EGN5621 – Enterprise Systems Collaboration **Term Project**	**Group Members:** Rene Basulto Sebastian Fajardo Chris Harry Lilly Nix German Rincon

Tyco Fire & Security Business Process Model

Design and SAP implementation of a business process model for the manufacture and sale of a set of Sensormatic brand products

tyco tyco Retail Solutions Sensormatic® securing today's business™

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1 History and Overview

Sensormatic is in the business of the manufacture and sale of electronic article surveillance (EAS) equipment. Sensormatic's portfolio includes vital loss prevention and operational improvement technologies and solutions. Backed by more than 1,500 patents, the Sensormatic solutions portfolio is sold through ADT and authorized business partners around the world. From the front of the store through the entire retail supply chain, Sensormatic products and services help keep losses lower—and profits higher.

Today, over 80 percent of world's top 200 retailers that use EAS rely on Sensormatic solutions, which include EAS, source-tagging, data analytics, and in-store, item-level intelligence applications. Sensormatic forward-thinking solutions also include dual EAS/RFID technology that provides item-level security and visibility in an ever-changing retail environment.

Sensormatic is focused on operational improvements on the retail selling floor. Traditionally a loss prevention company, Sensormatic now helps retailers address their most significant form of loss—decreased sales due to inventory inaccuracies. Sensormatic's family of item-level RFID solutions enables information accuracy that drives intelligence back into the supply chain by improving the integrity of the data at the item level. These products are designed to improve existing store operations, increase product availability, and enhance the customer shopping experience. Retailers are recognizing that dual EAS/RFID functionality addresses both item-level security and item-level visibility to help prevent theft while improving the quality of item-level data.

Tyco International (NYSE: TYC) is a diversified, global company that provides vital products and services to customers in more than 60 countries. Tyco is a leading provider of security products and services, fire protection and detection products and services, valves and controls, and other industrial products. Tyco had 2007 revenues of more than $18 billion and has 118,000 employees worldwide.

1.1 Key Dates in Sensormatic History

- 1960: Sensormatic is established and incorporated in Florida.
- 1988: Sensormatic Electronics Corp. of Deerfield Beach announces buy-out of Allied-Signal Corp.
- 1995: Sensormatic signs up to sponsor 1996 Atlanta Olympic Games.
- 2000: Sensormatic signs up to sponsor 2002 Winter Olympic Games.
- 2001: Sensormatic is purchased by Tyco International Ltd.
- 2007: Tyco concludes a corporate separation that splits the company into three publicly independent companies: Covidien Ltd. (formerly Tyco Healthcare), Tyco Electronics Ltd. (now TE Connectivity Ltd.) and Tyco International Ltd. (formerly Tyco Fire & Security and Tyco Engineered Products & Services). Sensormatic becomes part of Tyco Fire & Security.
- 2012: Tyco International splits into three independently traded companies: The ADT Corporation, Tyco Fire and Security, and Pentair Ltd.

1.2 Corporate Mission

Tyco's mission is to advance safety and security by finding smarter ways to save lives, improve businesses, and protect where people live and work.

1.3 Values

As part of the Tyco family of companies, Sensormatic Retail Solutions attracts, develops, and promotes a diverse and inclusive work environment that reflects the global community. Sensormatic has programs that foster diversity and inclusion and support Tyco's values of Integrity, Teamwork, Excellence, and Accountability.

1.4 Vision

The security needs of retail customers have evolved, requiring more data-centric applications to manage their business. They desire a cohesive yet diverse set of intelligent, data-driven solutions that address additional challenges including: internal theft, customer service, vendor fraud, inventory accuracy, labor productivity, out-of-stocks, item location, and efficient replenishment. Throughout the changing retail environment, Tyco's vision remains strong, consistent, and focused: providing quality solutions and service to customers around the globe.

Tyco's envisions its Sensormatic brand loss prevention technology as the world's leader in providing the highest detection rate in the retail solution industry.

1.5 Corporate Strategy

As a pure-play operating company, Tyco will align functional and business resources as one organization, dedicated to executing on that growth strategy. Each of Tyco's business units will also continue to have their own specific strategies and initiatives, depending on their unique market needs—and all business units will be pulling in the same direction as one company.

1.6 Roadmap

The roadmap within Tyco Retail Solutions is to provide retailers with a fully integrated solution to problems facing brick and mortar operations. This is done by providing:

- Safety and Security Solutions,
- Loss Prevention,
- Inventory Intelligence, and
- Store Traffic Intelligence.

The integration of these systems can provide a level of performance and security solutions unmatched in the marketplace.

1.7 Product Lines

Hard Tag Family

- Ultra•Tag® Platform
- SuperTag® III Family
- Alarming SuperTag®
- SuperTag® Visible Source Tag (VST)
- SuperTag® Ink
- Soft Tag
- Ultra*Gator®
- Ultra•Lock®
- Essentials Platform
- AMT-5000 Hard Tag Family
- AMT-3200 Hard Tag Family
- AMT-3210 Accessory Hard Tag
- AMT3220 Delicates Hard Tag

EAS Labels Family

- Ultra•Strip® III
- Ultra•Strip® III Insertable
- Ultra•Strip® III Microwavable
- Ultra•Strip® III Book Label
- Ultra•Strip® III Individual Label
- Ultra•Strip® III Low Profile
- Ultra•Strip® III Hang Tag
- Ultra•Strip® II Narrow
- Non-Deactivatable Label

EAS Detection System

- Pedestal Systems
- Discreet Systems
- Concealed Systems
- Detection Accessories
- Auxiliary Antennas

Label Deactivators

- ScanMax® Pro Family
- Other Deactivators and Activators
- Essentials Platform

Hard Tag Detachers

- AMD-3040 Hand-Held Detacher
- MK75I Hand Detacher
- MKD-400 Detacher
- AMK 1000/1010 Detacher
- MK75IZA Hand Detacher with Boot Deactivator
- AMD-1000 Detacher
- AMK 4200/4300 Detacher
- AMK-4100 Decouple

2 Project Scope

The project scope will be limited to the following two products. This product set is typical of that used to outfit a retail store.

- ***SuperTag® III*** is a robust reusable anti-theft sensor that can be attached to retail items either at the factory or retail location. The tag is removed with a hook inserted into the security pin release. This product can be reattached to products in the retail location or sent back to the factory to be reused.
- ***UltraStrip® III Individual Label*** is the highest volume seller in Tyco's portfolio of single use sensors. With its aggressive adhesive backing, it can be attached to the inside of a finished product without the concern of becoming dislodged inside the product and causing interference.

3 As-Is Product Data

Tyco Fire & Security is located in Boca Raton, FL, USA. The primary factory is located in Matamoros, Mexico. The following information describes the products and production process as currently implemented within the company.

3.1 Vendors

Vendor Name	Location	Materials
Colorful Polymers International	Shanghai, China	Plastics
Mega Machining Company	Seoul, South Korea	Fabricate hook and pin
Rare Earth Alloys, LLC.	Berlin, Germany	Magnet and Bias ribbon
The Best Project Material CO. LTD.	Shangdong, China	Cavity and adhesive film

3.2 Customers

Customer Name	Location
Earl's Home Building Supply	Charlotte, NC USA
Hyper-Mart Corporation	Branson, MO USA
Euro Couture	Linden, NJ, USA

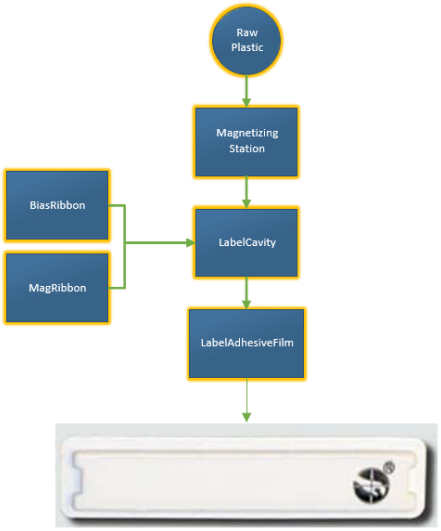
3.3 Bill of Materials

Bill of Materials: Ultra•Strip® III Individual Label					
PART NAME	**QTY/ UNIT**	**COST/ ORDER**	**ORDER QTY**	**COST/ UNIT**	**VENDOR**
Label		$270.00	5000	$0.05	
Formed plastic cavity	1	$29.27	5000	$0.0059	The Best Project Material CO. LTD
Magnetostrictive material ribbon	2	$13.90	5000	$0.0056	Rare Earth Alloys, LLC.
Bias material ribbon	1	$12.00	5000	$0.0024	Rare Earth Alloys, LLC.
Adhesive film backing	1	$24.00	5000	$0.0048	The Best Project Material CO. LTD
			Total	**$0.019**	

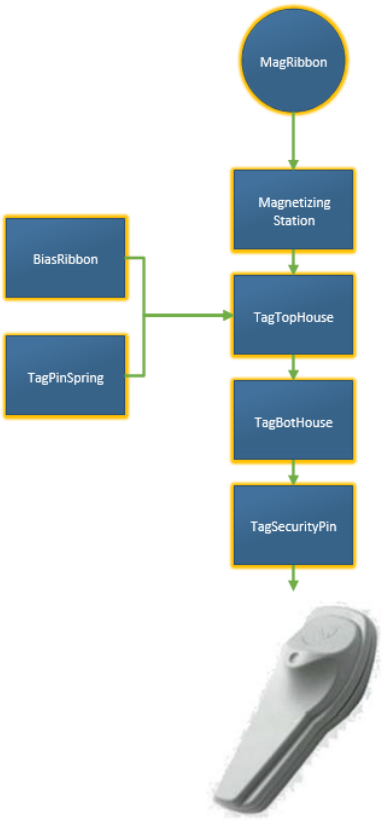
Bill of Materials: SuperTag® III					
PART NAME	**QTY/ UNIT**	**COST/ ORDER**	**ORDER QTY**	**COST/ UNIT**	**VENDOR**
Hard tag		$630.00	1000	$0.63	
Top housing enclosure	1	$130.00	5000	$0.0260	Colorful Polymers International
Bottom housing enclosure	1	$120.00	5000	$0.0240	Colorful Polymers International
Magnetostrictive material ribbon	2	$13.90	5000	$0.0056	Rare Earth Alloys, LLC.
Bias material ribbon	1	$12.00	5000	$0.0024	Rare Earth Alloys, LLC.
Pin locking spring	1	$412.10	5000	$0.0824	Mega Machining Company
Security pin	1	$340.20	5000	$0.0680	Mega Machining Company
			Total	**$0.21**	

3.4 Product Routing

Ultra•Strip® III Individual Label (LabelAssy)



SuperTag® III (HardTagAssy)

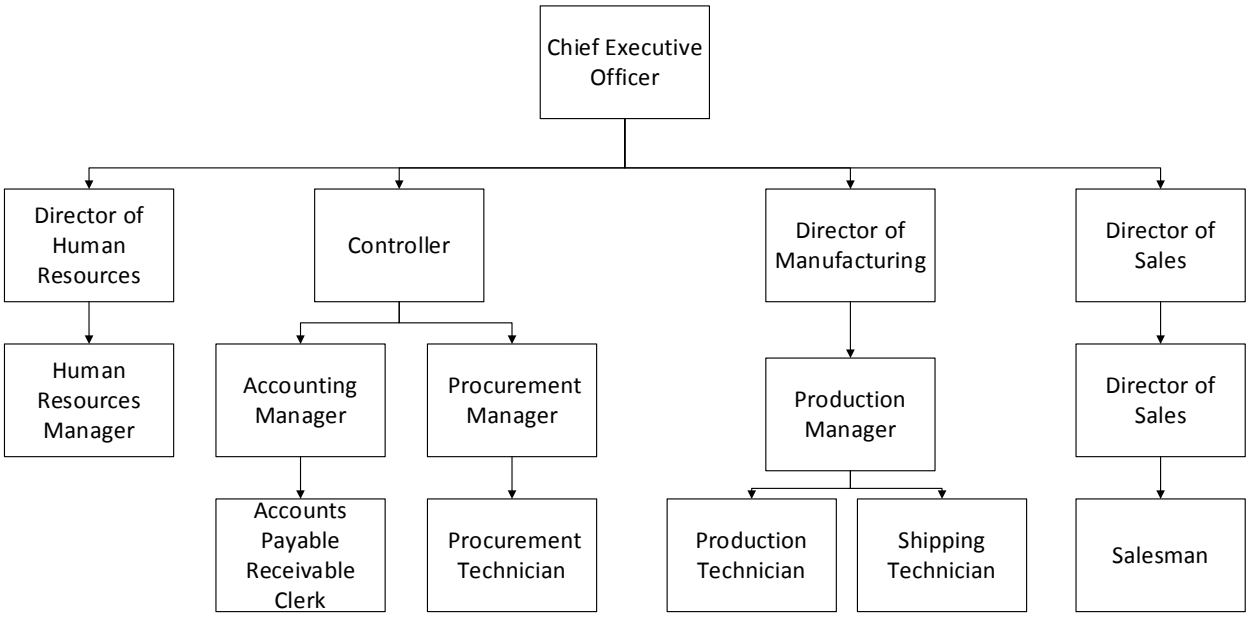


4 As-Is System Model

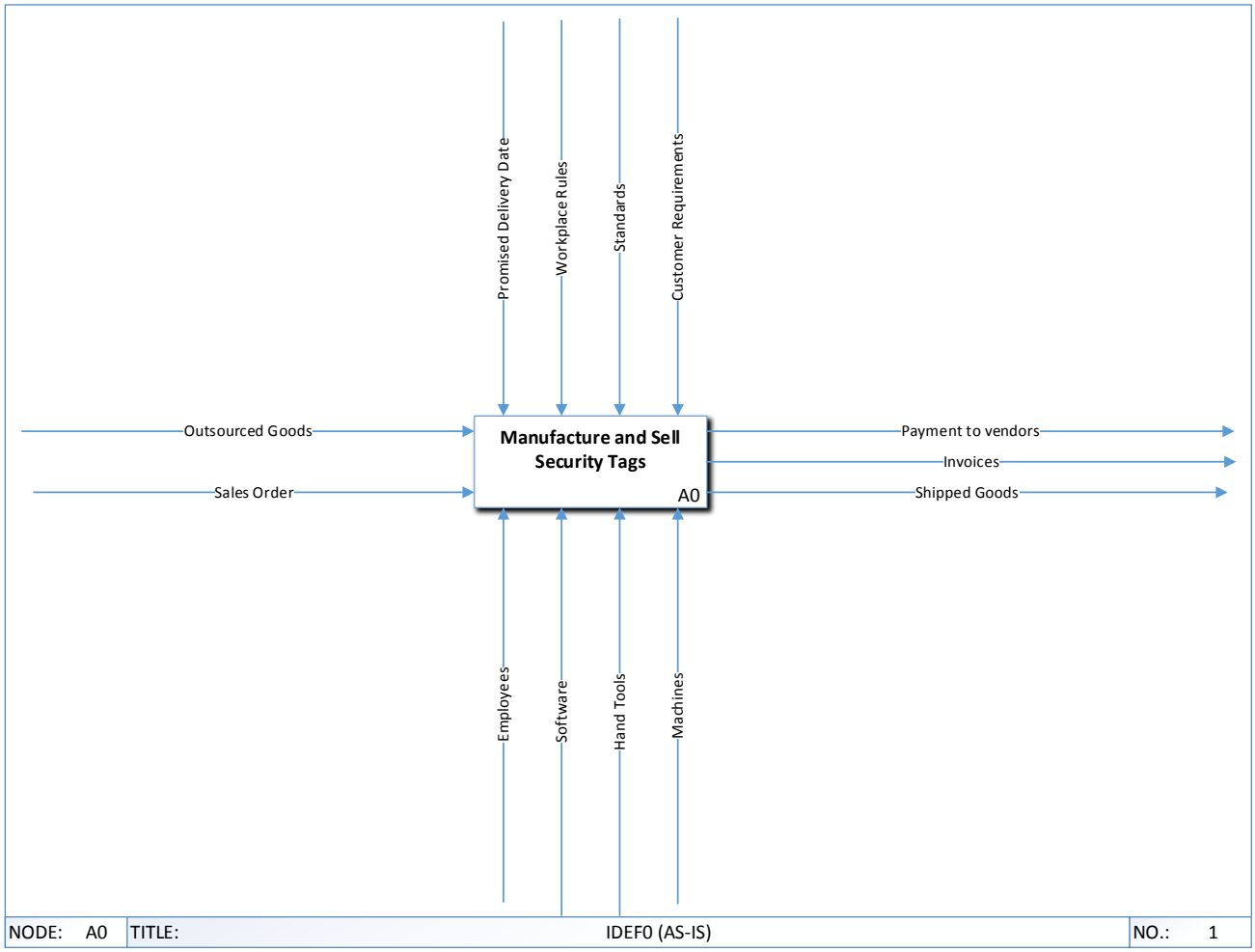
The following system models describe the organizational structure, activities, objects, and states involved in the current process of manufacturing and selling the UltraStrip III Individual Label and the SuperTag III. These As-Is models define the relevant processes as they are currently implemented within the company. These models have not been optimized for implementation in an ERP system.

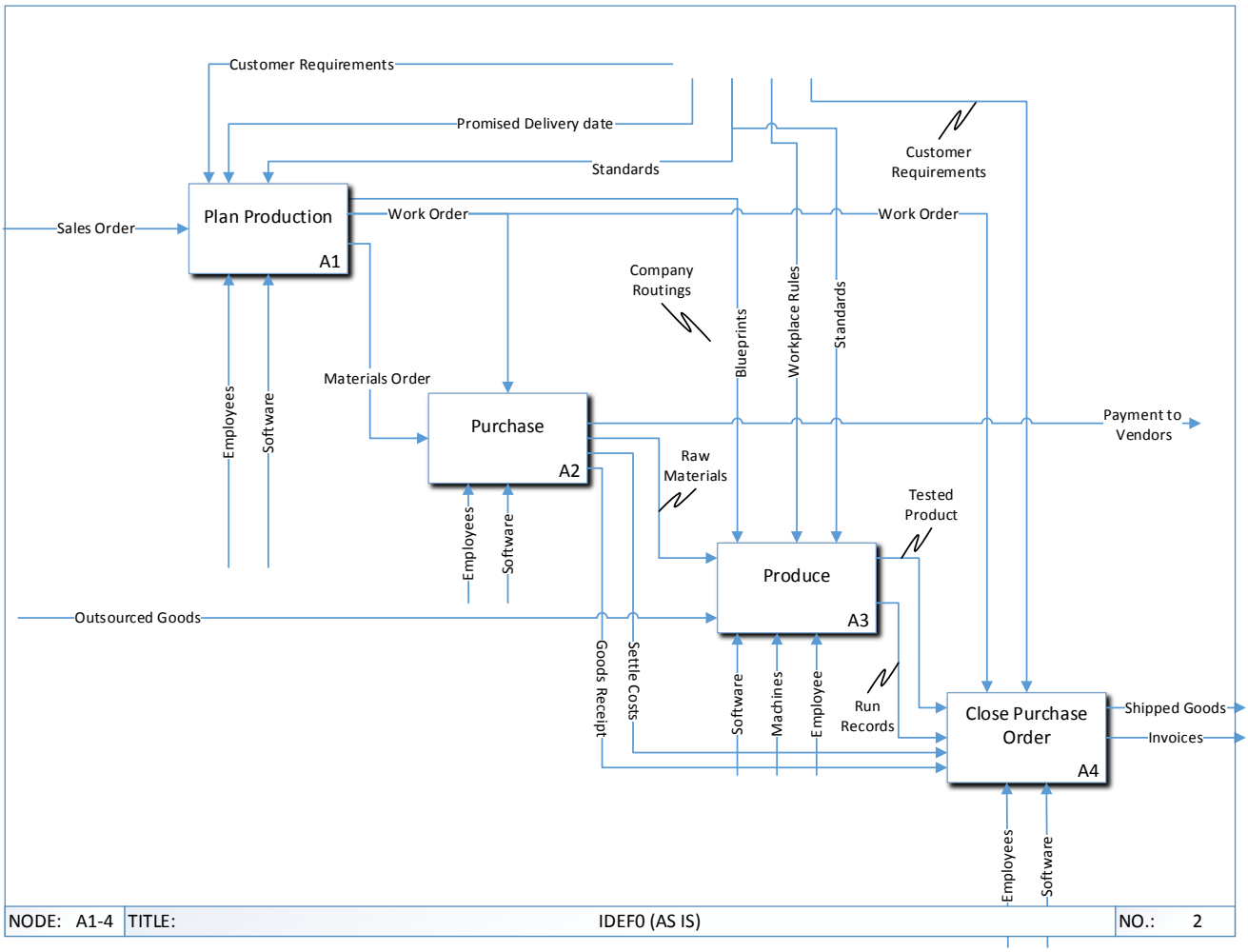
The relationships between the input, control, output, and mechanisms of the IDEF0 Model are described in the Object Model. Each object is further detailed through a Dynamic Model, which shows the available states of the model and the transition events between states.

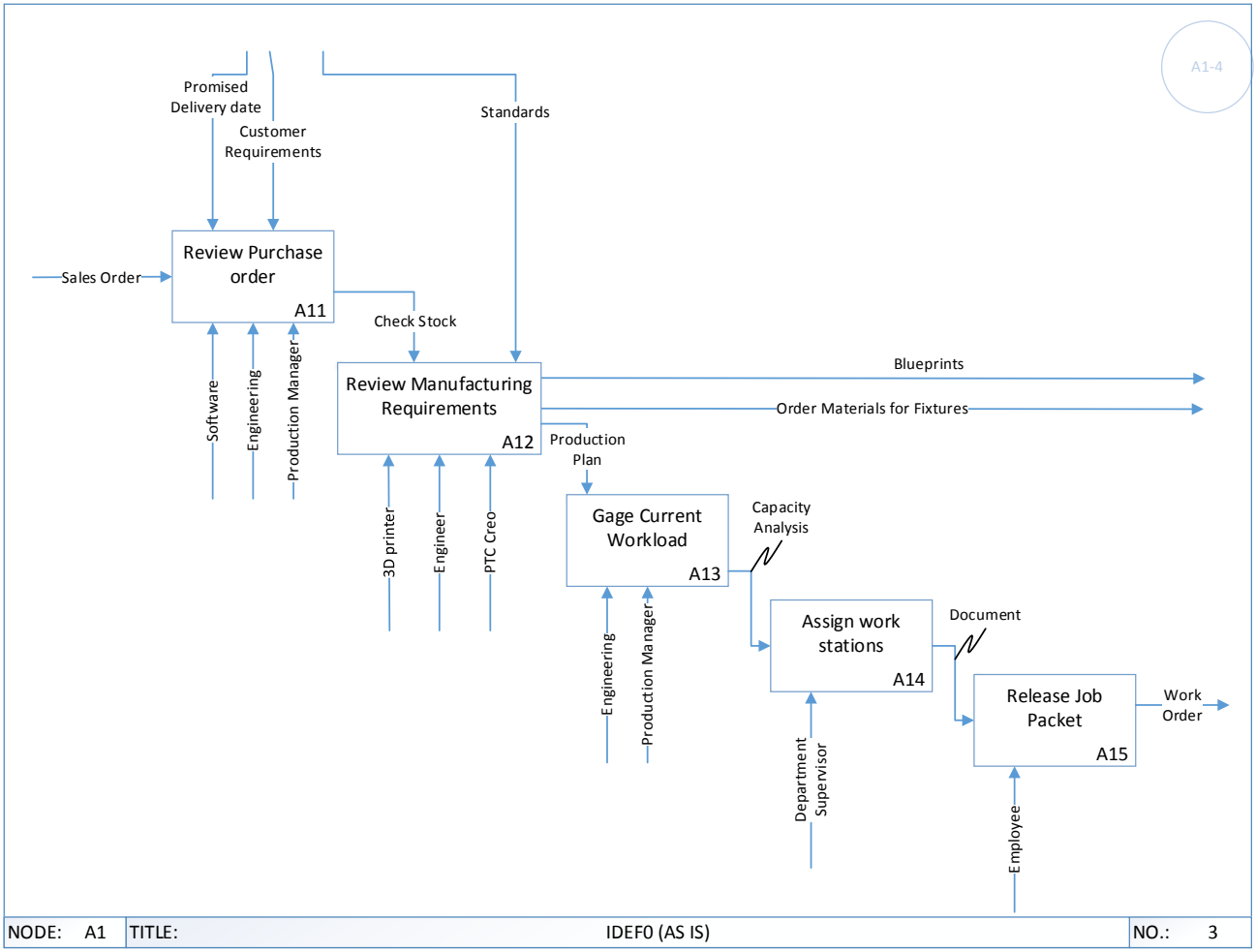
4.1 As-Is Organizational Structure

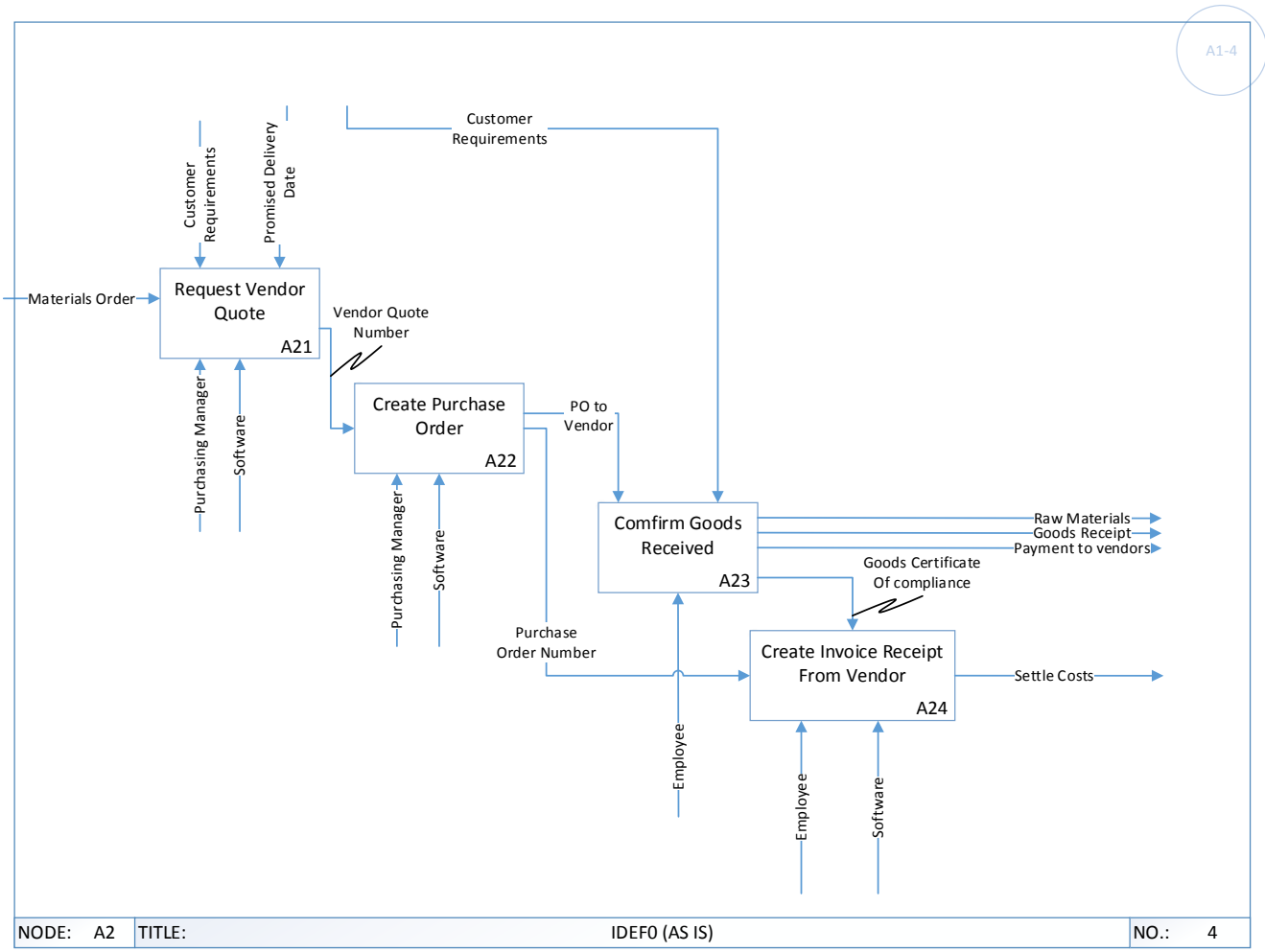


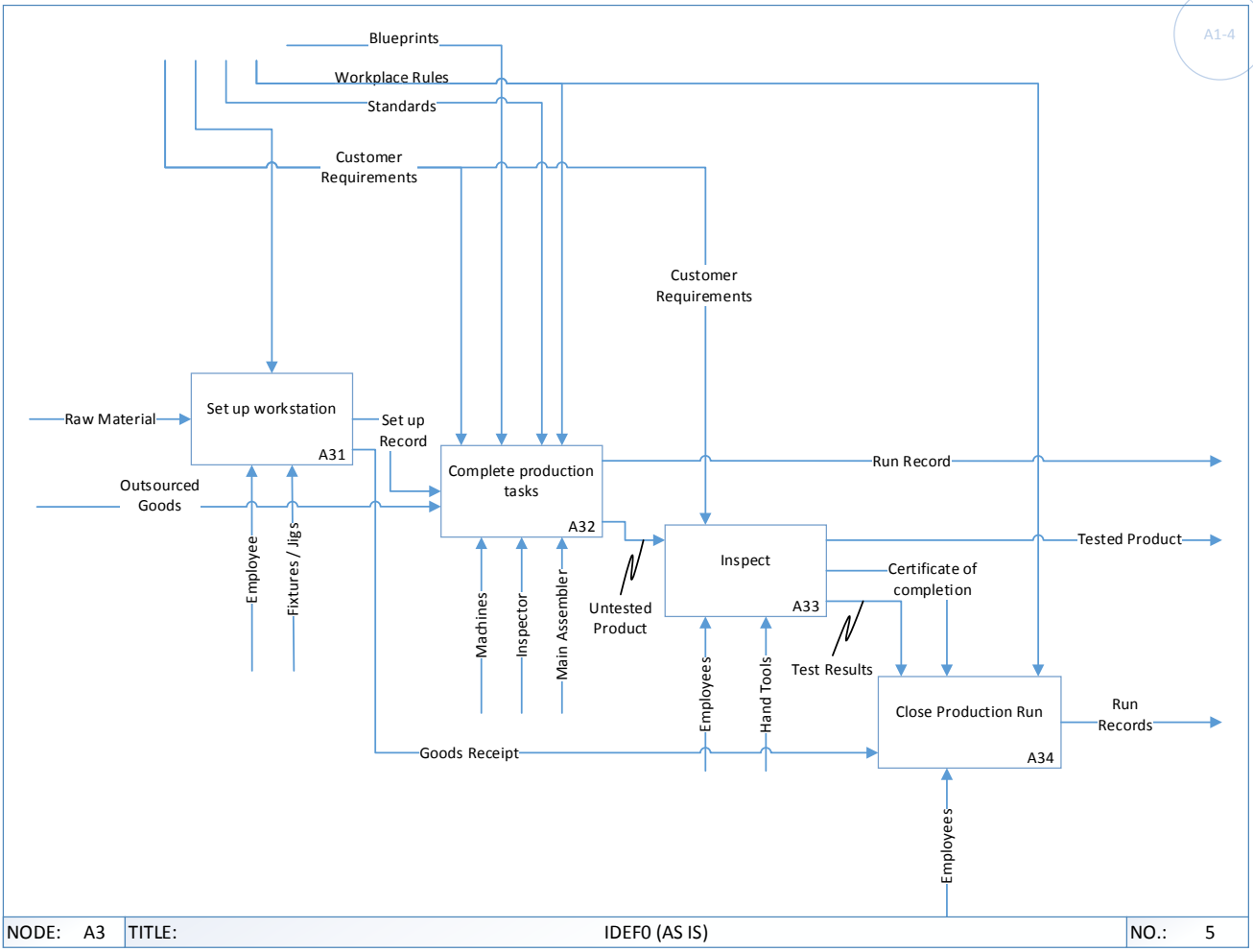
4.2 As-Is IDEF0 Activity Model

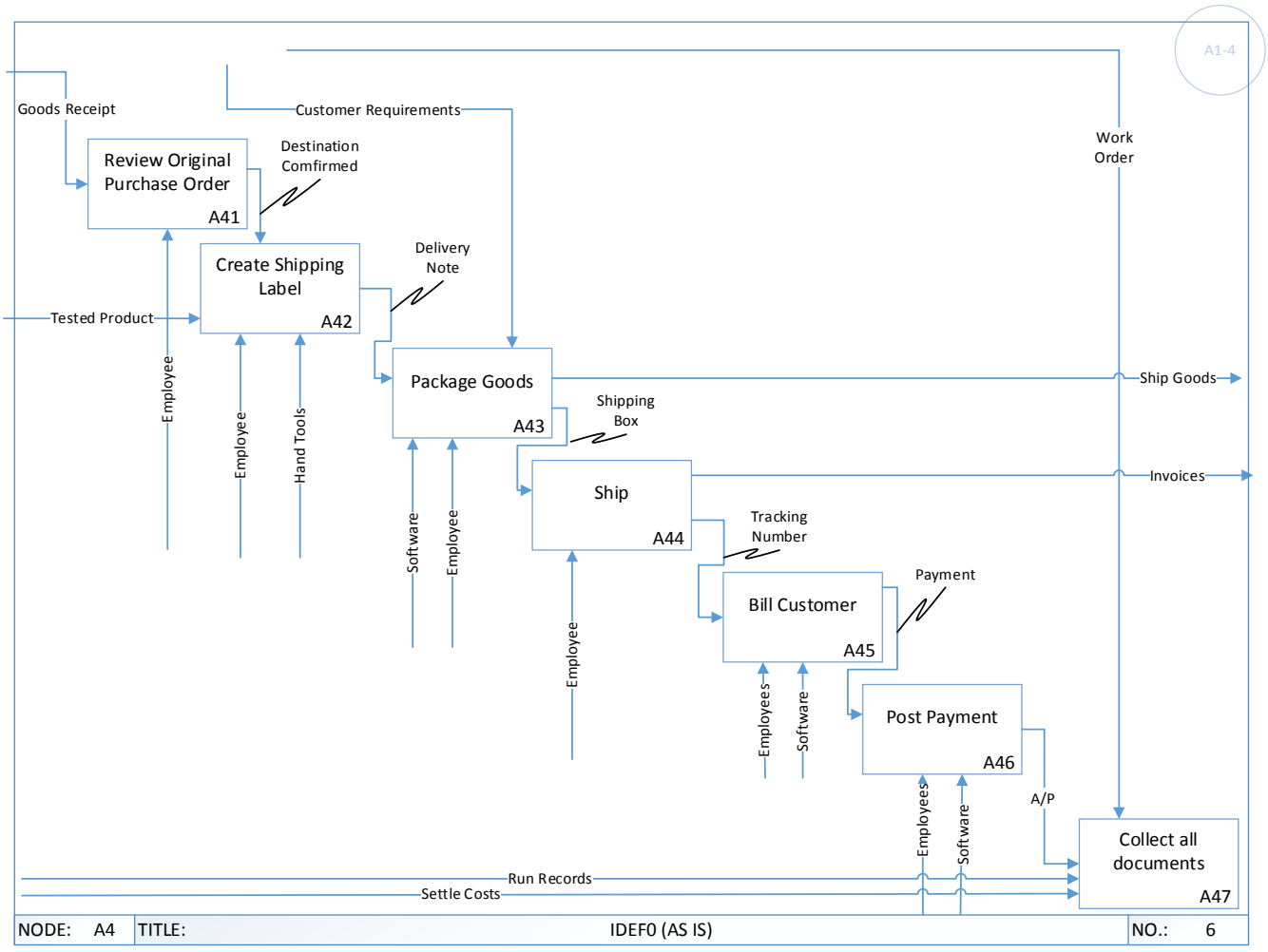



Customer Requirements
Promised Delivery date
Standards
Customer Requirements
Plan Production
A1
Sales Order
Work Order
Work Order
Company Routings
Blueprints
Workplace Rules
Standards
Employees
Software
Materials Order
Purchase
A2
Payment to Vendors
Raw Materials
Tested Product
Employees
Software
Produce
A3
Outsourced Goods
Goods Receipt
Settle Costs
Software
Machines
Employee
Run Records
Close Purchase Order
A4
Shipped Goods
Invoices
Employees
Software
NODE: A1-4
TITLE:
IDEF0 (AS IS)
NO.: 2

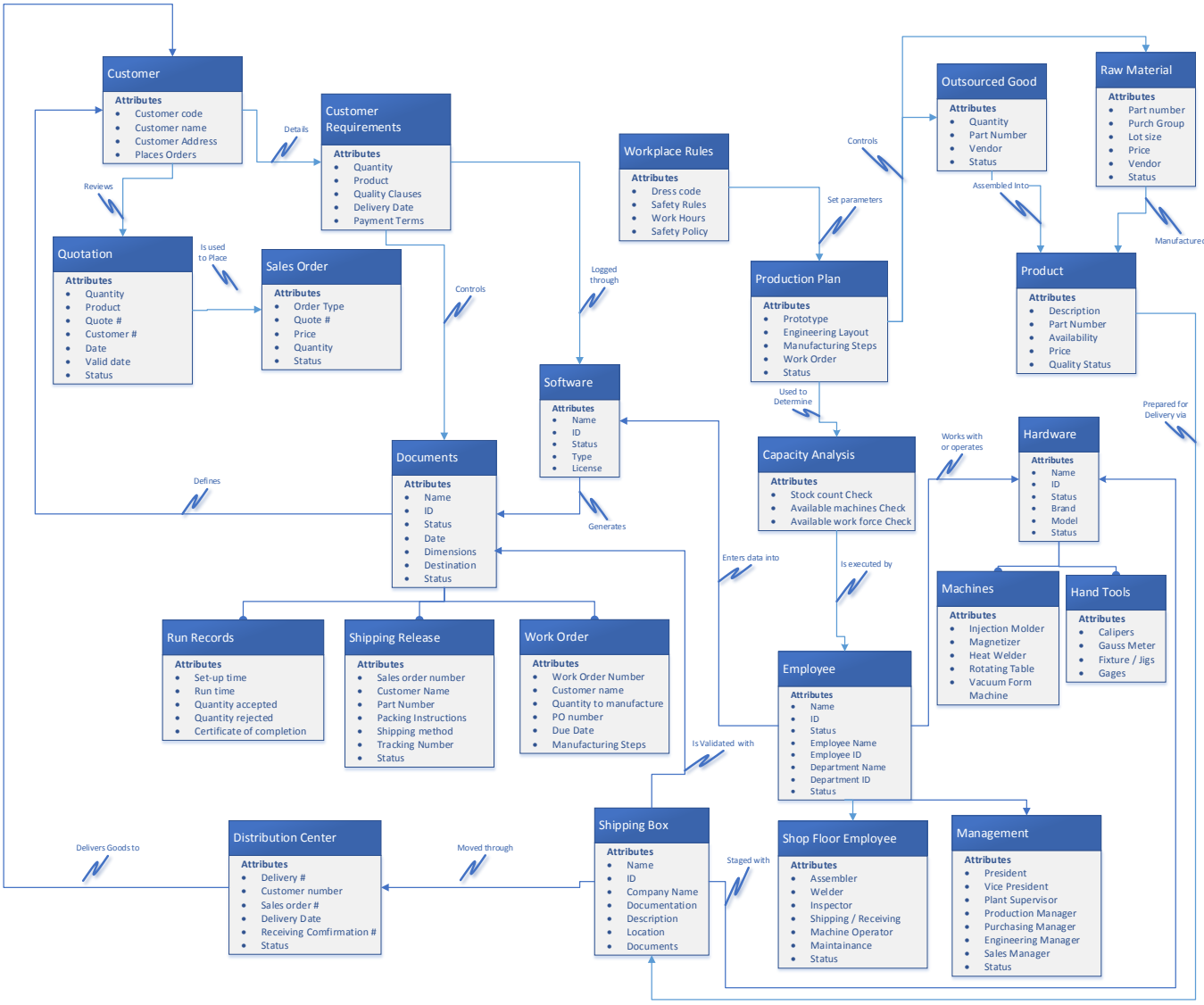

A1-4
Promised Delivery date
Customer Requirements
Standards
Review Purchase order
A11
Sales Order
Check Stock
Software
Engineering
Production Manager
Review Manufacturing Requirements
A12
Blueprints
Order Materials for Fixtures
Production Plan
3D printer
Engineer
PTC Creo
Gage Current Workload
A13
Capacity Analysis
Engineering
Production Manager
Assign work stations
A14
Document
Release Job Packet
A15
Work Order
Department Supervisor
Employee
NODE: A1
TITLE:
IDEF0 (AS IS)
NO.: 3


A1-4
Customer Requirements
Promised Delivery Date
Customer Requirements
Materials Order
Request Vendor Quote
A21
Vendor Quote Number
Purchasing Manager
Software
Create Purchase Order
A22
PO to Vendor
Purchasing Manager
Software
Comfirm Goods Received
A23
Raw Materials
Goods Receipt
Payment to vendors
Goods Certificate Of compliance
Purchase Order Number
Create Invoice Receipt From Vendor
A24
Settle Costs
Employee
Employee
Software
NODE: A2
TITLE:
IDEF0 (AS IS)
NO.: 4

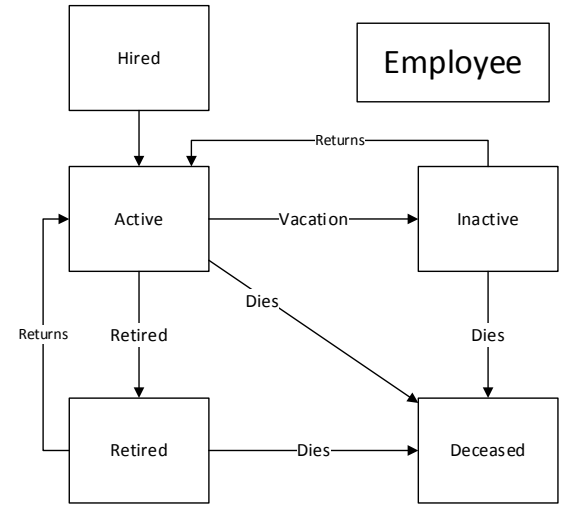

A1-4
Blueprints
Workplace Rules
Standards
Customer Requirements
Customer Requirements
Raw Material
Set up workstation
A31
Set up Record
Outsourced Goods
Employee
Fixtures / jigs
Complete production tasks
A32
Machines
Inspector
Main Assembler
Run Record
Inspect
A33
Untested Product
Tested Product
Certificate of completion
Test Results
Employees
Hand Tools
Close Production Run
A34
Run Records
Goods Receipt
Employees
NODE: A3
TITLE: IDEF0 (AS IS)
NO.: 5

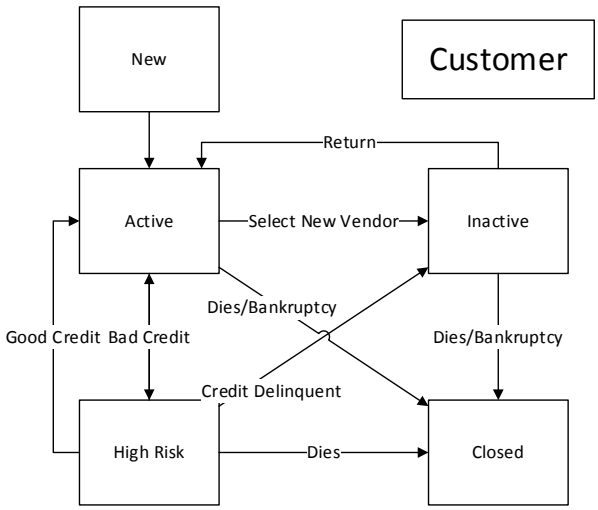

A1-4
Goods Receipt
Customer Requirements
Work Order
Review Original Purchase Order
A41
Destination Comfirmed
Create Shipping Label
A42
Delivery Note
Tested Product
Employee
Employee
Hand Tools
Package Goods
A43
Shipping Box
Ship Goods
Ship
A44
Invoices
Software
Employee
Tracking Number
Bill Customer
A45
Payment
Employee
Employees
Software
Post Payment
A46
A/P
Employees
Software
Collect all documents
A47
Run Records
Settle Costs
NODE: A4
TITLE:
IDEF0 (AS IS)
NO.: 6

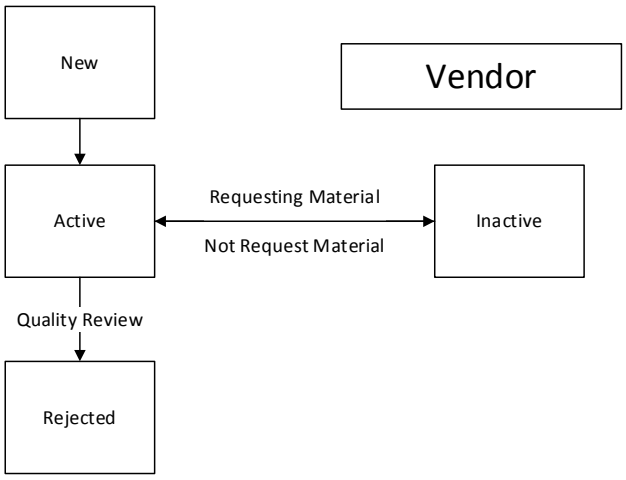
4.3 As-Is Object Model

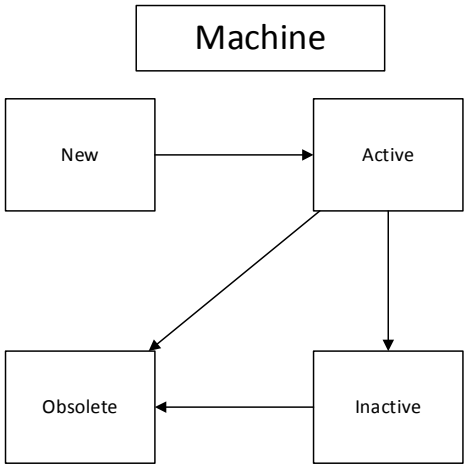


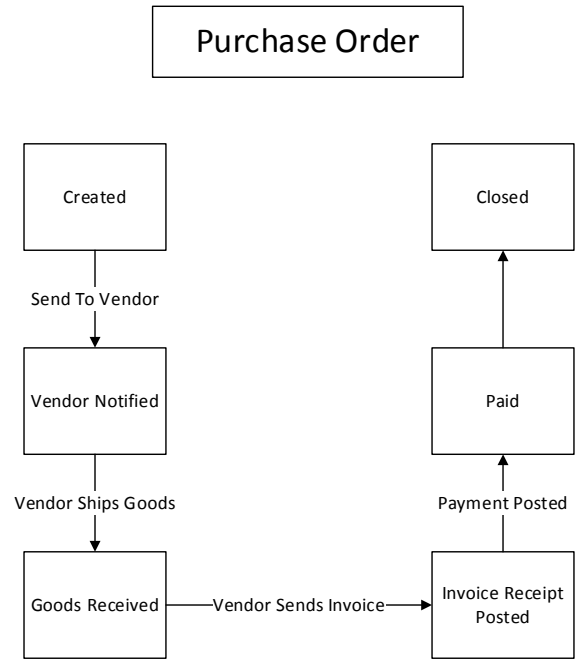
4.4 As-Is Dynamic Model

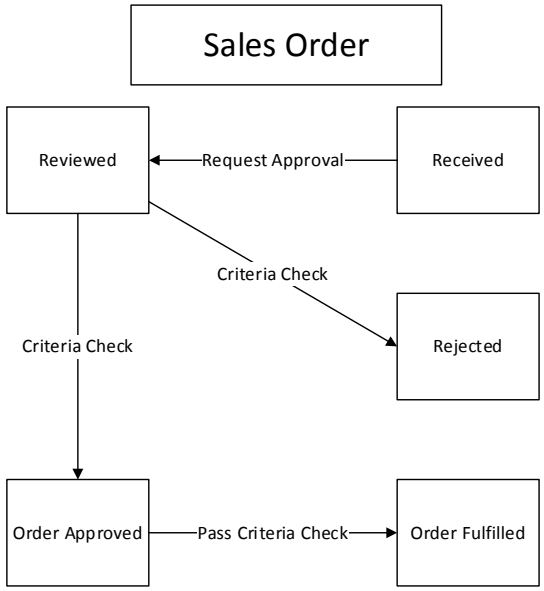


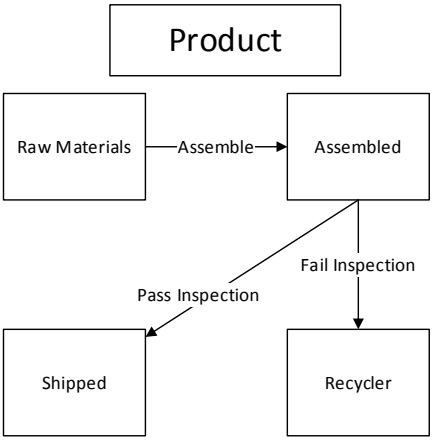


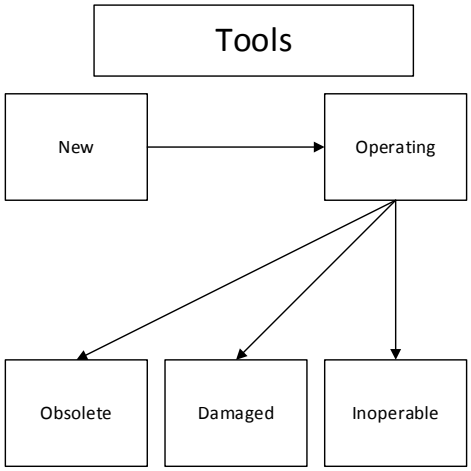


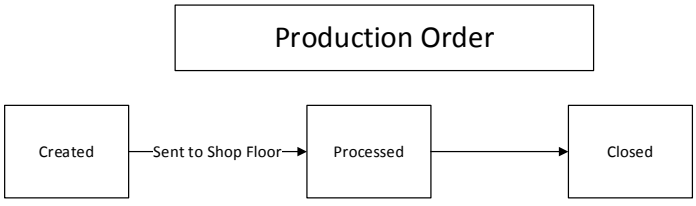


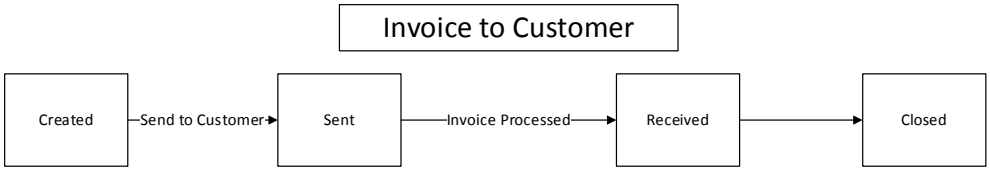

Purchase Order
Created
Send To Vendor
Vendor Notified
Vendor Ships Goods
Goods Received
Vendor Sends Invoice
Invoice Receipt Posted
Payment Posted
Paid
Closed

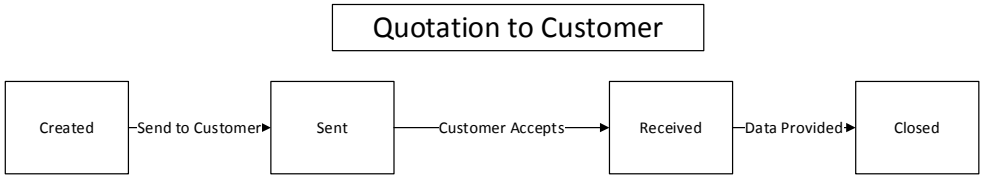

Sales Order
Reviewed
Request Approval
Received
Criteria Check
Rejected
Criteria Check
Order Approved
Pass Criteria Check
Order Fulfilled

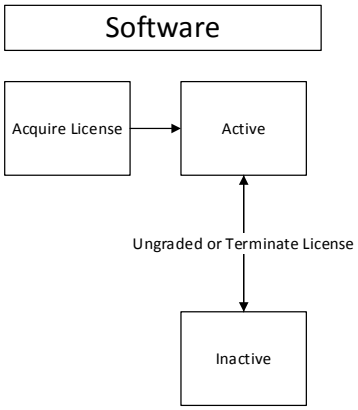

Product
Raw Materials
Assemble
Assembled
Fail Inspection
Pass Inspection
Shipped
Recycler

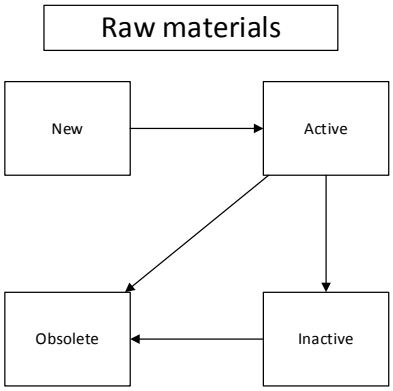

Tools
New
Operating
Obsolete
Damaged
Inoperable

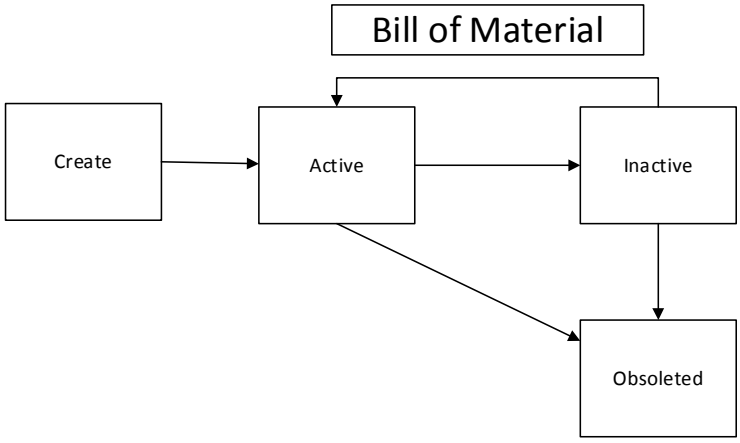

Production Order
Created
Sent to Shop Floor
Processed
Closed


Invoice to Customer
Created
Send to Customer
Sent
Invoice Processed
Received
Closed


Quotation to Customer
Created
Send to Customer
Sent
Customer Accepts
Received
Data Provided
Closed


Software
Acquire License
Active
Ungraded or Terminate License
Inactive


Raw materials
New
Active
Obsolete
Inactive


Bill of Material
Create
Active
Inactive
Obsoleted

5 To-Be System Model

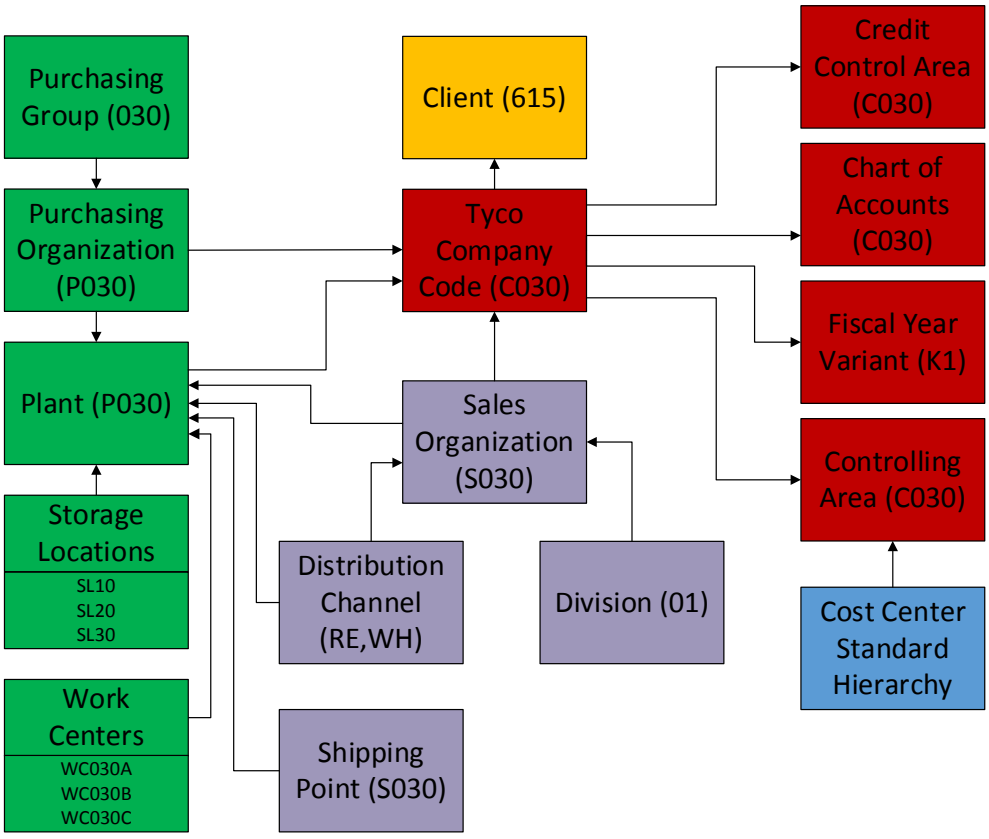
The As-Is model was reviewed and analyzed to determine how to best optimize the business processes for implementation in an ERP system. Missing elements, processes, and objects were identified and added to the models to develop a To-Be model that could be seamlessly implemented in an SAP enterprise structure.

The scope of the To-Be model is limited to the manufacture and sale of security tags. The IDEF0 model describes the business processes that fall within this scope. The process begins with the receipt of a sales order, which is used to identify the amounts of raw materials and finished goods needed in order to fulfill the sale. The availability of raw and finished goods within the warehouse is checked before finalizing the amount of raw materials to be procured and the amount of finished goods to be produced. Once the procurement and purchasing processes have been completed, the sales process can continue and the sales order can be completed.

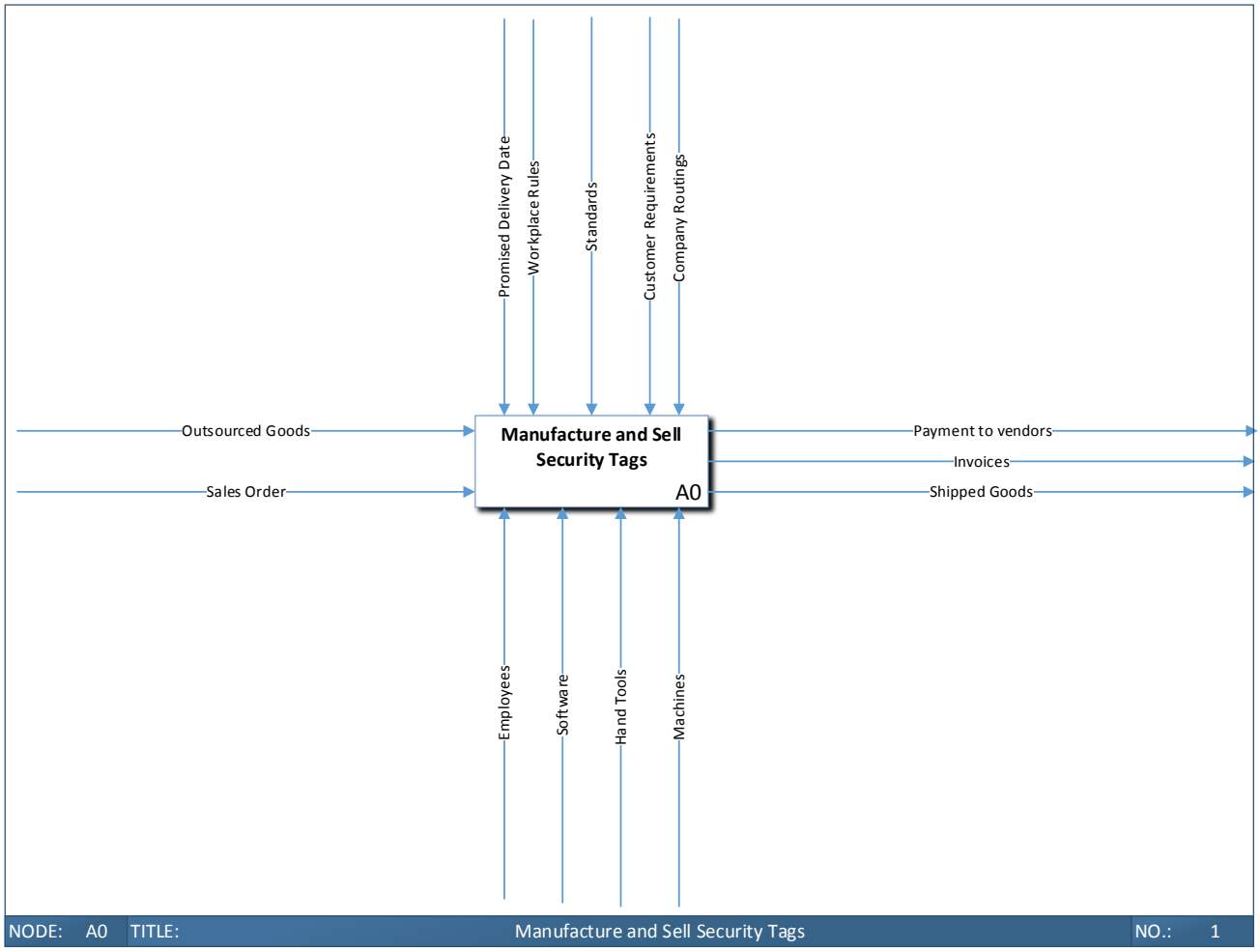
The relationships between the input, control, output, and mechanisms of the IDEF0 Model are described in the Object Model. The Object Model attributes include all information required by SAP. Each object is further detailed through a Dynamic Model, which shows the available states of the model and the transition events between states.

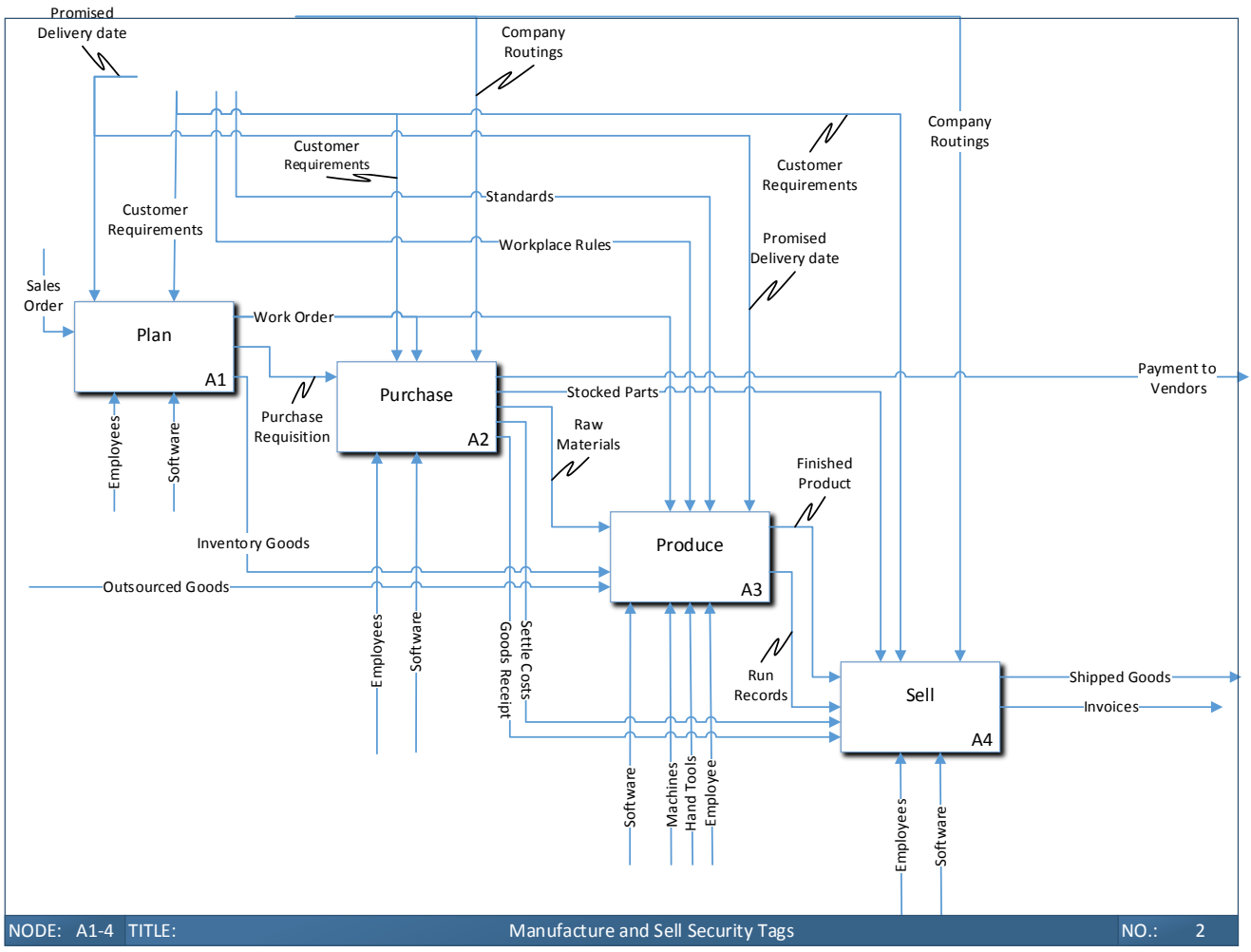
5.1 To-Be Organizational Structure

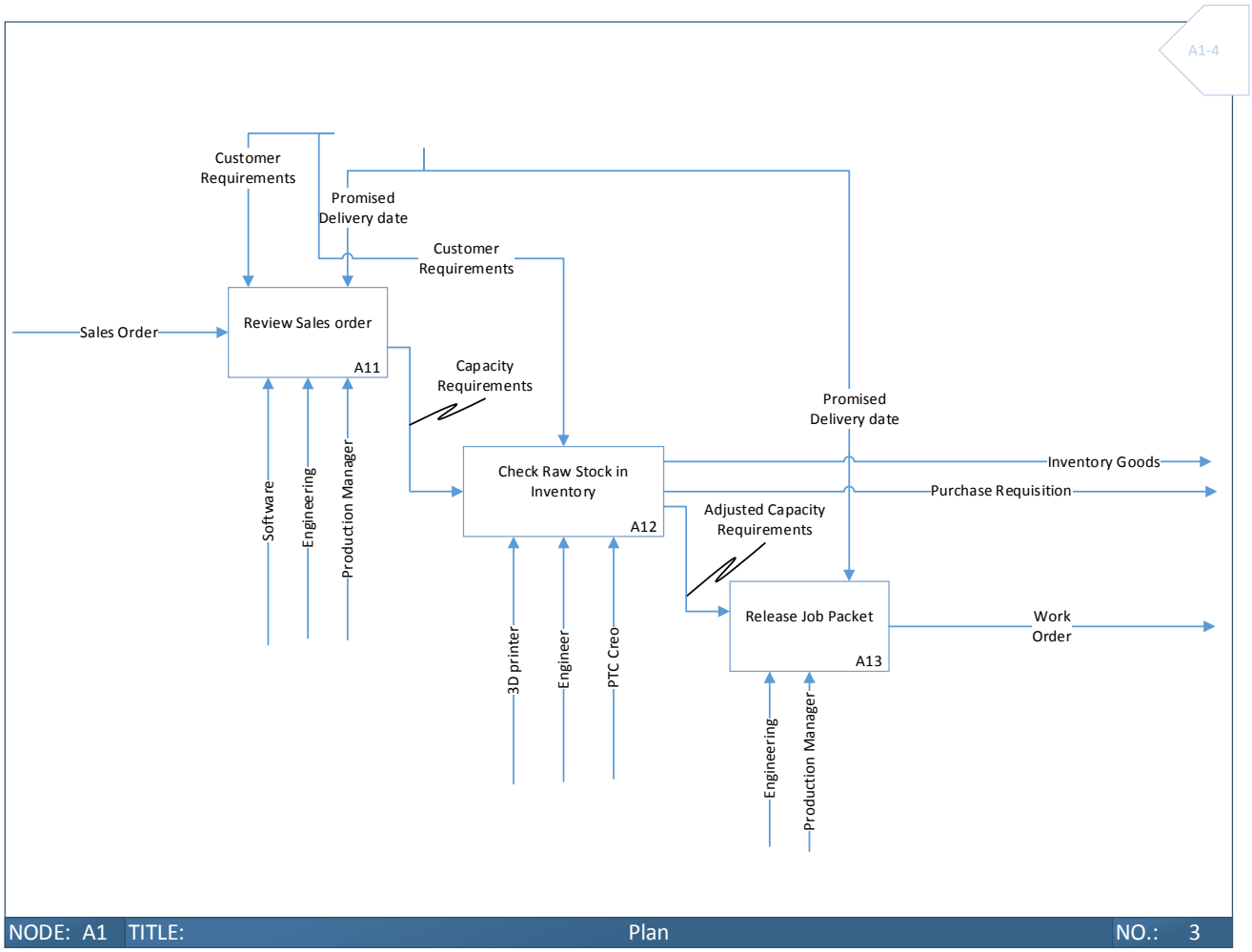
The organizational structure, as implemented in SAP, is shown below.

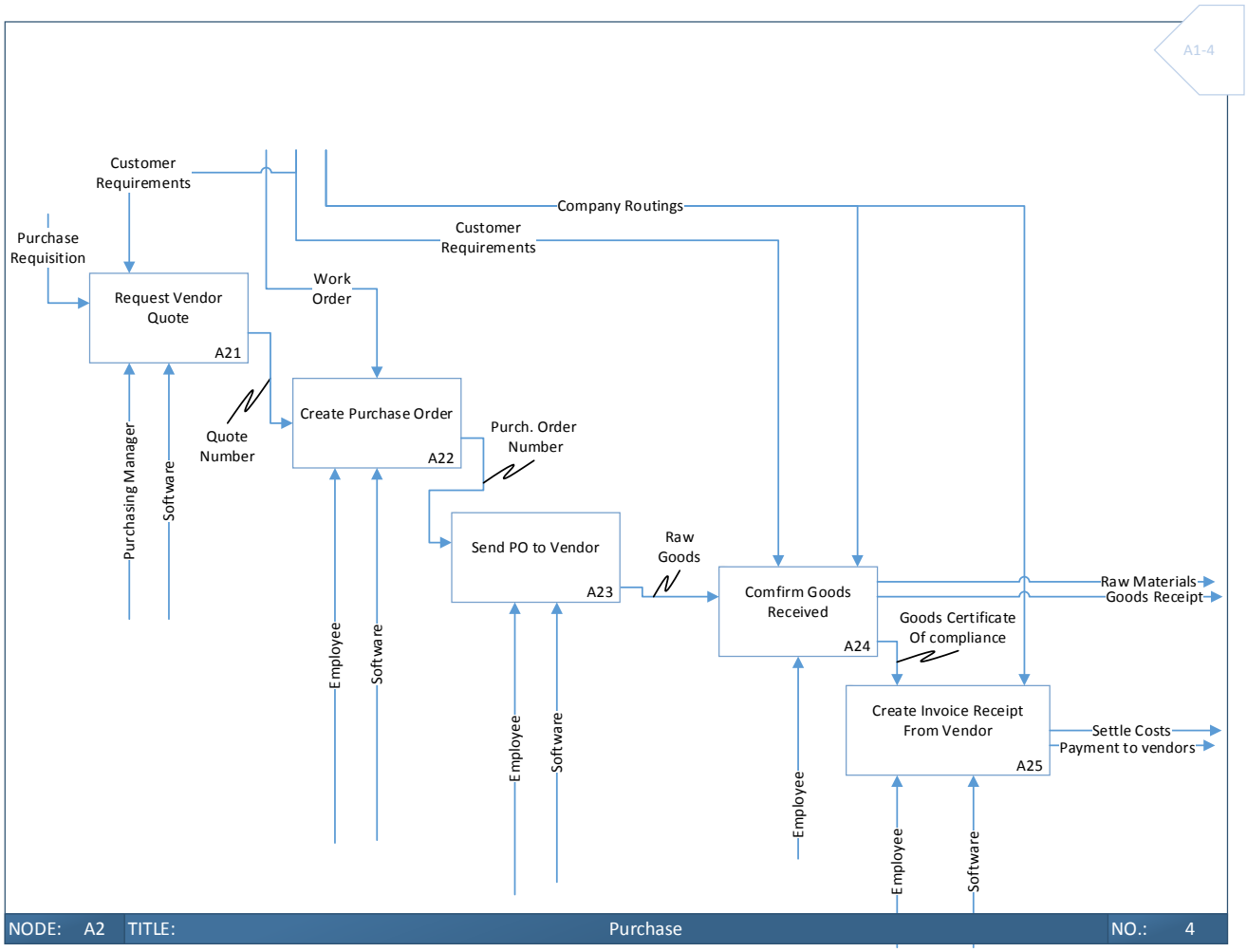


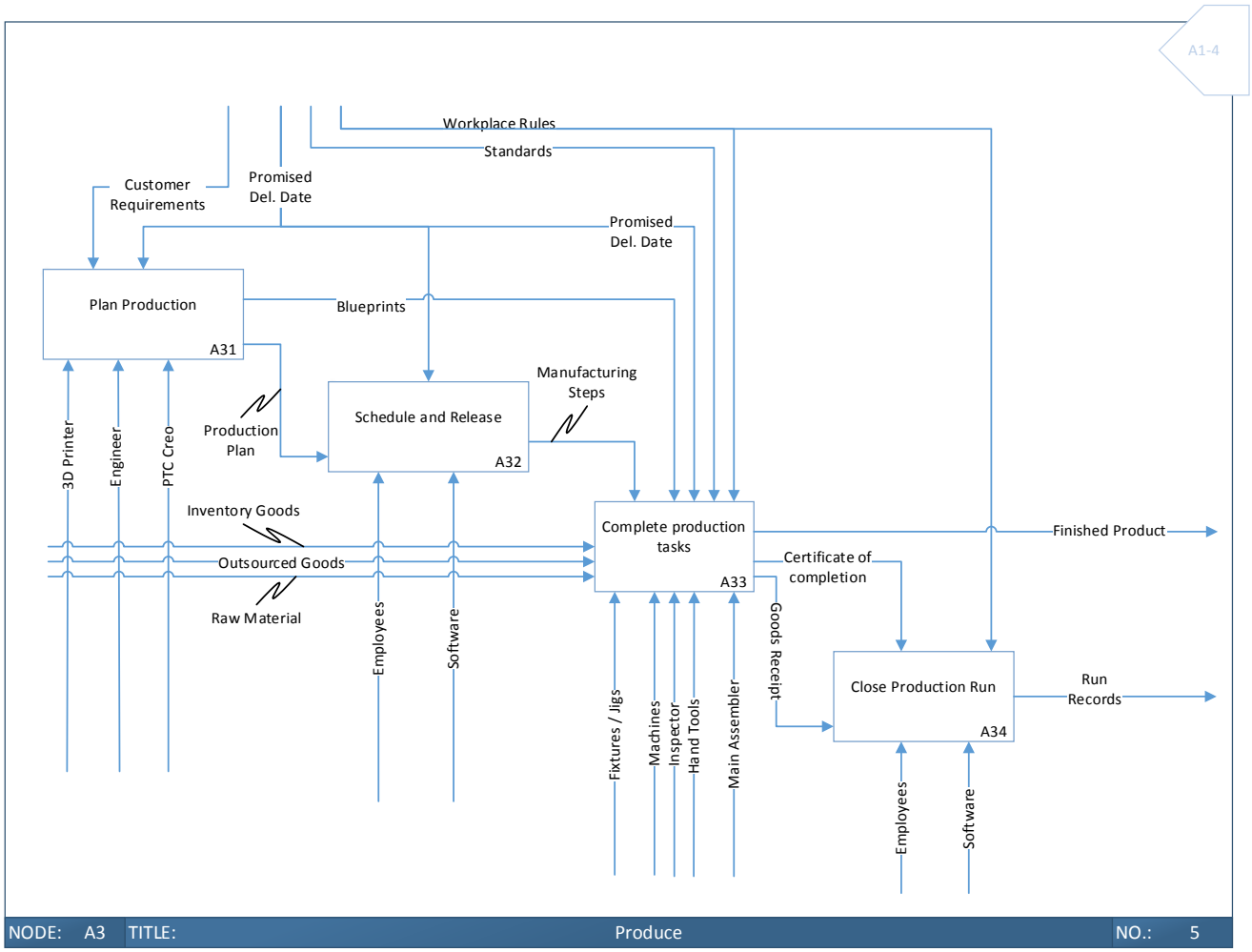
5.2 To-Be IDEF0 Activity Model

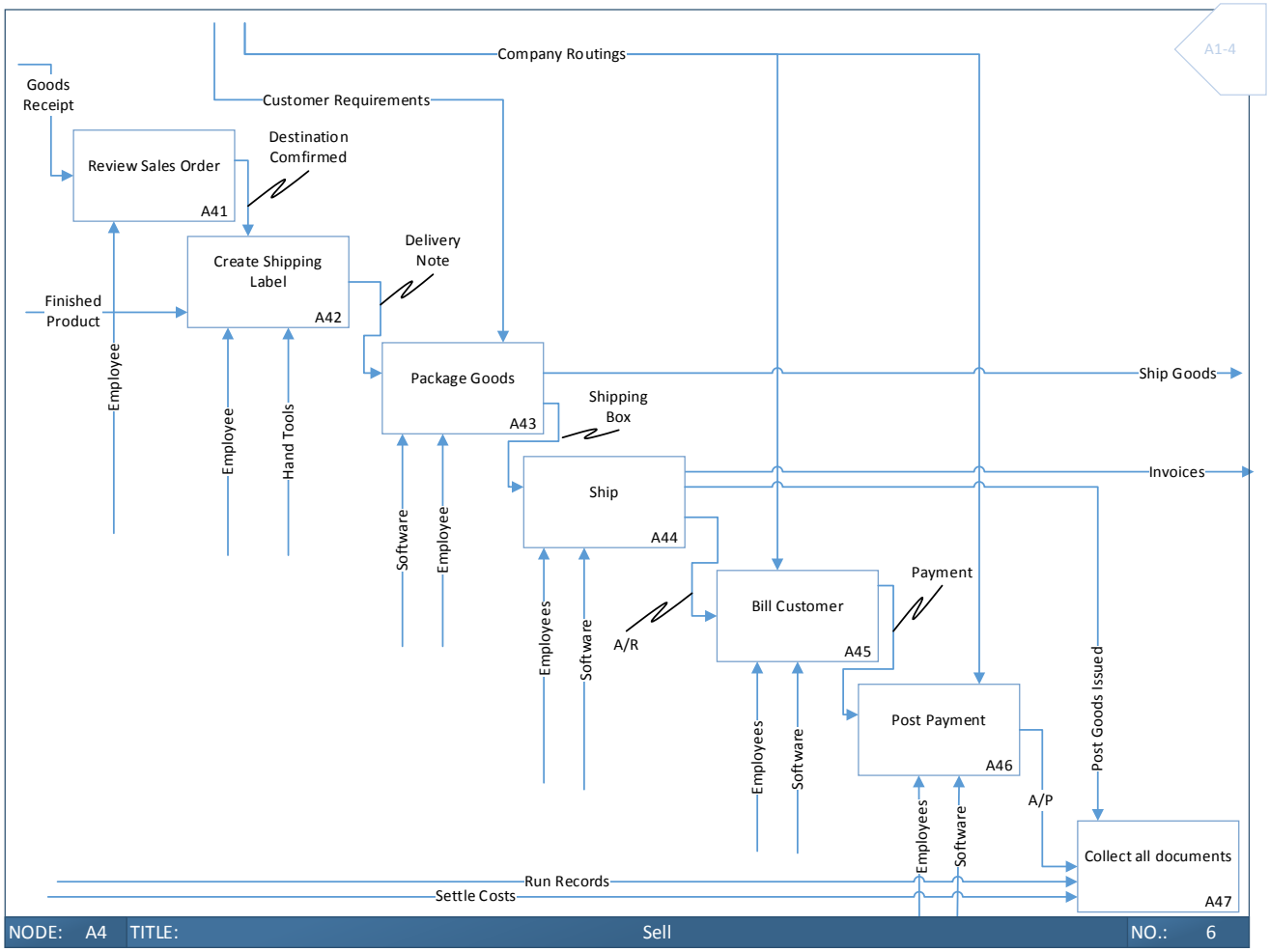



Promised Delivery date
Company Routings
Company Routings
Customer Requirements
Customer Requirements
Customer Requirements
Standards
Workplace Rules
Promised Delivery date
Sales Order
Plan
A1
Work Order
Purchase
A2
Payment to Vendors
Stocked Parts
Purchase Requisition
Raw Materials
Employees
Software
Finished Product
Inventory Goods
Produce
A3
Outsourced Goods
Employees
Software
Goods Receipt
Settle Costs
Run Records
Sell
A4
Shipped Goods
Invoices
Software
Machines
Hand Tools
Employee
Employees
Software
NODE: A1-4 TITLE: Manufacture and Sell Security Tags NO.: 2

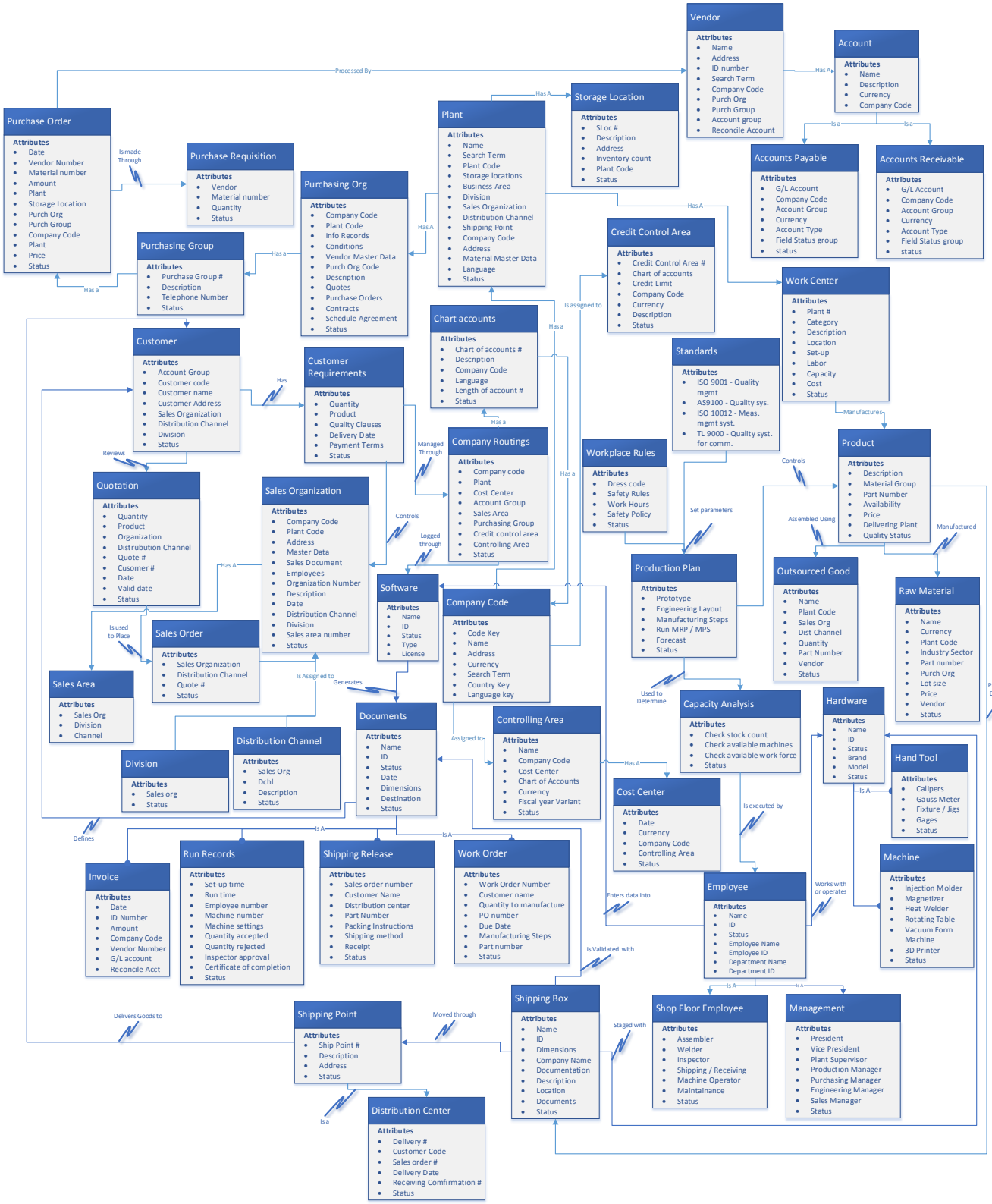

A1-4
Customer Requirements
Promised Delivery date
Customer Requirements
Sales Order
Review Sales order
A11
Capacity Requirements
Promised Delivery date
Software
Engineering
Production Manager
Check Raw Stock in Inventory
A12
Inventory Goods
Purchase Requisition
Adjusted Capacity Requirements
Release Job Packet
A13
Work Order
3D printer
Engineer
PTC Creo
Engineering
Production Manager
NODE: A1
TITLE:
Plan
NO.: 3


A1-4
Customer Requirements
Purchase Requisition
Request Vendor Quote
A21
Work Order
Company Routings
Customer Requirements
Purchasing Manager
Software
Quote Number
Create Purchase Order
A22
Purch. Order Number
Send PO to Vendor
A23
Raw Goods
Comfirm Goods Received
A24
Raw Materials
Goods Receipt
Goods Certificate Of compliance
Create Invoice Receipt From Vendor
A25
Settle Costs
Payment to vendors
Employee
Software
Employee
Software
Employee
Employee
Software
NODE: A2
TITLE:
Purchase
NO.: 4


A1-4
Workplace Rules
Standards
Customer Requirements
Promised Del. Date
Promised Del. Date
Plan Production
A31
Blueprints
Manufacturing Steps
Schedule and Release
A32
Production Plan
3D Printer
Engineer
PTC Creo
Inventory Goods
Outsourced Goods
Raw Material
Employees
Software
Complete production tasks
A33
Finished Product
Certificate of completion
Goods Receipt
Fixtures / Jigs
Machines
Inspector
Hand Tools
Main Assembler
Close Production Run
A34
Run Records
Employees
Software
NODE: A3
TITLE: Produce
NO.: 5

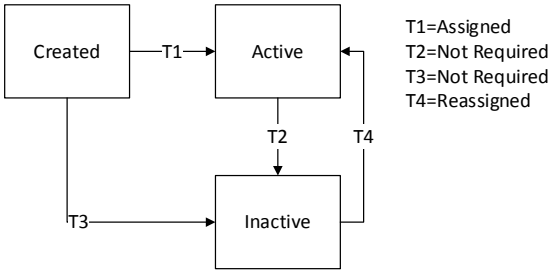

A1-4
Company Routings
Goods Receipt
Customer Requirements
Review Sales Order
A41
Destination Comfirmed
Create Shipping Label
A42
Delivery Note
Finished Product
Employee
Employee
Hand Tools
Package Goods
A43
Shipping Box
Ship Goods
Ship
A44
Invoices
Software
Employee
Employees
Software
A/R
Bill Customer
A45
Payment
Post Payment
A46
Employees
Software
Employees
Software
A/P
Post Goods Issued
Collect all documents
A47
Run Records
Settle Costs
NODE: A4
TITLE:
Sell
NO.: 6

5.3 To-Be Object Model

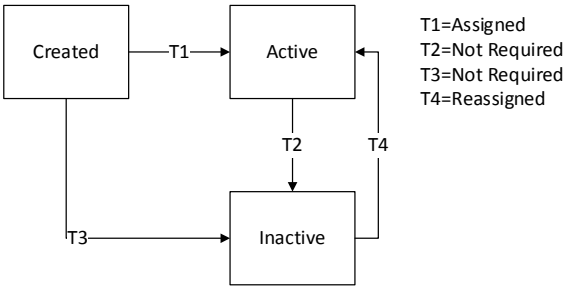


5.4 To-Be Dynamic Model

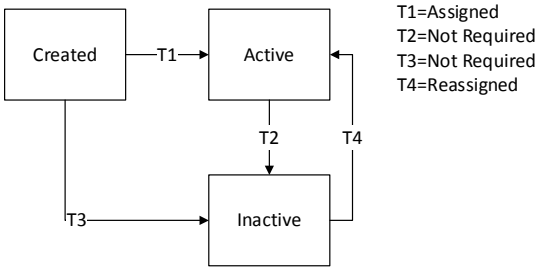
Company Code



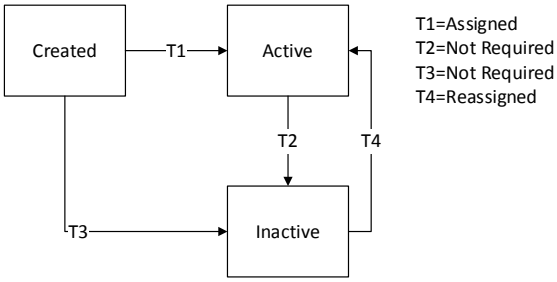
Plant



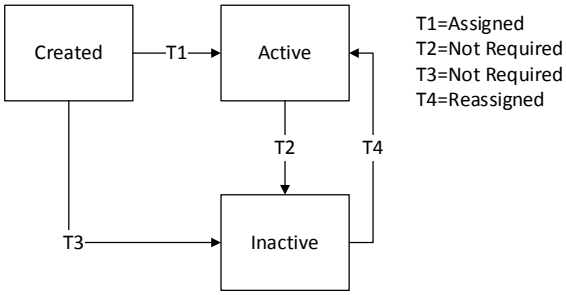
Storage Locations



Purchasing Organization



Purchasing Group



Controlling Area

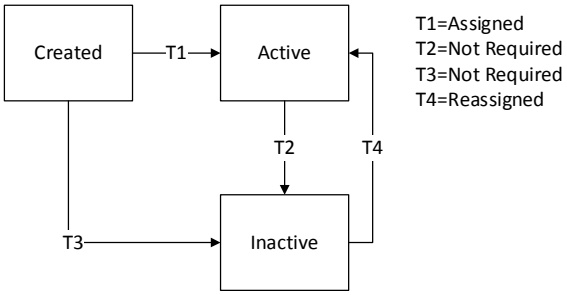
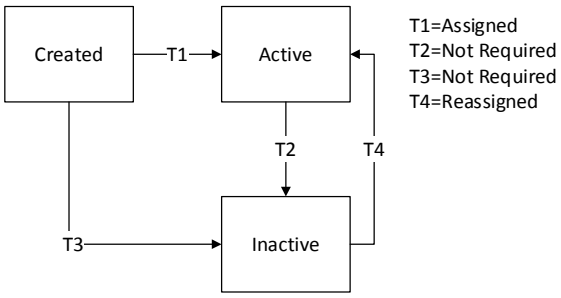
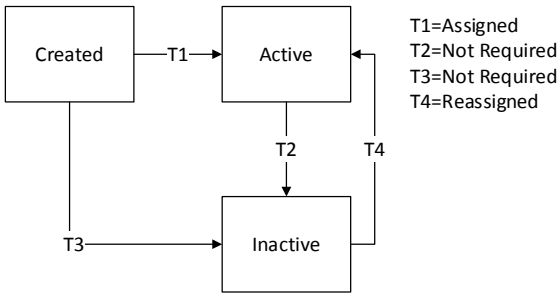


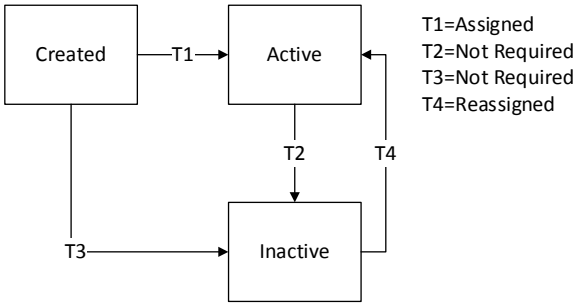
Chart of Accounts



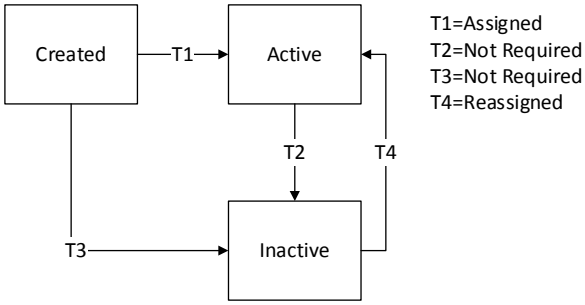
Credit Control Area



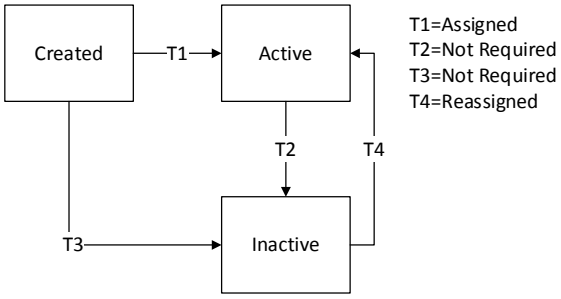
Distribution Channel



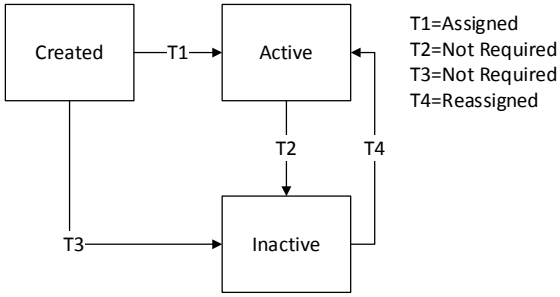
Division



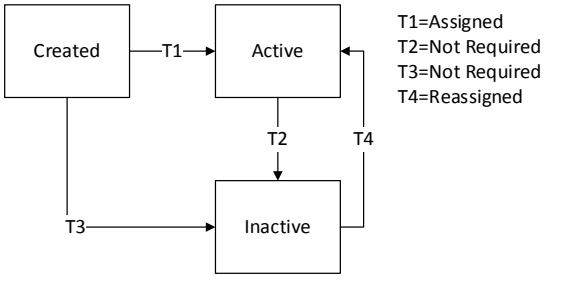
Production Scheduler



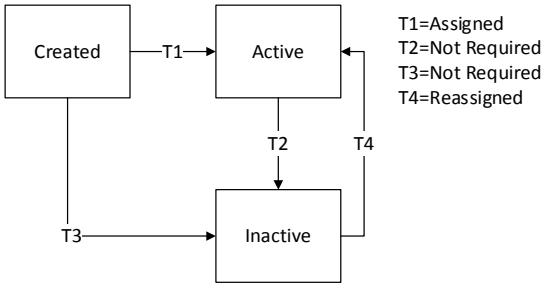
Cost Center



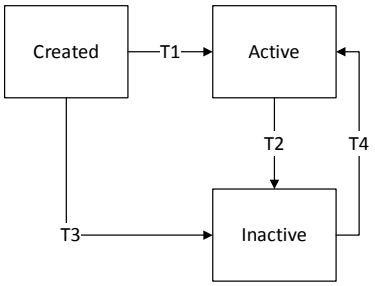
Sales Organization



Account

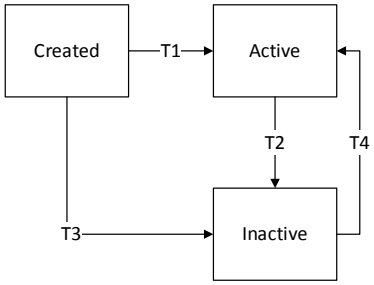


Sales Area



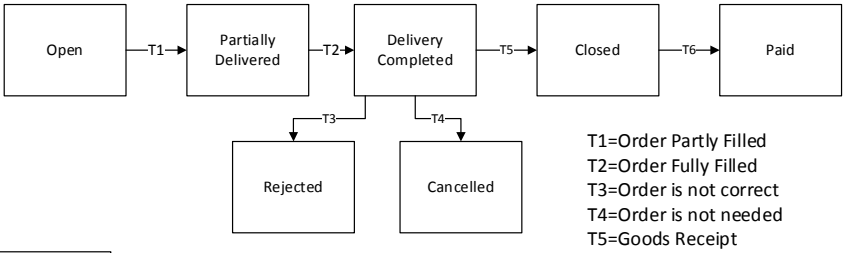
T1=Assigned
T2=Not Required
T3=Not Required
T4=Reassigned

Shipping Point



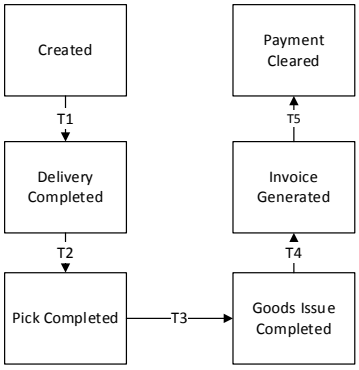
T1=Assigned
T2=Not Required
T3=Not Required
T4=Reassigned

Purchase Order



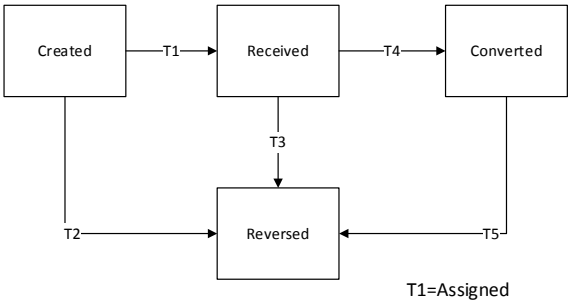
T1=Order Partly Filled
T2=Order Fully Filled
T3=Order is not correct
T4=Order is not needed
T5=Goods Receipt
T6=Send Payment

Sales Order



T1=Order produced
T2=Fill Order
T3=Shipped
T4=Request Invoice be sent
T5=Invoice Sent to Customer

Purchase Requistion

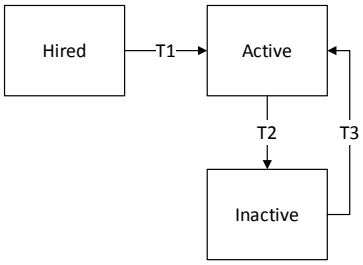


T1=Assigned
T2=Reversal
T3=Reversal
T4=Conversion to PO
T5=Reversal

Customer Requirements

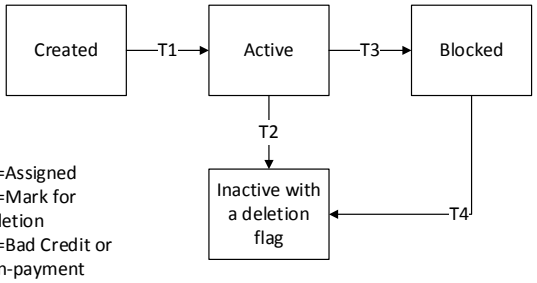
T1=Sent FromCustomer
T2=Reviewed

Employee



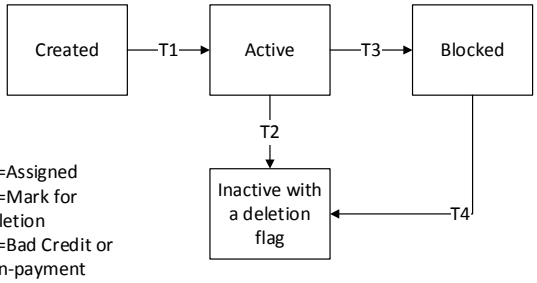
T1=Fills position
T2=vacation/ retired/laid off/ deceased
T3=returns to position

Customer



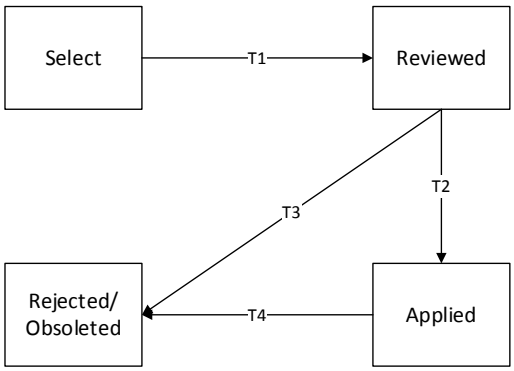
T1=Assigned
T2=Mark for Deletion
T3=Bad Credit or non-payment
T4=Mark for Deletion

Vendor



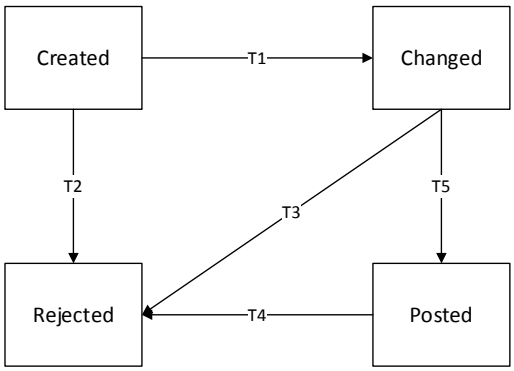
T1=Assigned
T2=Mark for Deletion
T3=Bad Credit or non-payment
T4=Mark for Deletion

Standards



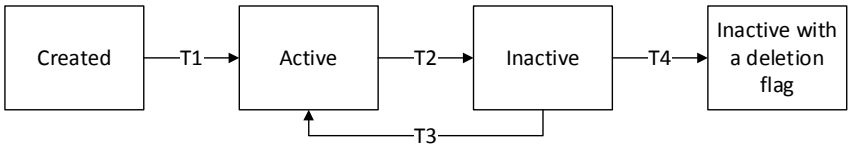
T1=Review
T2=Apply to Process
T3=Does not meet needs
T4=Out of date

Workplace Rules



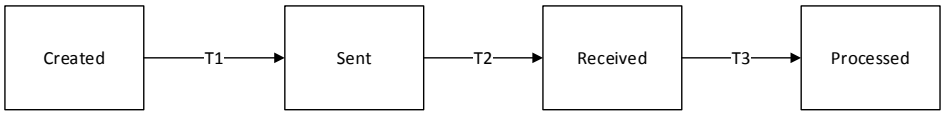
T1=Data Co
T2=Reject
T3=Reject
T4=Reject
T5=Approved

Raw materials



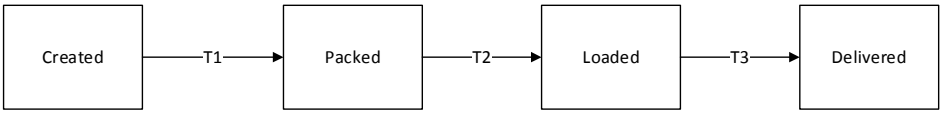
T1=Assigned
T2=Removed from service
T3=Returned to Service
T4=Obsolete

Quotation to Customer



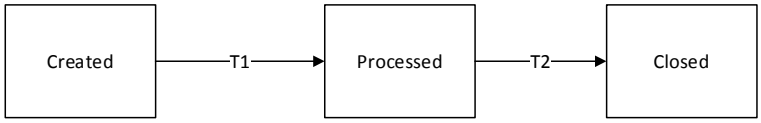
T1=Send to Customer
T2=Customer Accepts
T3=Data Provided

Shipping Box



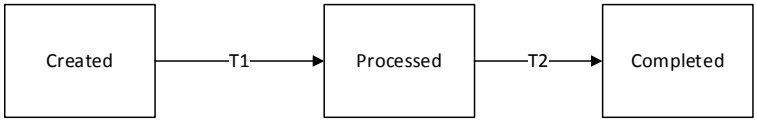
T1=Assigned
T2=Shipping Label Created
T3=Shipped

Shipping Release



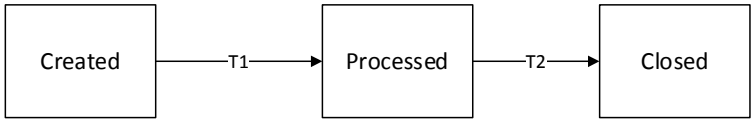
T1=Collect Shipping Details
T2=Release Shipping Item

Work Order



T1=In Process
T2=Settle Cost

Production Plan

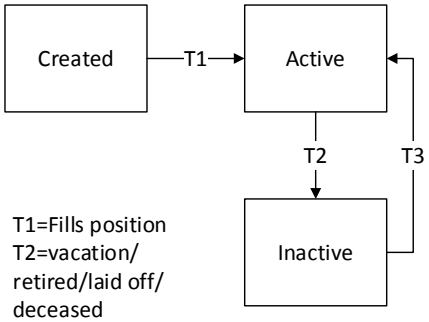


T1=Sent to Factory
T2=Goods Receipt

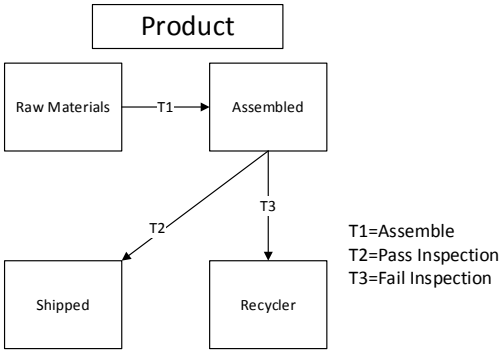
Capacity Analysis

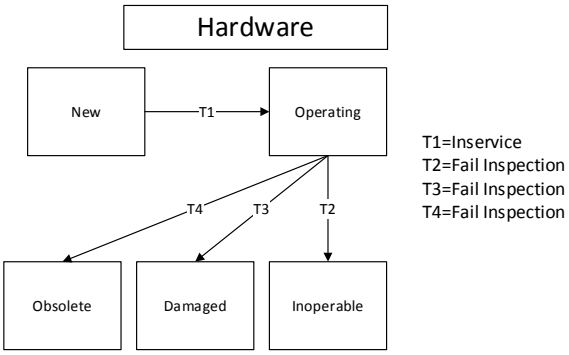
T1=Data Collection
T2=Complete Documentation

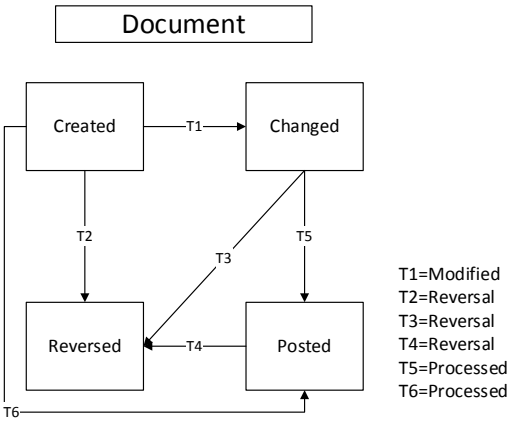
Bill of Material

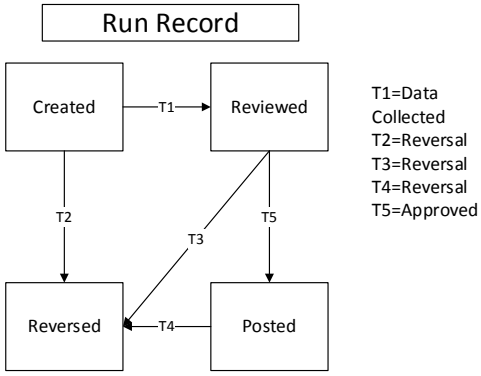


T1=Fills position
T2=vacation/ retired/laid off/ deceased
T3=returns to position


Product
Raw Materials
T1
Assembled
T2
T3
Shipped
Recycler
T1=Assemble
T2=Pass Inspection
T3=Fail Inspection


Hardware
New
T1
Operating
T4
T3
T2
Obsolete
Damaged
Inoperable
T1=Inservice
T2=Fail Inspection
T3=Fail Inspection
T4=Fail Inspection


Document
Created
T1
Changed
T2
T3
T5
Reversed
T4
Posted
T6
T1=Modified
T2=Reversal
T3=Reversal
T4=Reversal
T5=Processed
T6=Processed


Run Record
Created
T1
Reviewed
T2
T3
T5
Reversed
T4
Posted
T1=Data
Collected
T2=Reversal
T3=Reversal
T4=Reversal
T5=Approved

6 To-Be Implementation Overview

The To-Be model was designed around the SAP business processes for seamless implementation. The To-Be model was implemented in SAP for company code C030. The implementation process involved setting up the enterprise organization and creating master data for materials, sales, and production management. The implementation was proven to be successful through the processing of two sales orders. The operations involved in processing the sales orders included planning, procurement, production, and sales, as outlined in the To-Be model.

6.1 Materials Management

Master data for two finished goods and eight raw materials were created.

Material ID	Material Description	Material Type
LABELASSY030	Ultra Strip III Individual Label	Finished Goods
HARDTAGASSY030	Super Tag III	Finished Goods
LABELCAVITY030	Formed plastic cavity	Raw Material
MAGRIBBON030	Magnetostrictive material ribbon	Raw Material
BIASRIB030	Bias material ribbon	Raw Material
LABELADHESIVE030	Adhesive film backing	Raw Material
TAGTOPHOUSE030	Top housing enclosure	Raw Material
TAGBOTHOUSE030	Bottom housing enclosure	Raw Material
TAGPINSPRING030	Pin locking spring	Raw Material
TAGSECURITYPIN030	Security pin	Raw Material

Four vendors were created, for procurement of the eight raw materials. Source lists were created such that each raw material is only available through one vendor.

Vendor Name	Vendor ID	Location	Available Materials
Colorful Polymers International	100171	Shanghai, China	TAGTOPHOUSE030 TAGBOTHOUSE030
Mega Machining Company	100172	Seoul, South Korea	TAGPINSPRING030 TAGSECURITYPIN030
Rare Earth Alloys, LLC	100173	Berlin, Germany	MAGRIBBON030 BIASRIB030
The Best Project Material Co, Ltd	100174	Shangdong, China	LABELCAVITY030 LABELADHESIVE030

6.2 Sales Management

Master data was created for three new customers with appropriate credit limits and discounts.

Customer Name	Customer ID	Distribution Channel	Credit Limit	Discounts
Earls Home Building Supplies	141	RE	$5,000	None
Hyper Mart Corporation	142	WH	$6,000	5%/$1,000 8%/$2,000 10%/$3,000
Euro Couture	143	RE	$5,000	None

6.3 Production Management

The Bill of Materials and routing were created for each finished product. Both finished goods were assigned to the same product group.

6.3.1 Bill of Materials

Bill of Materials: Ultra•Strip® III Individual Label (LABELASSY030)							
PART NAME	**PART NUMBER**	**QTY/ UNIT**	**COST/ ORDER**	**ORDER QTY**	**COST/ UNIT**	**MATERIAL**	**VENDOR**
Label	**LABELASSY030**		$270.00	5000	$0.05		
Formed plastic cavity	LABELCAVITY030	1	$29.27	5000	$0.0059	RAW	The Best Project Material CO. LTD
Magnetostrictive material ribbon	MAGRIBBON030	2	$13.90	5000	$0.0056	RAW	Rare Earth Alloys, LLC.
Bias material ribbon	BIASRIB030	1	$12.00	5000	$0.0024	RAW	Rare Earth Alloys, LLC.
Adhesive film backing	LABELADHESIVE030	1	$24.00	5000	$0.0048	RAW	The Best Project Material CO. LTD
					$0.019	**Total**	

Bill of Materials: SuperTag® III (HARDTAGASSY030)							
PART NAME	**PART NUMBER**	**QTY/ UNIT**	**COST/ ORDER**	**ORDER QTY**	**COST/ UNIT**	**MATERIAL**	**VENDOR**
Hard tag	**HardTagAssy030**		$630.00	1000	$0.63		
Top housing enclosure	TAGTOPHOUSE030	1	$130.00	5000	$0.0260	RAW	Colorful Polymers International
Bottom housing enclosure	TAGBOTHOUSE030	1	$120.00	5000	$0.0240	RAW	Colorful Polymers International
Magnetostrictive material ribbon	MAGRIBBON030	2	$13.90	5000	$0.0056	RAW	Rare Earth Alloys, LLC.
Bias material ribbon	BIASRIB030	1	$12.00	5000	$0.0024	RAW	Rare Earth Alloys, LLC.
Pin locking spring	TAGPINSPRING030	1	$412.10	5000	$0.0824	RAW	Mega Machining Company
Security pin	TAGSECURITYPIN030	1	$340.20	5000	$0.0680	RAW	Mega Machining Company
					$0.21	**Total**	

6.3.2 Product Routing

Routing: Ultra•Strip® III Individual Label (LABELASSY030)							
Op #	**Parts Used**	**STEPS**	**TIME (min)**	**COST**	**Work Center**	**Work Center Description**	**Plant**
1		Magnetize magnetostrictive ribbon	0.5	0.1	WC030A	Magnetizing Machine	P030
2		Place raw plastic material in forming die to create label cavity	0.6	0.12	WC030B	Molding Department	P030
3	LABELCAVITY030	The label cavity is placed in an assembly tray	0.2	0.04	WC030C	Clean Assembly Room	P030
4	MAGRIBBON030 BIASRIB030	Insert magnetostrictive ribbon and bias ribbon in label cavity	0.75	0.15	WC030C	Clean Assembly Room	P030
5	LABELADHESIVE030	Seal Label together by attaching adhesive film backing and label cavity	0.2	0.04	WC030C	Clean Assembly Room	P030
		Total	2.25	12			

Routing: SuperTag® III (HARDTAGASSY030)							
Op #	**Parts Used**	**STEPS**	**TIME (min)**	**COST**	**Work Center**	**Work Center Description**	**Plant**
1		Magnetize magnetostrictive ribbon	0.5	0.1	WC030A	Magnetizing Machine	P030
2		Mold top and bottom housing enclosure	0.5	0.1	WC030B	Molding department	P030
3	MAGRIBBON030 BIASRIB030 TAGTOPHOUSE030	Insert magnetostrictive ribbon and bias ribbon into top housing enclosure	0.75	0.15	WC030C	Clean Assembly Room	P030
4	TAGPINSPRING030	Insert pin locking spring into top housing enclosure	0.4	0.08	WC030C	Clean Assembly Room	P030
5	TAGBOTHOUSE030	Seal top and bottom housing enclosure	0.8	0.16	WC030C	Clean Assembly Room	P030
6	TAGSECURITYPIN030	Insert security pin	0.1	0.02	WC030C	Clean Assembly Room	P030
		Total	3.05	12			

6.4 Financial Management

The following chart of accounts was implemented in SAP.

G/L Account	G/L Account name
100030	Bank (Checking Account)
101030	Alternate Bank
110030	Accounts Receivable Reconciliation
200030	Raw Materials Inventory
201030	Trading Goods Inventory
202030	Finished Goods Inventory
203030	Operating Supplies Inventory
300030	Accounts Payable Reconciliation
310030	Goods Receipt / Invoice Receipt Account
320030	Accrued Tax - Output
321030	Accrued Tax - Input
330030	Retained Earnings
350030	Common Stock 030
600030	Sales Revenue
610030	Revenue Deductions
710030	Labor Expense
720030	Raw Materials Consumption / Expense
721030	Trading Goods Consumption/Expense
722030	Finished Goods Consumption / Expense
731030	Production Order Settlement Expense
740030	Supplies Expense
750030	Utilities Expense Account
760030	Purchase Price Difference Account
762030	Production Variance Expense
770030	Information Technology Expense
780030	Rent Expense
781030	Miscellaneous Expense
790030	Cost of Goods Sold Expense

6.5 Operations

Two sales orders were received, as detailed below.

Customer Name	Customer ID	Distribution Channel	Material ID	Quantity	Total
Earls Home Building Supplies	141	RE	LABELASSY030	10,000	$ 3,650.00
			HARDTAGASSY030	5,000	
Hyper Mart Corp	142	WH	LABELASSY030	20,000	$ 3,572.00
			HARDTAGASSY030	5,000	

To complete these sales orders, materials had to be purchased and finished goods had to be produced. Summaries of the procurement, production, and sales processes are provided in the following tables.

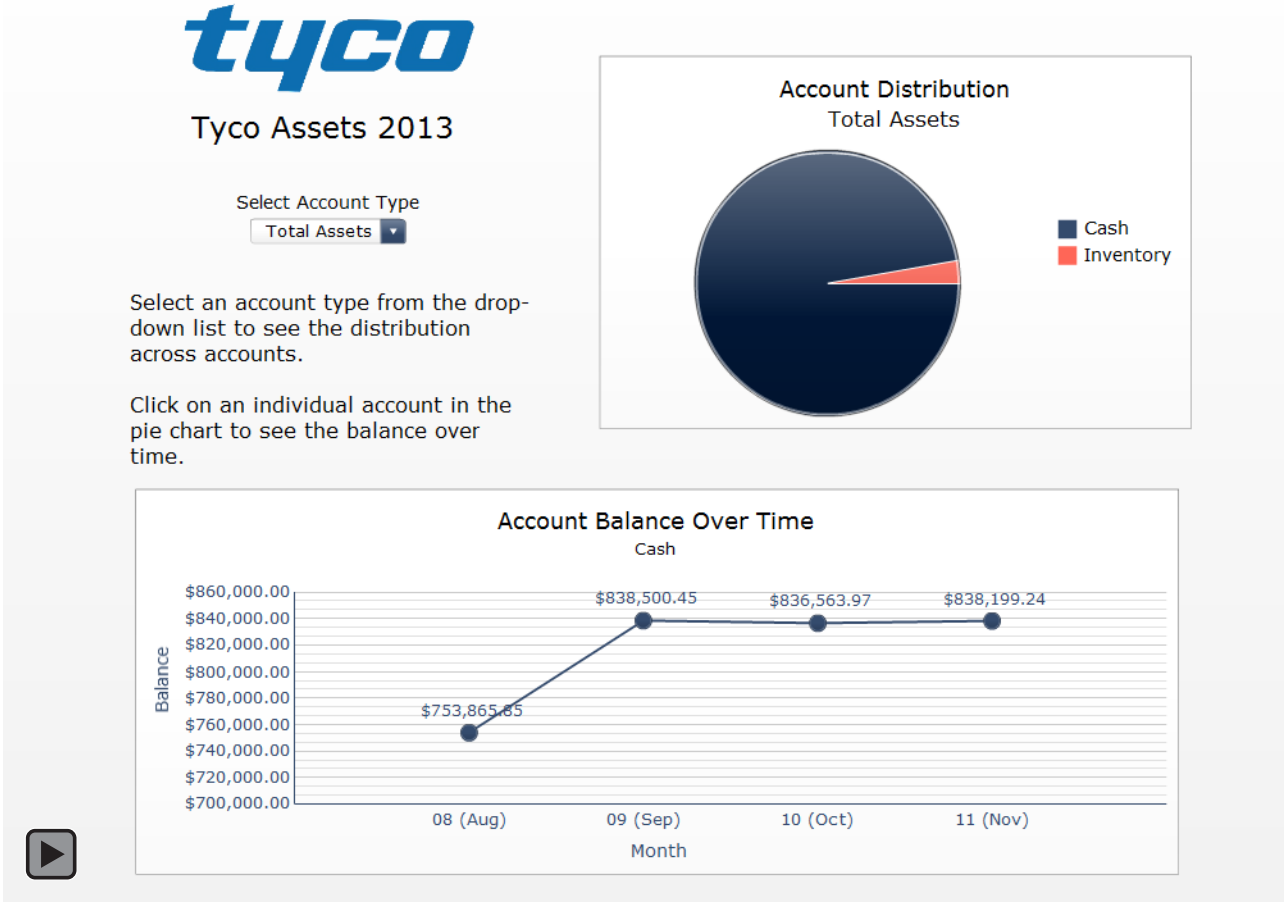
Purchase Order Summary					
Vendor	Vendor ID	Purchase Order	Goods Receipt	Invoice	Payment
Colorful Polymers	100171	4500000224	5000000361	5105601000	1500000015
Mega Machining Company	100172	4500000225	5000000362	5105601001	1500000016
Rare Earth Alloys	100173	4500000226	5000000363	5105601002	1500000017
Best Project Material	100174	4500000227	5000000364	5105601003	1500000018

Production Order Summary				
Material ID	Planned Order	Production Order	Goods Issue	Goods Receipt
LABELASSY030	15971	1000112	4900000235	5000000365
HARDTAGASSY030	15969	1000113	4900000236	5000000366

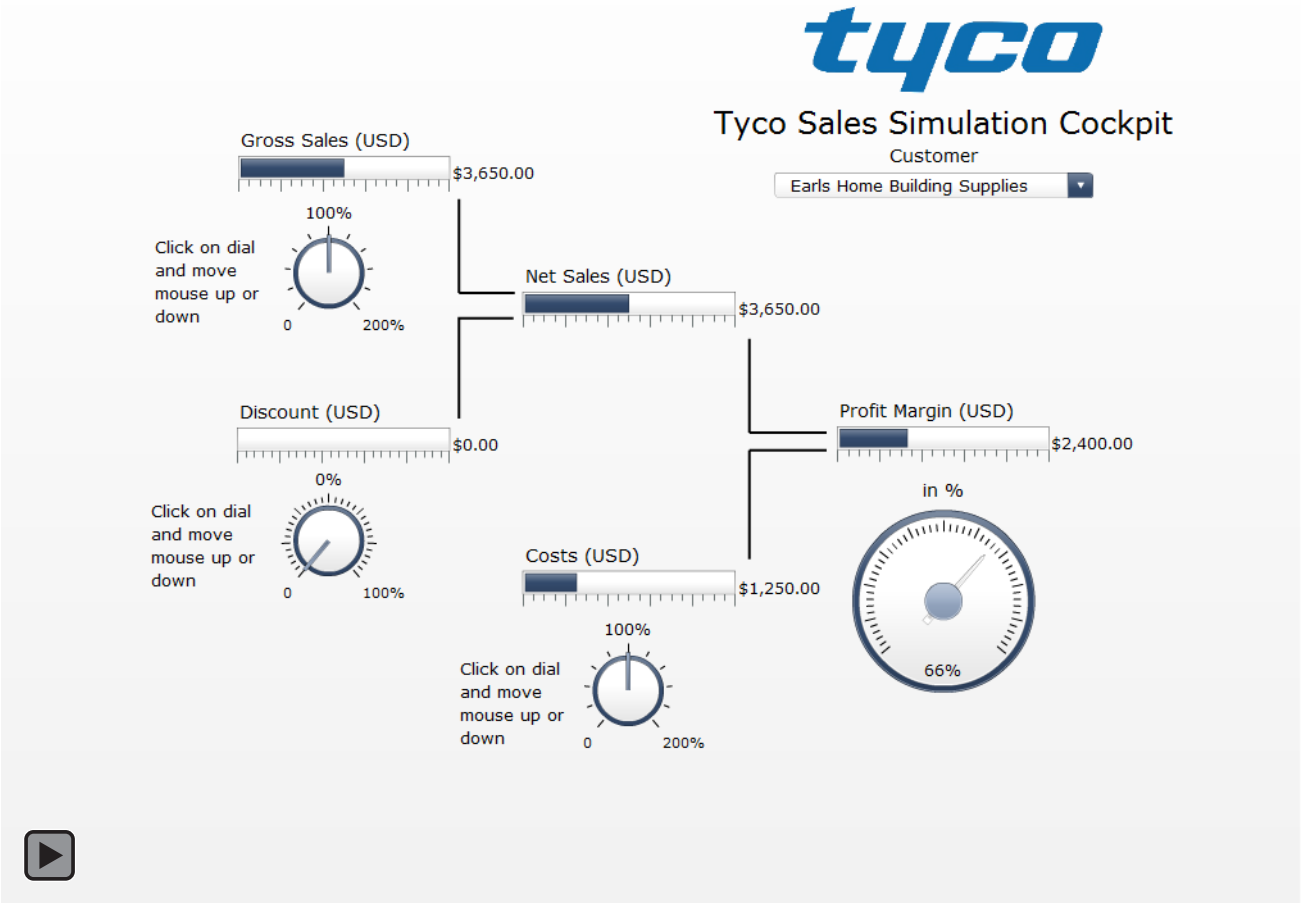
Sales Order Summary						
Customer Name	Customer ID	Sales Quote	Sales Order	Delivery Note	Invoice	Payment
Earls Home Building Supplies	141	20000061	79	80000124	90000127	1400000006
Hyper Mart Corp	142	20000062	80	80000125	90000128	1400000007

6.6 SAP Crystal Dashboard Design

SAP Crystal Dashboard was used to design an interactive graphic of the cash and inventory available in 2013. Selecting either cash or inventory in the drop-down menu changes the account distribution shown in the pie chart. Selecting one of the pie pieces will show the individual account balance over time in the line chart.



SAP Crystal Dashboard was also used to display the financial information related to the two sales orders that were processed as part of the model implementation. The customer can be selected from the drop-down menu and the sales, discount, and cost information can be adjusted to determine the effects on profit margin.



7 SAP Implementation Details

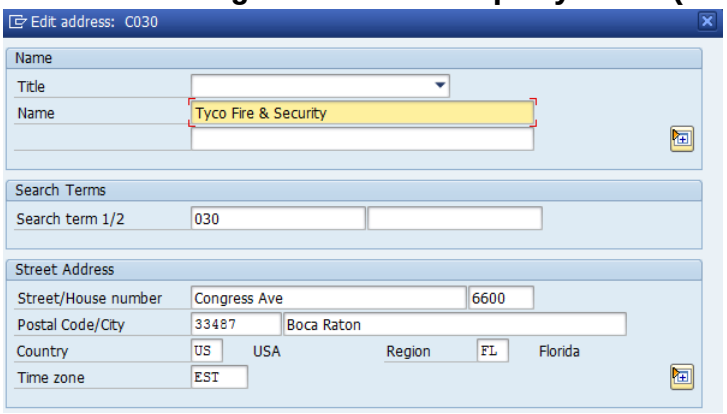
Screenshots of the SAP implementation and operation are provided below.

7.1 SAP Environment

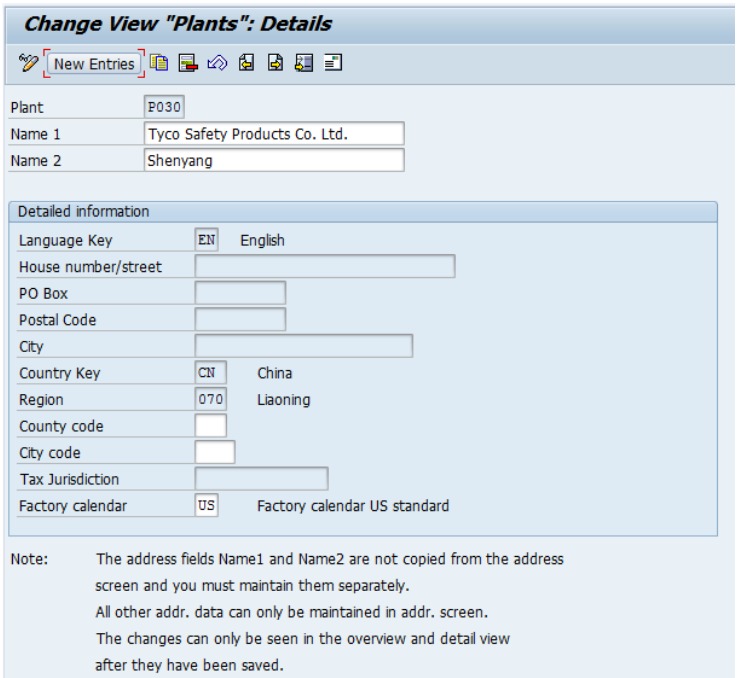
Application Server	Madrid.cob.csuchico.edu
Instance Number	01
System ID	MDR
Client	615
Company Code	C030

7.2 Changes in Enterprise Organization Structure

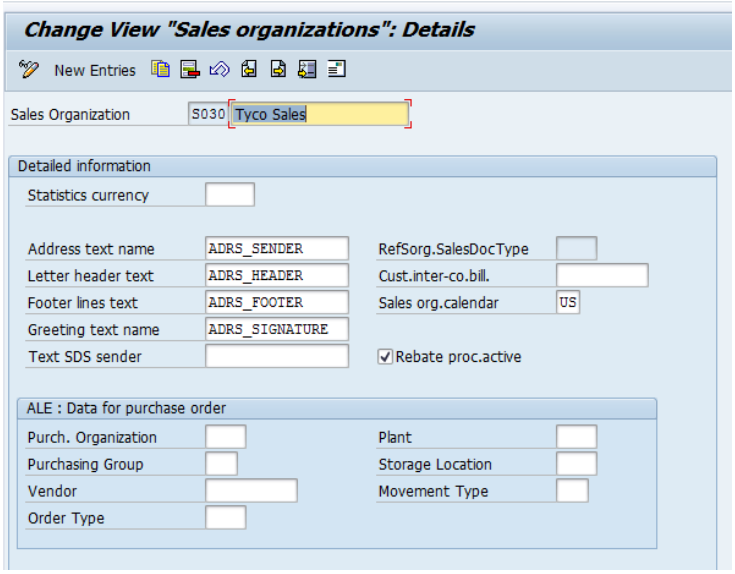
7.2.1 Change name of company code (SPRO)



7.2.2 Change plant name (SPRO)

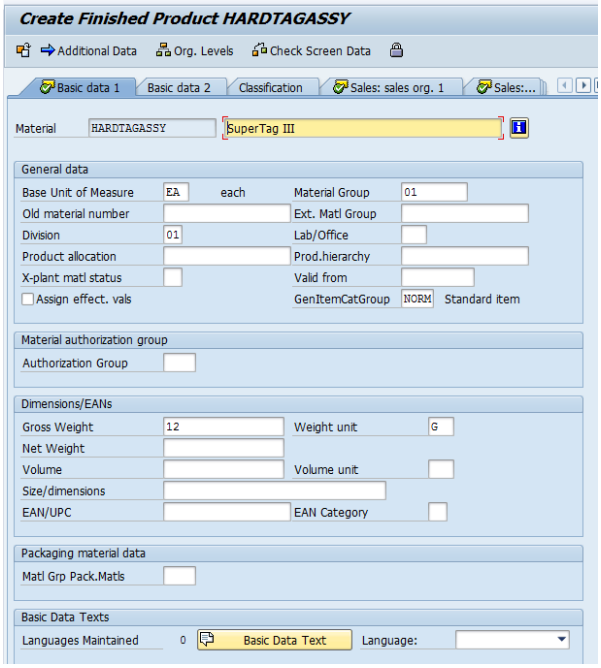


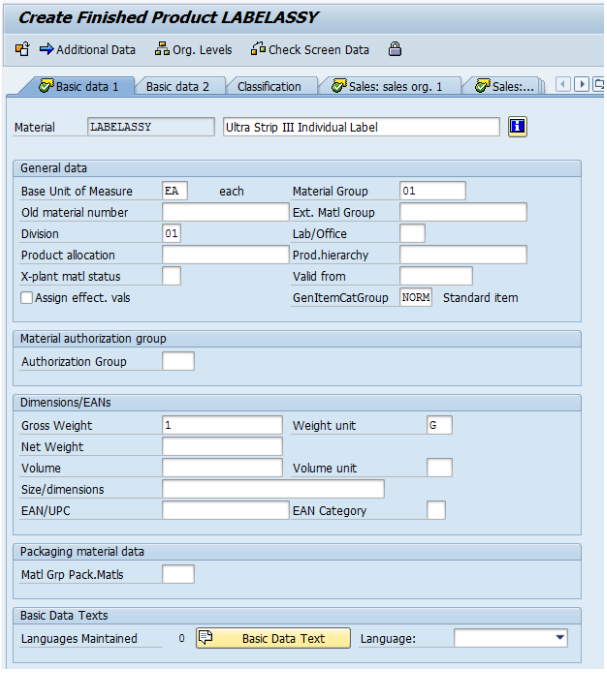
7.2.3 Change sales organization name (SPRO)



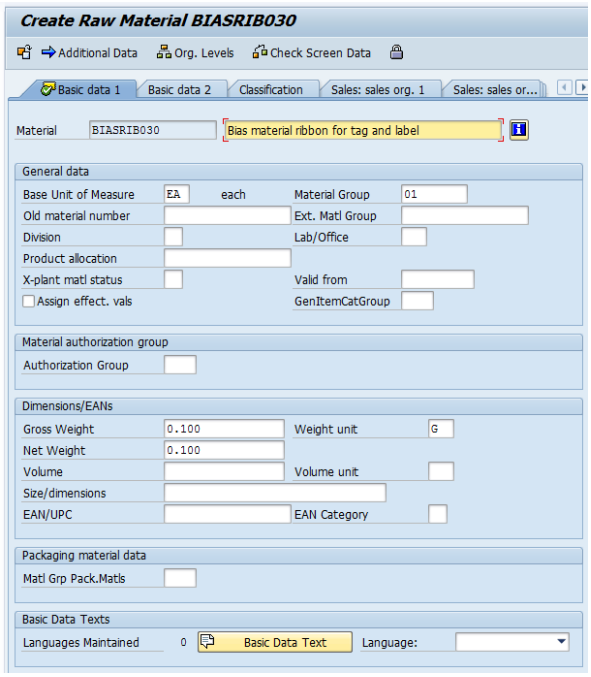
7.3 New Master Data for Materials Management

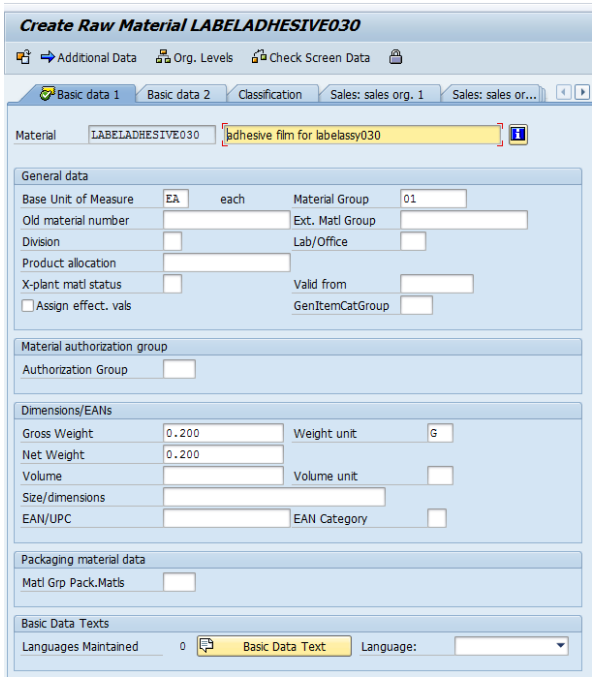
7.3.1 Create two new finished goods (MMF1)

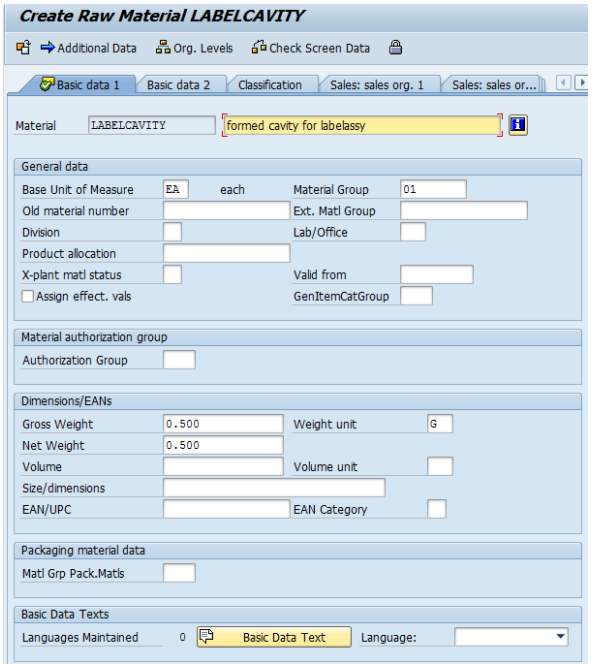


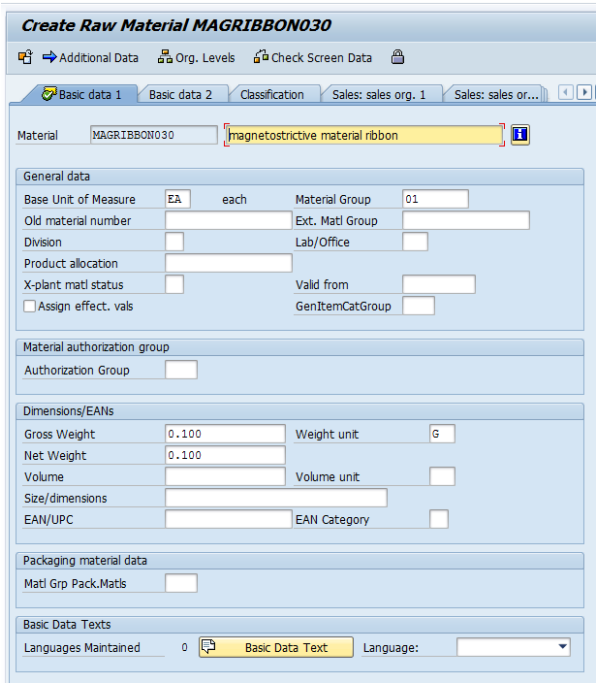


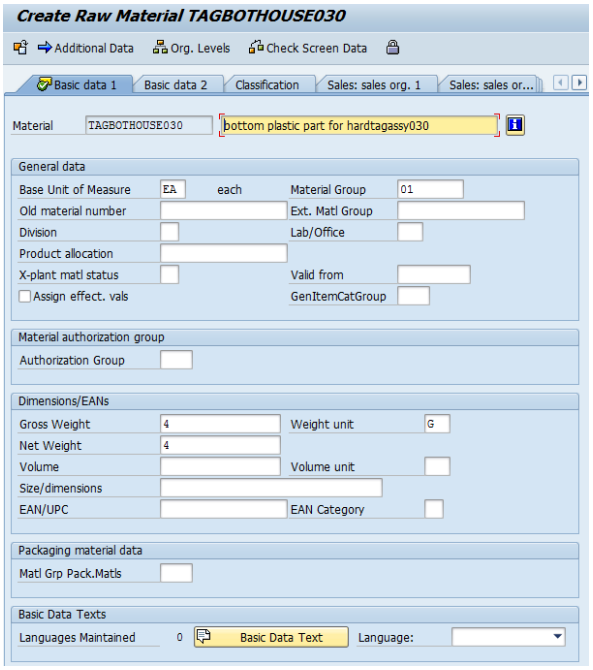
7.3.2 Create relative raw materials (MMR1)

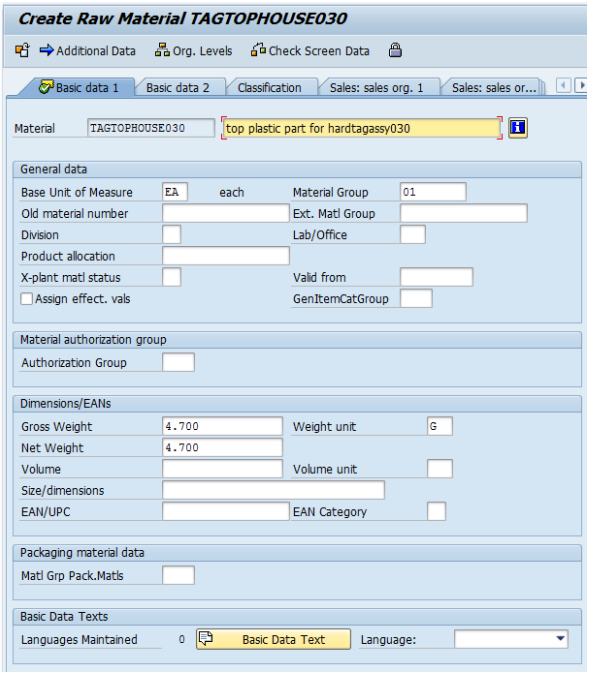


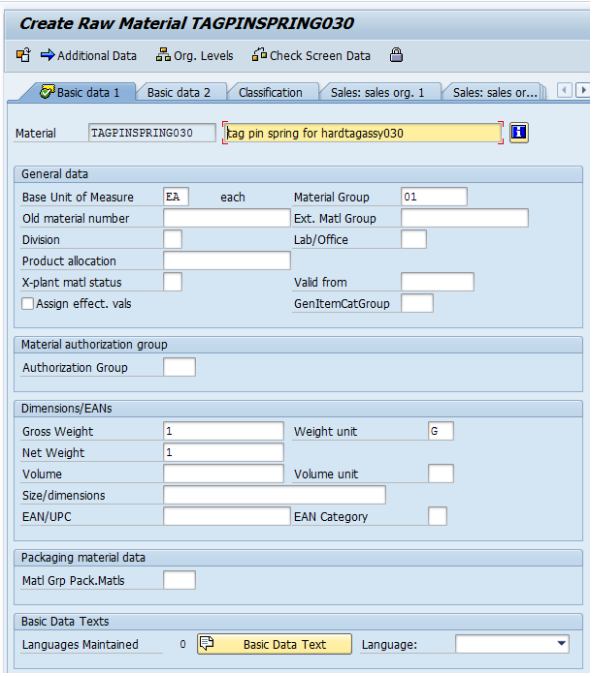


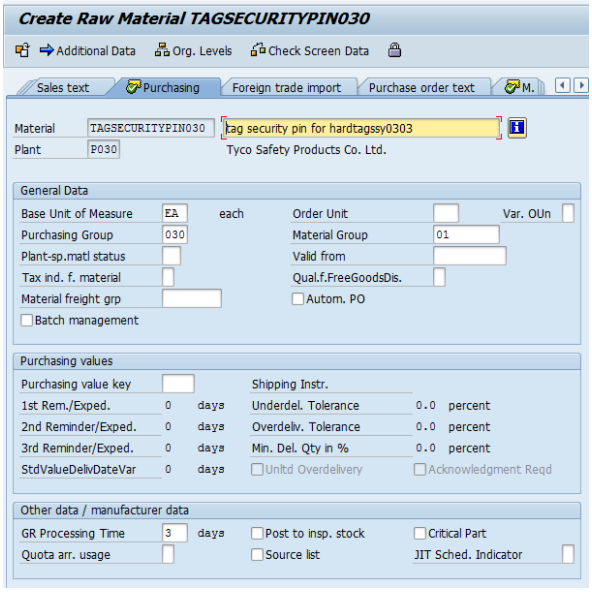




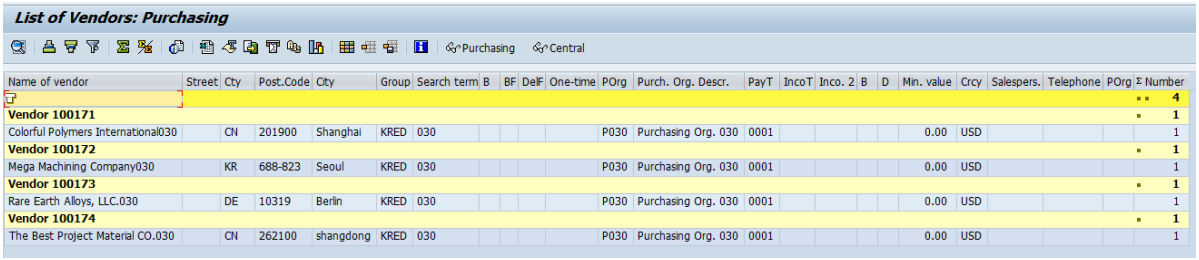

Create Raw Material TAGBOTHOUSE030
Additional Data
Org. Levels
Check Screen Data
Basic data 1
Basic data 2
Classification
Sales: sales org. 1
Sales: sales or...
Material
TAGBOTHOUSE030
bottom plastic part for hardtagassy030
General data
Base Unit of Measure
EA
each
Material Group
01
Old material number
Ext. Matl Group
Division
Lab/Office
Product allocation
X-plant matl status
Valid from
Assign effect. vals
GenItemCatGroup
Material authorization group
Authorization Group
Dimensions/EANs
Gross Weight
4
Weight unit
G
Net Weight
4
Volume
Volume unit
Size/dimensions
EAN/UPC
EAN Category
Packaging material data
Matl Grp Pack.Matls
Basic Data Texts
Languages Maintained
0
Basic Data Text
Language:


Create Raw Material TAGTOPHOUSE030
Additional Data
Org. Levels
Check Screen Data
Basic data 1
Basic data 2
Classification
Sales: sales org. 1
Sales: sales or...
Material
TAGTOPHOUSE030
top plastic part for hardtagassy030
General data
Base Unit of Measure
EA
each
Material Group
01
Old material number
Ext. Matl Group
Division
Lab/Office
Product allocation
X-plant matl status
Valid from
Assign effect. vals
GenItemCatGroup
Material authorization group
Authorization Group
Dimensions/EANs
Gross Weight
4.700
Weight unit
G
Net Weight
4.700
Volume
Volume unit
Size/dimensions
EAN/UPC
EAN Category
Packaging material data
Matl Grp Pack.Matls
Basic Data Texts
Languages Maintained
0
Basic Data Text
Language:


Create Raw Material TAGPINSPRING030
Additional Data
Org. Levels
Check Screen Data
Basic data 1
Basic data 2
Classification
Sales: sales org. 1
Sales: sales or...
Material
TAGPINSPRING030
tag pin spring for hardtagassy030
General data
Base Unit of Measure
EA
each
Material Group
01
Old material number
Ext. Matl Group
Division
Lab/Office
Product allocation
X-plant matl status
Valid from
Assign effect. vals
GenItemCatGroup
Material authorization group
Authorization Group
Dimensions/EANs
Gross Weight
1
Weight unit
G
Net Weight
1
Volume
Volume unit
Size/dimensions
EAN/UPC
EAN Category
Packaging material data
Matl Grp Pack.Matls
Basic Data Texts
Languages Maintained
0
Basic Data Text
Language:


Create Raw Material TAGSECURITYPIN030
Additional Data
Org. Levels
Check Screen Data
Sales text
Purchasing
Foreign trade import
Purchase order text
M.
Material
TAGSECURITYPIN030
tag security pin for hardtagssy0303
Plant
P030
Tyco Safety Products Co. Ltd.
General Data
Base Unit of Measure
EA
each
Order Unit
Var. OUn
Purchasing Group
030
Material Group
01
Plant-sp.matl status
Valid from
Tax ind. f. material
Qual.f.FreeGoodsDis.
Material freight grp
Autom. PO
Batch management
Purchasing values
Purchasing value key
Shipping Instr.
1st Rem./Exped.
0
days
Underdel. Tolerance
0.0
percent
2nd Reminder/Exped.
0
days
Overdeliv. Tolerance
0.0
percent
3rd Reminder/Exped.
0
days
Min. Del. Qty in %
0.0
percent
StdValueDelivDateVar
0
days
Unltd Overdelivery
Acknowledgment Reqd
Other data / manufacturer data
GR Processing Time
3
days
Post to insp. stock
Critical Part
Quota arr. usage
Source list
JIT Sched. Indicator

7.3.3 Create new vendors (XK01)

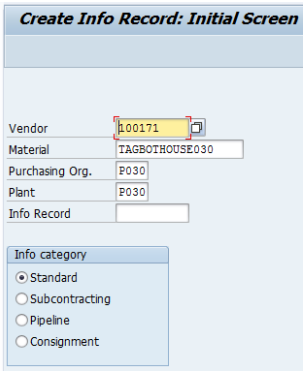


List of Vendors: Purchasing

Purchasing | Central

Name of vendor	Street	Cty	Post.Code	City	Group	Search term	B	BF	DelF	One-time	POrg	Purch. Org. Descr.	PayT	IncoT	Inco. 2	B	D	Min. value	Crcy	Salespers.	Telephone	POrg	Σ Number
																							4
Vendor 100171																							1
Colorful Polymers International030		CN	201900	Shanghai	KRED	030					P030	Purchasing Org. 030	0001					0.00	USD				1
Vendor 100172																							1
Mega Machining Company030		KR	688-823	Seoul	KRED	030					P030	Purchasing Org. 030	0001					0.00	USD				1
Vendor 100173																							1
Rare Earth Alloys, LLC.030		DE	10319	Berlin	KRED	030					P030	Purchasing Org. 030	0001					0.00	USD				1
Vendor 100174																							1
The Best Project Material CO.030		CN	262100	shangdong	KRED	030					P030	Purchasing Org. 030	0001					0.00	USD				1

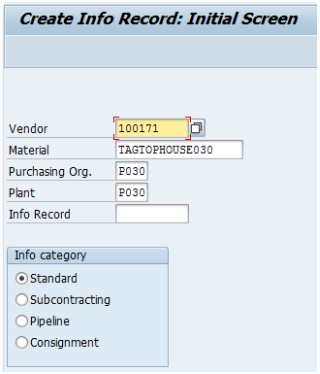
7.3.4 Create new info records for new raw materials (ME11)



Create Info Record: Initial Screen

Vendor 100171
Material TAGBOTHOUSE030
Purchasing Org. P030
Plant P030
Info Record

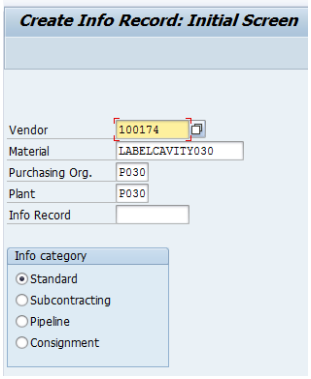
Info category
Standard
Subcontracting
Pipeline
Consignment



Create Info Record: Initial Screen

Vendor 100171
Material TAGTOPHOUSE030
Purchasing Org. P030
Plant P030
Info Record

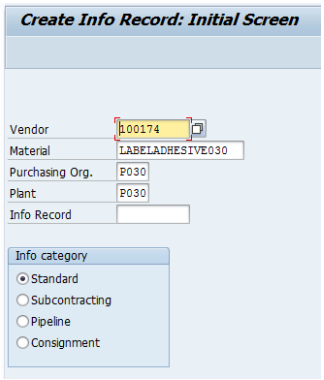
Info category
Standard
Subcontracting
Pipeline
Consignment



Create Info Record: Initial Screen

Vendor 100174
Material LABELCAVITY030
Purchasing Org. P030
Plant P030
Info Record

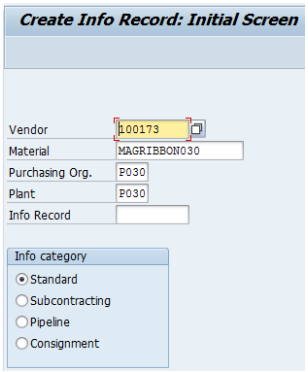
Info category
Standard
Subcontracting
Pipeline
Consignment



Create Info Record: Initial Screen

Vendor 100174
Material LABELADHESIVE030
Purchasing Org. P030
Plant P030
Info Record

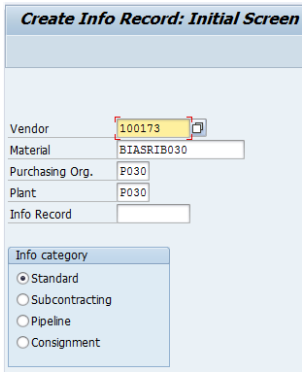
Info category
Standard
Subcontracting
Pipeline
Consignment



Create Info Record: Initial Screen

Vendor 100173
Material MAGRIBBON030
Purchasing Org. P030
Plant P030
Info Record

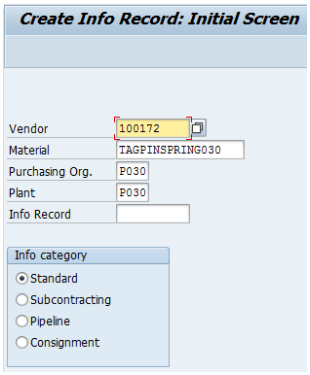
Info category
Standard
Subcontracting
Pipeline
Consignment



Create Info Record: Initial Screen

Vendor 100173
Material BIASRIB030
Purchasing Org. P030
Plant P030
Info Record

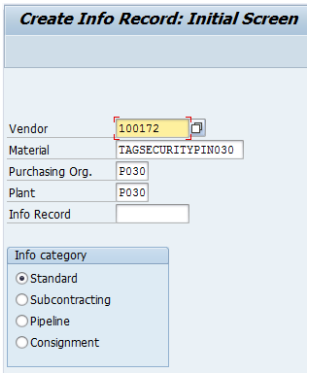
Info category
Standard
Subcontracting
Pipeline
Consignment



Create Info Record: Initial Screen

Vendor 100172
Material TAGPINSPRING030
Purchasing Org. P030
Plant P030
Info Record

Info category
Standard
Subcontracting
Pipeline
Consignment

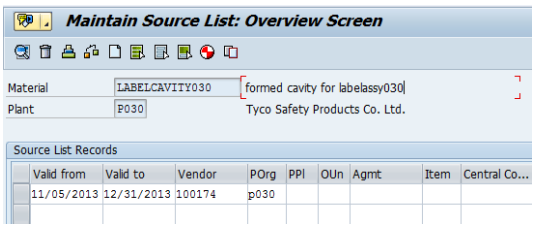


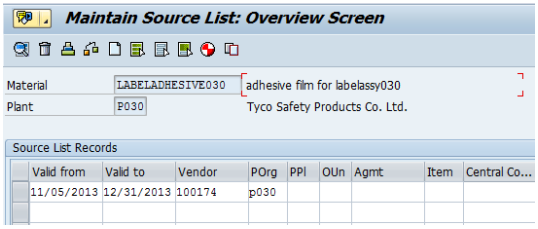
Create Info Record: Initial Screen

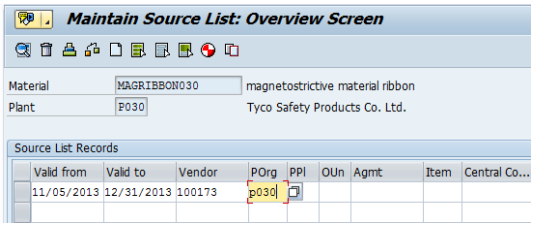
Vendor 100172
Material TAGSECURITYPIN030
Purchasing Org. P030
Plant P030
Info Record

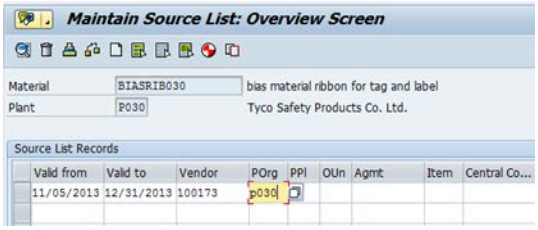
Info category
Standard
Subcontracting
Pipeline
Consignment

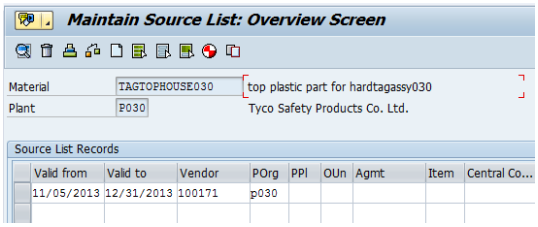
7.3.5 Create source lists for raw materials and vendors (ME01)

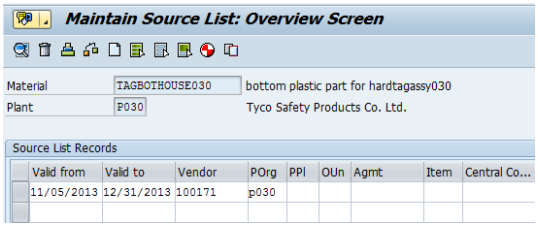


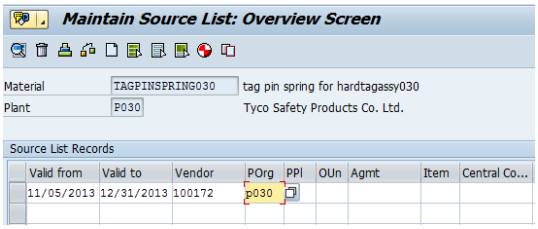


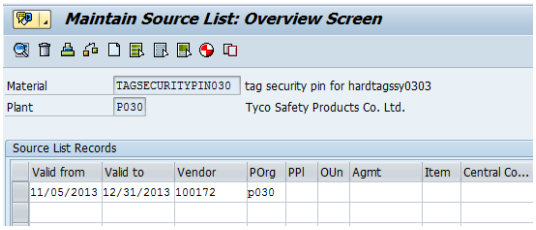








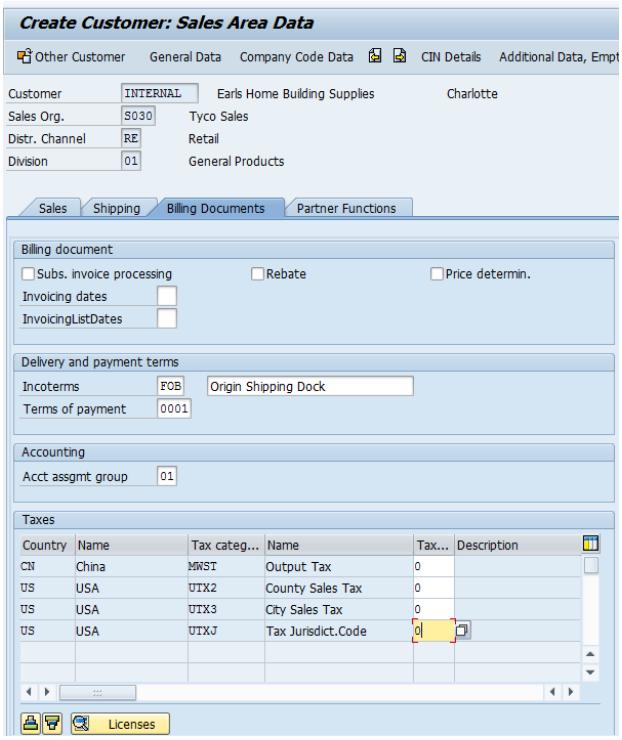


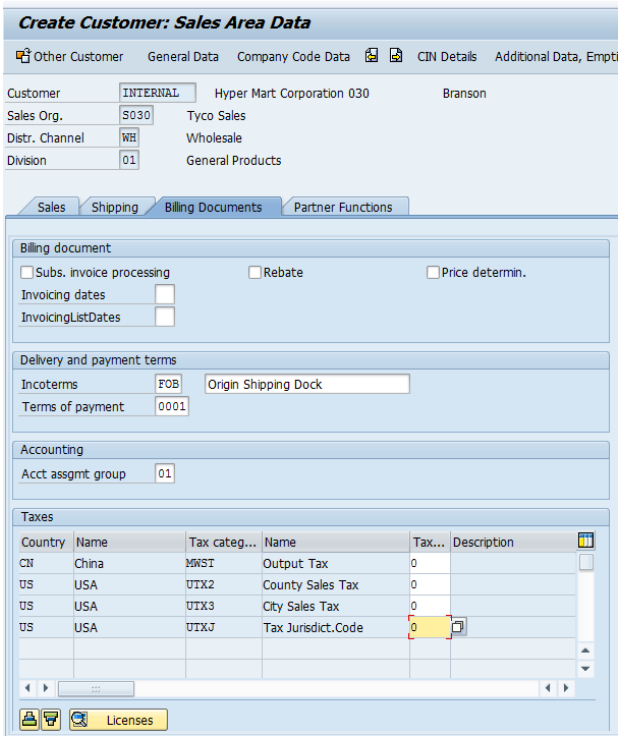


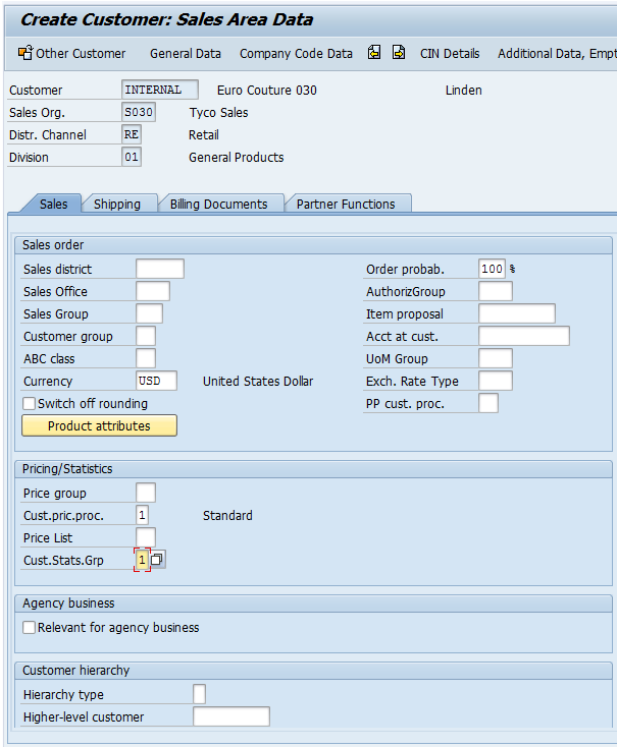
7.4 New Master Data for Sales Management

7.4.1 Create new customers (XD01)

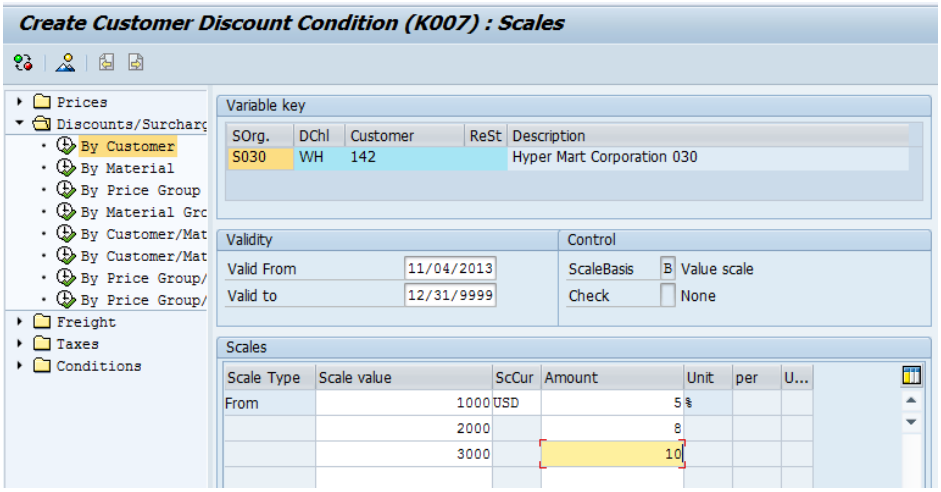
7.4.2 Create customer specific material prices for finished products (VK31)



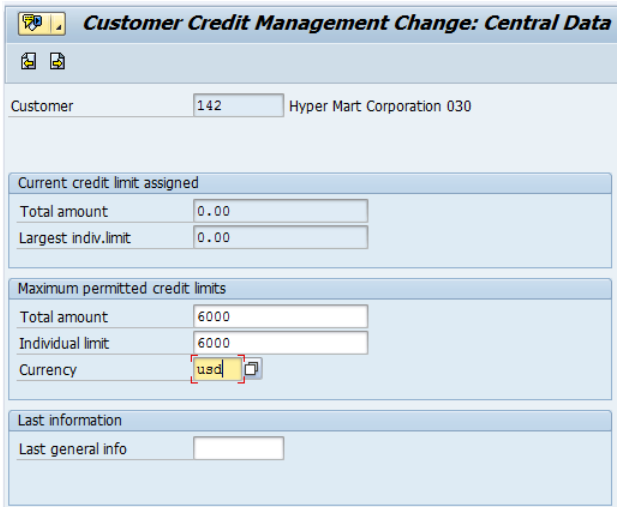


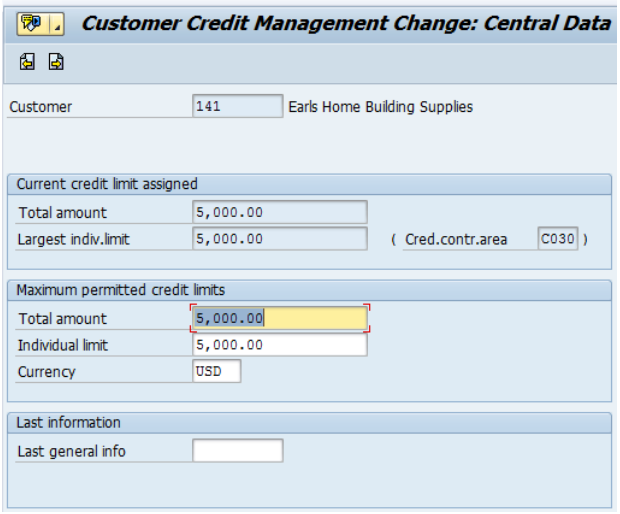


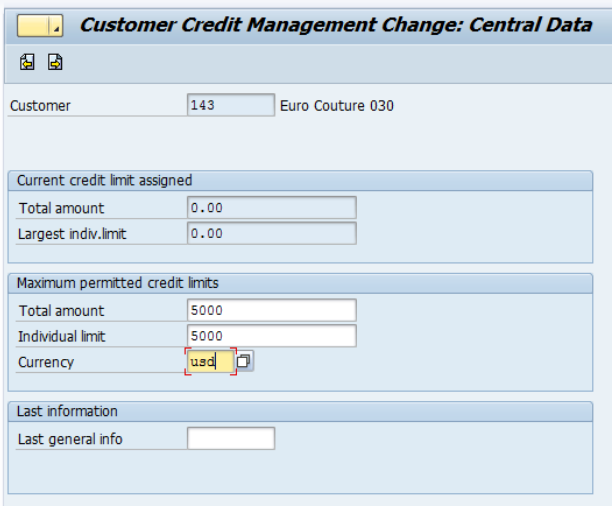
7.4.3 Create discount for your new customer (VK31)



7.4.4 Setup credit limit for your new customer (FD32)

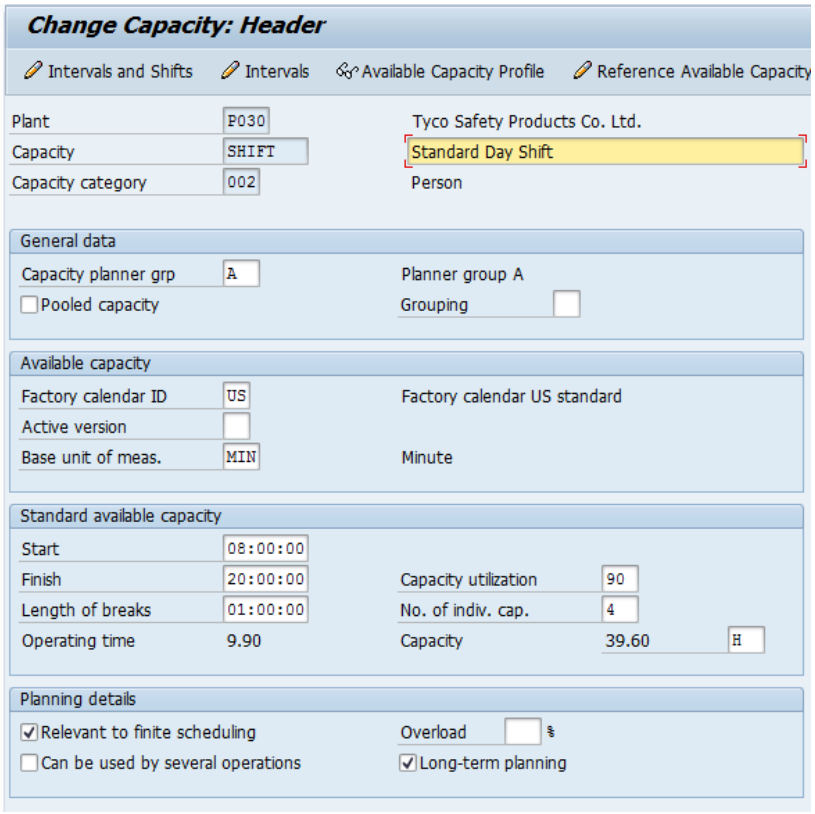






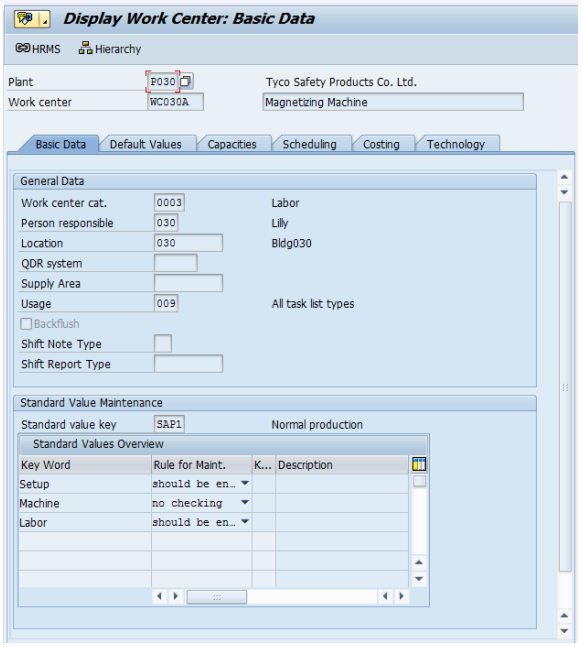
7.5 New Master Data for Production Management

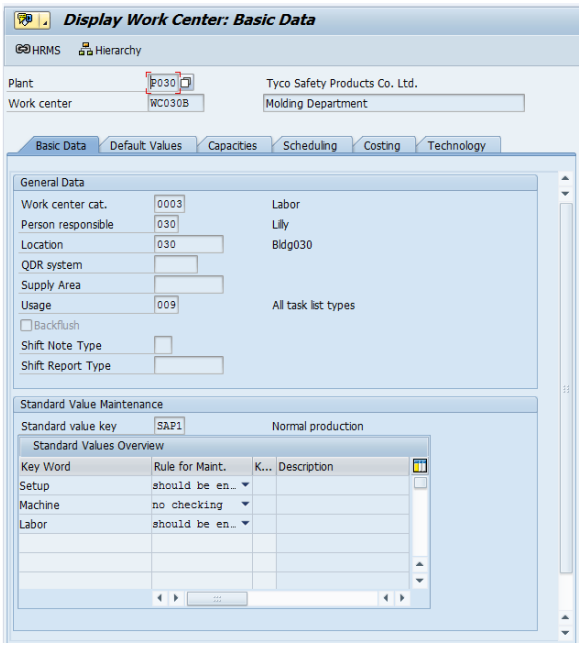
7.5.1 Modify your plant capacity if necessary (CR12)

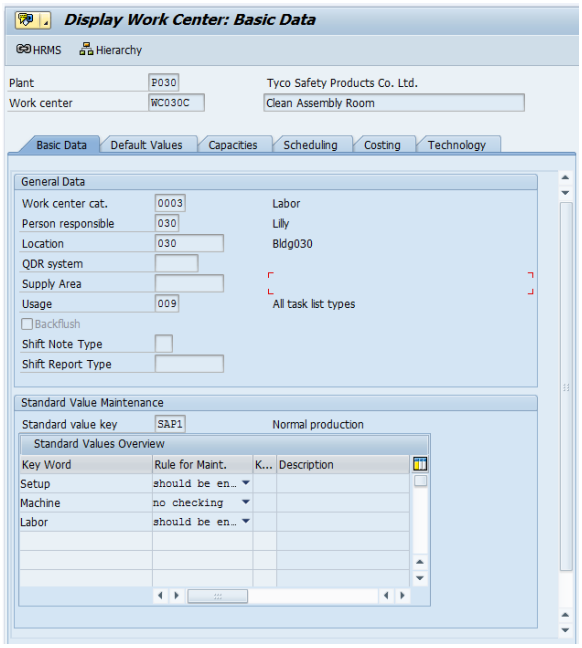


7.5.2 Modify labor activity price if necessary (KP26)

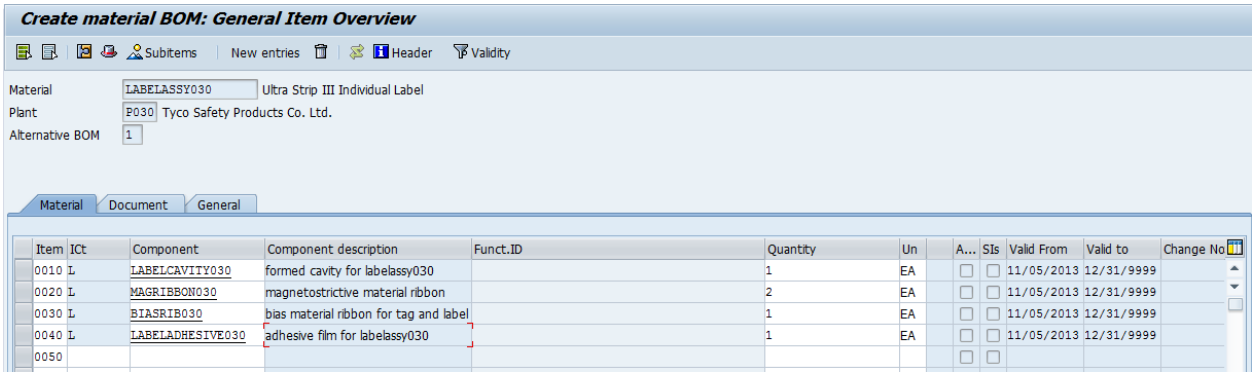
7.5.3 Modify your work center for production if necessary (CR02)

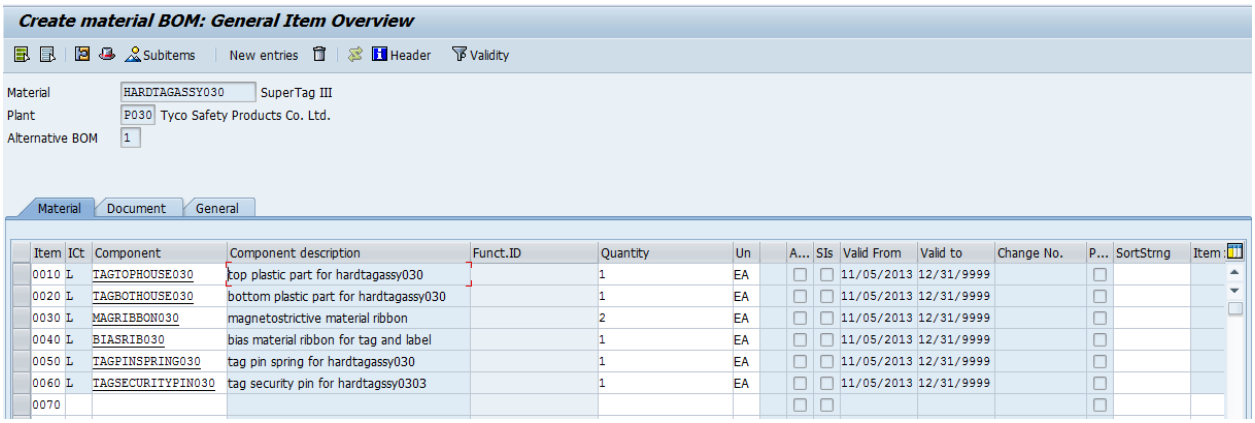




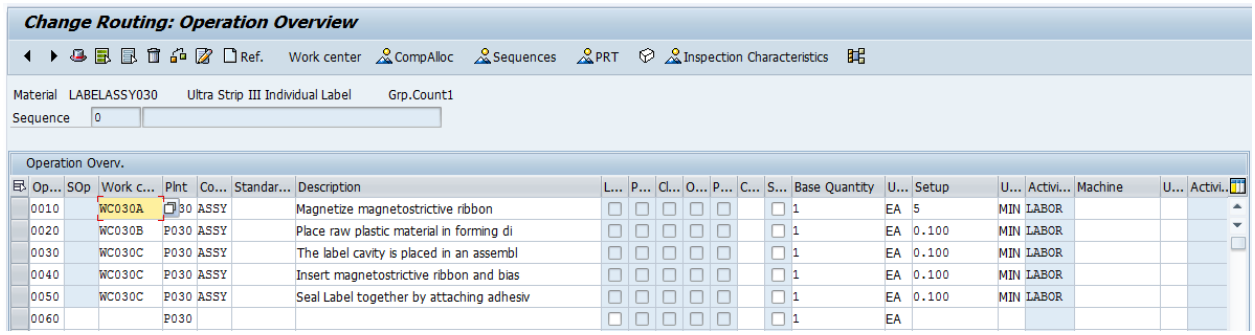


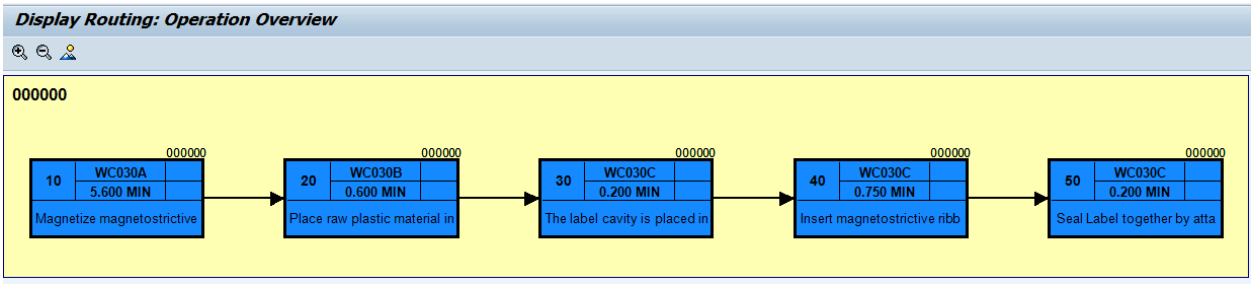
7.5.4 Create BOM for two new finished products (CS01)

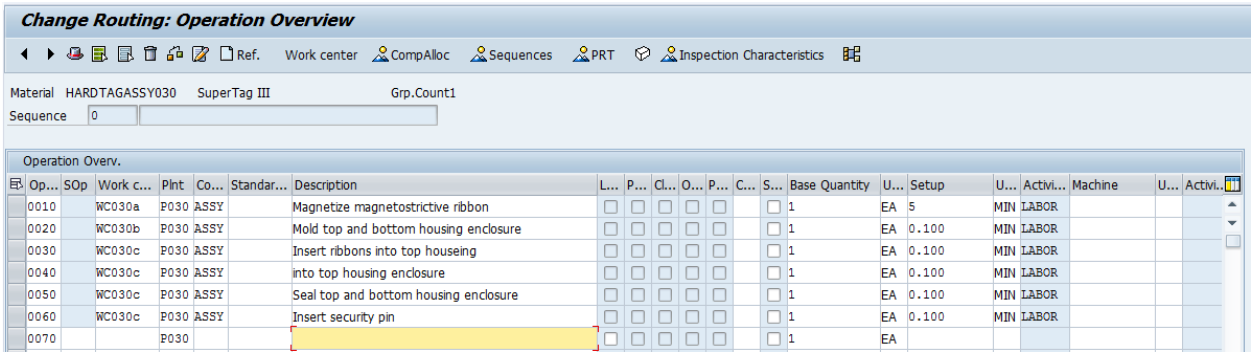




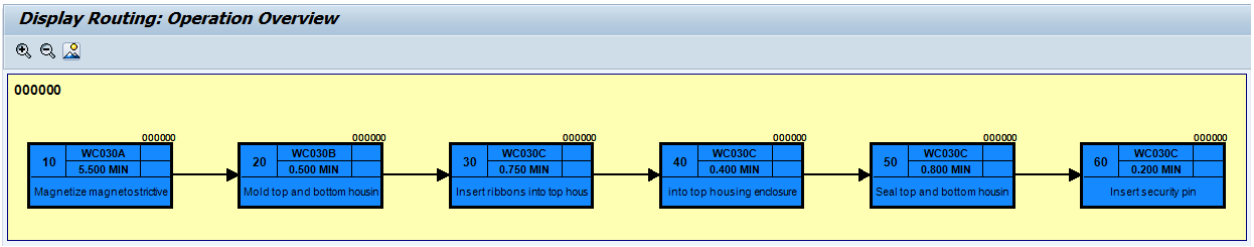
7.5.5 Create routings for two new finished goods (CA01)



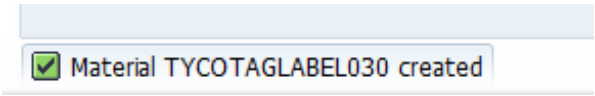




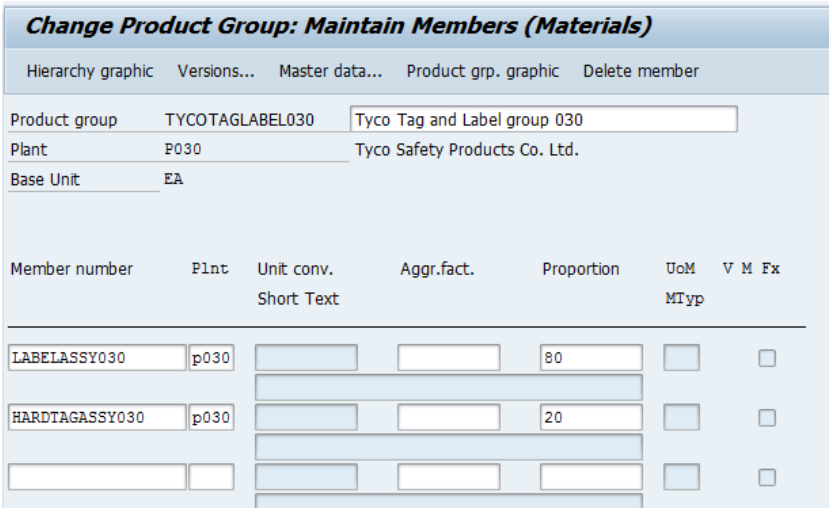
Op...	SOp	Work c...	Plnt	Co...	Standar...	Description	L...	P...	Cl...	O...	P...	C...	S...	Base Quantity	U...	Setup	U...	Activi...	Machine	U...	Activi...
0010		WC030a	P030	ASSY		Magnetize magnetostrictive ribbon								1	EA	5	MIN	LABOR			
0020		WC030b	P030	ASSY		Mold top and bottom housing enclosure								1	EA	0.100	MIN	LABOR			
0030		WC030c	P030	ASSY		Insert ribbons into top houseing								1	EA	0.100	MIN	LABOR			
0040		WC030c	P030	ASSY		into top housing enclosure								1	EA	0.100	MIN	LABOR			
0050		WC030c	P030	ASSY		Seal top and bottom housing enclosure								1	EA	0.100	MIN	LABOR			
0060		WC030c	P030	ASSY		Insert security pin								1	EA	0.100	MIN	LABOR			
0070			P030											1	EA						



7.5.6 Create product group (MM01)



7.5.7 Assign members for your product group (MC86)



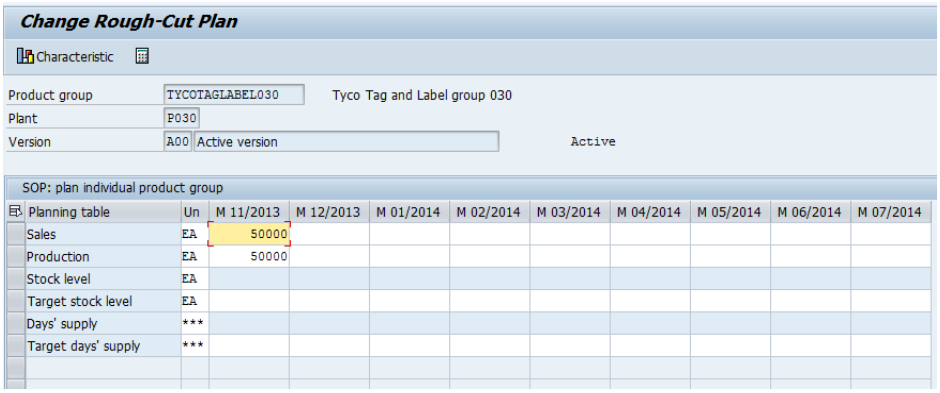
7.6 Operation Activities

7.6.1 After implementation, send an email to your instructor to introduce two new products with prices in WH, discount rate, credit limit, delivery date

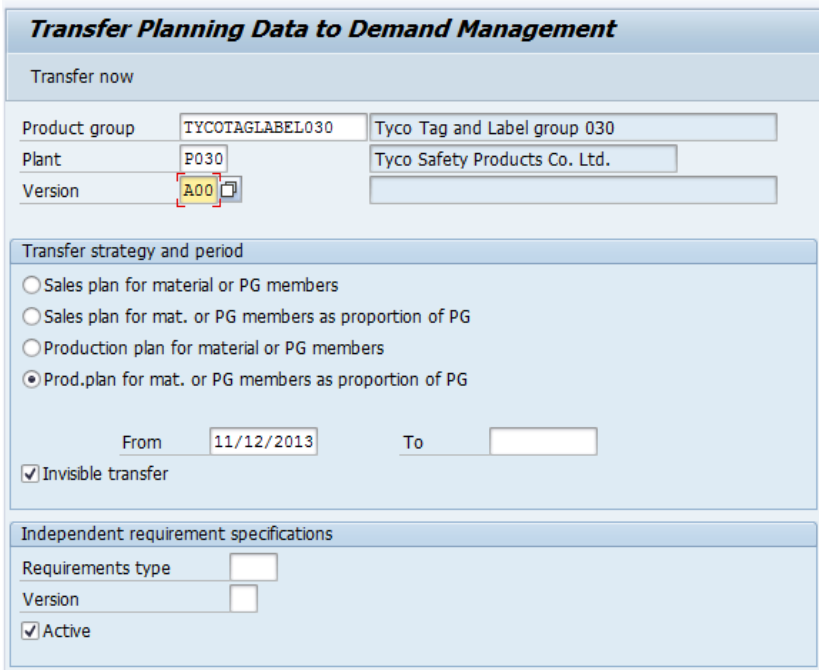
Finished Product	Price	Per	Product Group
LABELASSY030	$274.95	5000	TYCOTAGLABEL030
HARDTAGASSY030	$631.80	1000	TYCOTAGLABEL030

Customer	Address	Distr. Ch	Region	Cust. #	Credit Limit	Discount Rate
Earls Home Building Supplies	4927 Monroe Rd Charlotte, NC 28203	RE	East	141	$5000	
Hyper Mart Corporation	300 Tanger Blvd Branson, MO 65616	WH	West	142	$6000	5%/$1000 8%/$2000 10%/$3000
Euro Couture	210 North Wood Avenue Linden, NJ 07036	RE	East	143	$5000	

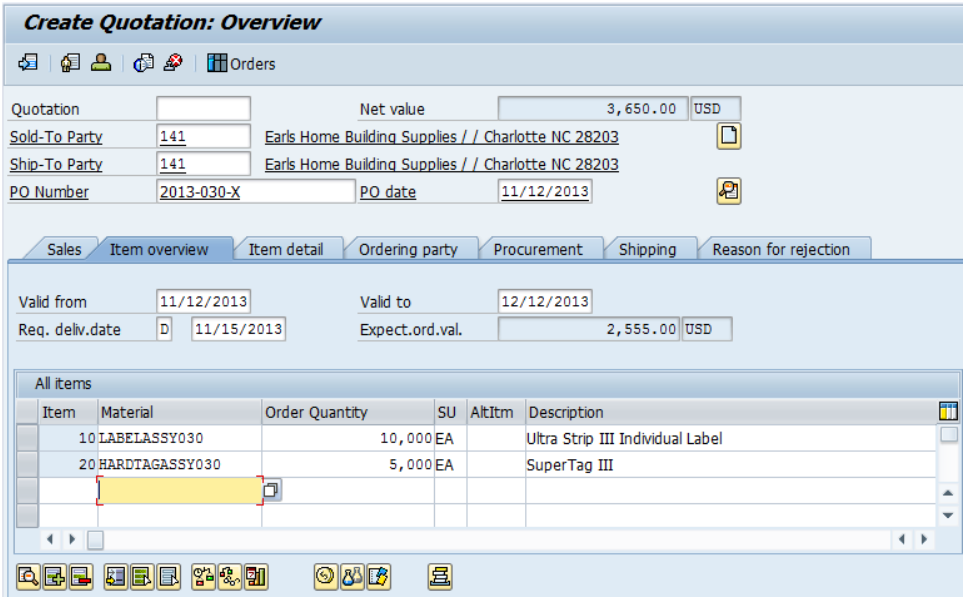
7.6.2 Create SOP for production group (MC82)

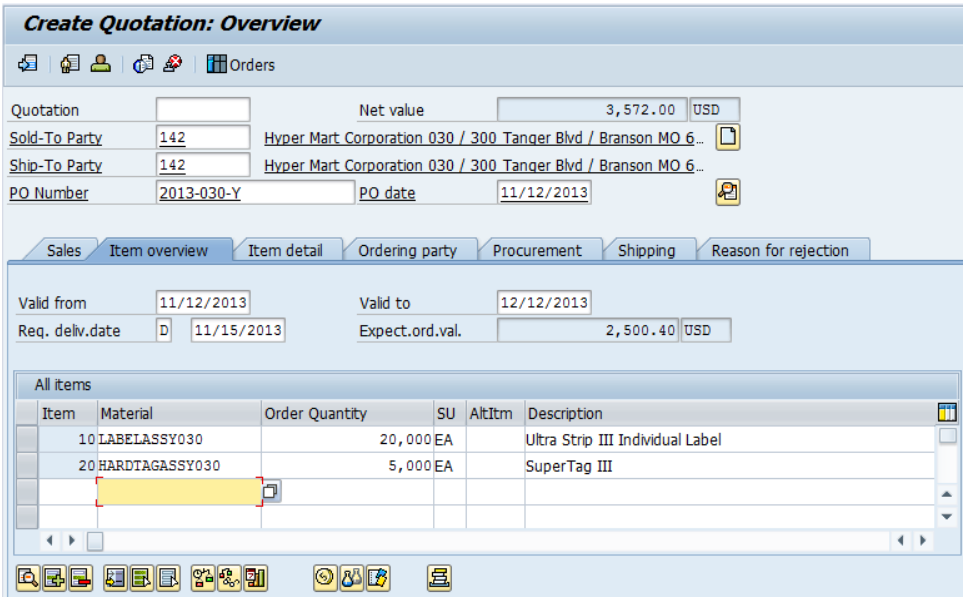


7.6.3 Transfer planning data to demand management (MC75)

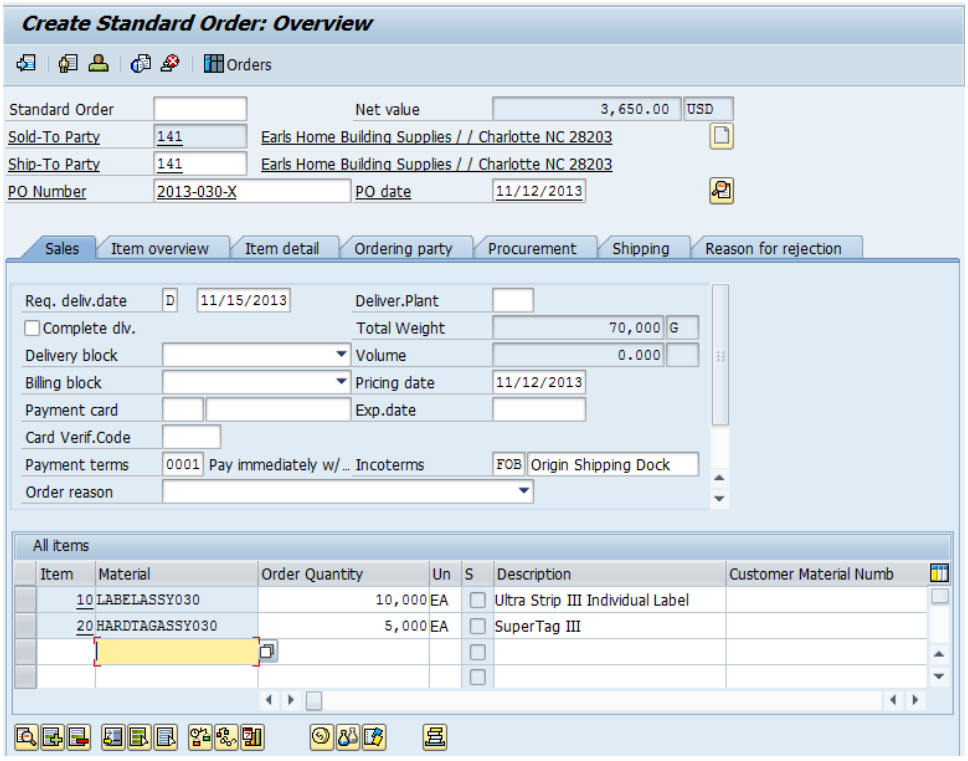


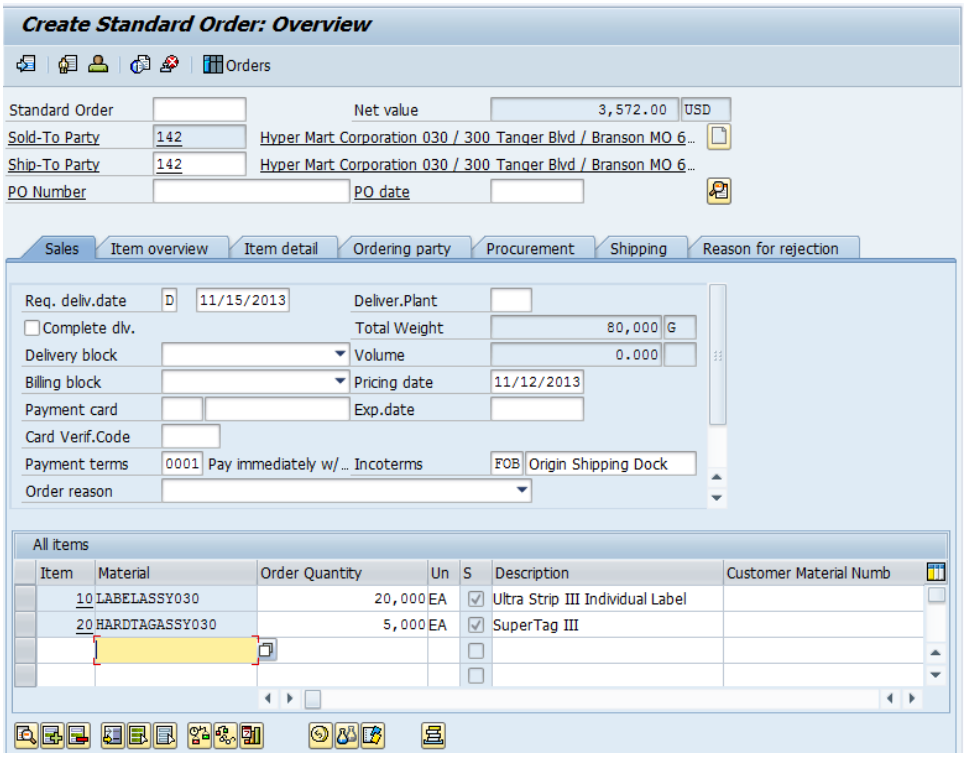
7.6.4 Create sales quotation based on your new customer request (VA21)





7.6.5 Convert your sales quotation to a sales order (VA01)





7.6.6 Run MPS/MRP to generate purchase requisitions and planned orders (MD40)

Master Production Scheduling Planning Run

MRP list | Curr.list | Except.grp

Planned Materials					Selection Group							
Count.	Time	Lev	Plnt	Material	1	2	3	4	5	6	7	8
1	12.43.05	000	P030	HARDTAGASSY030							7	
2	12.43.05	000	P030	LABELASSY030							7	
3	12.43.05	001	P030	BIASRIB030				4				
4	12.43.05	001	P030	LABELADHESIVE030				4				
5	12.43.05	001	P030	LABELCAVITY030				4				
6	12.43.05	001	P030	MAGRIBBON030				4				
7	12.43.05	001	P030	TAGBOTHOUSE030							7	
8	12.43.05	001	P030	TAGPINSPRING030							7	
9	12.43.05	001	P030	TAGSECURITYPIN030							7	
10	12.43.05	001	P030	TAGTOPHOUSE030							7	

Statistics	
Materials planned	10
Materials with New Exceptions	10
Materials with Termination MRP List	

Parameters	
Scope of Planning	
Plnt	P030
Processing Key	NETCH
Create Purchase Requisition	2
SA Schedule Line	3
Create MRP List	1
Planning Mode	1
Scheduling	1
MRP Date	11/12/2013

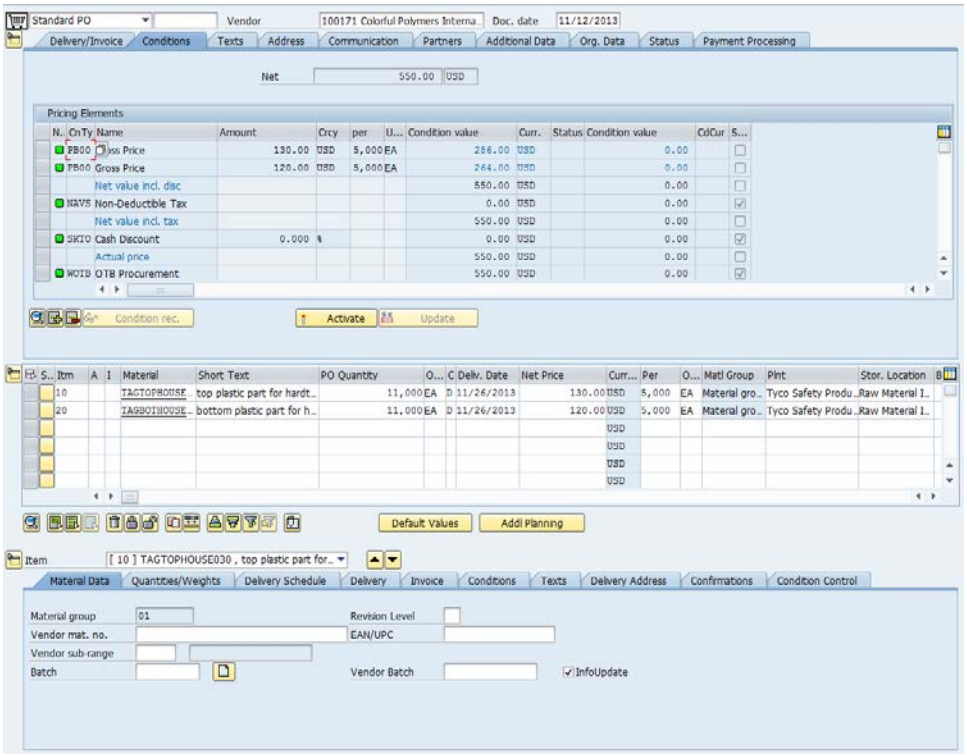
Database Statistics	
Planned orders created	3
Planned orders changed	4
Purchase requisitions changed	4
Purchase requisitions deleted	8
Dependent requirements created	14

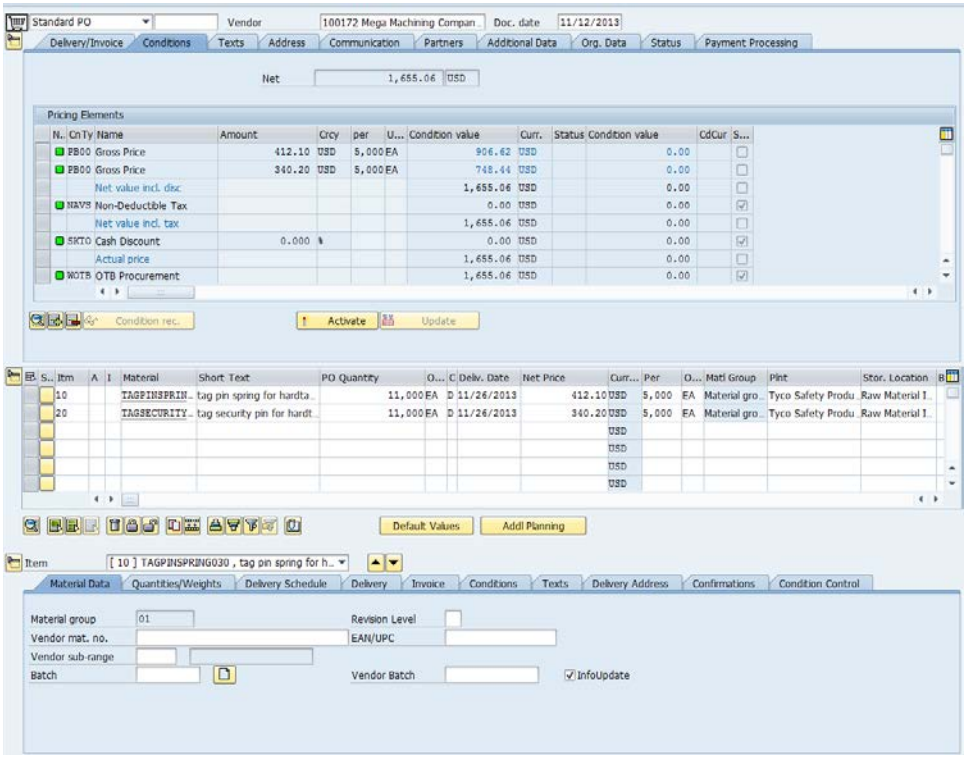
Runtime Statistics	
Start of Planning Run	12:43:05
End of Planning Run	12:43:05

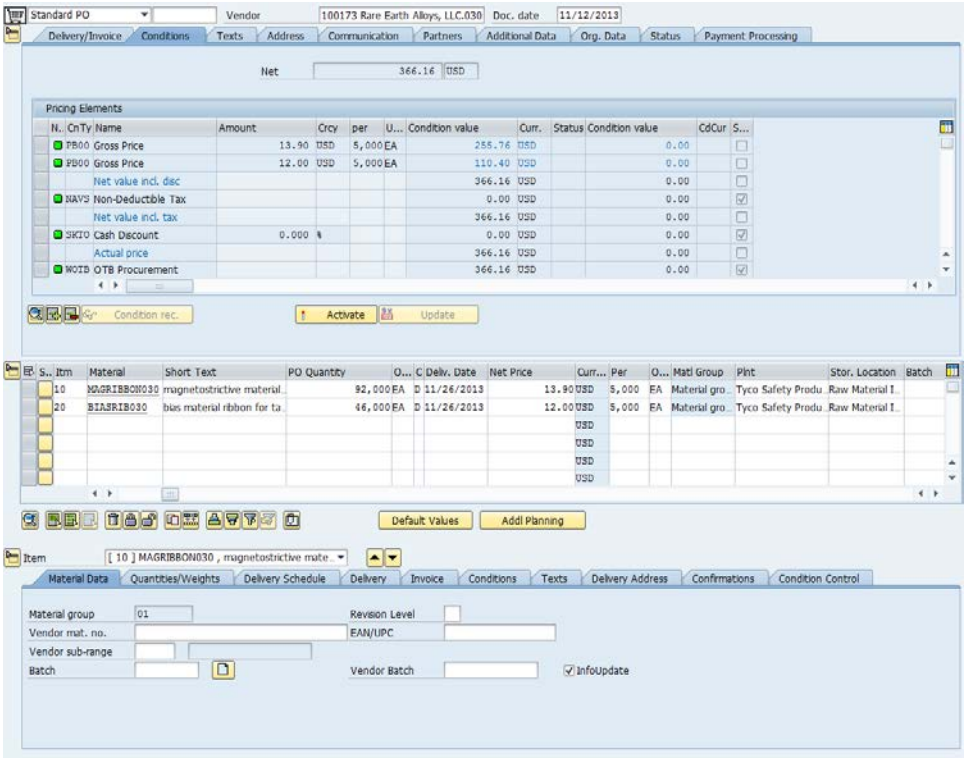
Ranking List of Materials with Highest CPU Times (in ms)

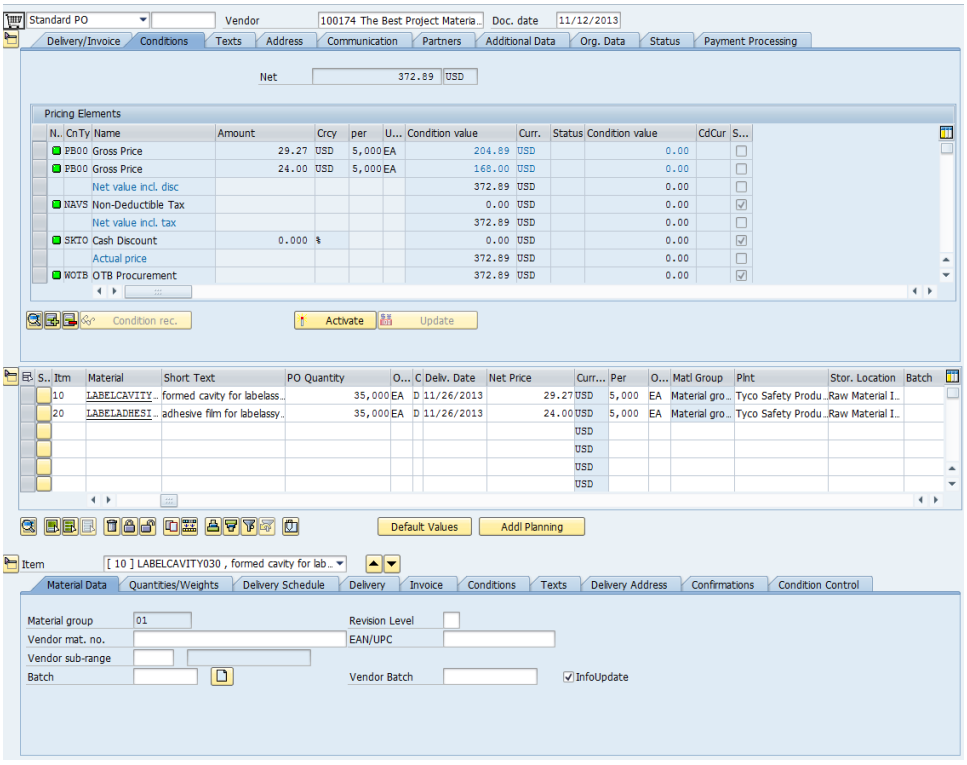
Material	Plnt					
Runtime	Read	Net Calc.	BOM	LdTmeSched	Update	
HARDTAGASSY030	P030					
149	22	52	32	0	34	
TAGBOTHOUSE030	P030					
62	6	2	0	0	53	
BIASRIB030	P030					
59	6	1	0	0	49	
LABELASSY030	P030					
36	6	1	14	0	13	
TAGPINSPRING030	P030					
26	7	0	0	0	17	
TAGSECURITYPIN030	P030					
25	8	1	0	0	15	
LABELCAVITY030	P030					
24	6	1	0	0	16	
MAGRIBBON030	P030					
22	10	1	0	0	9	
TAGTOPHOUSE030	P030					
19	6	1	0	0	11	
LABELADHESIVE030	P030					
17	7	0	0	0	10	

7.6.7 Create a purchase order for required raw materials (ME21N)

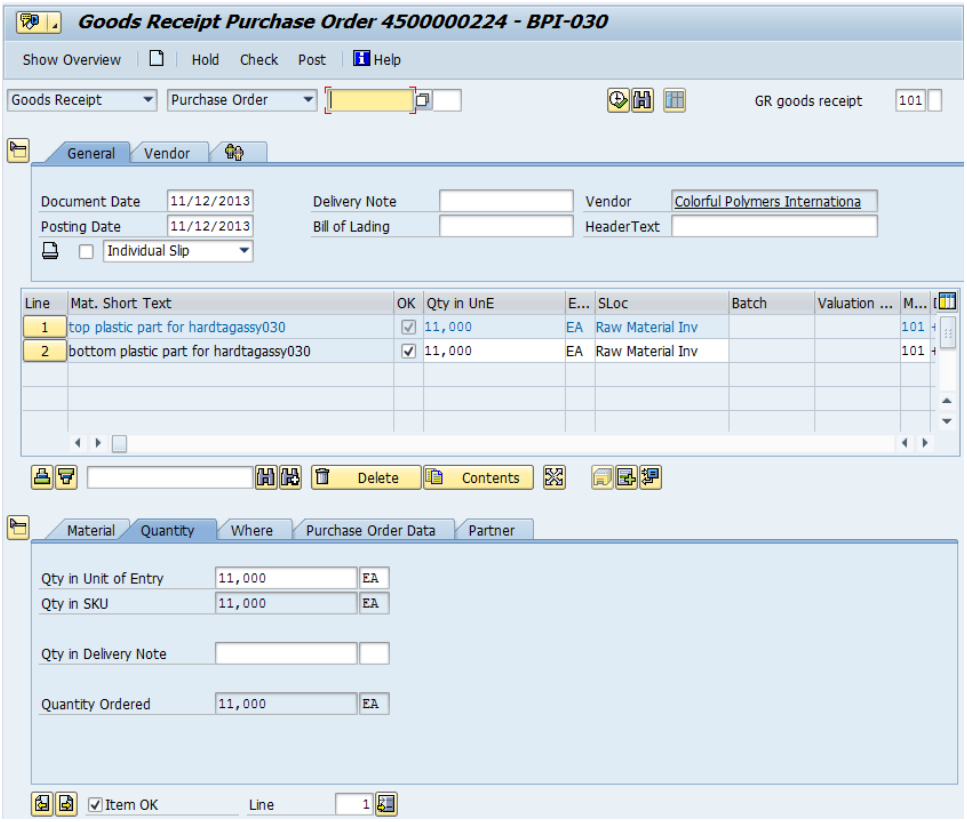


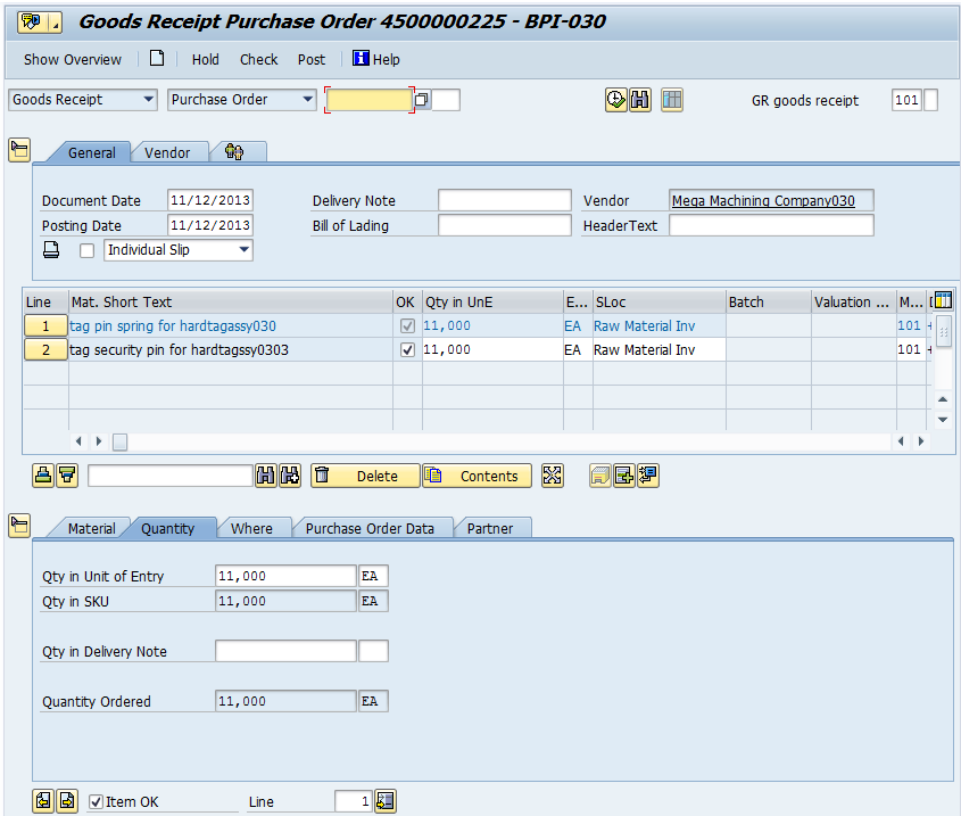


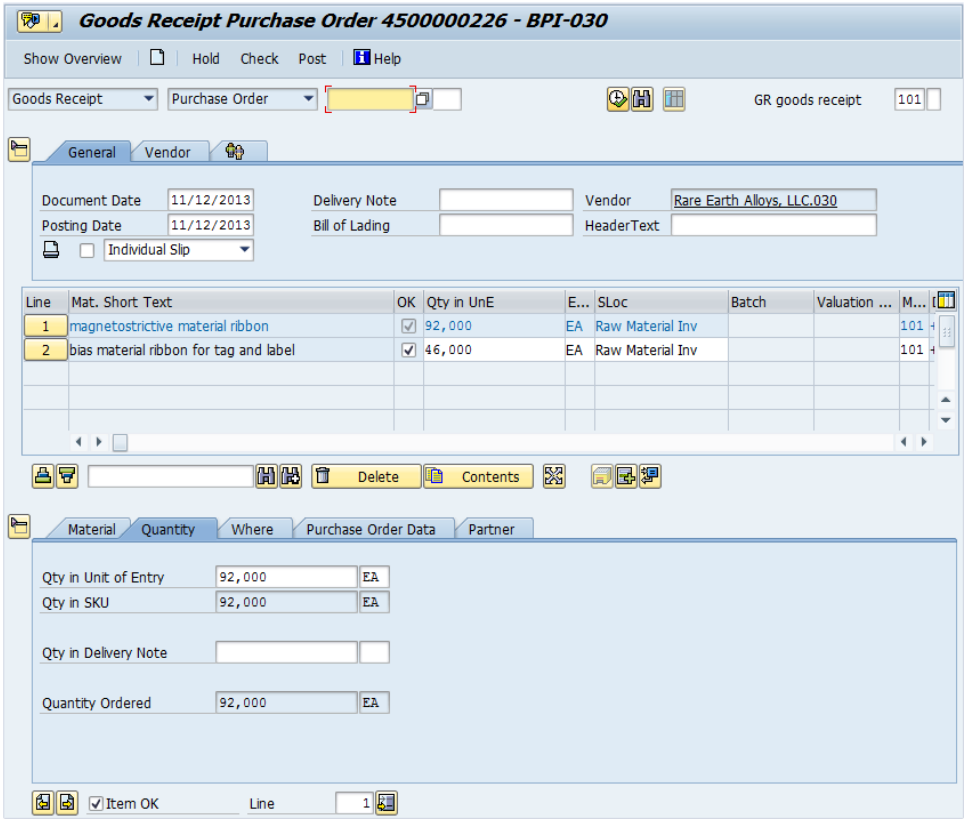

Standard PO
Vendor
100173 Rare Earth Alloys, LLC.030
Doc. date
11/12/2013
Delivery/Invoice
Conditions
Texts
Address
Communication
Partners
Additional Data
Org. Data
Status
Payment Processing
Net
366.16
USD
Pricing Elements
N.
CnTy
Name
Amount
Crcy
per
U...
Condition value
Curr.
Status
Condition value
CdCur
S...
PB00 Gross Price 13.90 USD 5,000 EA 285.76 USD 0.00
PB00 Gross Price 12.00 USD 5,000 EA 110.40 USD 0.00
Net value incl. disc 366.16 USD 0.00
NAVS Non-Deductible Tax 0.00 USD 0.00
Net value incl. tax 366.16 USD 0.00
SKTO Cash Discount 0.000 % 0.00 USD 0.00
Actual price 366.16 USD 0.00
WOTB OTB Procurement 366.16 USD 0.00
Condition rec.
Activate
Update
S..
Itm
Material
Short Text
PO Quantity
O...
C
Deliv. Date
Net Price
Curr...
Per
O...
Matl Group
Plnt
Stor. Location
Batch
10 MAGRIBBON030 magnetostrictive material.. 92,000 EA D 11/26/2013 13.90 USD 5,000 EA Material gro.. Tyco Safety Produ.. Raw Material I..
20 BIASRIB030 bias material ribbon for ta.. 46,000 EA D 11/26/2013 12.00 USD 5,000 EA Material gro.. Tyco Safety Produ.. Raw Material I..
Default Values
Addl Planning
Item
[10] MAGRIBBON030 , magnetostrictive mate..
Material Data
Quantities/Weights
Delivery Schedule
Delivery
Invoice
Conditions
Texts
Delivery Address
Confirmations
Condition Control
Material group
01
Revision Level
Vendor mat. no.
EAN/UPC
Vendor sub-range
Batch
Vendor Batch
InfoUpdate

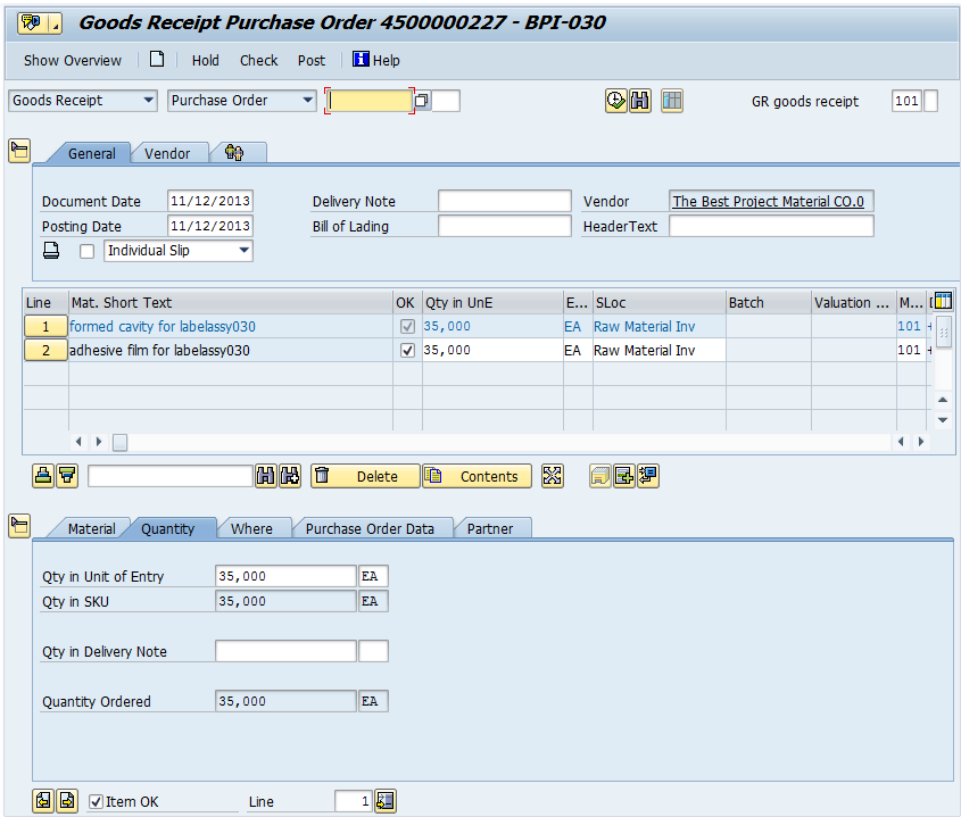

Standard PO
Vendor
100174 The Best Project Materia..
Doc. date
11/12/2013
Delivery/Invoice
Conditions
Texts
Address
Communication
Partners
Additional Data
Org. Data
Status
Payment Processing
Net
372.89
USD
Pricing Elements
N.
CnTy
Name
Amount
Crcy
per
U...
Condition value
Curr.
Status
Condition value
CdCur
S...
PB00 Gross Price 29.27 USD 5,000 EA 204.89 USD 0.00
PB00 Gross Price 24.00 USD 5,000 EA 168.00 USD 0.00
Net value incl. disc 372.89 USD 0.00
NAVS Non-Deductible Tax 0.00 USD 0.00
Net value incl. tax 372.89 USD 0.00
SKTO Cash Discount 0.000 % 0.00 USD 0.00
Actual price 372.89 USD 0.00
WOTB OTB Procurement 372.89 USD 0.00
Condition rec.
Activate
Update
S..
Itm
Material
Short Text
PO Quantity
O...
C
Deliv. Date
Net Price
Curr...
Per
O...
Matl Group
Plnt
Stor. Location
Batch
10 LABELCAVITY.. formed cavity for labelass.. 35,000 EA D 11/26/2013 29.27 USD 5,000 EA Material gro.. Tyco Safety Produ.. Raw Material I..
20 LABELADHESI.. adhesive film for labelassy.. 35,000 EA D 11/26/2013 24.00 USD 5,000 EA Material gro.. Tyco Safety Produ.. Raw Material I..
Default Values
Addl Planning
Item
[10] LABELCAVITY030 , formed cavity for lab..
Material Data
Quantities/Weights
Delivery Schedule
Delivery
Invoice
Conditions
Texts
Delivery Address
Confirmations
Condition Control
Material group
01
Revision Level
Vendor mat. no.
EAN/UPC
Vendor sub-range
Batch
Vendor Batch
InfoUpdate

7.6.8 Make goods receipt for PO (MIGO)

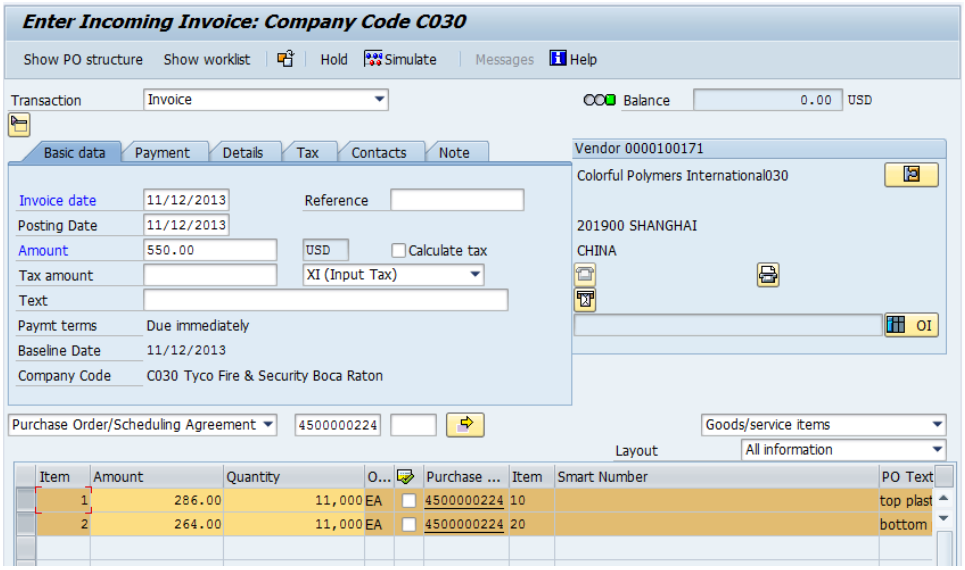


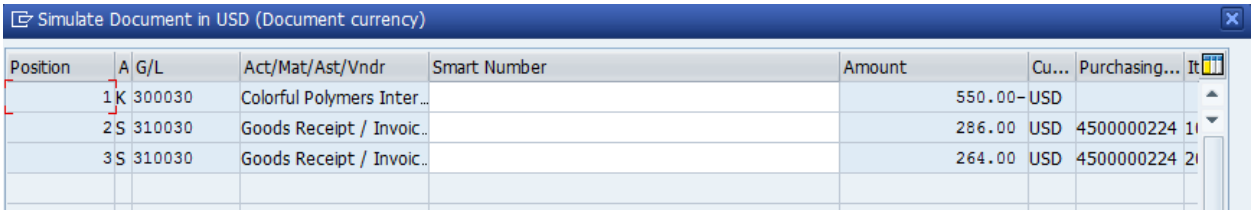


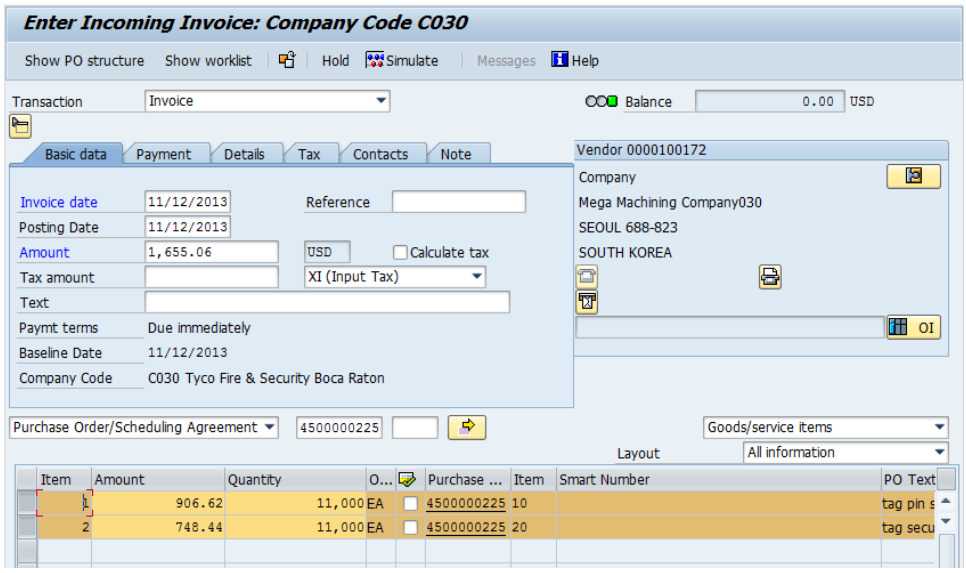

Goods Receipt Purchase Order 4500000226 - BPI-030
Show Overview
Hold
Check
Post
Help
Goods Receipt
Purchase Order
GR goods receipt
101
General
Vendor
Document Date
11/12/2013
Posting Date
11/12/2013
Individual Slip
Delivery Note
Bill of Lading
Vendor
Rare Earth Alloys, LLC.030
HeaderText
Line
Mat. Short Text
OK
Qty in UnE
E...
SLoc
Batch
Valuation ...
M...
1
magnetostrictive material ribbon
92,000
EA
Raw Material Inv
101
2
bias material ribbon for tag and label
46,000
EA
Raw Material Inv
101
Delete
Contents
Material
Quantity
Where
Purchase Order Data
Partner
Qty in Unit of Entry
92,000
EA
Qty in SKU
92,000
EA
Qty in Delivery Note
Quantity Ordered
92,000
EA
Item OK
Line
1

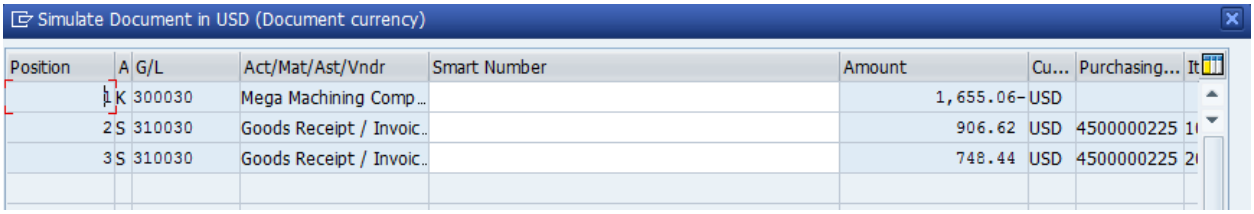

Goods Receipt Purchase Order 4500000227 - BPI-030
Show Overview
Hold
Check
Post
Help
Goods Receipt
Purchase Order
GR goods receipt
101
General
Vendor
Document Date
11/12/2013
Posting Date
11/12/2013
Individual Slip
Delivery Note
Bill of Lading
Vendor
The Best Project Material CO.0
HeaderText
Line
Mat. Short Text
OK
Qty in UnE
E...
SLoc
Batch
Valuation ...
M...
1
formed cavity for labelassy030
35,000
EA
Raw Material Inv
101
2
adhesive film for labelassy030
35,000
EA
Raw Material Inv
101
Delete
Contents
Material
Quantity
Where
Purchase Order Data
Partner
Qty in Unit of Entry
35,000
EA
Qty in SKU
35,000
EA
Qty in Delivery Note
Quantity Ordered
35,000
EA
Item OK
Line
1

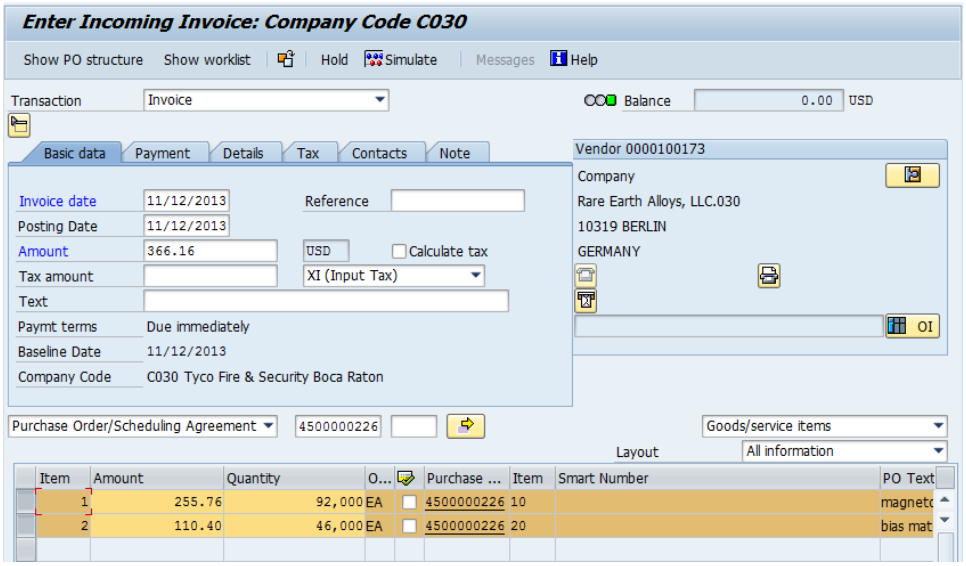
7.6.9 Post invoice receipt for your new vendor (MIRO)

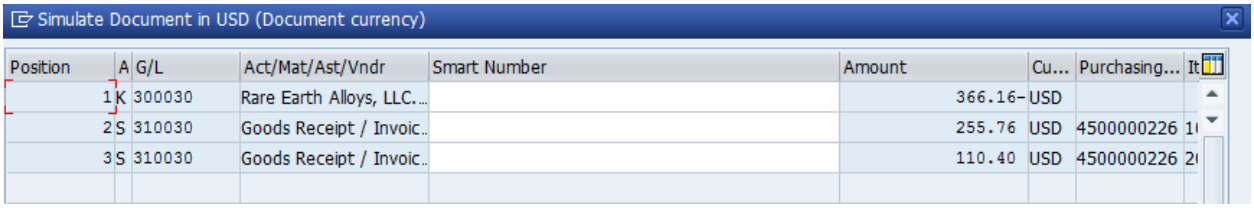


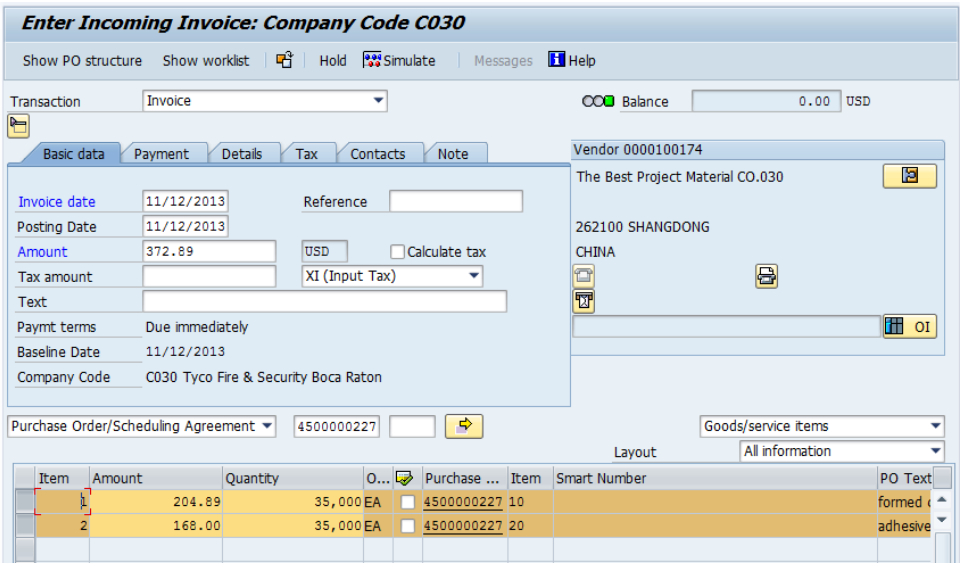


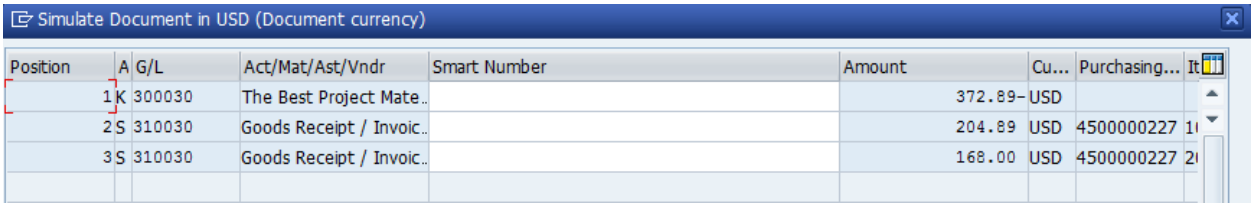




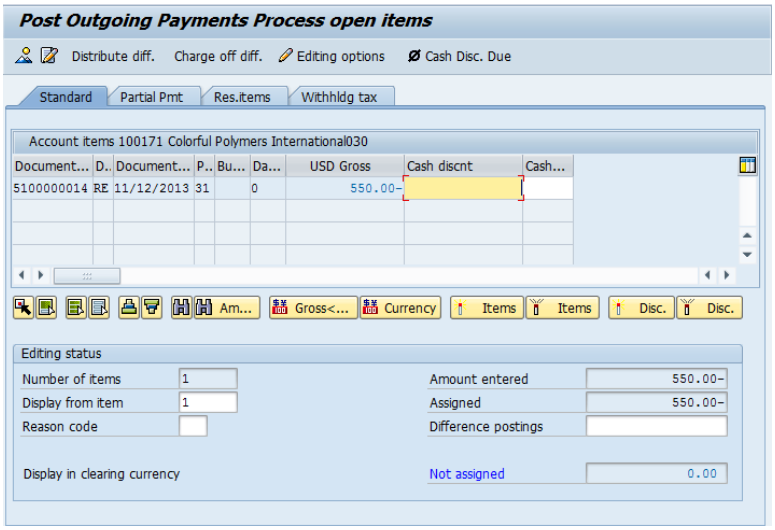

Enter Incoming Invoice: Company Code C030
Show PO structure
Show worklist
Hold
Simulate
Messages
Help
Transaction
Invoice
Balance
0.00
USD
Basic data
Payment
Details
Tax
Contacts
Note
Vendor 0000100173
Company
Rare Earth Alloys, LLC.030
10319 BERLIN
GERMANY
Invoice date
11/12/2013
Reference
Posting Date
11/12/2013
Amount
366.16
USD
Calculate tax
Tax amount
XI (Input Tax)
Text
Paymt terms
Due immediately
Baseline Date
11/12/2013
Company Code
C030 Tyco Fire & Security Boca Raton
OI
Purchase Order/Scheduling Agreement
4500000226
Goods/service items
Layout
All information
Item
Amount
Quantity
O...
Purchase ...
Item
Smart Number
PO Text
1
255.76
92,000
EA
4500000226
10
magnet
2
110.40
46,000
EA
4500000226
20
bias mat

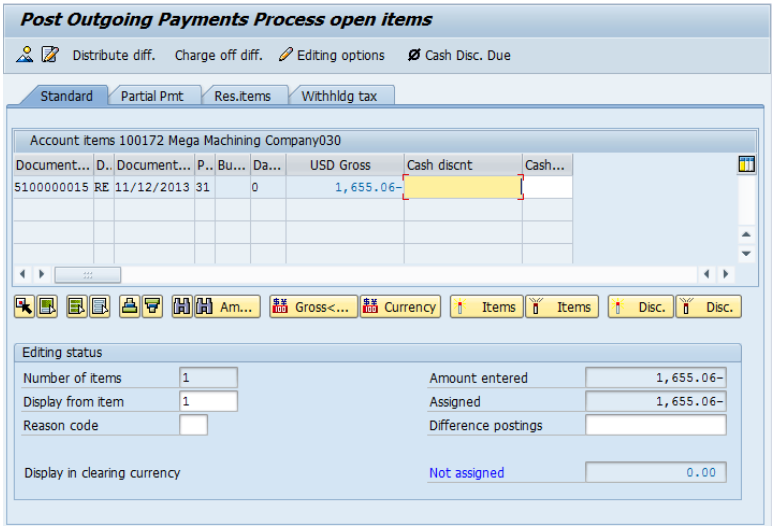

Simulate Document in USD (Document currency)
Position
A
G/L
Act/Mat/Ast/Vndr
Smart Number
Amount
Cu...
Purchasing...
It
1 K 300030 Rare Earth Alloys, LLC... 366.16- USD
2 S 310030 Goods Receipt / Invoic.. 255.76 USD 4500000226 1
3 S 310030 Goods Receipt / Invoic.. 110.40 USD 4500000226 2

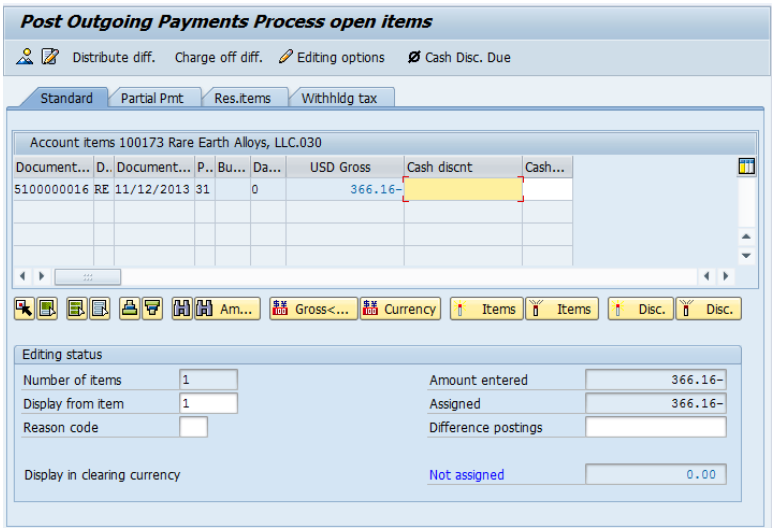

Enter Incoming Invoice: Company Code C030
Show PO structure
Show worklist
Hold
Simulate
Messages
Help
Transaction
Invoice
Balance
0.00
USD
Basic data
Payment
Details
Tax
Contacts
Note
Vendor 0000100174
The Best Project Material CO.030
262100 SHANGDONG
CHINA
Invoice date
11/12/2013
Reference
Posting Date
11/12/2013
Amount
372.89
USD
Calculate tax
Tax amount
XI (Input Tax)
Text
Paymt terms
Due immediately
Baseline Date
11/12/2013
Company Code
C030 Tyco Fire & Security Boca Raton
OI
Purchase Order/Scheduling Agreement
4500000227
Goods/service items
Layout
All information
Item
Amount
Quantity
O...
Purchase ...
Item
Smart Number
PO Text
1
204.89
35,000
EA
4500000227
10
formed
2
168.00
35,000
EA
4500000227
20
adhesive

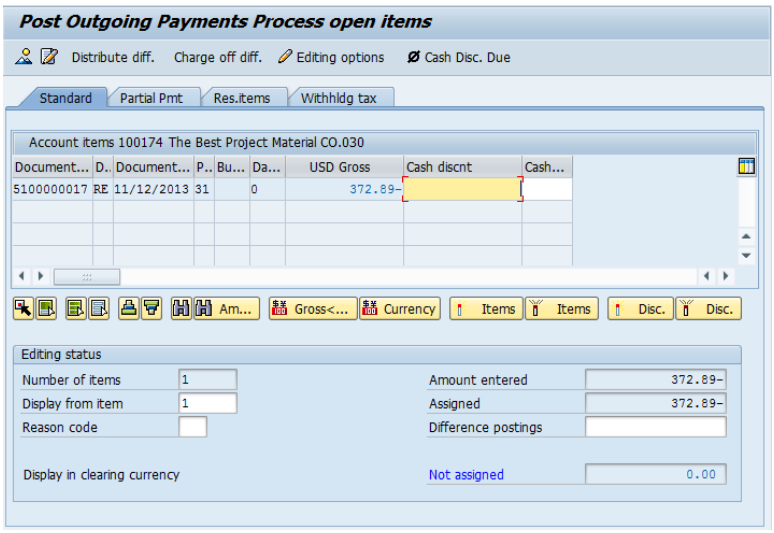

Simulate Document in USD (Document currency)
Position
A
G/L
Act/Mat/Ast/Vndr
Smart Number
Amount
Cu...
Purchasing...
It
1 K 300030 The Best Project Mate.. 372.89- USD
2 S 310030 Goods Receipt / Invoic.. 204.89 USD 4500000227 1
3 S 310030 Goods Receipt / Invoic.. 168.00 USD 4500000227 2

7.6.10 Post payment to your new vendor (F-53)

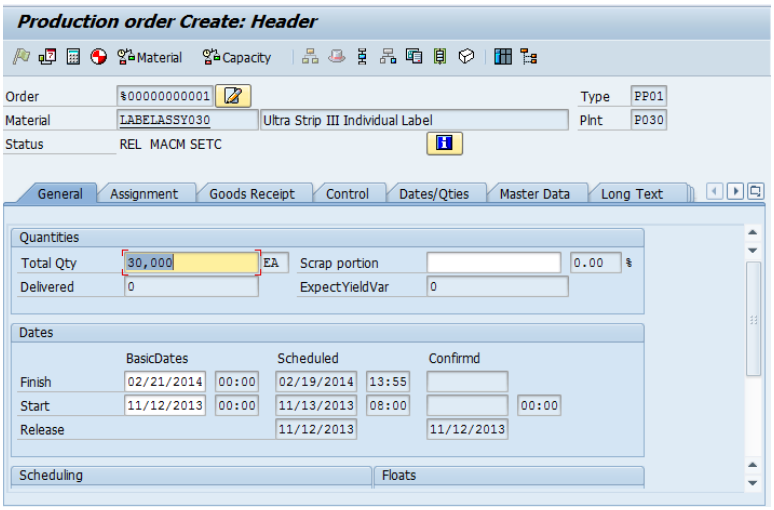


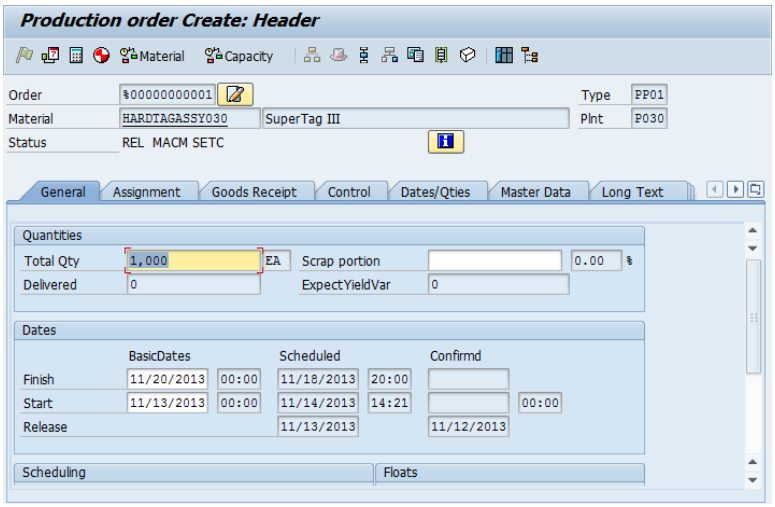






7.6.11 Convert planned orders to production order (MD04)





7.6.12 Make goods issue to production order (MB1A)

Enter Goods Issue: Overview

To Reservation... To Order...

Posting Date 11/12/2013

Items

Item	Quantity	EUn	Material	Plnt	SLoc	Batch	Re	MvT	S	S
		BUn	Material Description			Reserv.No.	Itm			FIs
1	30,000	EA	LABELCAVITY030	P030	30			261		-
			formed cavity for labelassy030			2753	1			
2	60,000	EA	MAGRIBBON030	P030	30			261		-
			magnetostrictive material ribbon			2753	2			
3	30,000	EA	BIASRIB030	P030	30			261		-
			bias material ribbon for tag and label			2753	3			
4	30,000	EA	LABELADHESIVE030	P030	30			261		-
			adhesive film for labelassy030			2753	4			

Enter Goods Issue: Overview

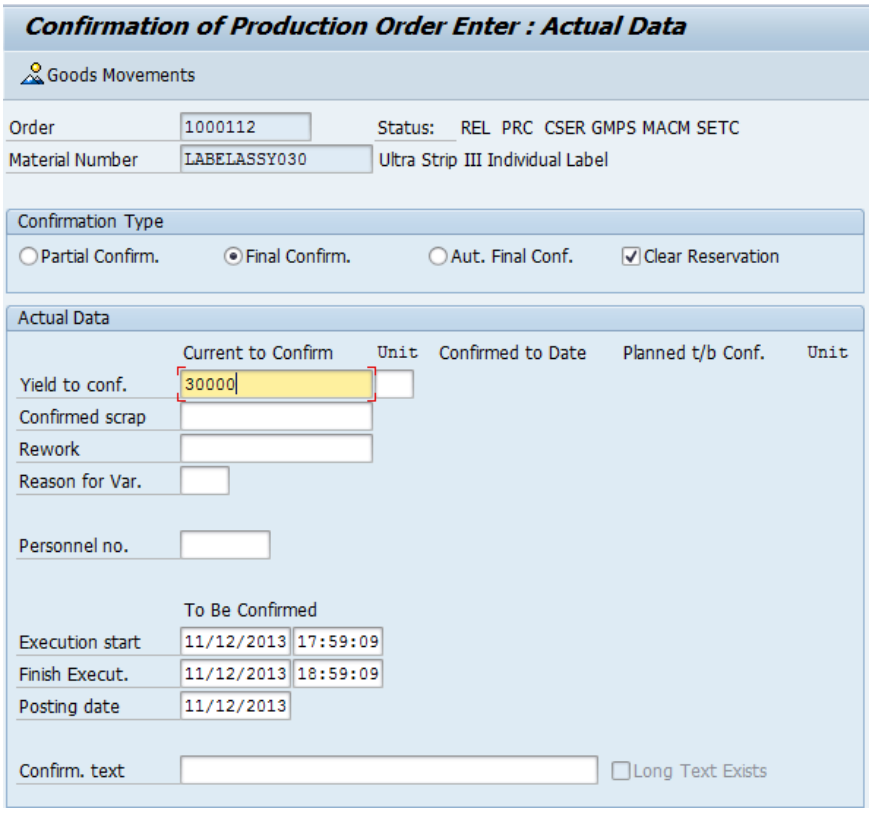
To Reservation... To Order...

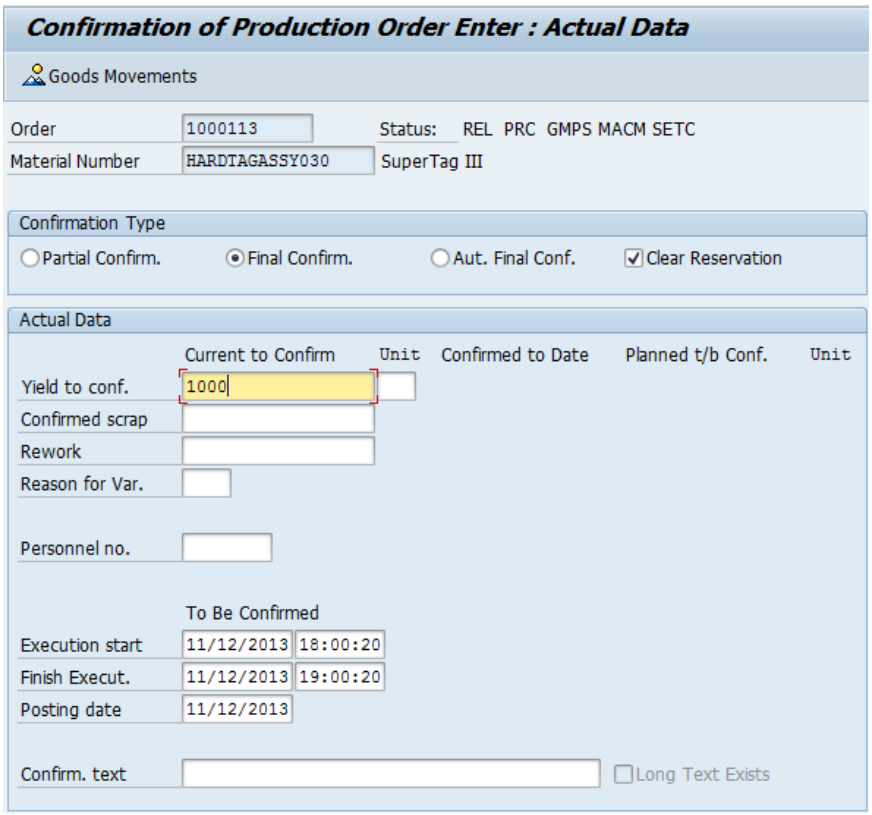
Posting Date 11/12/2013

Items

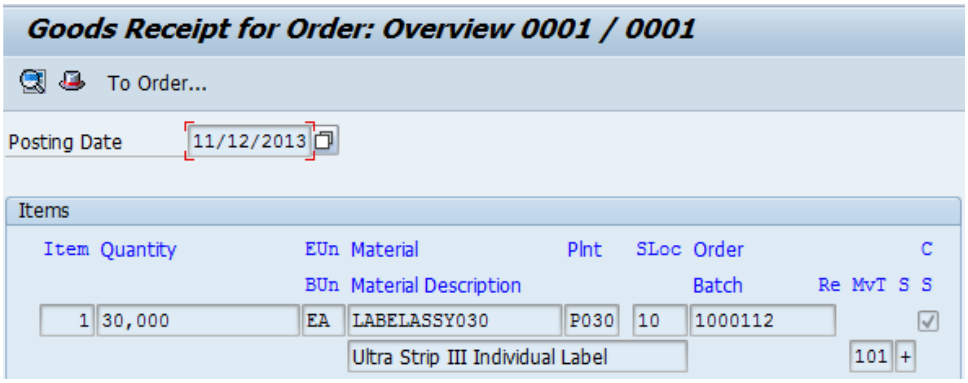
Item	Quantity	EUn	Material	Plnt	SLoc	Batch	Re	MvT	S	S
		BUn	Material Description			Reserv.No.	Itm			FIs
1	1,000	EA	TAGTOPHOUSE030	P030	30			261		-
			top plastic part for hardtagassy030			2751	1			
2	1,000	EA	TAGBOTHOUSE030	P030	30			261		-
			bottom plastic part for hardtagassy0...			2751	2			
3	2,000	EA	MAGRIBBON030	P030	30			261		-
			magnetostrictive material ribbon			2751	3			
4	1,000	EA	BIASRIB030	P030	30			261		-
			bias material ribbon for tag and label			2751	4			
5	1,000	EA	TAGPINSPRING030	P030	30			261		-
			tag pin spring for hardtagassy030			2751	5			
6	1,000	EA	TAGSECURITYPIN030	P030	30			261		-
			tag security pin for hardtagssy0303			2751	6			

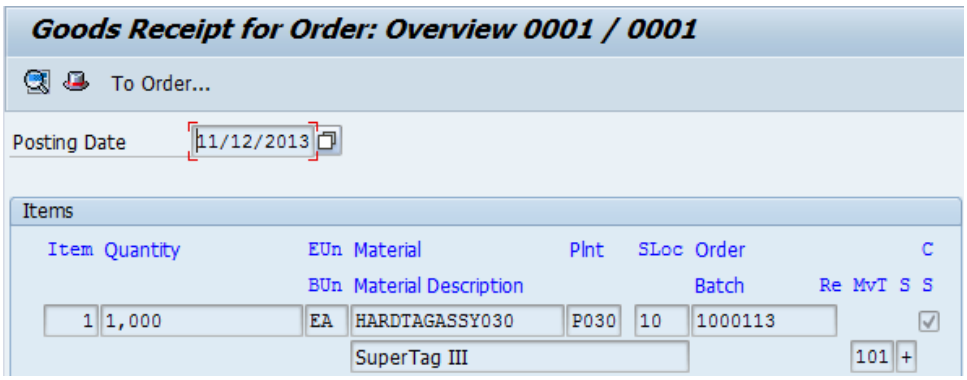
7.6.13 Confirm production completion (CO15)



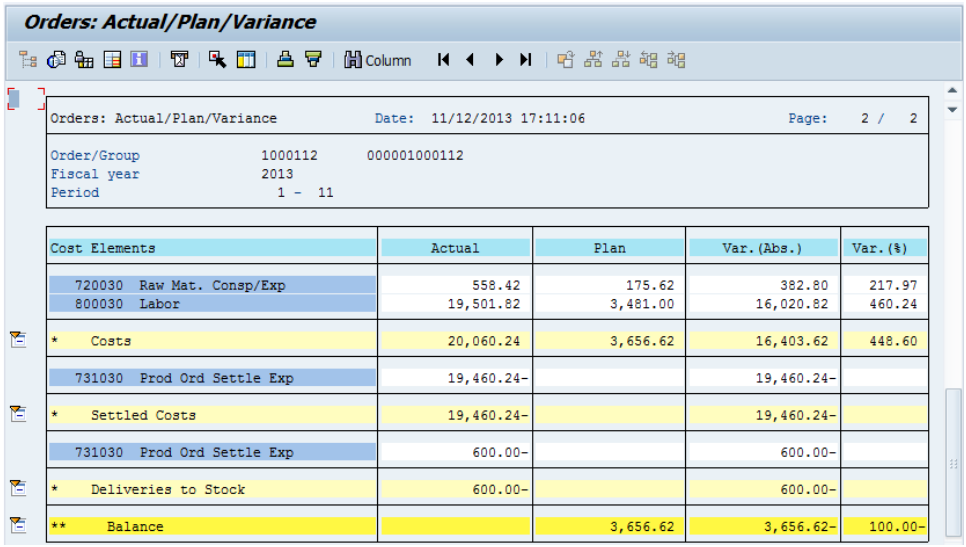


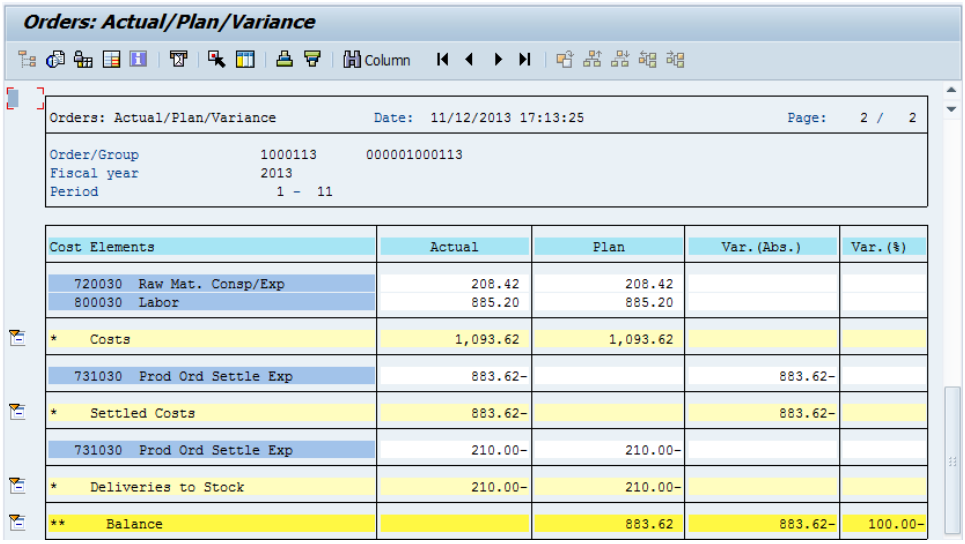
7.6.14 Make goods receipt of finished goods from production order (MB31)



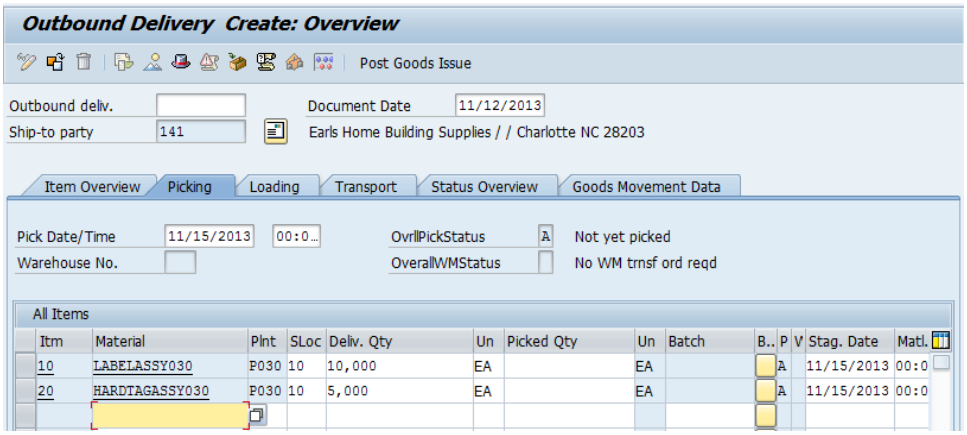


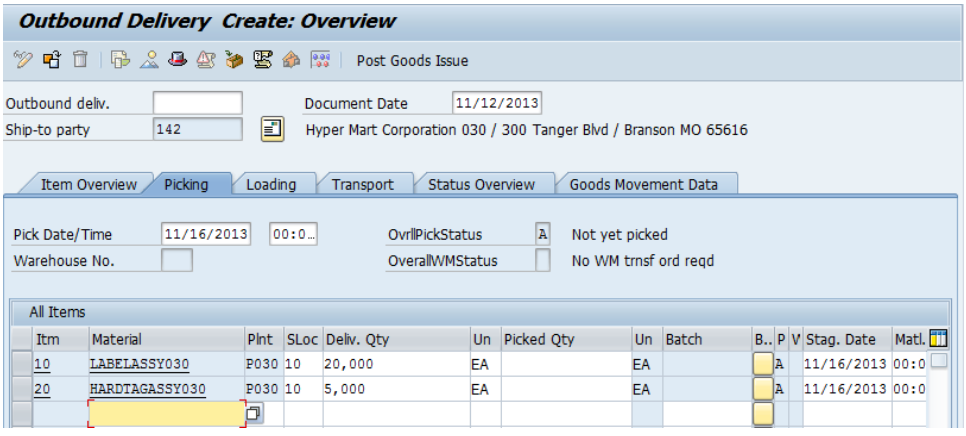
7.6.15 Make production order costs settlement (CO02/KO88)



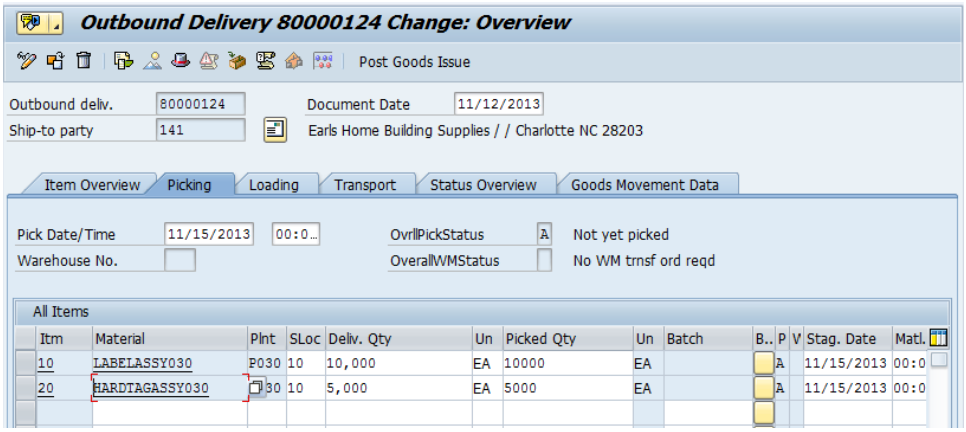


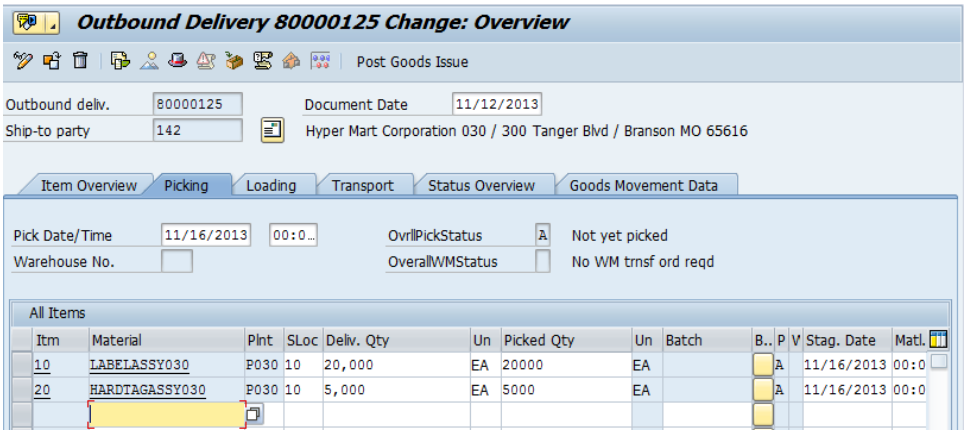
7.6.16 Create delivery notes (VL01N)



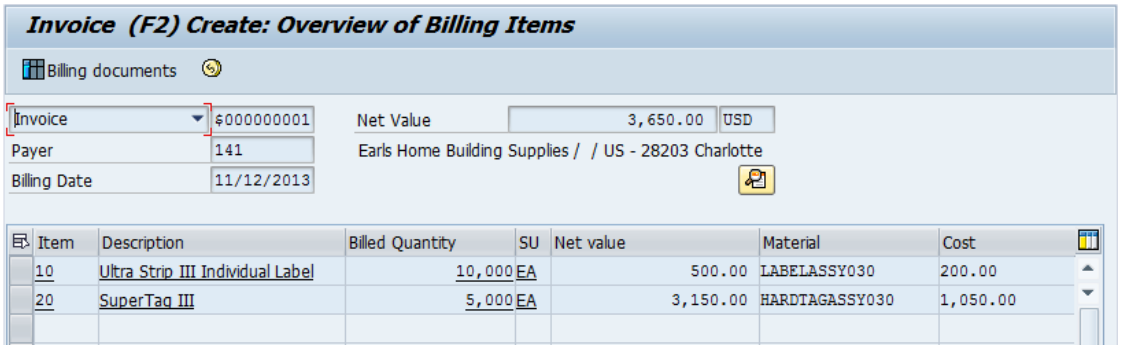


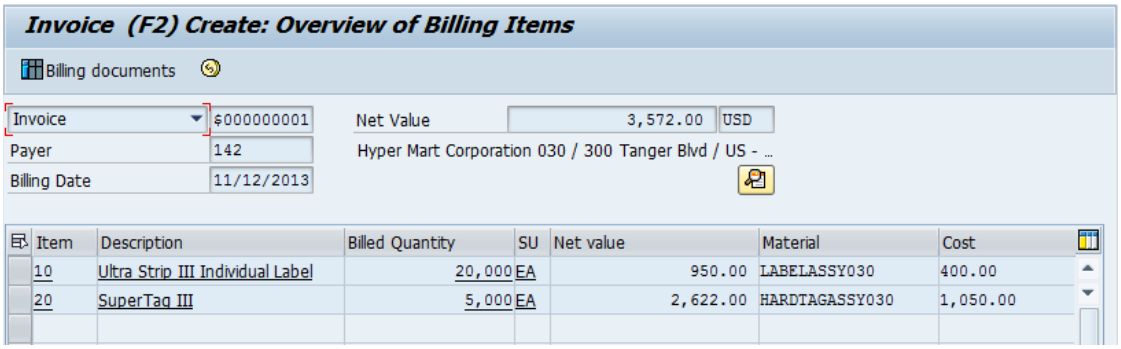
7.6.17 Pick and make goods issue (VL02N)



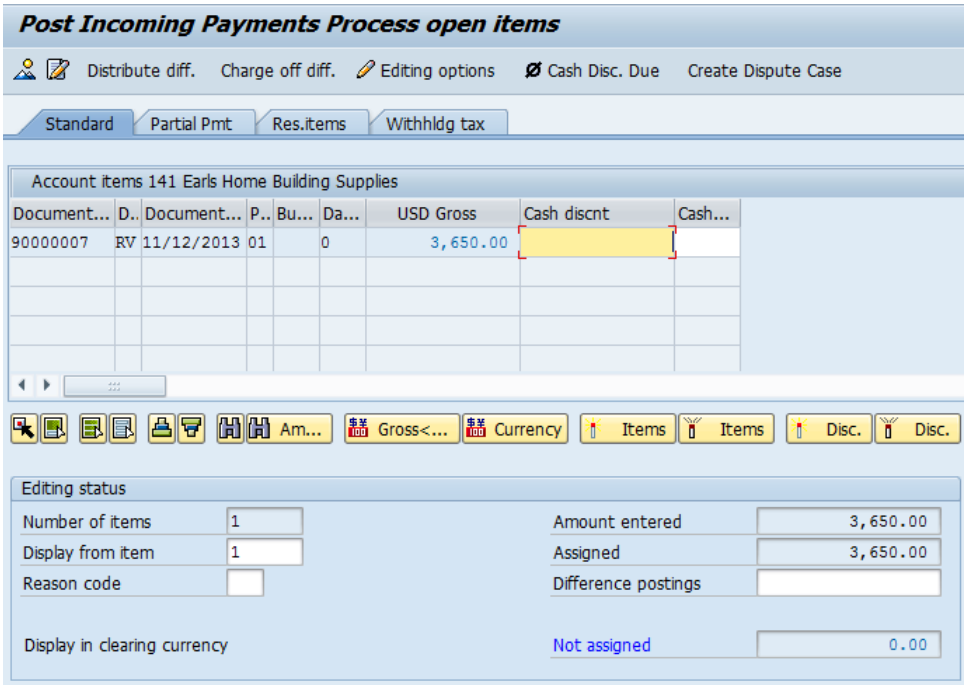


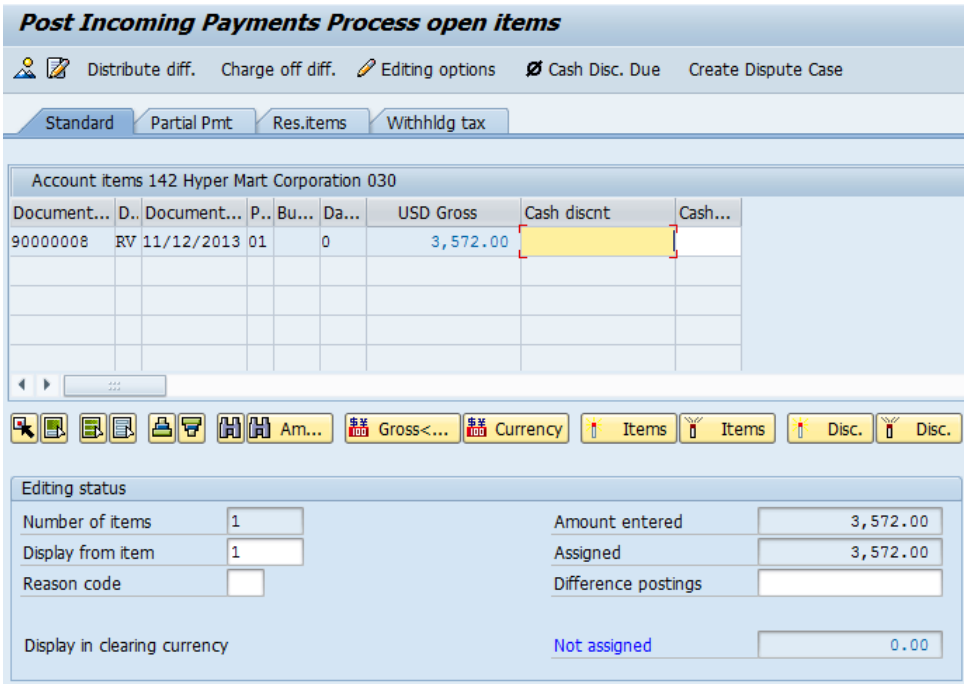
7.6.18 Bill your new customer (VF01)





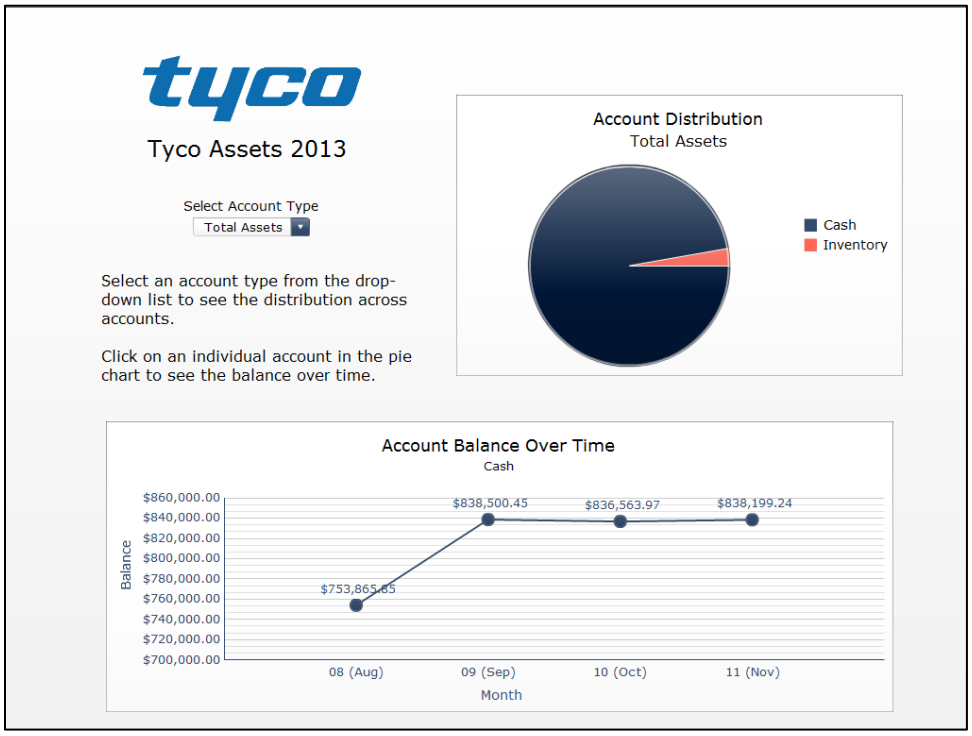
7.6.19 Post payment (F-28)

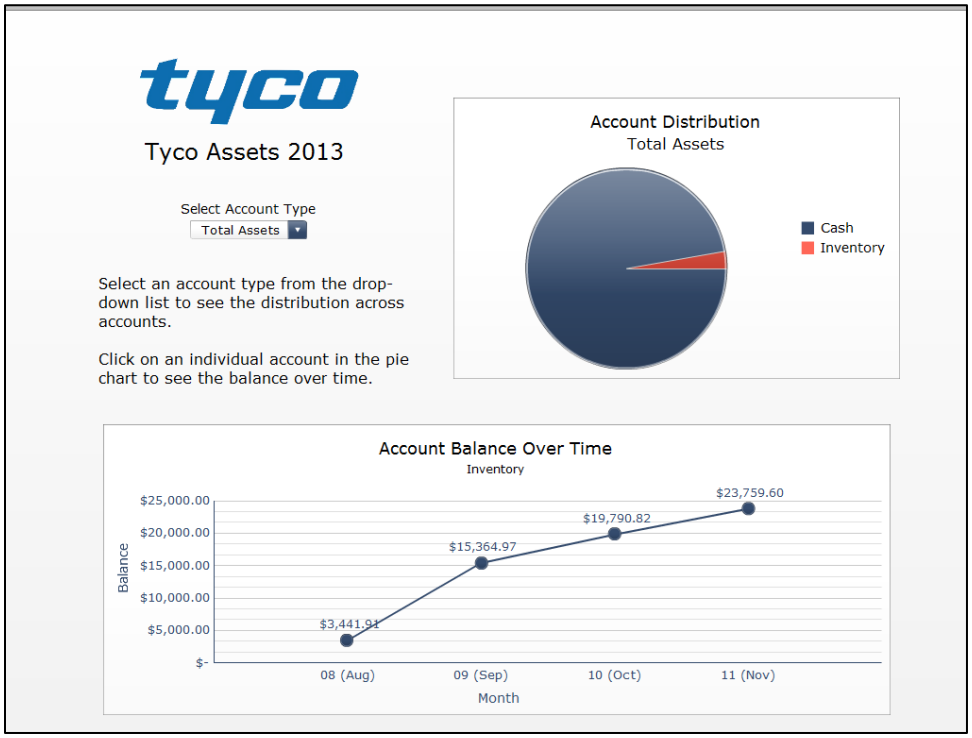


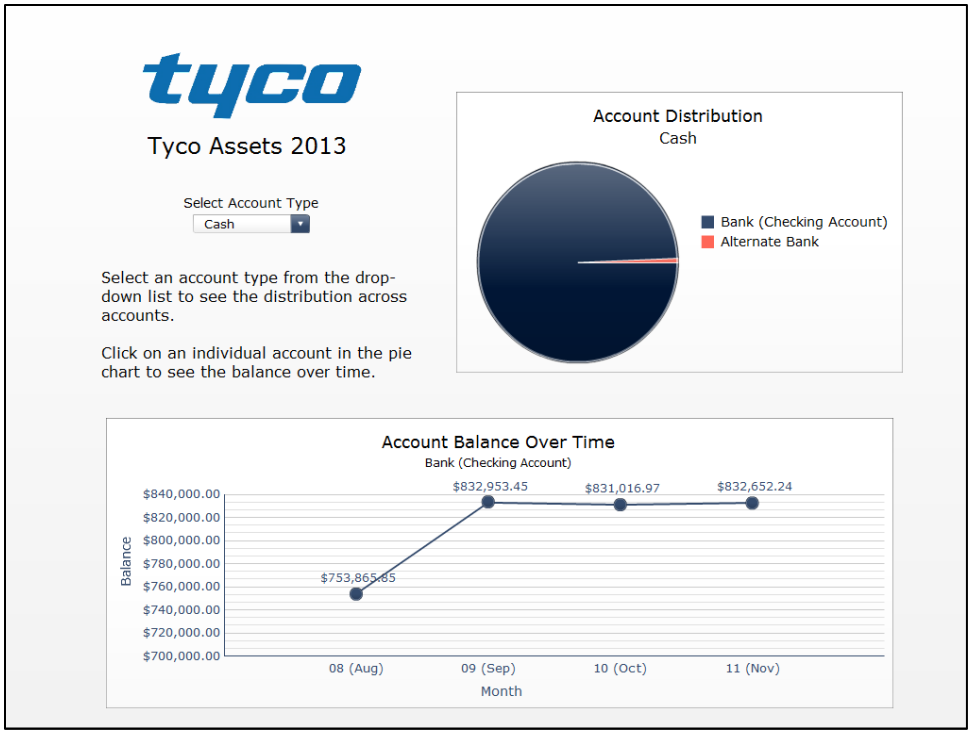


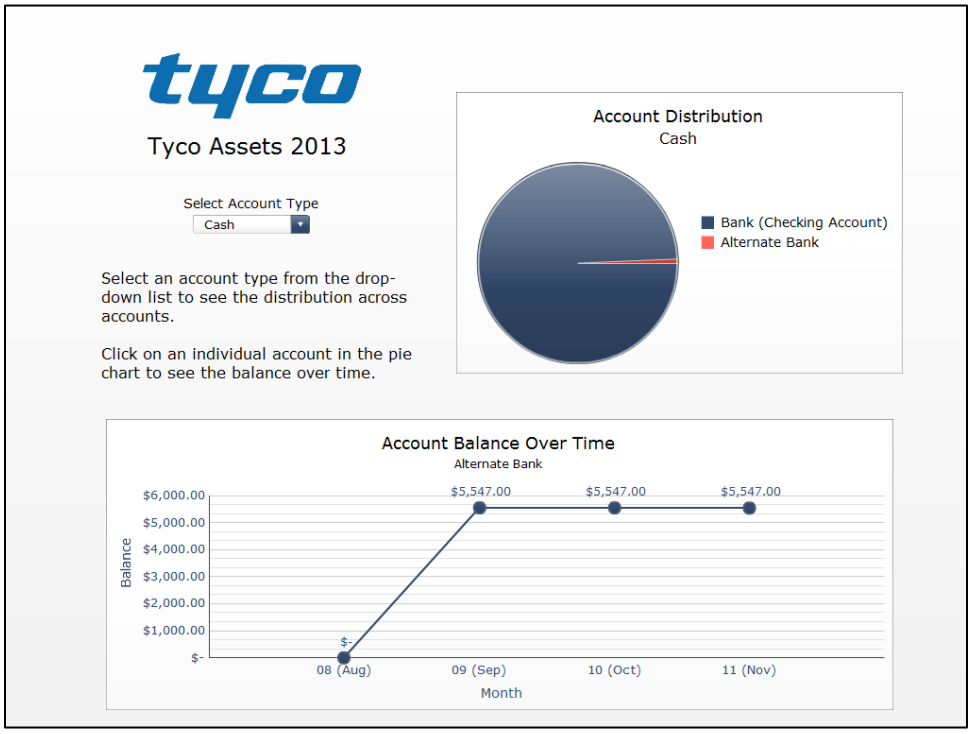
7.6.20 Use Crystal Dashboard to show your cash, inventory of your assets

The following screenshots show the different views available through the two Dashboard designs.






Tyco Assets 2013
Select Account Type
Cash
Select an account type from the drop-down list to see the distribution across accounts.
Click on an individual account in the pie chart to see the balance over time.
Account Distribution
Cash
Bank (Checking Account)
Alternate Bank
Account Balance Over Time
Bank (Checking Account)
$840,000.00
$820,000.00
$800,000.00
$780,000.00
$760,000.00
$740,000.00
$720,000.00
$700,000.00
Balance
$753,865.85
$832,953.45
$831,016.97
$832,652.24
08 (Aug)
09 (Sep)
10 (Oct)
11 (Nov)
Month


Tyco Assets 2013
Select Account Type
Cash
Select an account type from the drop-down list to see the distribution across accounts.
Click on an individual account in the pie chart to see the balance over time.
Account Distribution
Cash
Bank (Checking Account)
Alternate Bank
Account Balance Over Time
Alternate Bank
$6,000.00
$5,000.00
$4,000.00
$3,000.00
$2,000.00
$1,000.00
$-
Balance
$-
$5,547.00
$5,547.00
$5,547.00
08 (Aug)
09 (Sep)
10 (Oct)
11 (Nov)
Month

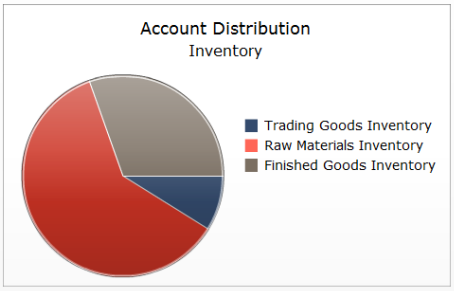
Tyco Assets 2013

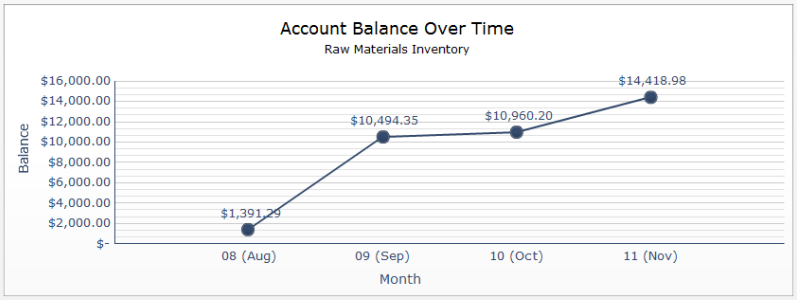
Select Account Type

Inventory

Select an account type from the drop-down list to see the distribution across accounts.

Click on an individual account in the pie chart to see the balance over time.





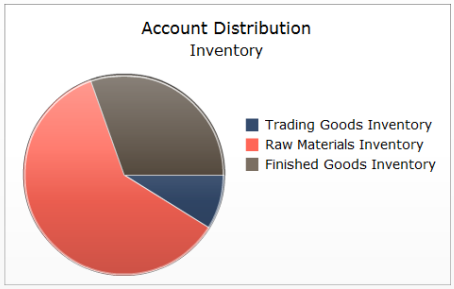
Tyco Assets 2013

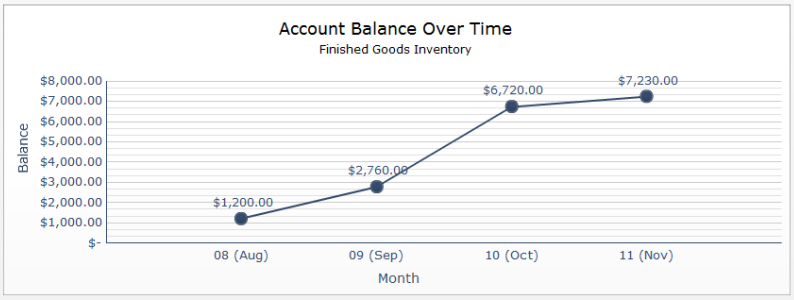
Select Account Type

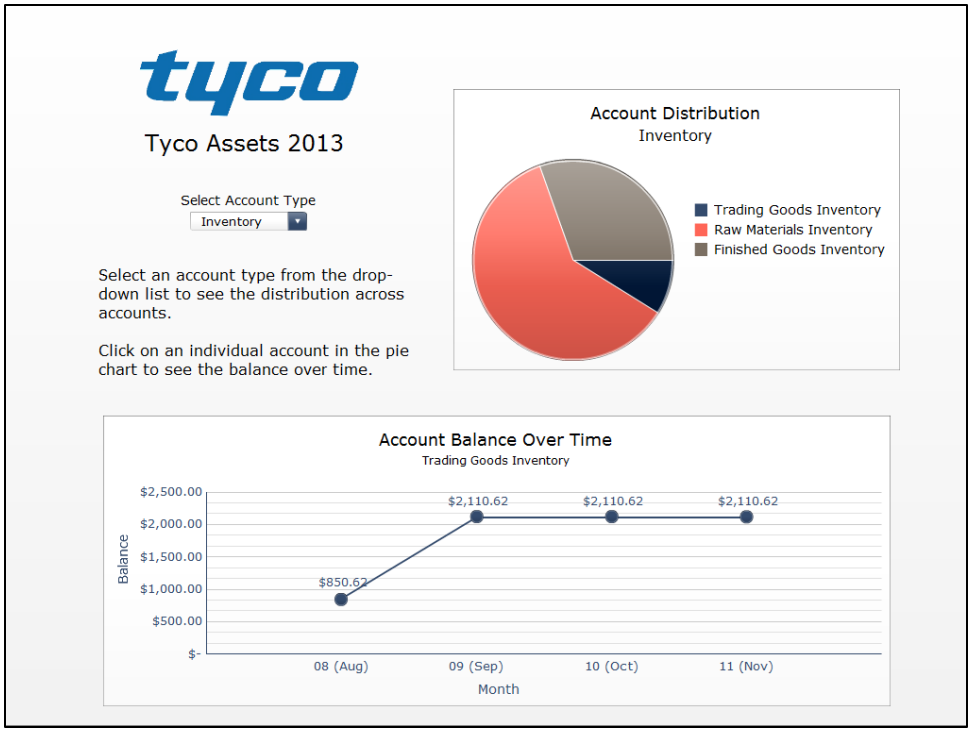
Inventory

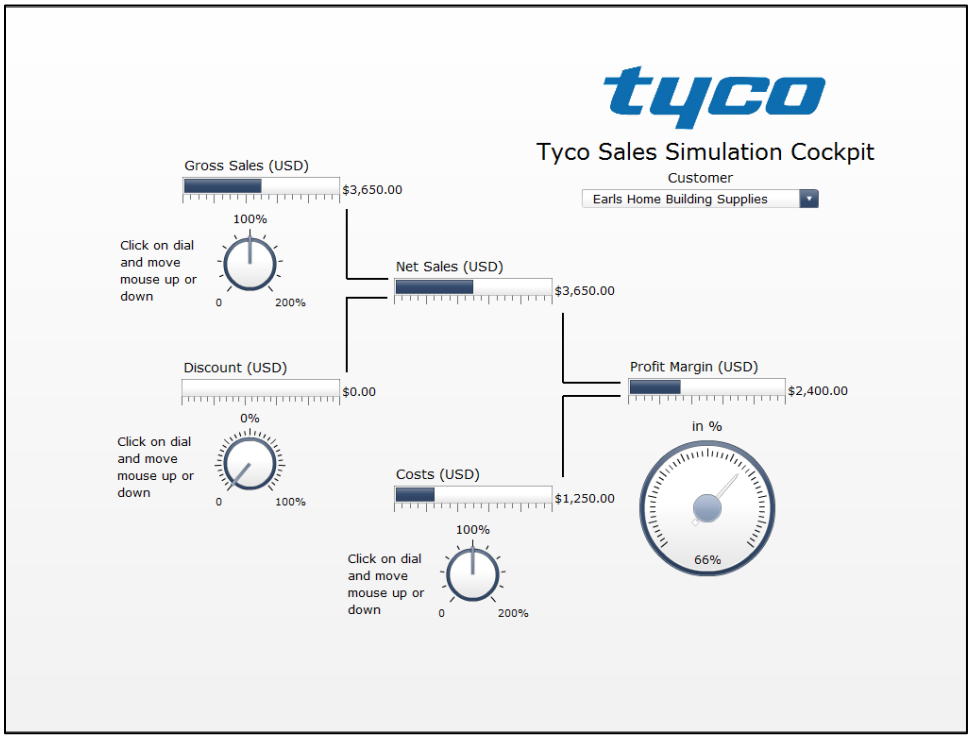
Select an account type from the drop-down list to see the distribution across accounts.

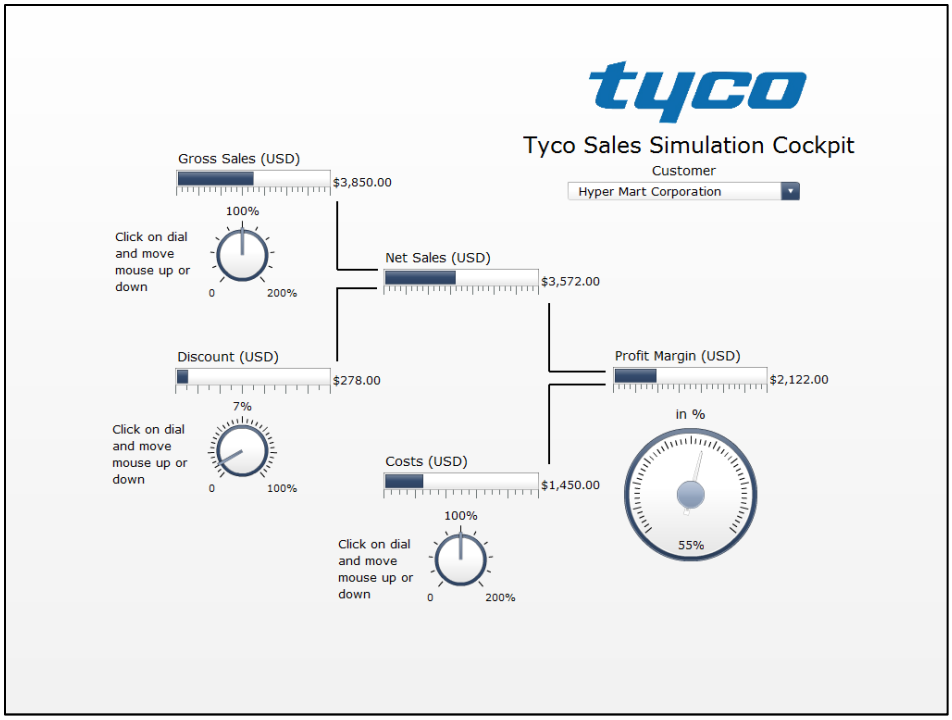
Click on an individual account in the pie chart to see the balance over time.






Tyco Assets 2013
Select Account Type
Inventory
Select an account type from the drop-down list to see the distribution across accounts.
Click on an individual account in the pie chart to see the balance over time.
Account Distribution
Inventory
Trading Goods Inventory
Raw Materials Inventory
Finished Goods Inventory
Account Balance Over Time
Trading Goods Inventory
$2,500.00
$2,000.00
$1,500.00
$1,000.00
$500.00
$-
Balance
$850.62
$2,110.62
$2,110.62
$2,110.62
08 (Aug)
09 (Sep)
10 (Oct)
11 (Nov)
Month


Tyco Sales Simulation Cockpit
Customer
Earls Home Building Supplies
Gross Sales (USD)
$3,650.00
100%
Click on dial and move mouse up or down
0
200%
Net Sales (USD)
$3,650.00
Discount (USD)
$0.00
0%
Click on dial and move mouse up or down
0
100%
Profit Margin (USD)
$2,400.00
in %
66%
Costs (USD)
$1,250.00
100%
Click on dial and move mouse up or down
0
200%


Tyco Sales Simulation Cockpit
Customer
Hyper Mart Corporation
Gross Sales (USD)
$3,850.00
100%
Click on dial and move mouse up or down
0
200%
Net Sales (USD)
$3,572.00
Discount (USD)
$278.00
7%
Click on dial and move mouse up or down
0
100%
Profit Margin (USD)
$2,122.00
in %
55%
Costs (USD)
$1,450.00
100%
Click on dial and move mouse up or down
0
200%

Appendix: List of T-Codes

The following transaction codes were used in the SAP implementation and operation.

T-Code	Description	Module
CA01	Create routing	PP
CO02	Change production order	PP
CO15	Enter production order confirmation	PP
CR02	Change work center	PP
CR12	Change capacity	PP
CS01	Create material BOM	MM
F-28	Post incoming payments	FI
F-53	Post outgoing payments	FI
FD32	Change customer credit management	FI
KO88	Actual settlement: order	CO
KP26	Change plan data for activity types	CO
MB1A	Goods withdrawal	MM
MB31	Goods receipt for production order	MM
MC75	Transfer PG to demand management	PP
MC82	Sales and operations planning	PP
MC86	Change product groups	PP
MD04	Display stock/requirements situation	PP
MD40	MPS	PP
ME01	Maintain source list	MM
ME11	Create purchasing info record	MM
ME21N	Create purchase order	MM
MIGO	Goods movement	MM
MIRO	Enter incoming invoice	MM
MM01	Create material	MM
MMF1	Create finished product	MM
MMR1	Create raw material	MM
SPRO	Customizing - edit project	--
VA01	Create sales order	SD
VA21	Create quotation	SD
VF01	Create billing document	SD
VK31	Condition maintenance	SD
VL01N	Create outbound delivery	PP
VL02N	Change outbound delivery	PP
XD01	Create customer centrally	FI
XK01	Create vendor centrally	FI