Foundation, Division of Science Resources Statistics, WebCASPAR database, <http://webcaspar.nsf.gov>. See appendix table 2-26.

Science and Engineering Indicators 2006

Figure 2-20
Foreign share of U.S. S&E degrees, by degree and field: 2002 or 2003

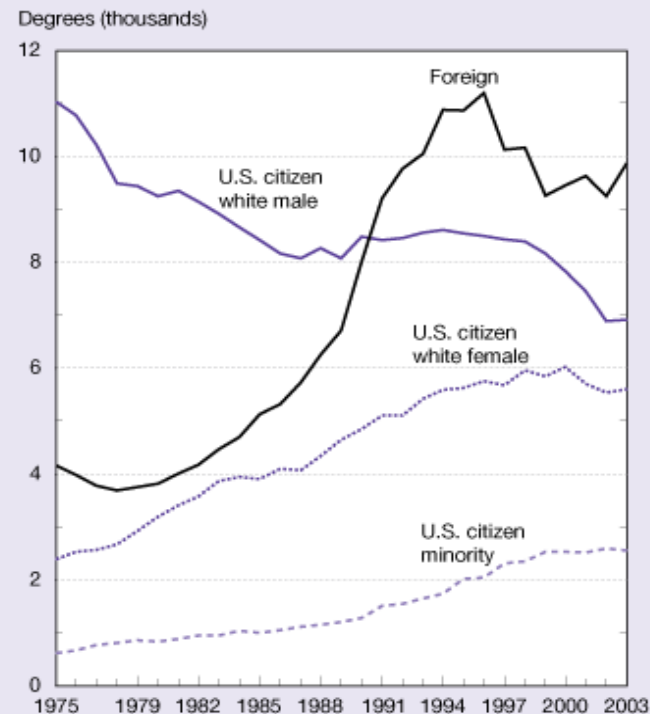


NOTES: Doctoral degree data are for 2003; other data are for 2002. Foreign includes temporary residents only. Natural sciences include physical, biological, agricultural, computer, earth, atmospheric, and ocean sciences and mathematics.

SOURCES: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey; and National Science Foundation, Division of Science Resources Statistics, Survey of Earned Doctorates, WebCASPAR database, <http://webcaspar.nsf.gov>. See appendix tables 2-25, 2-27, 2-29, and 2-31.

Science and Engineering Indicators 2006

Figure 2-18
U.S. S&E doctoral degrees, by sex, race/ethnicity, and citizenship: 1975-2003

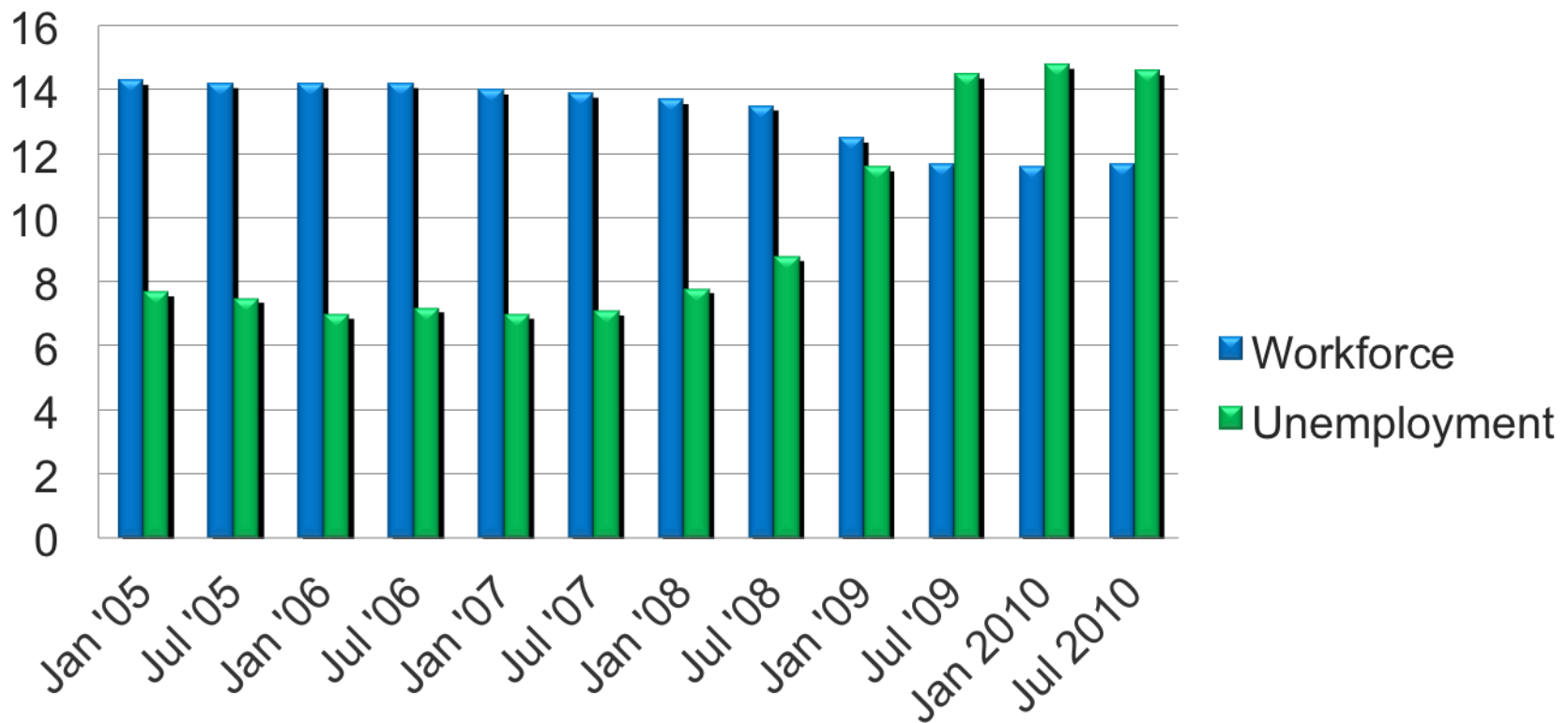


NOTES: Foreign includes permanent and temporary residents. Minority includes Asian/Pacific Islander, black, Hispanic, and American Indian/Alaska Native. Degree recipients with unknown citizenship omitted.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Earned Doctorates, WebCASPAR database, <http://webcaspar.nsf.gov>. See appendix table 2-31.

Science and Engineering Indicators 2006

US Manufacturing Employment



So... How Do These Drivers Lead to Model-Based Enterprise Transformation?

- Manufacturing is a highly competitive industry
- Manufacturing is a highly regulated industry
- Workforce dynamics & world economics are not favorable
- Many manufacturer's turn to technology for solution

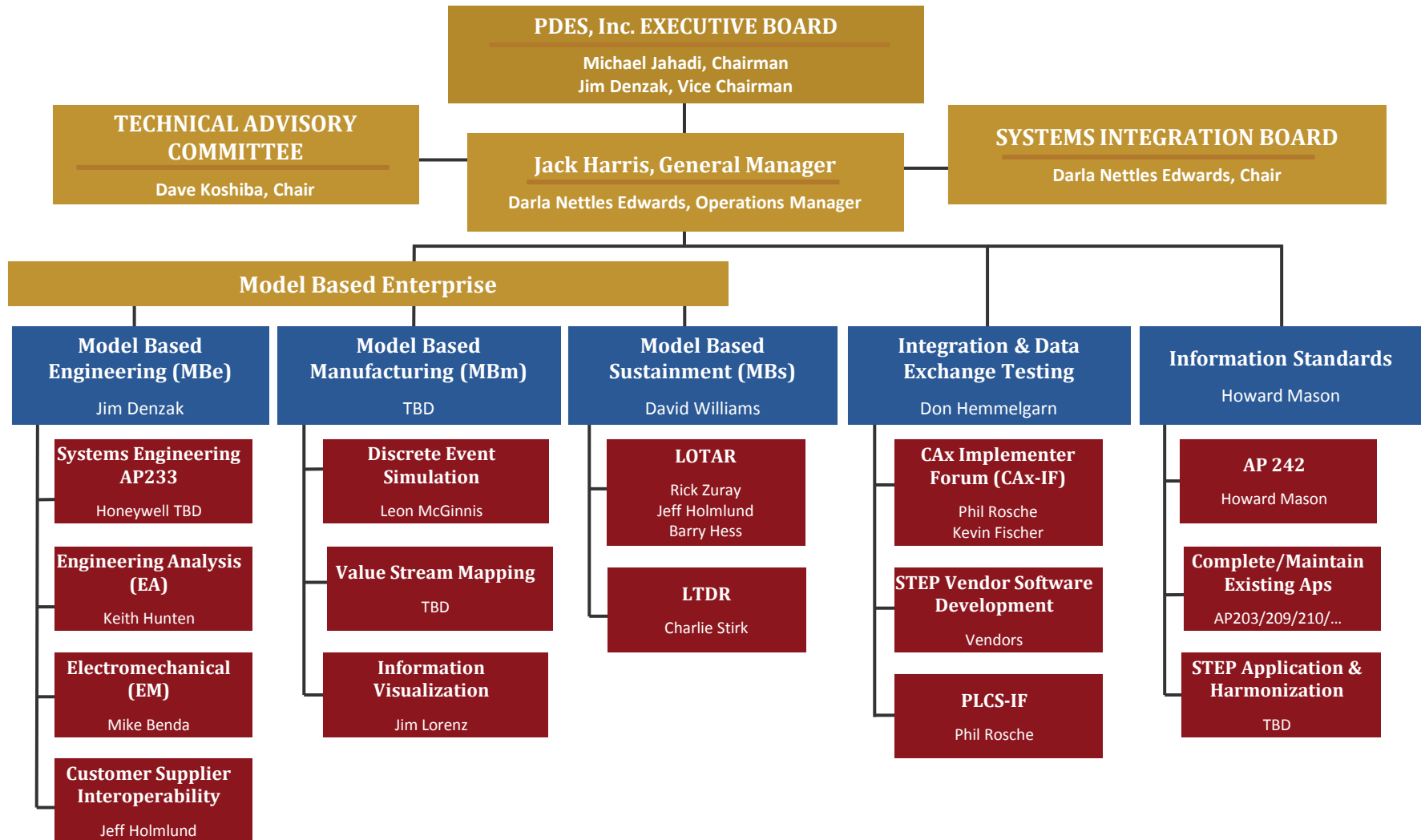
→ Creating a Model-Based Enterprise is many manufacturers' approach of choice

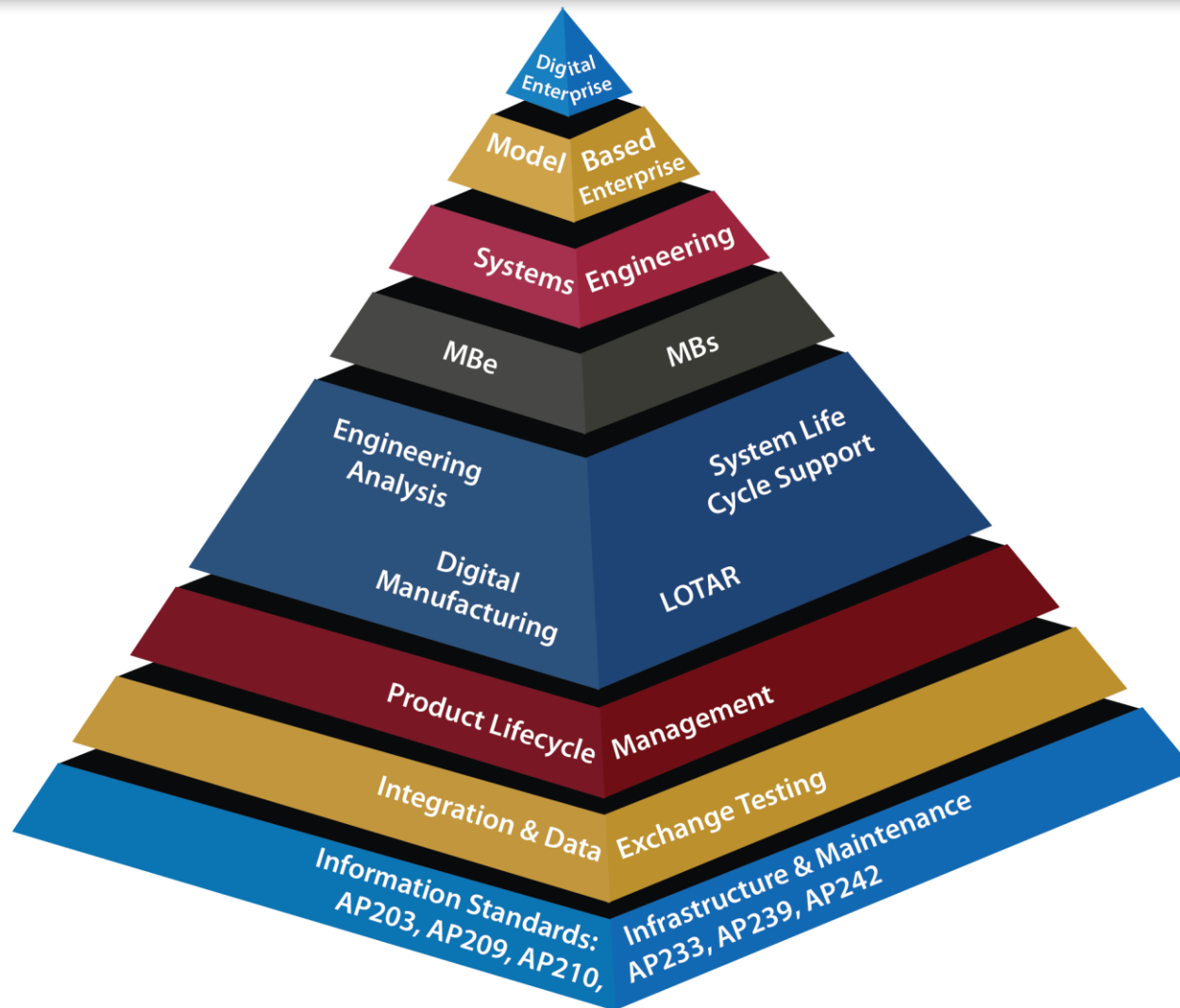
LOTAR is essential to this choice!

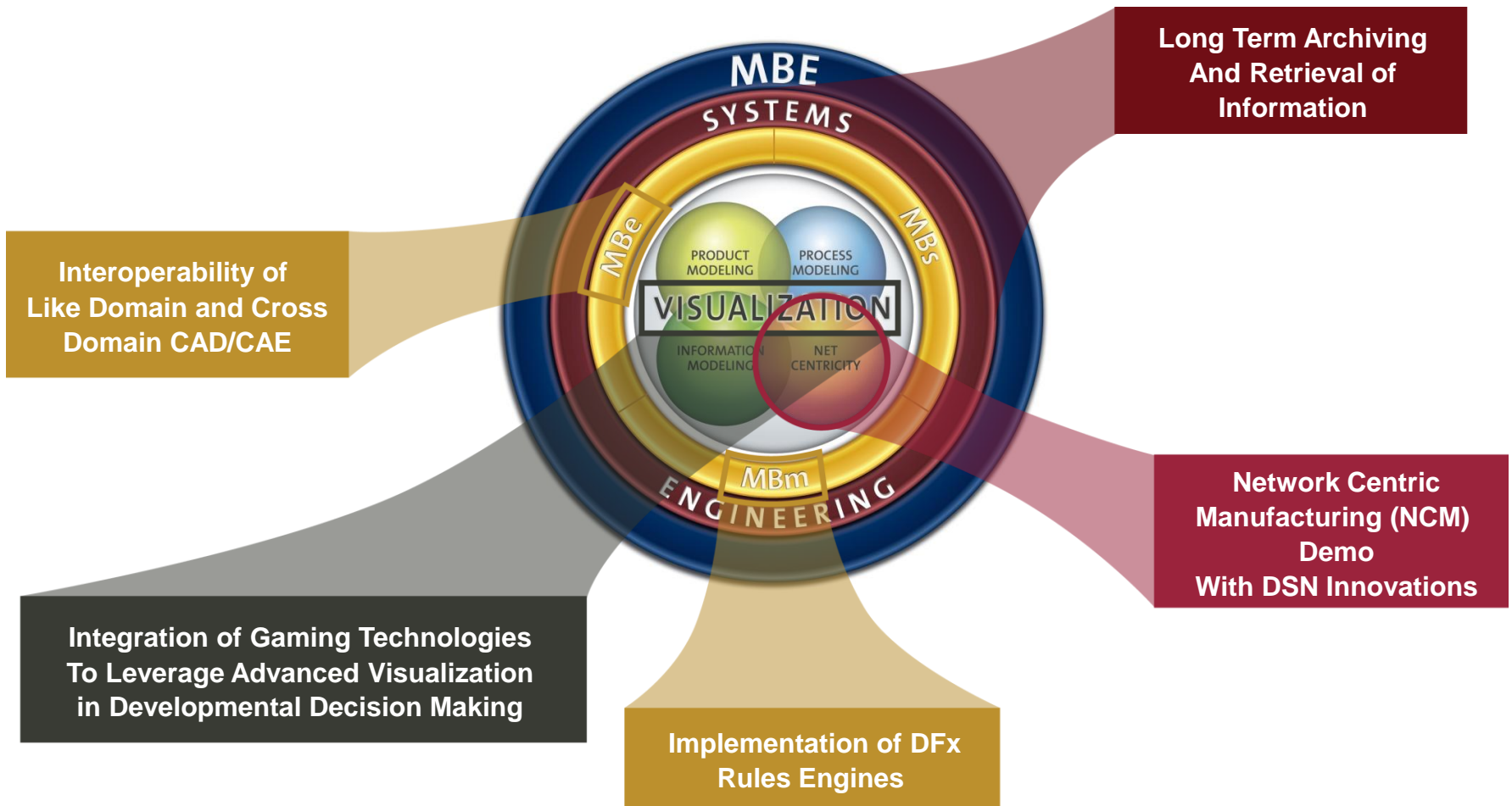
Part II

PDES, Inc. & LOTAR International “A Partnership for Progress”

PDES, Inc. Organizational Chart







“... for Gulfstream, LOTAR is not a ‘nice-to-have’, it is an essential must-have.”

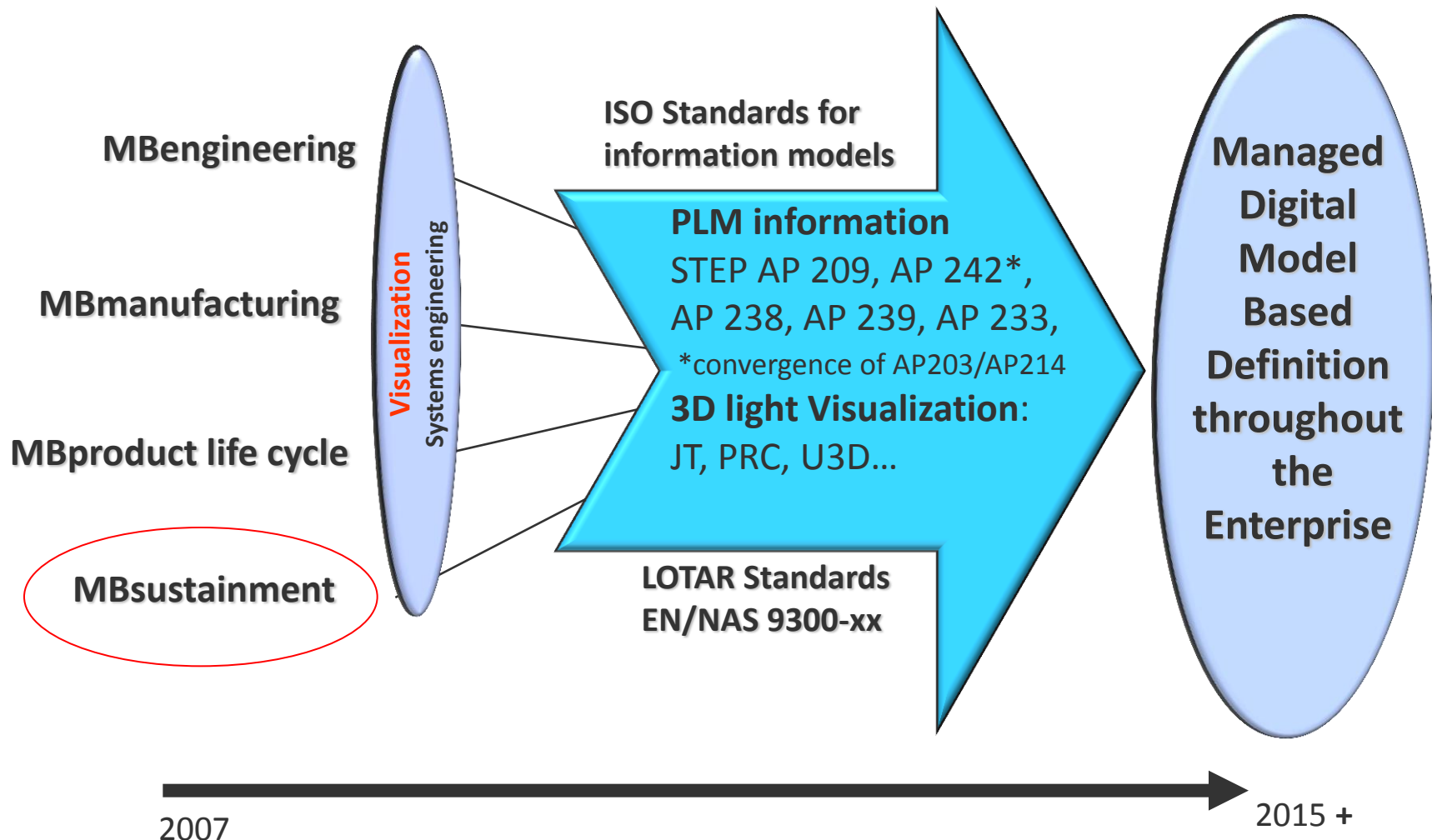


Part III

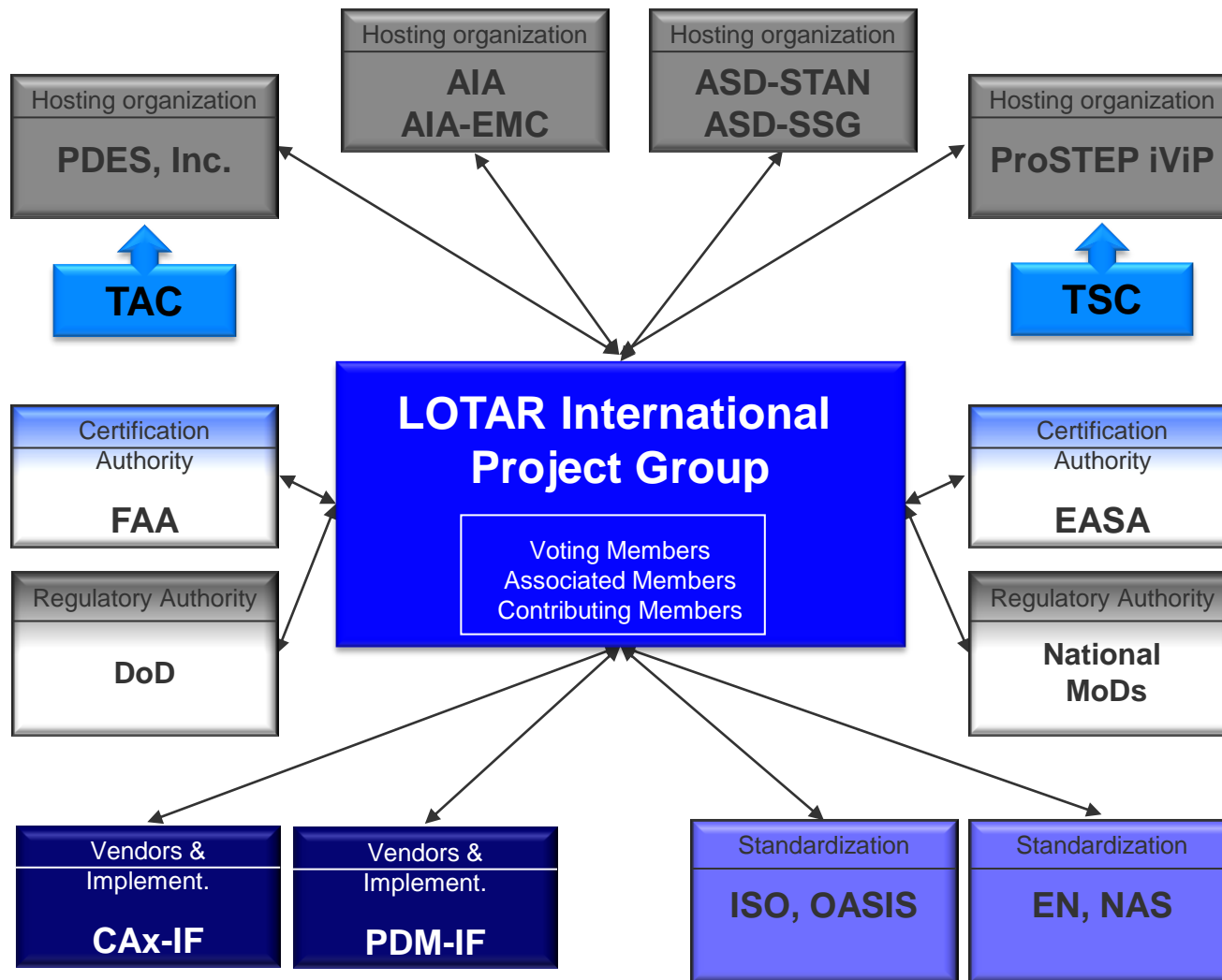
LOTAR International Roadmap & Status

“It is the mission of LOTAR International to globalize a standards-based archival and retrieval mechanism for digital product and technical information through the ongoing harmonization and standardization efforts of Aerospace and Defense organizational affiliations.”

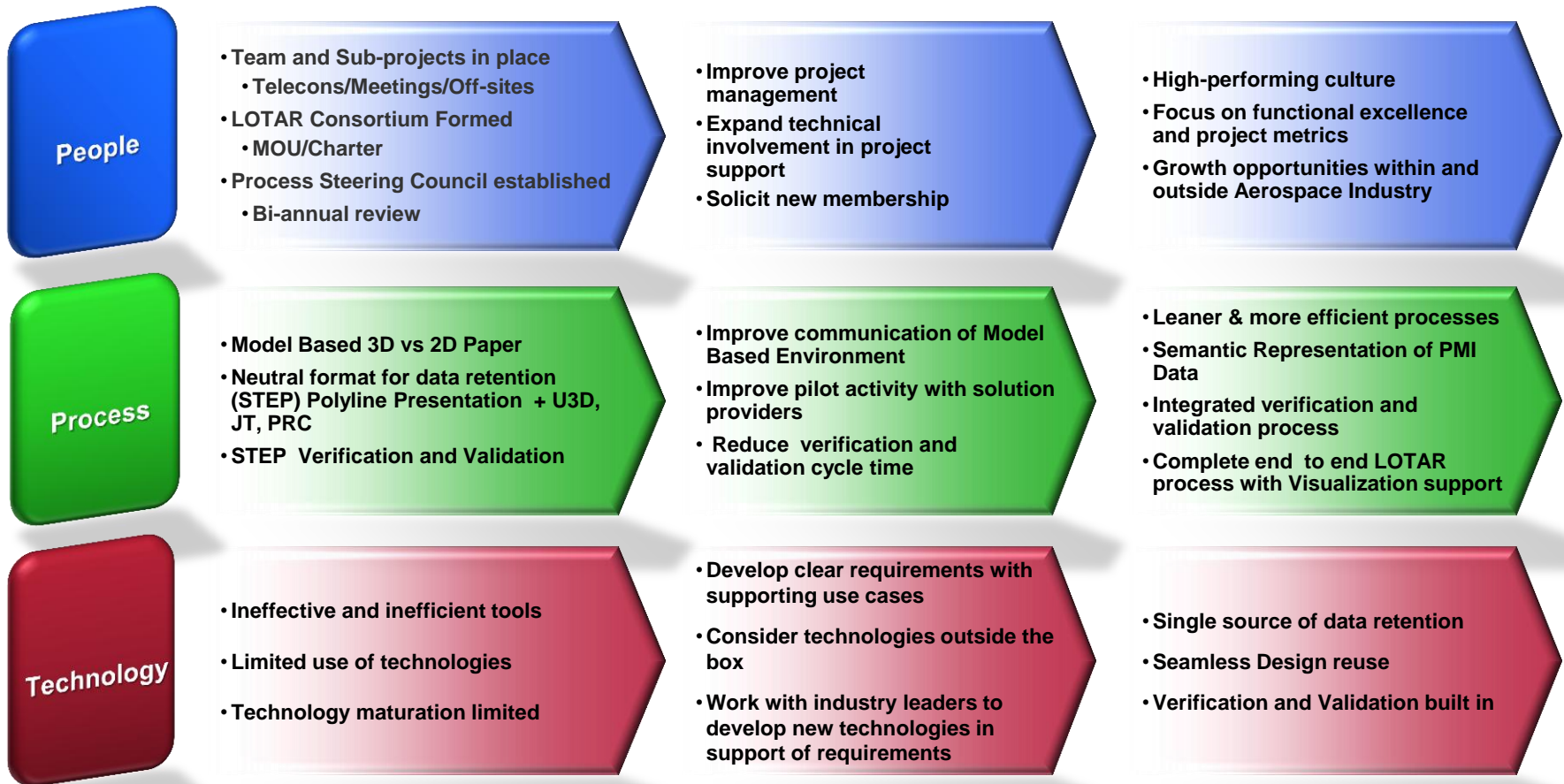
Standards-based Approach for the Digital Enterprise



LOTAR International Organization



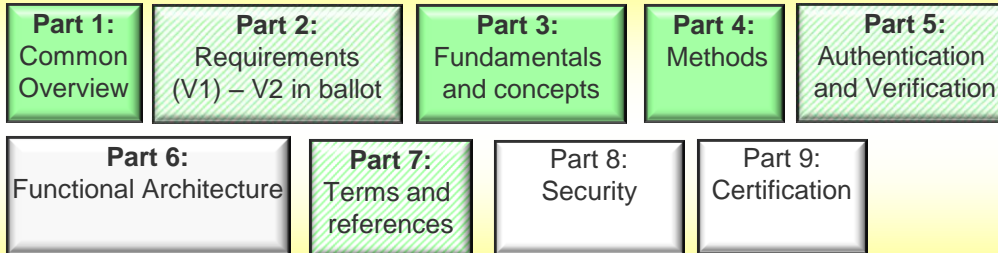
LOTAR International Way of Working



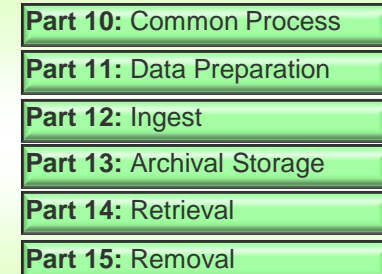
LOTAR International

Document Structure for EN/NAS 9300-xx

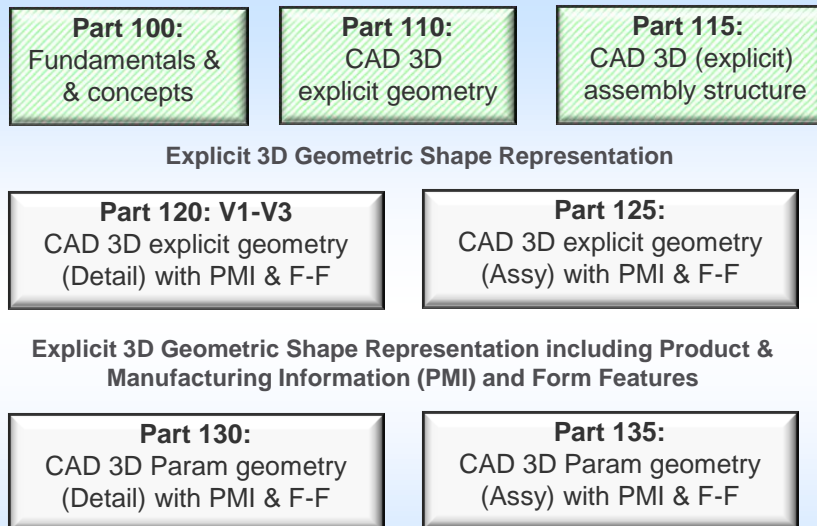
Basic Parts



Common Process Parts

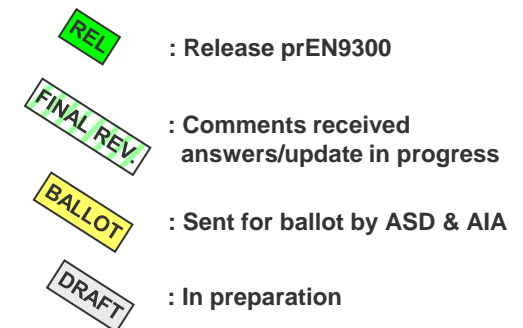
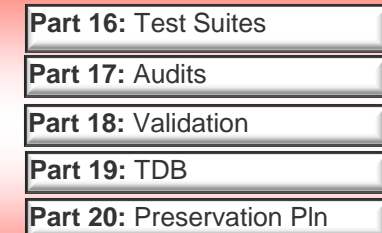


3D CAD Detail Geometry with PMI & Assembly Parts with PMI

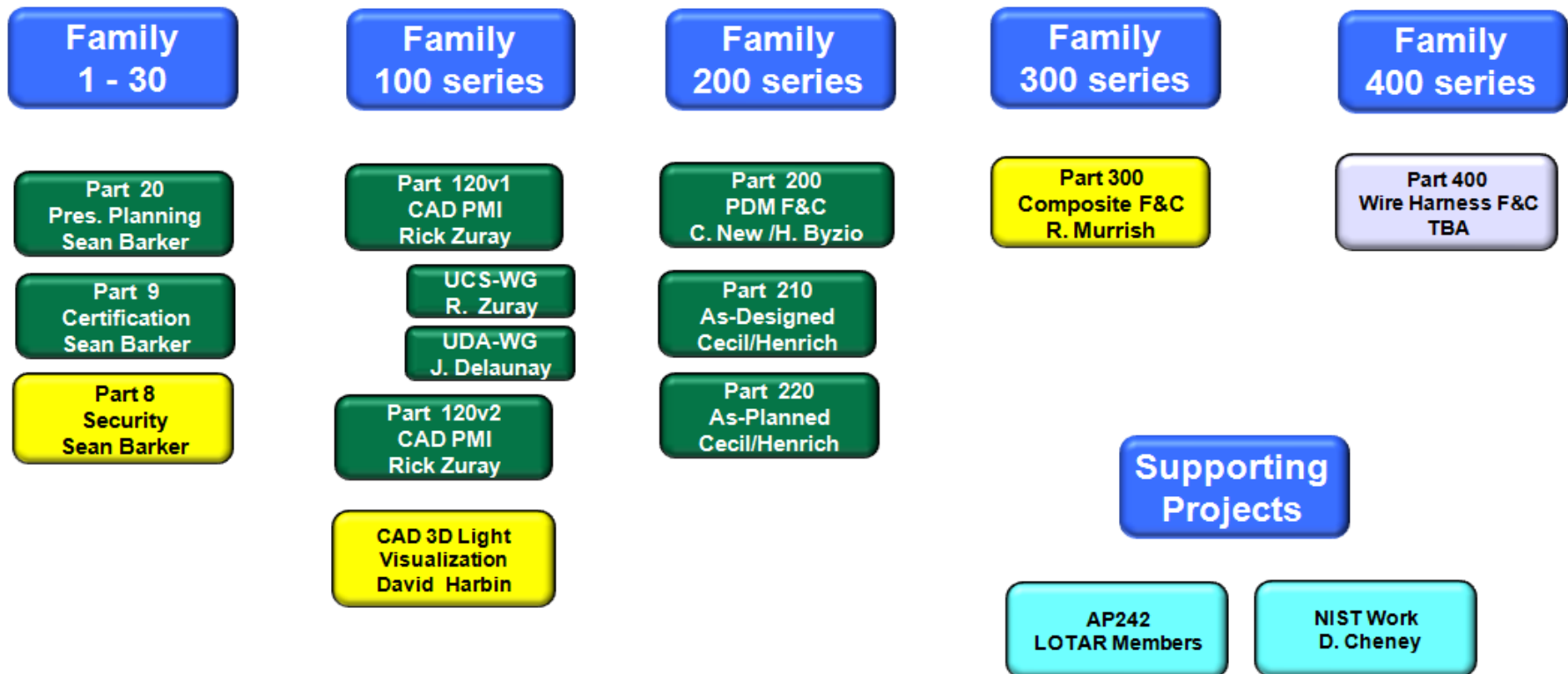


Explicit 3D Geometric Shape Representation including Product & Manufacturing Information (PMI), Form Features & Parametric Attributes

TBD Parts



LOTAR International Technical Working Groups



LEGEND =

In-work	New	Considered
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UCS = Unicode String
 UDA = User Defined Attributes
 F&C= Fundamentals & Concepts



LOTAR
LONG TERM ARCHIVING AND RETRIEVAL




LOTAR International Homepage



LOTAR: Home

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Long Term Archiving and Retrieval - LOTAR

Activities

The objective of LOTAR International is to develop standards for long-term archiving (LTA) of digital data, such as 3D CAD and PDM data. These standards will define auditable archiving and retrieval processes. Use of the standard series by other branches of industry such as the automotive or shipbuilding industry is possible. The results are harmonized with e.g. the Recommendation 4958 for long-term archiving of the German Association of the Automotive Industry (VDA) and are based on the ISO 14721, Open Archival Information System (OAIS) Reference Model. The documents for the standard are published as the EN9300 series and, in cooperation with the AIA, also as the National Aerospace Standard (NAS).

LOTAR International is a project being conducted by leading OEMs and suppliers in the aerospace and defense industry under the joint auspices of ASD-STAN, AIA, PDES Inc. and the ProSTEP iVIP Association.

NEWS

LOTAR Workshop: June, 7-9, 2011

2010-06-06

From Tuesday, June 7, through Thursday, June 9, the second LOTAR Workshop 2011 will take place at...

[more](#)

Search

DRIVERS

- The market is demanding more from us
- National and Global demands are changing

ACTION

- Create the Model-Based Enterprise
- ➔ LOTAR is essential to the Model-Based Enterprise

INVITATION

- Get involved in precompetitive alliances