

Aras Innovator Implementation

Lear Corporation

Aras Community Event
May 2010

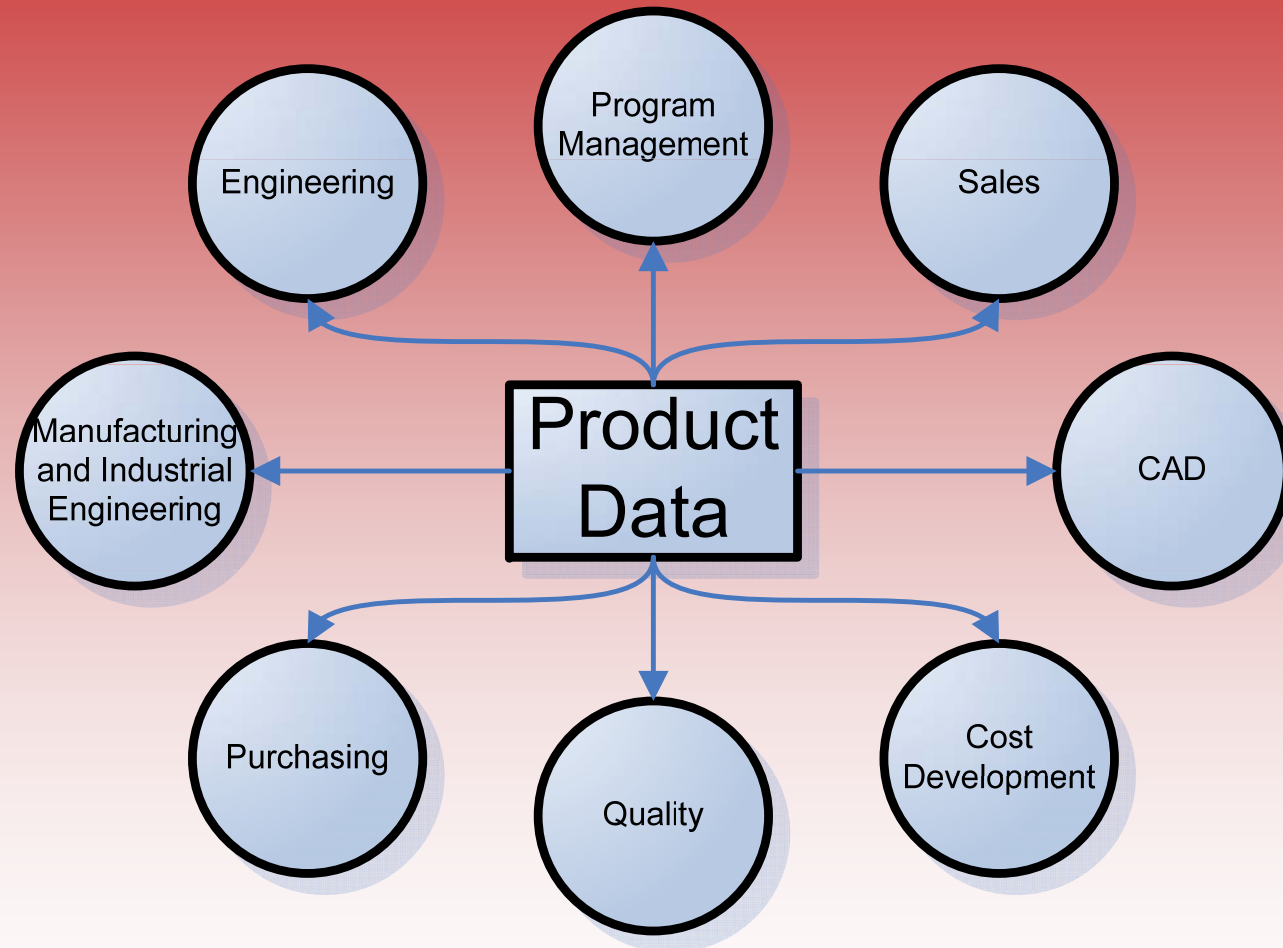


About Lear...

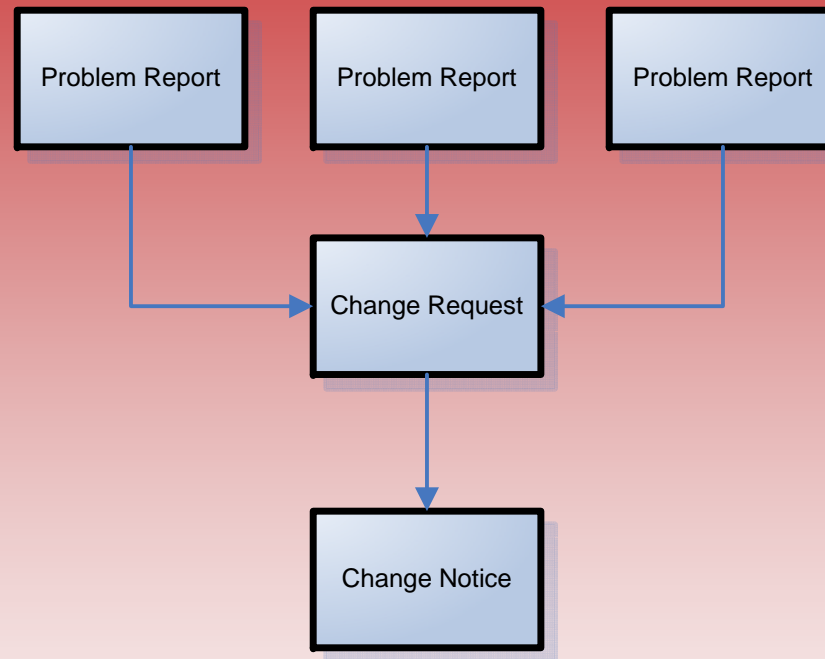
- Major automotive parts supplier with 2009 sales of \$9.7B
- 75,000 employees at 197 locations in 35 countries
- Headquartered in Southfield, Michigan
- Two large product segments:
 - Seating Systems
 - Electrical Power Management Systems
 - Electrical Distribution
 - Electronics



Objective No. 1: Make the product data available to every function for their own use

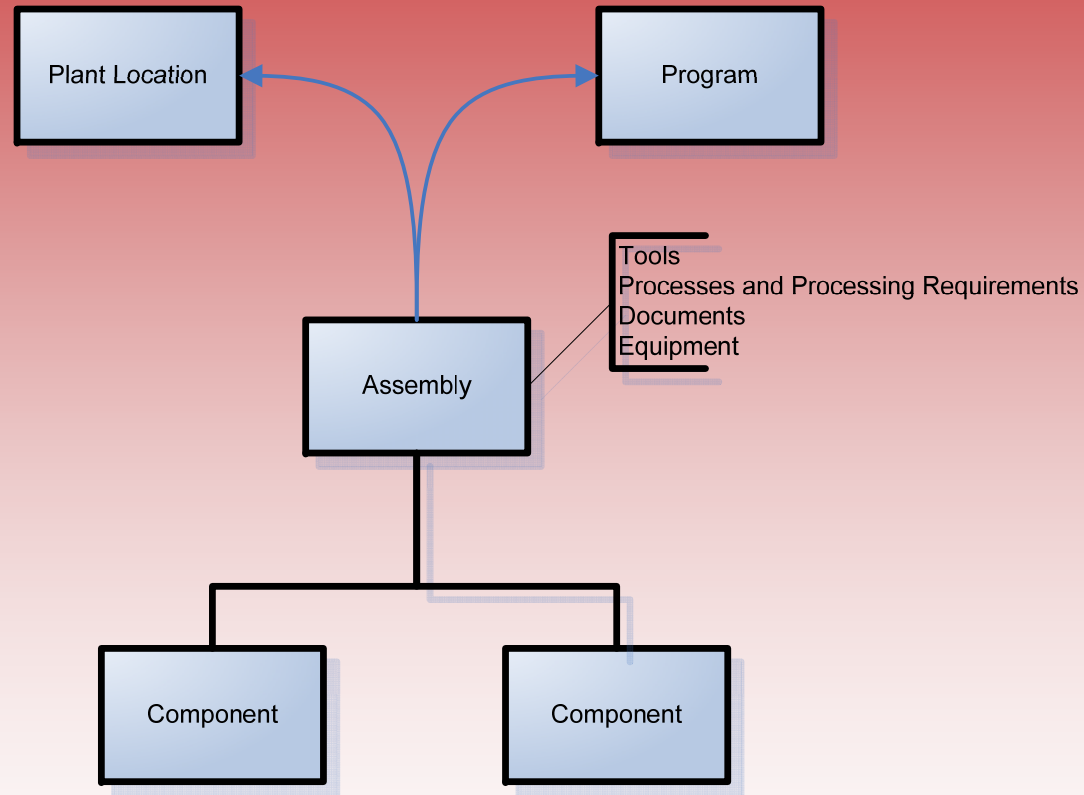


Objective No. 2: Use best-in-class processes to manage the product data

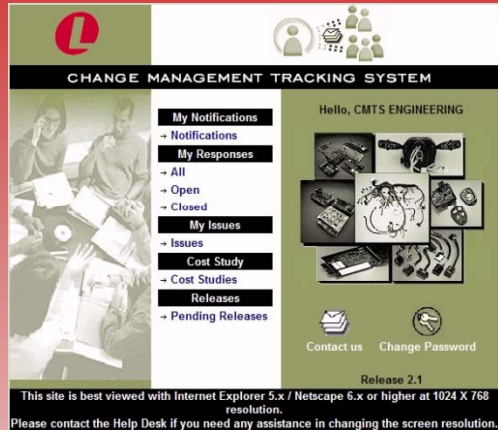


CMII Compliance

Objective No. 3: Create the necessary linkages to enable automation



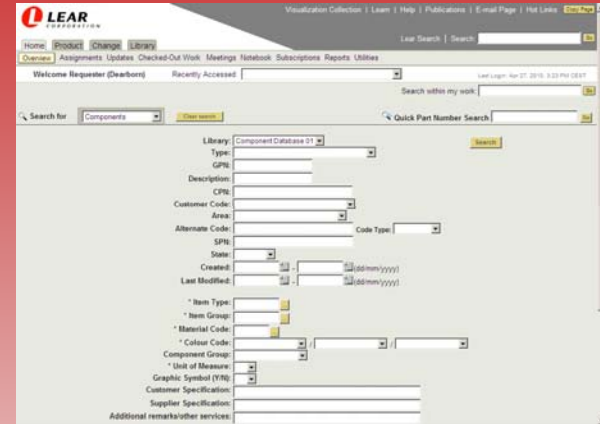
Before Aras Innovator Implementation



CMTS

(Cross-Functional Change Workflow)

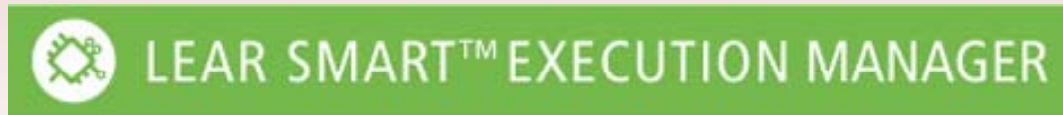
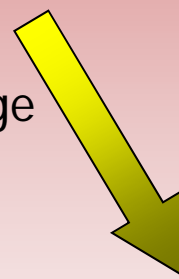
Home-grown



GCDB

(Part Attributes and Docs)

Windchill (PTC)

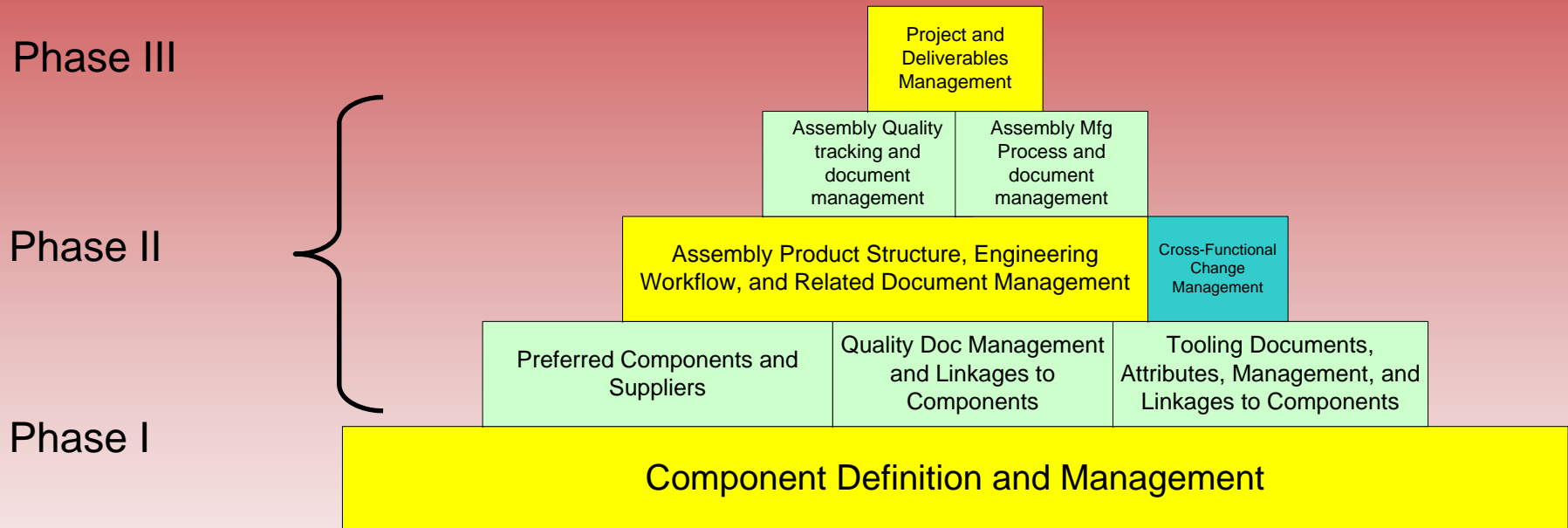


(Aras Innovator)

Components ~ 100,000
Drawings ~ 30,000



Roadmap



Significant Factors in Choosing Aras Innovator

- CMII Compliance
- No-cost licensing
 - Everybody that deals with product change must have access (over 1,000 users)
- Configurability
- User Interface



Current and Planned Infrastructure

- One global database in Southfield, MI
- Accessed from:
 - Spain
 - Mexico
 - Honduras
 - Argentina
 - Philippines
 - China
 - US
 - Poland
 - Romania
 - Germany
 - Sweden
 - Japan
 - and Others
- Regional Vaults to be deployed during Phase 2 for CAD data



Phase 2 Planned CAD Integrations

- MCAD
 - CATIA v5
 - UG NX
- ECAD (PCB Design)
 - PADS
 - PCAD
- Three file vaults
 - North American region (U.S.)
 - European region
 - Asia-Pacific region

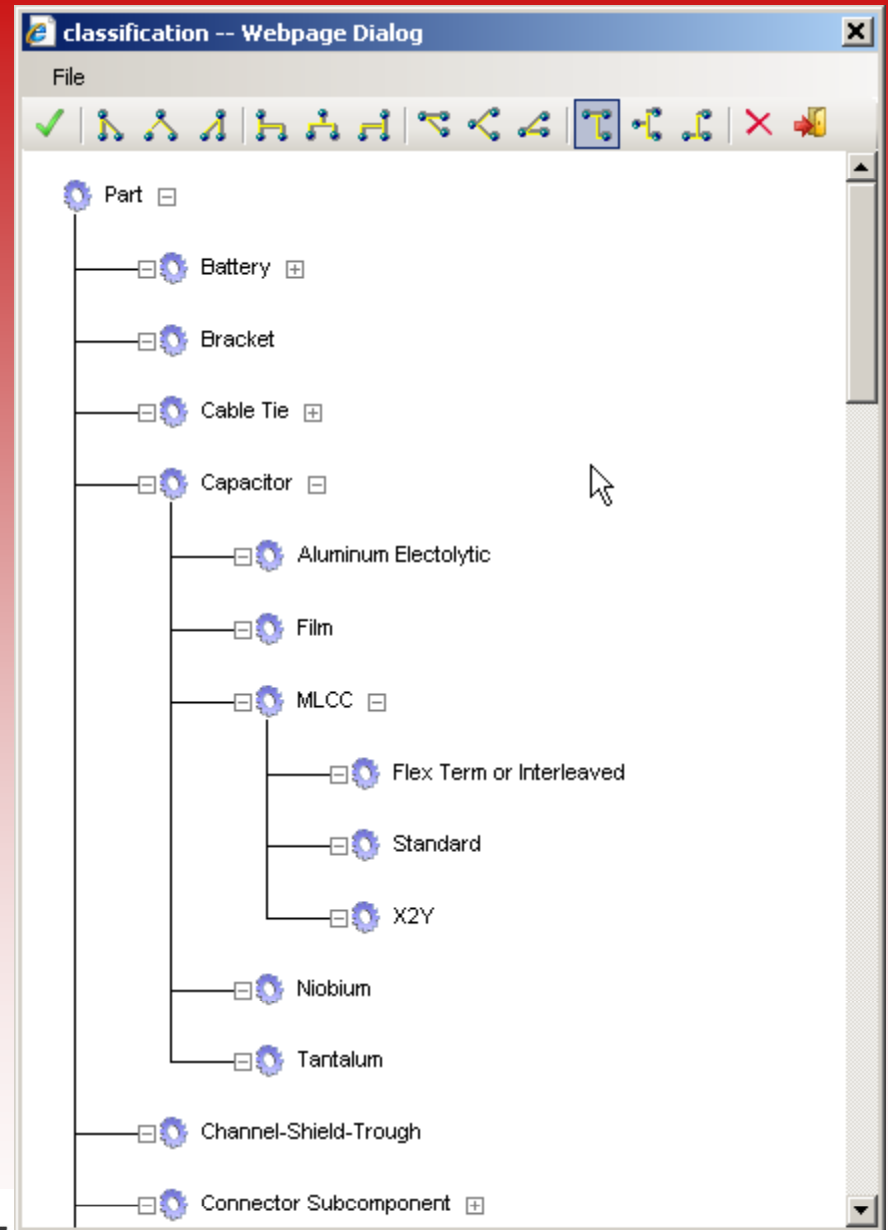


Phase 1 Scope

The screenshot displays the Aras Innovator web application interface within a Microsoft Internet Explorer browser window. The browser title bar reads "Aras Innovator - Microsoft Internet Explorer provided by Lear Corporation". The application header features the "LEAR SMART™ EXECUTION MANAGER" logo and a menu with options: File, Edit, View, Search, Actions, Reports, Tools, and Help. Below the menu is a toolbar with various icons for file operations and navigation. A search bar labeled "Simple Search" and a "Page Size" dropdown are also visible. The left sidebar contains a tree view of the application's structure, with "Component Requests" selected and highlighted in blue. The main content area displays a yellow component icon and the title "Component Request". Below the title, the following metadata is shown: Created By, Created On, Modified By, Modified On, Locked By, Major Rev, Generation, and State. A table with columns "Requestor [...]" and "Life Cycle S" is partially visible at the bottom of the main content area.

Phase 1 Functionality

- Part Class Tree
 - More than 400 part sub-classifications
 - Purposefully made Flat
No distinction between component or assembly



Phase 1 Functionality

- Customized form-to-part relationship functionality
- Shows only properties that apply to a certain part type

SEM Part Number: [] Cross References: [] Specifications: 1052157-01, 1052322-002, 1052521, 1052620, 1055443-001, 16-00-001/--J

Part Type: Film

Part Description: []

Class Specific Properties

Capacitor Details

Tolerance	Max Voltage (V)	Assembly Type	RoHS	AEC
20%	2.5	SMT	Yes	Yes
15%	4	THT	No	No
10%	6.3			
5%	10			
2%	16			
1%	20			

Package: 2018, 0805, 0617, 0414, 0207

Film Material: Kapton Polyimide, Polyamide/Nylon (PA), Polycarbonate, Polyester (PET)

Part Number | Revision | Name | Type

Compliance Spec Ref

- Customer specs
- Industry specs
- Other specs

Part # Cross Ref

- Supplier part#'s
- Customer part#'s
- Old legacy part#'s

Many have 15+ x-ref

Phase 1 Functionality

- Windows Live Search incorporated for document searches
- All documents are converted to PDF and OCR'd through use of third-party tool

The screenshot displays a web-based document management interface. At the top, there is a search bar labeled 'Form Search' with a dropdown arrow, a checkmark icon, and a 'Page Size: 25' setting. To the right are 'Max Results:' and 'Current' dropdown menus, and an 'As Of:' field. The main content area is divided into several sections: 'SEM Information' with 'SEM Document ID' and 'SEM Revision' input fields; 'Document Source' with 'Document Source Type' and 'Source' dropdown menus; 'Document Details' with 'Document Name', 'Document Number', and 'Document Version' input fields; 'Page (Lear T&C Only)' with a 'Page Number' input field; and 'Vault Keyword Search' with a yellow search bar. A blue oval highlights the 'Vault Keyword Search' field. On the left, a 'Document' sidebar lists fields: 'Created By:', 'Created On:', 'Modified By:', 'Modified On:', 'Locked By:', 'Major Rev:', 'Release Date:', 'Effective Date:', 'Generation:', and 'State:'. At the bottom, a table header shows columns: 'Document Number', 'Revision', 'Name', 'Type', 'State', and 'Creation D'.

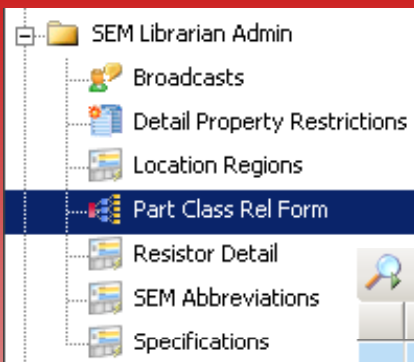
Configuration vs. Customization

- Configuration
 - Workflows
 - Basic forms
 - Users
- Customizations
 - Normalized data model
 - Enhancements to improve performance (Open Contribution)
 - Part forms related to part classifications
- Some customizations performed by Lear IT team
- Lear IT team has started doing sophisticated customizations
- “Core” items done with support of Aras development team



"Cool" Customization

Part Class Rel Form



A screenshot of the Part Class Rel Form table interface. The table has columns for rel_type, form_id_dflt, Classification, and form_id_search. The table contains several rows of data, each representing a different part class and its associated form.

rel_type [...]	form_id_dflt [...]	Classification	form_id_search [...]
Battery Detail		/Part Class Rel Form/Battery	Battery Search
Battery Detail	Battery Attribute Form	/Part Class Rel Form/Battery/Coin Cell	Battery Search
Battery Detail	Battery Attribute Form	/Part Class Rel Form/Battery/Custom	Battery Search
Bracket Detail	Bracket Attr Form	/Part Class Rel Form/Bracket	Bracket Search F
Cable Tie Detail		/Part Class Rel Form/Cable Tie	Cable Tie Search I
Cable Tie Detail	Tie Strap Attr Form	/Part Class Rel Form/Cable Tie/Tie Strap	Tie Strap Search F
Cable Tie Detail	Twist Tie Attr Form	/Part Class Rel Form/Cable Tie/Twist Tie	Twist Tie Search F

- Part Class Rel Form enables the proper association of forms to different part classes
- Enables the automation of part properties based on class and on other part attributes

"Cool" Customization

Part Class Rel Form

Part Class Rel Form - 1C32DA98A5A84B21B386BF668C6D7861 (read only) - Microsoft Internet Explorer

File Edit Views Search Actions Reports Tools Help

Rel_Type
[Tube Detail](#)

Form_Id_Dflt
[SL or UN Tube Attr Form](#)

Classification
Braided-Woven

Form_Id_Search
[SL or UNSL Tube Search Form](#)

Part_Type
Component

Unit Of Measure
[Dropdown]

Item Group
[Text Box]

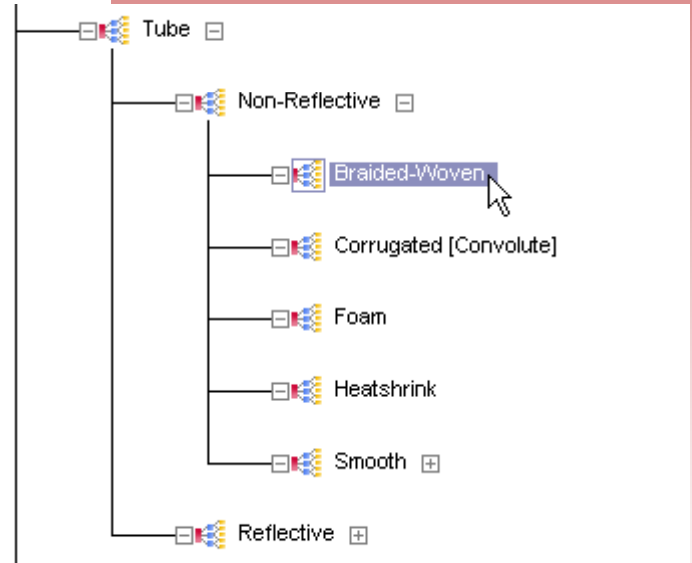
Item Type
TUBES

Component Specialist Required:

Property Override Electronics Specialist Selection

Actions ▾ [No Related] [Icons] [Simple Search]

Part Prop	Detail Property [...]	Criteria Value	Override Value
Item Group	is_slit	Slit	SLTU
Item Group	is_slit	Unslit	UNTU
Unit of Measure	precut_bulk	Bulk	mm
Unit of Measure	precut_bulk	Pre-Cut	EA



Conclusions and Observations

- Aras Innovator enables the Lear desired processes
 - CMII compliance
 - Linkages of all CM items
 - Primary Documents to Parts
 - Secondary Documents to Tools
 - Unlimited access to one database from global user base
- Learning how to configure Aras Innovator started slow but going through initial deployment allowed us to become proficient
- Lear is now able to do a lot more customizations internally to enable a cost-effective deployment

