

ISA95 standard update and overview

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Presenter

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ISA

SP88 & SP95 voting member

S88 & S95 ISA instructor (Psynapses)

District 12 Vice President (EMEA zone)

Agenda

ISA, ISA S&P, S95

ISA95 part 1/2 (B2M)

WBF B2MML (XML for B2M)

d95 part 3 / MESA model (MES)

What is ISA ?

The Instrumentation, Systems and Automation Society

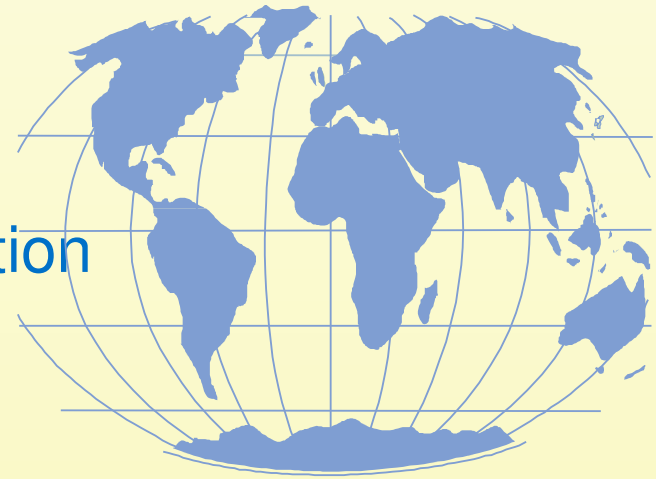
Formerly « The Instrumentation Society of America »

A non for profit organization founded in 1945

38 000 individual members

Addresses

Instrumentation and Automation
In all industries



ISA value

Technical information

Conferences

WEB sites

Magazines

Instrumentation directory

Standards and Guides

Publications

Newsletters

**ISA95 among > 100
standards**

Training and education

www.psynaps.net

Professional network

Exhibitions : ISA Show

www.isaeur.org

Local sections

www.isa-france.org

Standards & Practices Department

Responsible for development and maintenance of measurement and control industry standards

ANSI Accredited to develop US National Standards

Three types of Standards documents

Standard

Recommended Practice - how to do something

Technical Report - how to apply/use a standard

Need not be an ISA member to be on S&P

Committees

Vendors

Users

General



What is ISA/S95 ?

ANSI/ISA95.00.0x standard “Enterprise—Control Systems Integration”

Also called “S95”

SP95 is the committee charged with developing the ISA95 standards

Also ISO/IEC 62264 standard

ISO/IEC JWG15 internationalizes the Standard



ISA 95 Status

SP95 committee started in October 1996

ANSI/ISA 95.00.01 – 2000 “Models and Terminology”
ISO/IEC 62264-1 standard (published)

ANSI/ISA 95.00.02 – 2001 “Object Model Attributes”
ISO/IEC 62264-2 standard (soon to be published)

Draft 95.00.03 – “Activity Models of Manufacturing Operations Management”
d15 11/03 – review by IEC/ISO JWG15

Draft TS95.00.01 – “Business to Manufacturing Transactions”
d1a 08/03

World Batch Forum XML WG B2MML “Business to Manufacturing Markup Language”
V02 09/2003

Some SP95 Committee Members / Supporters

Users

Eli Lilly	DuPont	Lyondell Chemical
Lubrizol		
Dow Corning	Ben & Jerry's	Novo Nordisk
Bechtel		
Rohm & Haas	Sterling	Tava Technologies
EastmanK	IBM	Aurora Biosciences
Bayer		
Genemtech	Nestle	Pharmacia
Merck		
Procter&Gamble	Michelin	Unicopa
UOP		

Vendors

ABB	AspenTech	Siemens	BaseTen
SAP	Sequencia	InCode	Wonderware
Rockwell	Yokogawa		Foxboro
Propack Data			
Honeywell	Emerson Process	InCode	Oracle
Marcam	OSI	Intellution	
Schneider Electric			
GSE System	HP	IBM GS	Microsoft
Ordinal			

Agenda

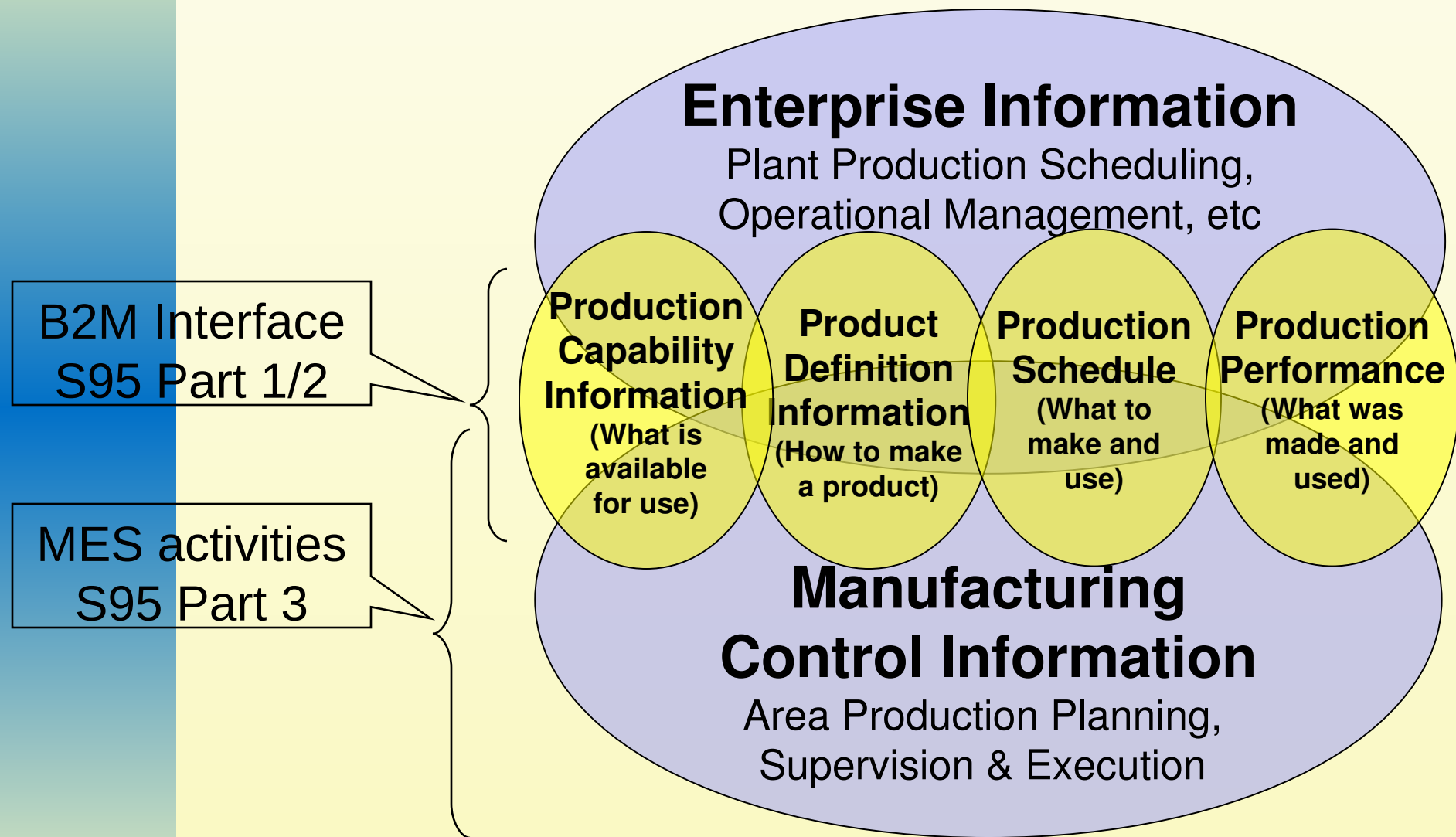
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Information Categories



S95 part 1/2: Major Object Definitions

Resources



People



Equipment

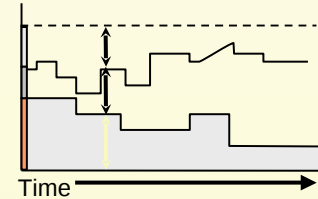


Materials



Segments

Capability, Product, Production



Capabilities



Product
Definitions

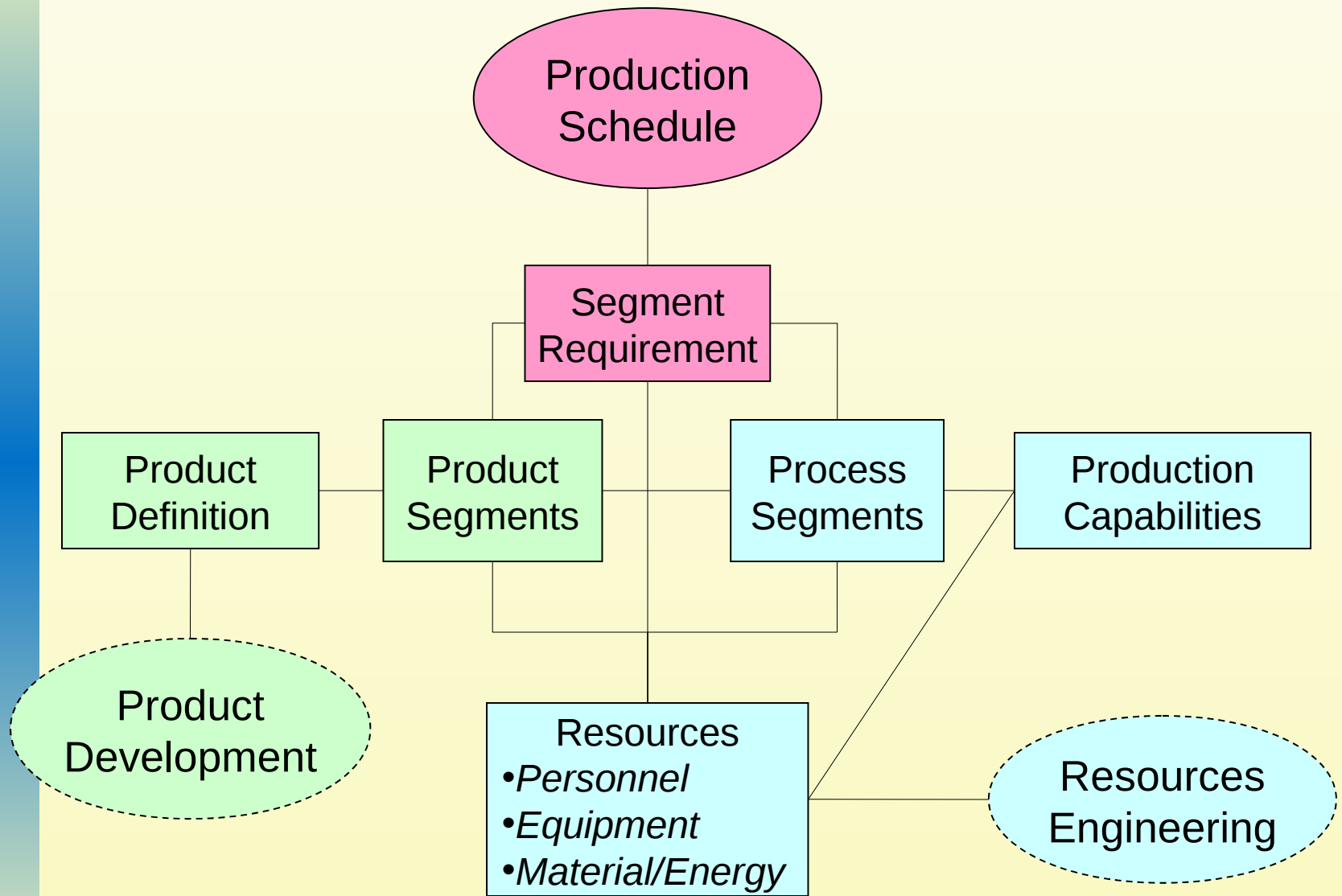


Production
Schedule



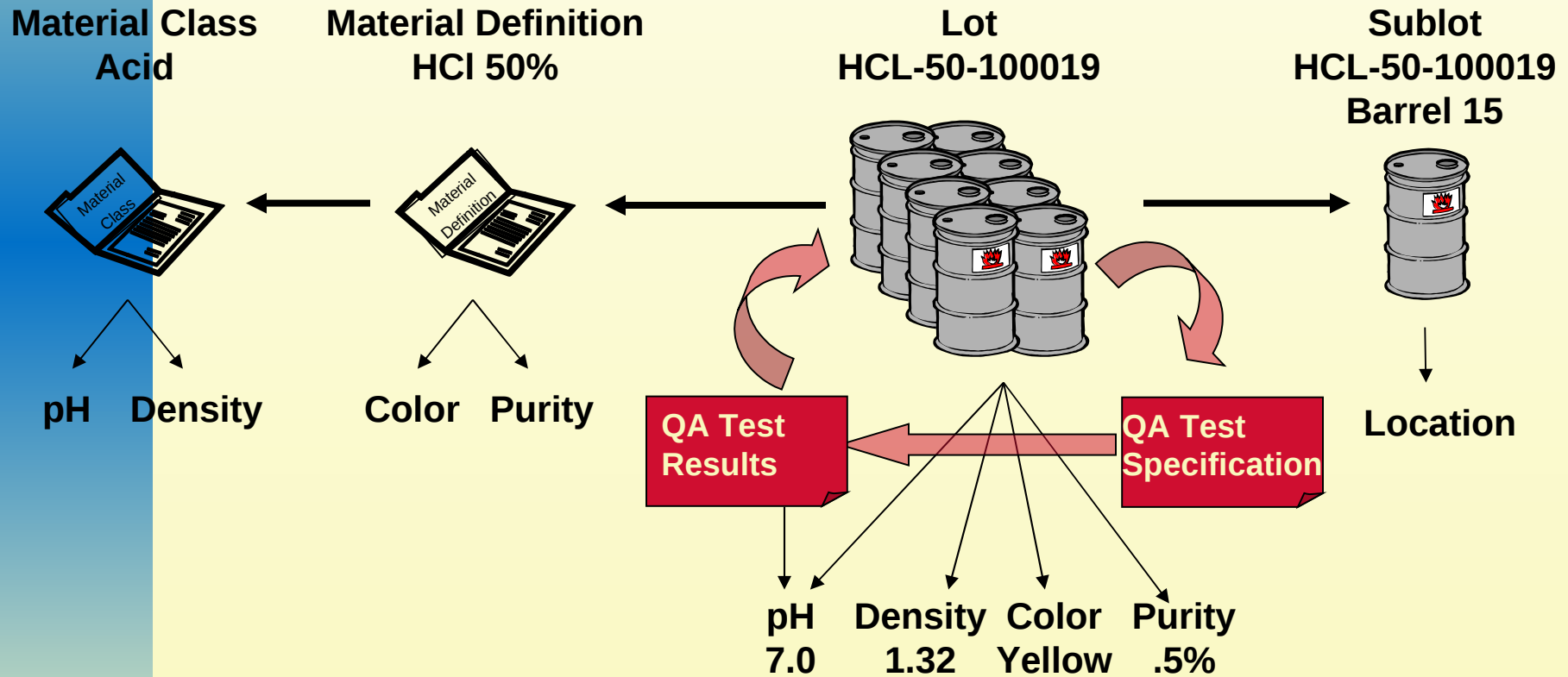
Production
Performance

S95 in Production System Lifecycles



Material Definition Example

Common material information



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Production schedule

Production Schedule

ID

Start & End Time

Production Request

ID

Start & End Time

Segment Requirement

ID

Start & End Time

Parameter

Personnel Requirement

Equipment Requirement

Material Produced

Requirement

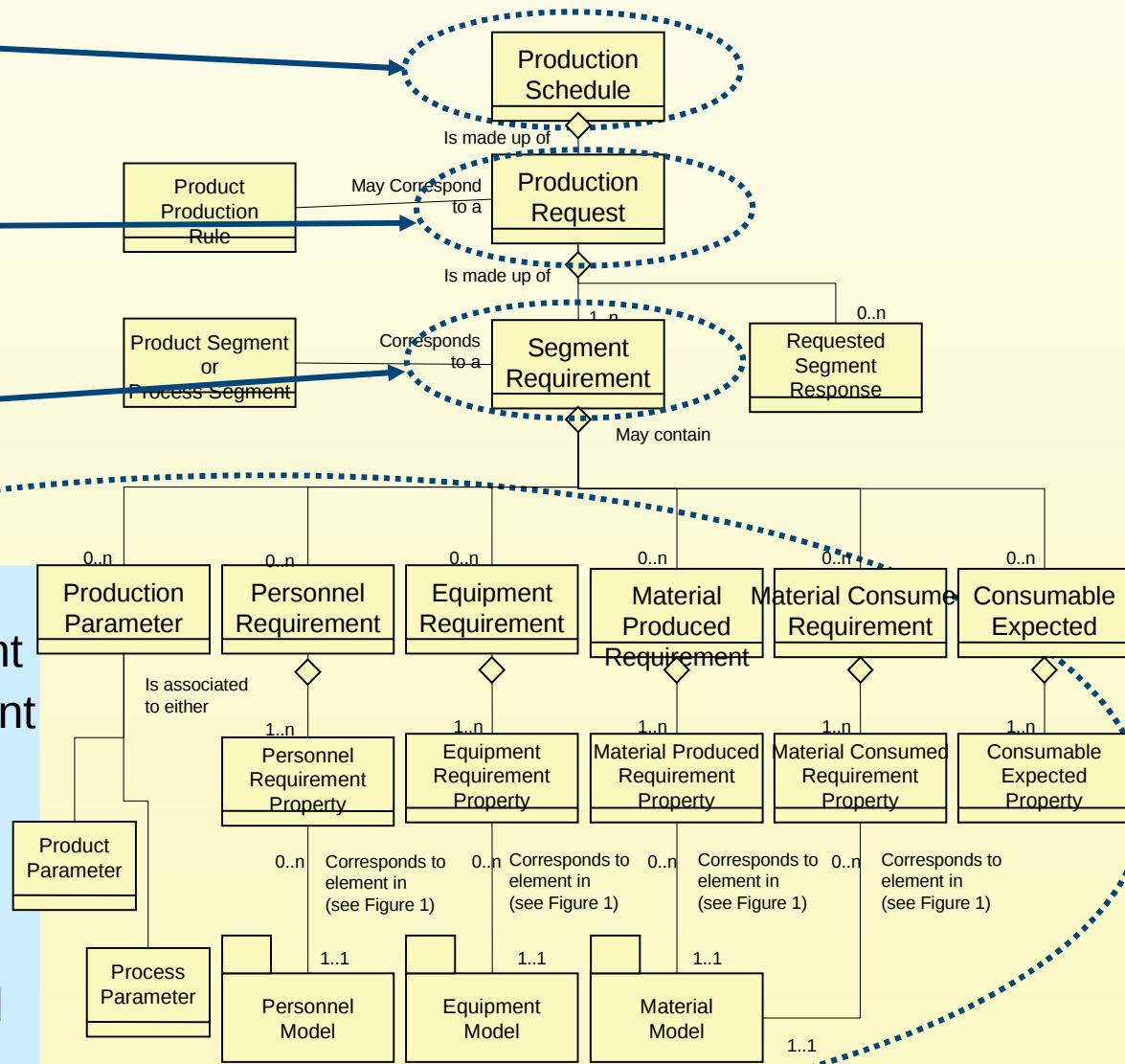
Material Consumed

Requirement

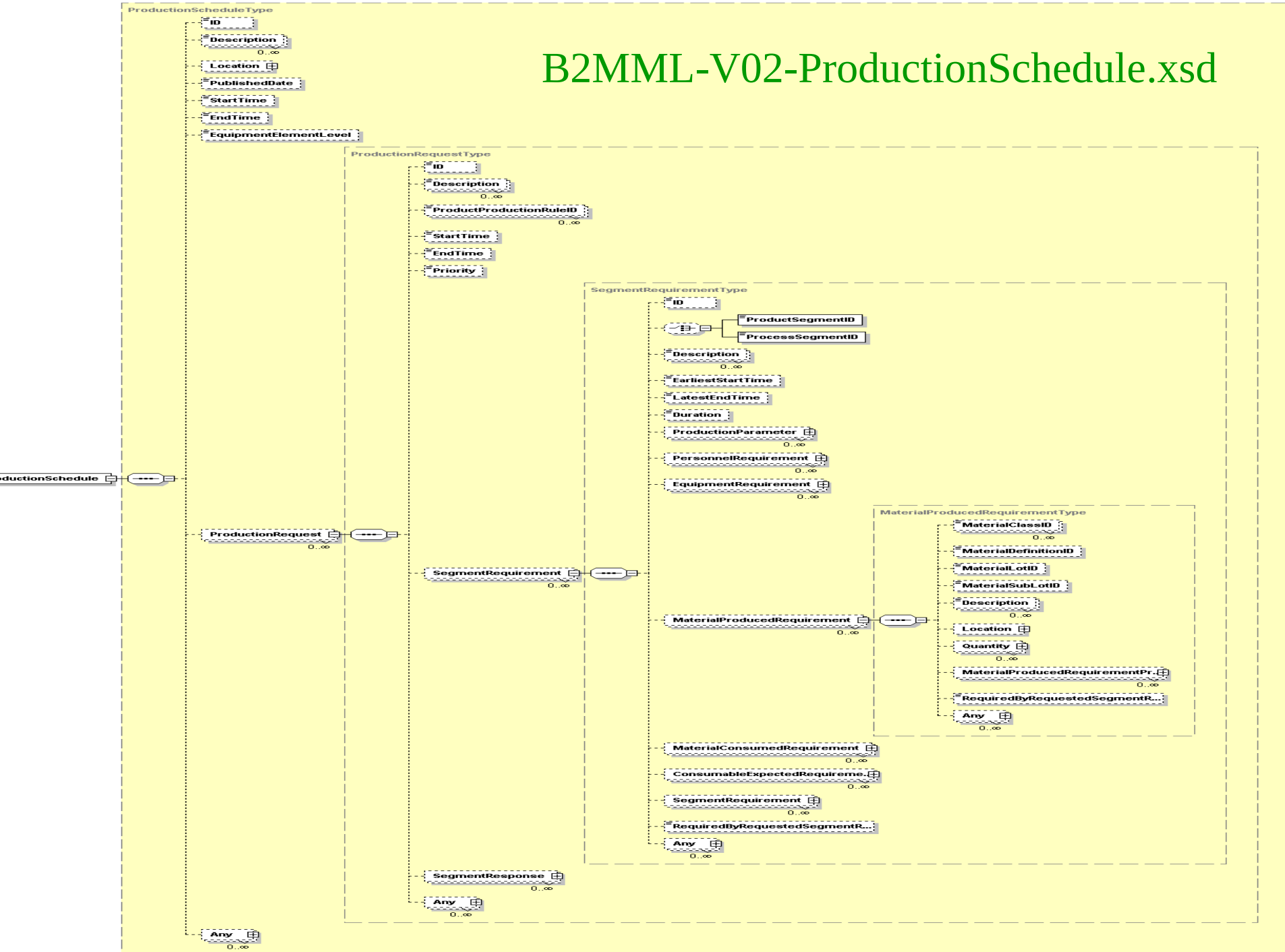
Consumable Expected

Requirement

Segment Requirement



B2MML-V02-ProductionSchedule.xsd



Next work: B2M processes & transactions

Example: Process segment look-up

This business process is used to identify the production resources that may satisfy all or part of the product definition.

Business

Getlist ProcessSegment

For each process segment:

Get ProcessSegment

For this process segment, check the resources adequation and properties against Product segments

Update ProductDefinition

Manufacturing

Showlist ProcessSegment

Show ProcessSegment

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Why S95 part 3?

Part 1 and 2 focus only on Production

Maintenance and Quality vaguely included within Resource management

Many places for Business / Manufacturing domains boundary : MES area must be addressed

MES area current definitions lack of consistency (MESA « marketing » model)

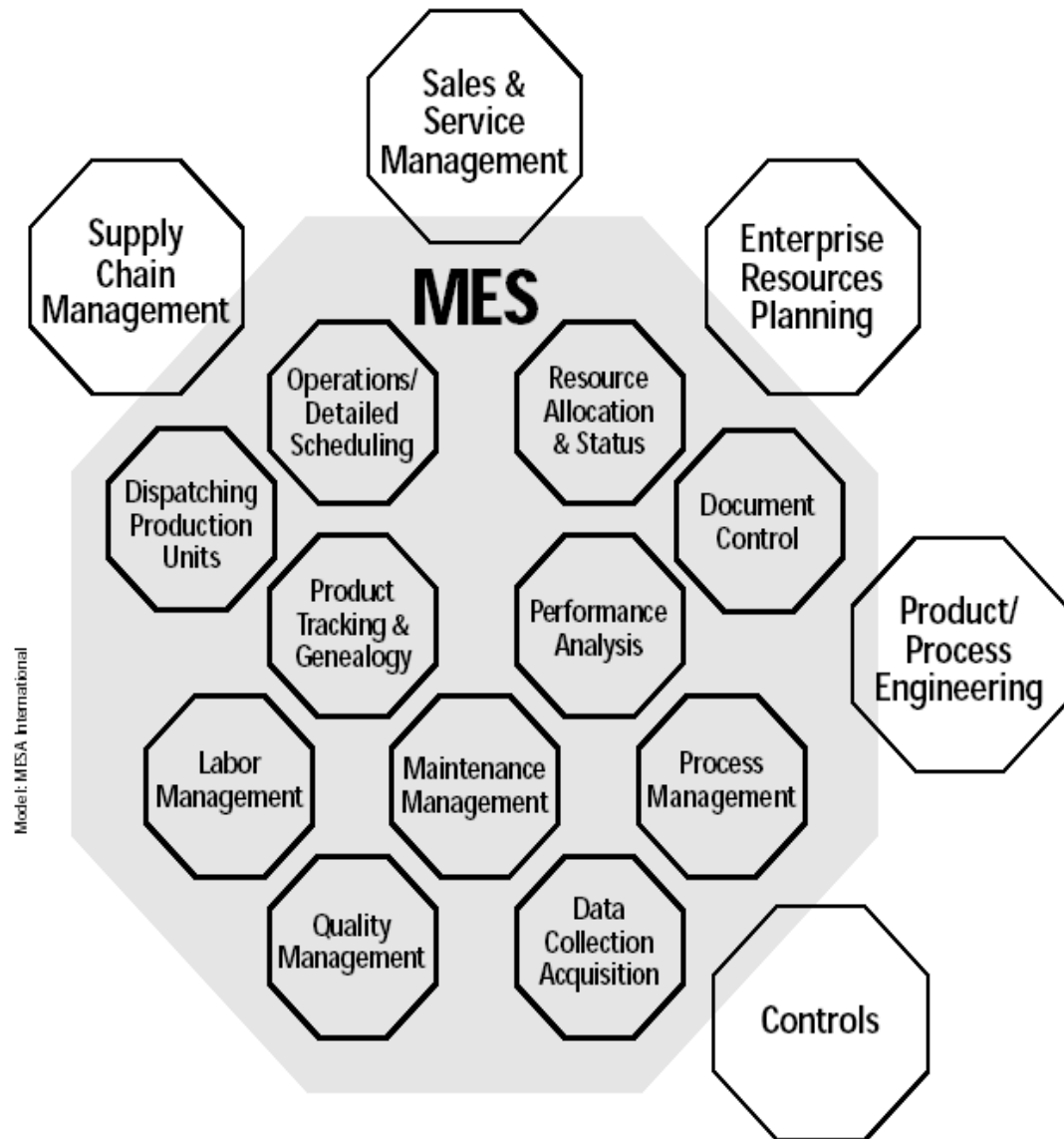
Activity domains and supporting activities mixed

MESA model: a marketing tool

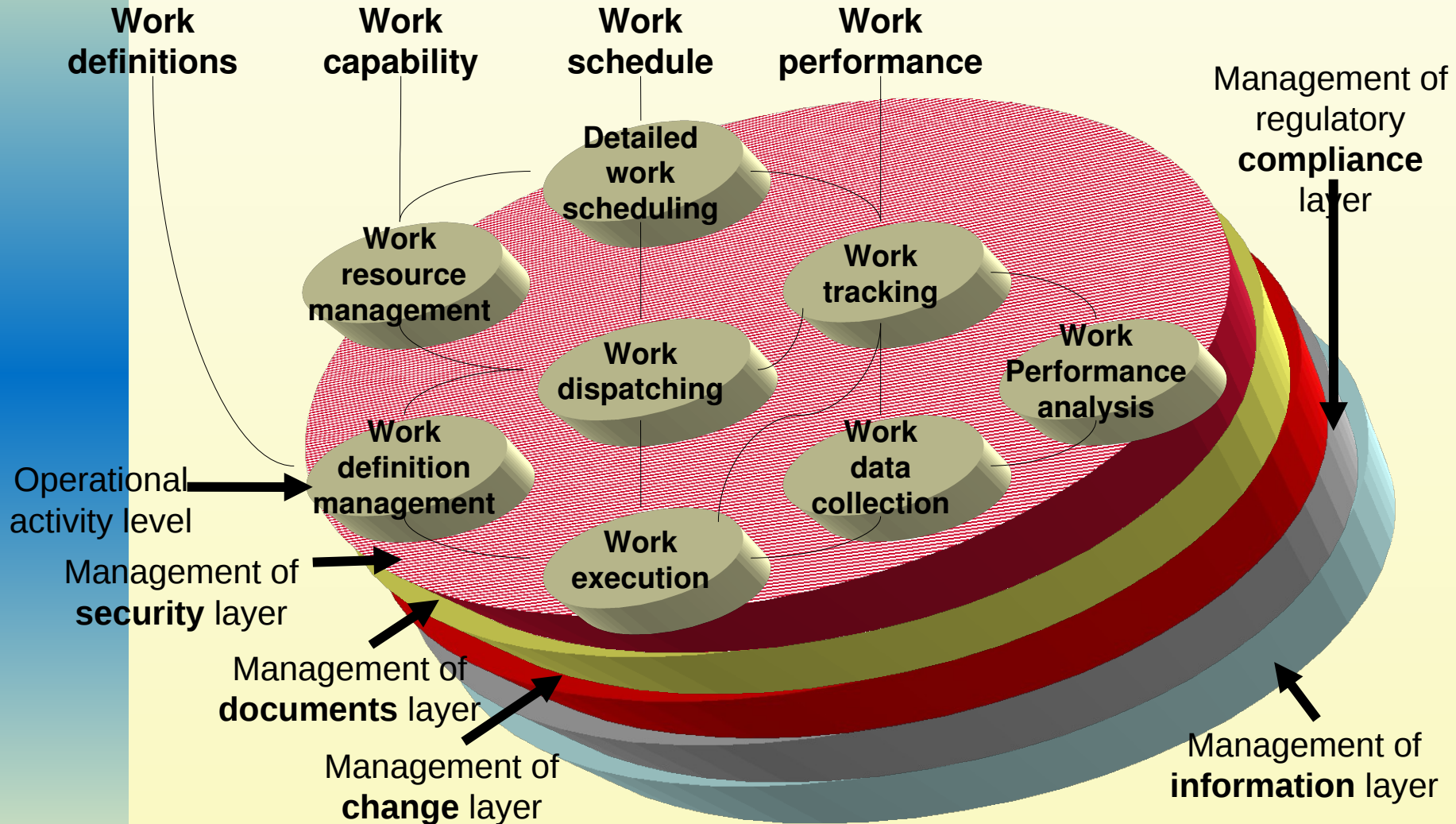
MESA: a consortium of MES vendors. Its model
Helped to promote MES solutions
Can be mapped on certain vendor solutions

But

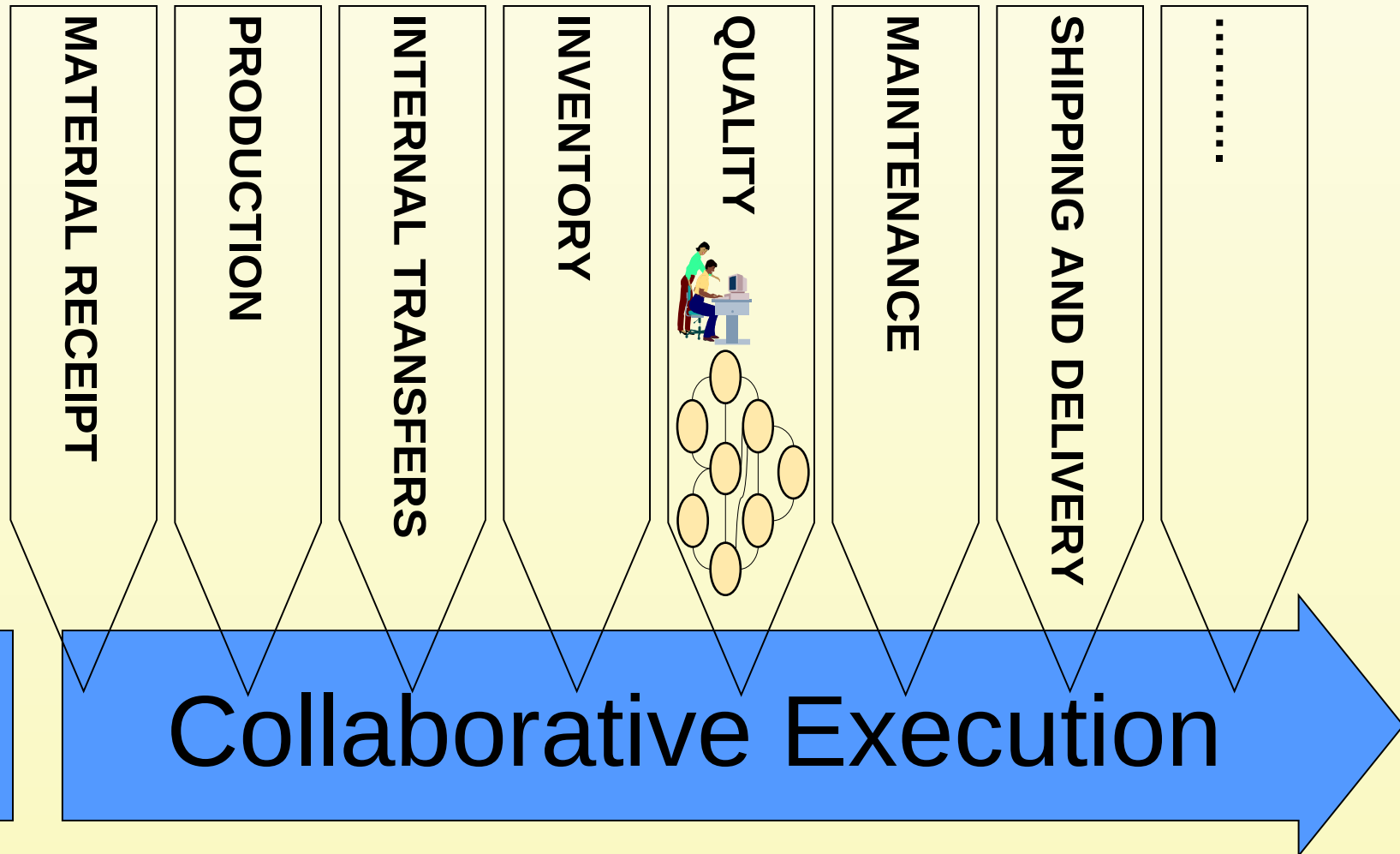
Not a formal model
Not a consistent function set
Does not help to specify user requirements



Dim. 1&2: Generic & support Activity Model



Dimension 3: Production collaborative activities



Responsibility & Technical Lines of Integration

Responsibility & Technical lines of integration

may not match

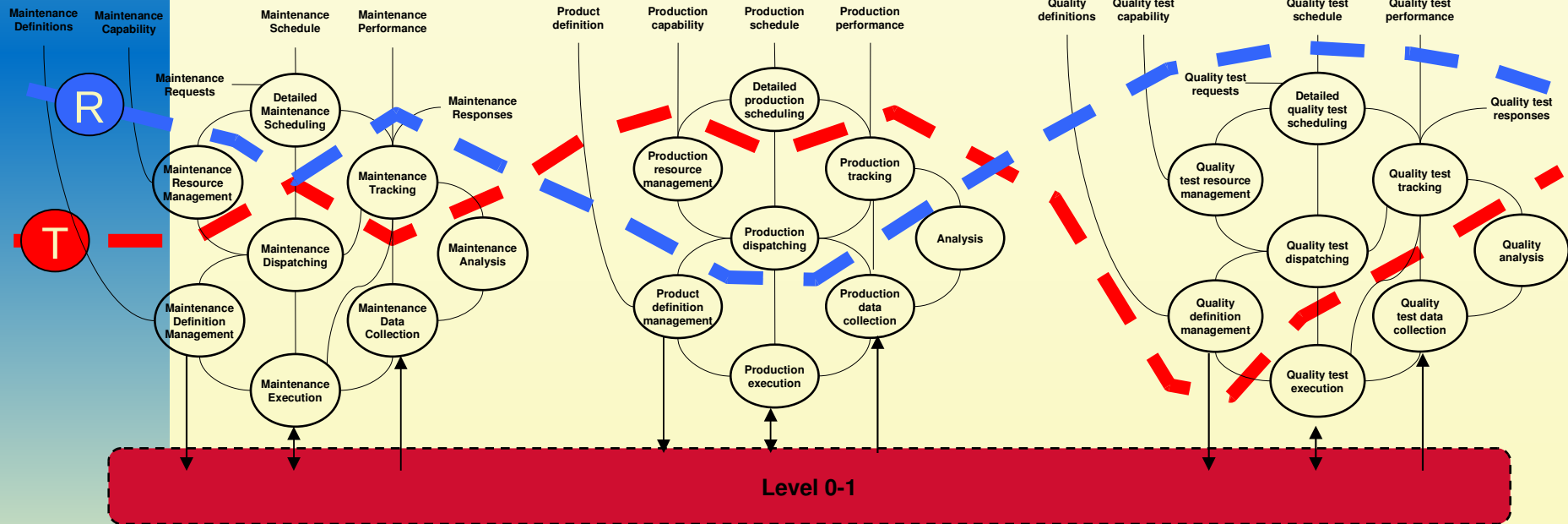
may be different depending of the operation domain

may vary depending on industry / plant

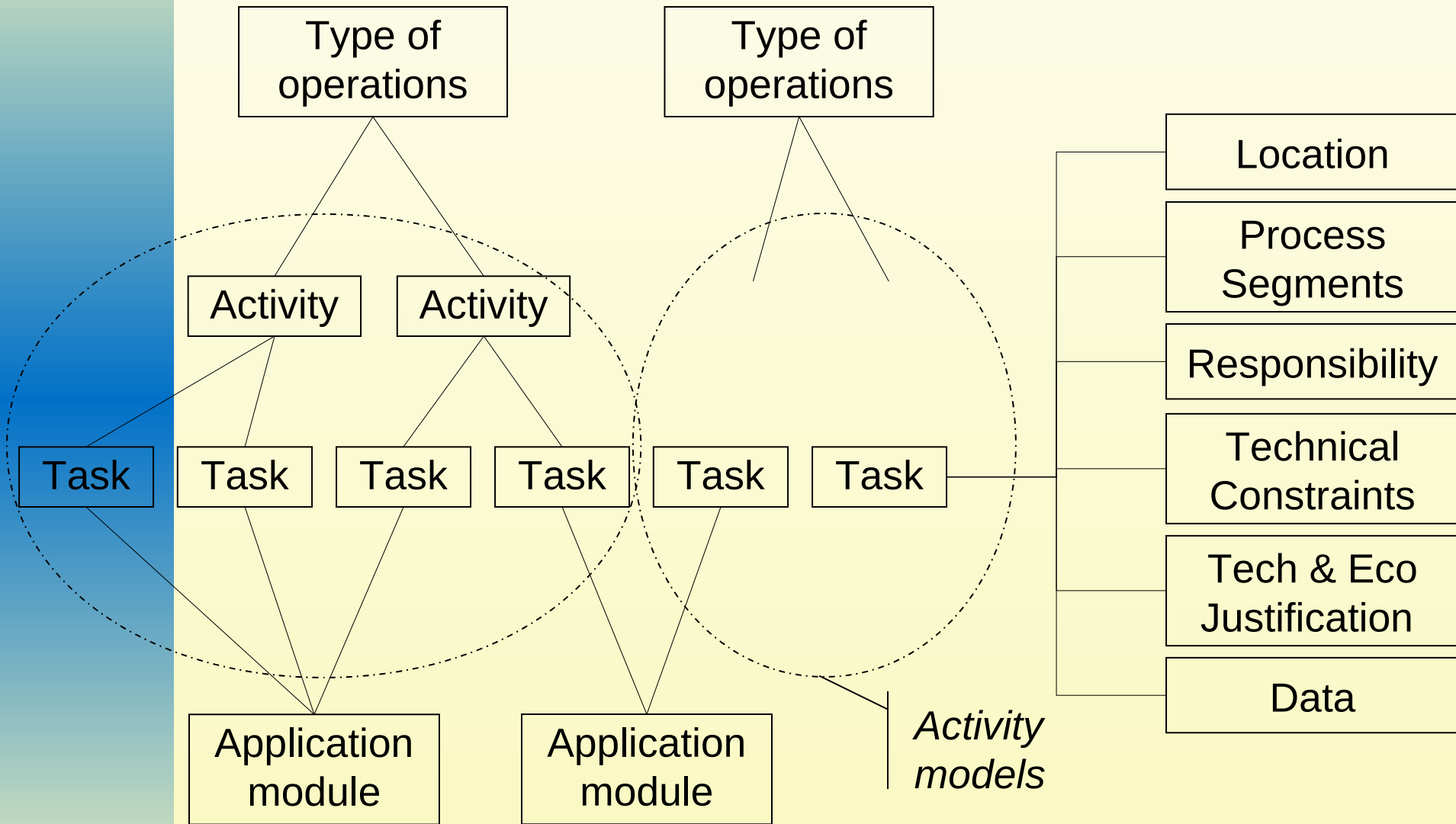
Maintenance

Production

Quality



MES requirements methodology



THANK YOU

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