



Work: **ISA8895 Implementation**  
Section: **Structure**  
Chapter: **Inventory Asset**

Language: **English**

Version: **V3 - 05/2011**



Jean Vieille

[www.syntrropicfactory.info](http://www.syntrropicfactory.info) [j.vieille@syntrropicfactory.info](mailto:j.vieille@syntrropicfactory.info)



Research community [www.controlchainmanagement.org](http://www.controlchainmanagement.org)



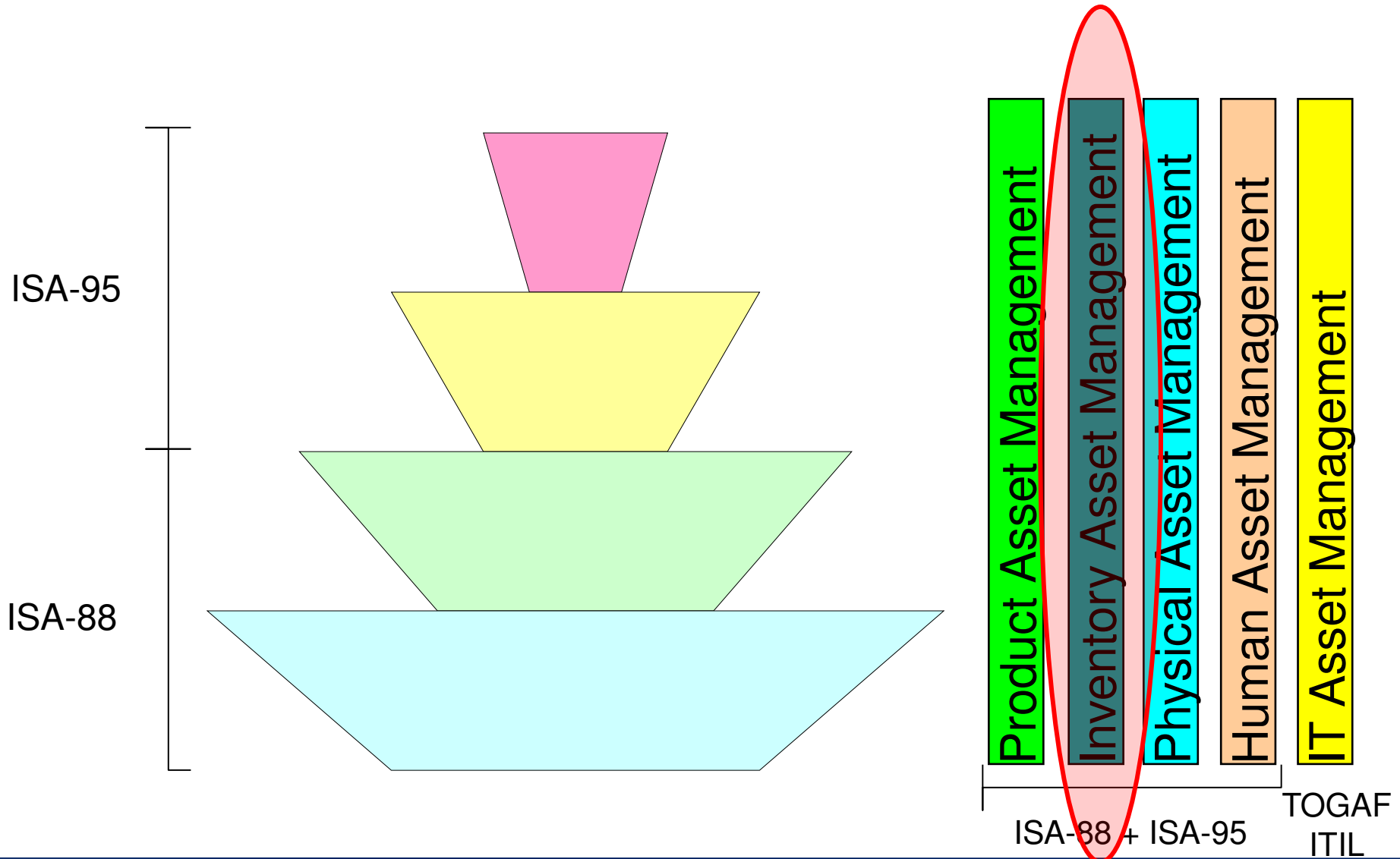
Consulting group [www.controlchaingroup.com](http://www.controlchaingroup.com)



# Agenda

- Introduction
- **ISA95 Material Model**

# CC functional domains



# Information Elements

Domain sur l'icône	Model ajouter	Std table	Information elements
Product Asset	Product Product	ISA88 ISA95	Product Hierarchy Product Definition
Inventory Asset	Material	ISA95	Material Resources
Physical Asset	Physical Equipment	ISA88 ISA95	Equipment Hierarchy Equipment Resources
Human Asset	Personnel	- ISA95	Personnel Hierarchy Personnel Resources
Equipment Control	Procedural	ISA88	Functional Hierarchy Equipment Procedural Elements
Physical Process Control	Procedural	ISA88	Physical Processes / Procedural Elements Physical Process Transform Components
Physical Process Mngt	Segment	ISA95	Segments
Operation Process Mngt	Operation Activity	ISA95	Operation Processes Activities / Tasks



# Who's / What's concerned?

PRM	Usr/Rsp	Usage	Typ.IT app
Cliquez sur l'icône pour ajouter un tableau			
Customer order processing			
Production planning & scheduling	X		
Production control	X		
Material and energy control	R		
Procurement	X		
Quality assurance	X		
Product inventory control	X		
Product cost accounting	X		
Product shipping administration			
Maintenance management			
Research & development	X		
Engineering		2_30_ISA8895_Structure_InventoryAsset	5



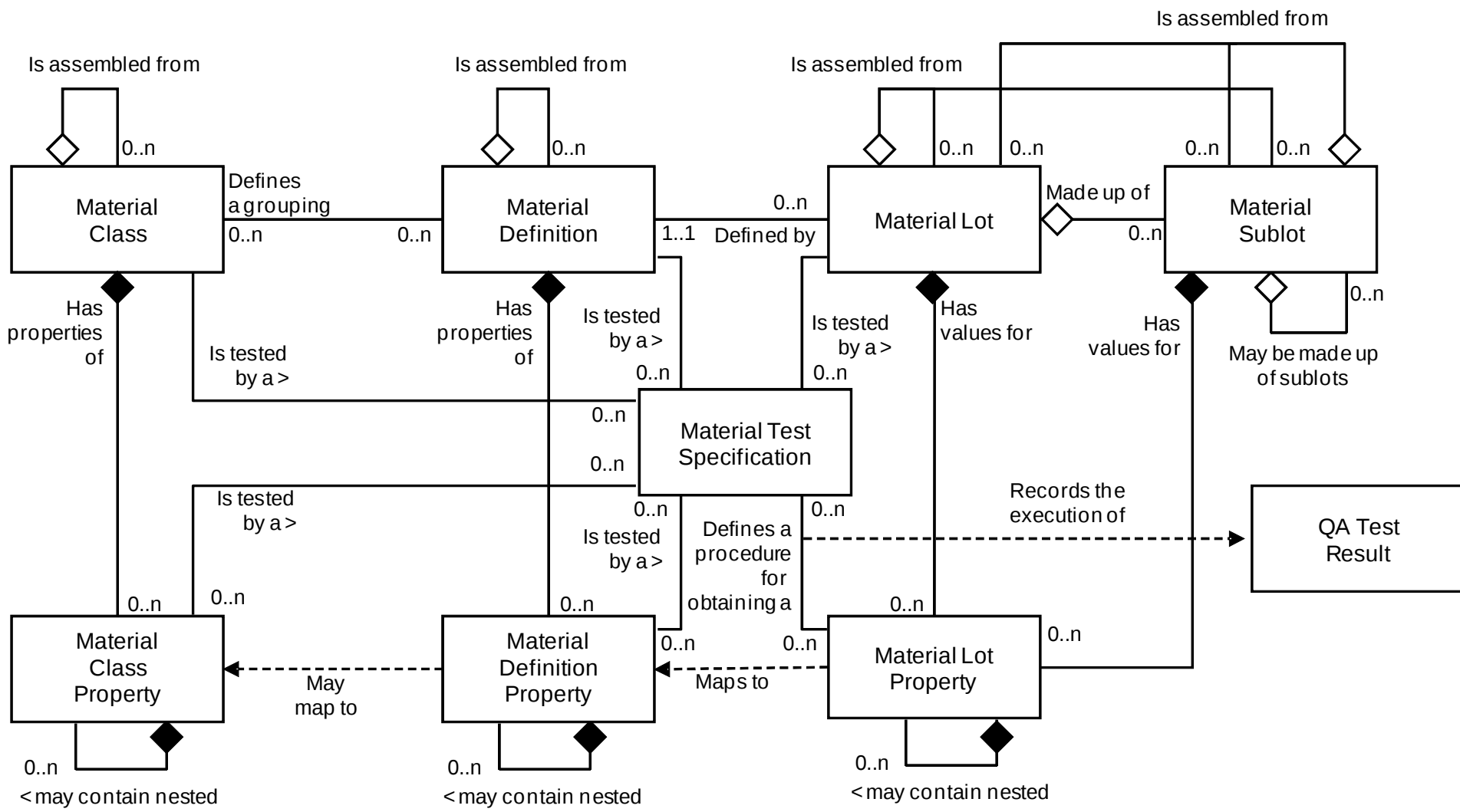
# Agenda

- **Introduction**
- **ISA95 Material Model**

# ISA95 Material Model

- **Addresses tangible possession of the enterprise**
  - Similar to the Equipment asset
- **Identifies the material assets**
  - As an evolving component along the energy chain
    - Raw material => semi finished => finished product
    - Regardless the incorporated value (see Product Asset)
  - As a defined structure
    - Defines category (class), master material definition, assemblies, properties...
  - As actual asset
    - Inventory entity (lot/sublots) and properties

# ISA95 Material Resource Model





# Material Model elements

- **Definition Elements**

- Material Class:

- “a grouping of materials with similar characteristics for purposes of information exchange”
    - Multidimensional categories of material. Ex: Liquid, Ingredients, Acid...
    - One of the Class dimension is the Product Hierarchy Level

- Material Definition:

- “definition of the properties and characteristics for a substance”
    - Specific material identification. Ex: City Water, NaCH, HCL 50%

- Material Test Specification

- “may identify a test for one or more material definition properties”

- **Assemblies are handled by the recursive structure of definition elements**

# Material Model elements

- **Actual Element**
  - Material Lot/Sublot:
    - “uniquely identifiable amount of a material”
    - Quantity of Material Definition sharing the same properties+ other restrictions. Ex:
    - Can be hierarchical: Material SubLot
      - *“uniquely identifiable subset of a material lot, containing quantity and location”*
      - *Subset of the Lot based on SKU, location*
  - Material Test Result
    - “records the results from a material test for a specific material lot”
- **Assemblies are handled by the recursive structure of actual elements**

# Material Model elements

- **Property (Definition)**
  - “object denoting an implementation specific characteristic of an entity”
  - Characterization entities for Material Classes/Definition/Lot/Sublot
    - Ex: Density, Purity, brightness...
- **Property (Value)**
  - Valuation of the property as a requirement (for Material Class/Definition)
  - Valuation of a property from actual assessment (For Material Lot/Sublot)
  - Ex: Density = 1,45

# Exercises - Excel spreadsheet

- **(1) Properties**
  - Identify some typical material properties: name, range,
- **(2) Material Test Specification**
  - Identify typical Test Specifications
- **(3) Material classes**
  - Identify typical material classes
    - Possibly hierarchically
- **(4) Material Definition**
  - Fill up a set of material master records
    - Possibly hierarchically
- **(5) Material Lot**
  - Fill up a set of material inventory records
    - Possibly hierarchically

# Thank You !