ORACLE®



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Agenda

- 1 Why Cloud
- Manufacturing Industries Cloud Solution
- 3 Customers
- 4 Appendix: Deep Dive into Manufacturing Cloud

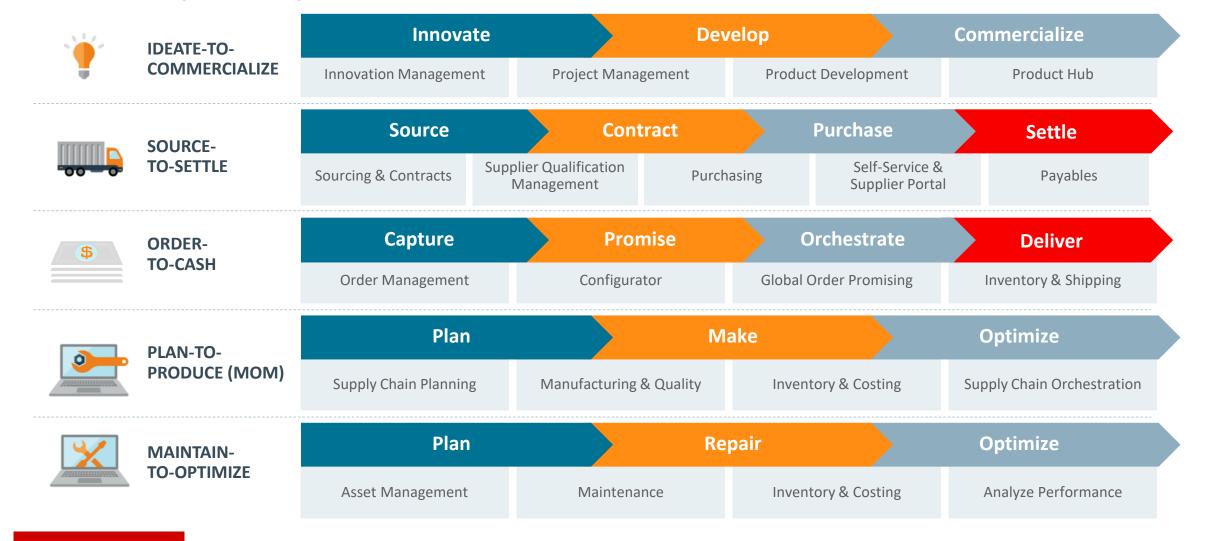


Today's Manufacturing Challenges



Supply Chain Cloud

Broader, simpler footprint





Oracle SCM Cloud Guiding principles

BROADER

Comprehensive Suite supporting broad best practice SCM business flows

Idea to Commercialization

Order-to-Cash

Plan-to-Produce

Source-to-Settle



BETTER

Exceptional
User Experience
Digital by Design









Consistent Data



FASTER

Fast, Modular Implementation Configurable & Extensible Automated Upgrades







Oracle SCM Cloud

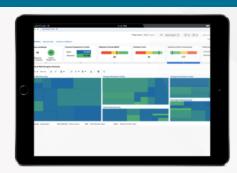
Architected for the digital world

Best Practice
Processes

Order-to-Cash Plan-to-Produce Source-to-

Settle

Next Generation Planning



Architectural Flexibility

Orchestration

+ Extensibility

Services

Full Lifecycle, Integrated PLM

Project Management

Innovate Develop Commercialize

Modern User Experience



Omni-Channel Order-to-Cash



Order Management



Modern, Flexible Manufacturing

Make-to-Order Or Stock

Configure-to-Order

Contract Manufacturing

Drop Ship / Back-to-Back

Integrated Logistics

Transportation Management

Warehouse Management

Global Trade Management



Oracle SCM Cloud

Constant innovation: In 2017 alone: 6 new products, 200+ new capabilities

Supply Chain Collaboration



Enterprise Quality



Maintenance Management



Quote-to-Cash with CPQ



BROADER

Sales & Operations Planning



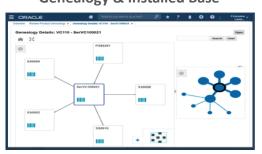
Demand Management



Supply Planning



Genealogy & Installed Base



DEEPER

BETTER

Infolet Navigation



Credit Card / Credit Check



Shopping Cart Experience



Mobile PLM Ideation









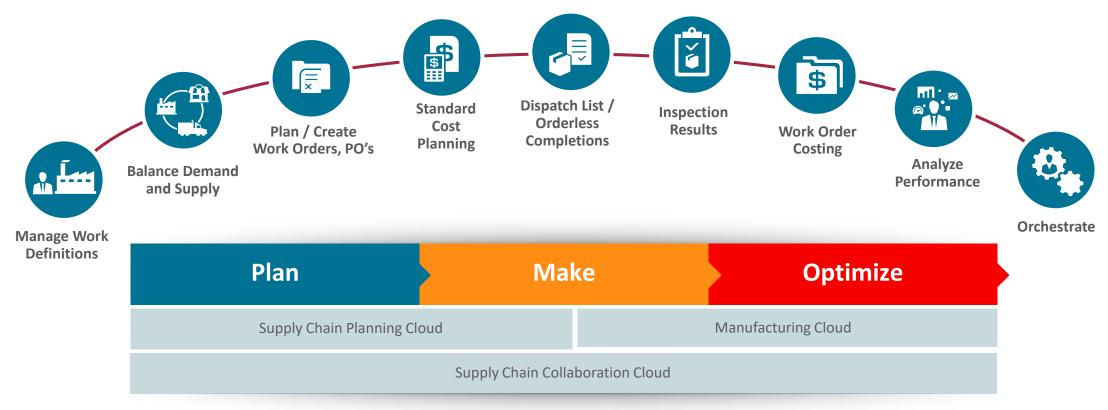
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SCM Cloud: Plan-to-Produce

Enabling efficient planning and productive manufacturing operations



Balance Supply & Demand | Efficiently Manage Master Data | Create and Transact Work Orders | Flexible Work Order Costing & Analysis



Comprehensive Discrete Manufacturing

DISCRETE WORK ORDERS

- Work definition
- Dispatch list
- Material and resource transactions
- Orderless completion
- Integrated Quality
- Outside processing
- Rework & transform work orders
- Operation start / stop
- Production transaction history
- Lot / serial genealogy

CONFIGURED PRODUCTS

- ATO model work definition
- Mandatory or option dependent operations
- Multi-level component to operation assignments
- Applicability rules
- Dynamically configure item work definition



SERIALIZED MANUFACTURING

- Pre-assign serial numbers
- Generate and associate serial numbers on release from planning
- Issue lot or serialized components to the serialized parent
- Shows status of each serial number

STRATEGIC CONTRACT MANUFACTURING

- CM location represented as mfg plant
- Structure includes CM service item and OEM owned components
- Report production progress and component consumption at milestones
- Automatic receipt generation at last milestone operation
- Collaboration with trading partners



With Advanced Fulfillment Support



Plan with Supply Chain Planning Cloud

The fastest way to a unified, connected business



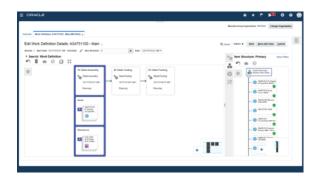
Unified Data Foundation				
Built-in standardization				
Social	Mobile	Analytics	Security	Process



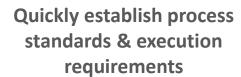
Make with Oracle Manufacturing Cloud

Enabling efficient and productive manufacturing operations

DEFINE



Visually design your production process



EXECUTE



Quickly see status and take action on the go



COST



Efficiently analyze work order charges and product costs



Ensure compliance to established standards



Validate with Oracle Quality Management Cloud

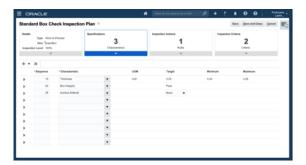
Drive quality best practices from issue to resolution

DEFINE

IDENTIFY

ANALYZE

CORRECT









Connect items to inspections to define quality attributes

Align with design for quality with reduced data maintenance

Perform receiving, WIP, and ad hoc inspections

Quickly identify defective components or finished goods

Identify and manage quality issues

Solve problems in a controlled and auditable manner

Implement corrective and preventative actions

Use the latest in cloud technology to create solutions



Maintain with Oracle Maintenance Cloud Enabling efficient and productive maintenance operations

DEFINE

Edit Maintenance Work Definition: PR Wrise 1 Sturber 1994 (2 PM Letolog / P) - Search: Ward Definition The search: Ward Definition The search ward Definition The se

Visually design your maintenance process

Quickly establish maintenance standards for material and resources

EXECUTE



Quickly see status and take action on the go



key metric

COST



Efficiently analyze work order charges and asset costs



Ensure compliance to established standards



Connect with Oracle IoT Applications

Making IoT signals actionable

DETECT

Track movement
Read temperature
Gauge humidity
Sense vibration

Device Signals

ANALYZE

Determine lateness
Detect overheating
Predict failures
Update parameters

IoT Cloud Applications

Business

Events

ACT

Reroute shipments
Replan supply
Dispatch service
Substitute materials

IoT Devices

Building Sensors

Logistics















Mobile Devices





Asset Monitoring Production Monitoring Fleet Monitoring Connected Worker





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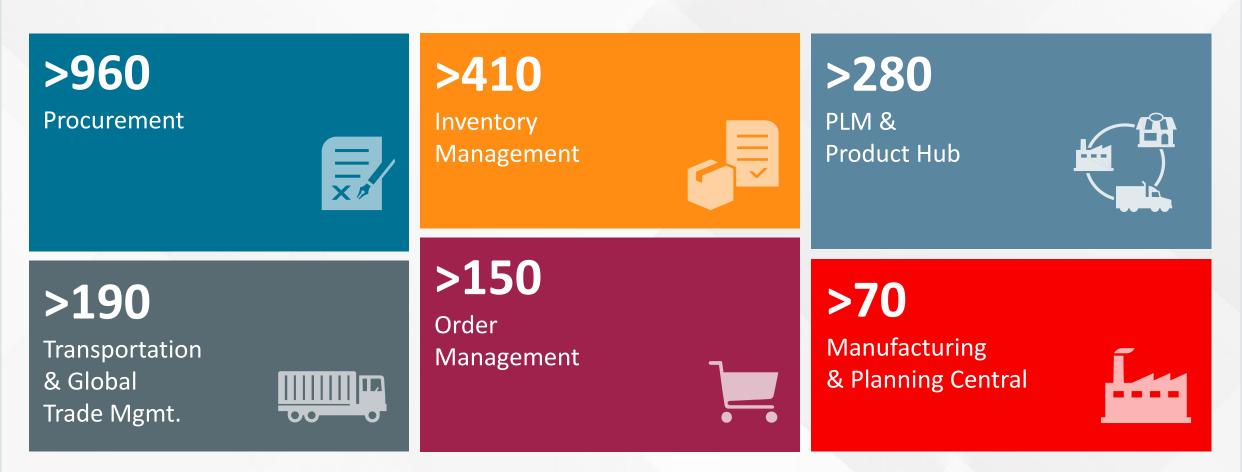


Oracle SCM Cloud Adoption is Well Underway ...



SCM Cloud Customer Snapshot through December, 2016

> 1300 SCM cloud customers





LIVE



Profound Medical Corp.

Profound Medical Corp. is a medical device company that is developing and commercializing ground-breaking technology in the area of localized prostate cancer. It is headquartered in Toronto, Ontario, Canada.

CHALLENGE

Profound Medical is a fast growth company in Silicon Valley that was bottlenecked from hitting its business goals without an integrated front and back-office application framework. It had over 20 error prone, disparate supply chain and ERP solutions.

SOLUTION

Oracle SCM Cloud:

- Oracle Product Hub Cloud
- Oracle Order Management Cloud
- Oracle Manufacturing Cloud
- Oracle Procurement Cloud

- Faster time to market with integrated Agile PLM, Product Hub Cloud and Manufacturing Cloud
- Serialized Manufacturing and Inventory providing traceability of critical components
- Simple shop floor and warehouse execution, with robust costing and reporting



LIVE

Carbon

Carbon, Inc.

California 3D printing solutions provider of hardware, software, and molecular parts where traceable, final-quality products are produced at scale with CLIP 3D printing technology.

CHALLENGE

Carbon was looking for a manufacturing and supply chain solution that is simple enough to deploy for their initial product launch and robust enough to scale to support their projected rapid growth.

SOLUTION

Oracle SCM Cloud:

- Oracle Manufacturing Cloud
- Oracle Order Management Cloud
- Oracle Planning Central Cloud
- Oracle Procurement Cloud

RESULTS

- Gained an integrated Cloud solution for efficient company growth
- Improved agility and ability to pivot to growing demands and markets
- Increased employee and customer engagement through better adoption of modern cloud technology





GE Digital



GE Digital connects streams of machine data to powerful analytics and people, providing industrial companies with valuable insights to manage assets and operations more efficiently.

CHALLENGE

GE Digital wanted a new cloud ERP/SCM solution that would help drive GE's transformation to a digital company. The system would need to integrate with existing GE ERP/SCM systems, new software such as Predix and establish common processes to support future growth.

SOLUTION

Oracle SCM Cloud:

- Oracle Purchasing Cloud
- Oracle Inventory Cloud
- Oracle Order Management Cloud
- Oracle Manufacturing Cloud (a later phase)

Oracle ERP Cloud:

- Oracle Financials Cloud
- Oracle Project Portfolio
 Management Cloud

- Accelerated deployment with 6 month implementation
- Over 80% of all orders autobooked
- Standardized, best-practice processes with simplified configuration
- Strong platform for future growth and expansion





NCR – Texas Digital Division

Texas Digital is a leader in digital signage solutions, the leading supplier of order confirmation displays for the quick-serve restaurant industry and a pioneer in the use of visual communication solutions for help desks, call centers and command centers.

CHALLENGE

Texas Digital is challenged to maintain a high level of customer service with outdated systems requiring many manual processes.

Texas Digital needs to report financial results to an on premise corporate EBS system in a hybrid environment.

SOLUTION

Oracle ERP Cloud:

- Oracle Financials Cloud
- Oracle SCM Cloud:
- Oracle Logistics Cloud
- Oracle Order Management Cloud
- Oracle Manufacturing Cloud
- Oracle Procurement Cloud
- Oracle Planning Central Cloud

- Improved customer service and supply chain visibility
- Reduced supply chain costs and improved agility
- Improved shop floor control and efficiency
- Ability to implement additional sites in the Cloud quickly





Ballard Power Systems

Ballard Power Systems is a global leader in PEM (proton exchange membrane) fuel cell technology. We provide clean energy fuel cell products enabling optimized power systems for a range of applications. Ballard offers smarter solutions for a clean energy future.

CHALLENGE

Ballard struggled with aging, disconnected systems with multiple "work arounds" and Band aids had created silos of data and silos of groups inside to org. The resulting lack of operational efficiency and visibility across all groups was becoming a hindrance to growth.

SOLUTION

Oracle SCM Cloud:

- Oracle Order Management Cloud
- Oracle Manufacturing Cloud
- Oracle Planning Central Cloud
- Oracle Procurement Cloud

- Improved revenue and margin by leveraging planning central's embedded analytics to better balance supply and demand
- Reduced supply chain costs and improved agility.
- Improved shop floor control and efficiency
- Target go-live Mid 2017





Western Digital

Western Digital Corporation is one of the largest computer hard disk drive manufacturers in the world.

CHALLENGE

Western Digital as part of their ERP transformation and adoption in the Cloud was looking for a solution to consolidate item masters and catalogs across multiple ERP systems (SAP/EBS) they have assimilated through the HGST and Sandisk acquisitions. Additionally product data quality is poor with a lot of duplication across item masters.

SOLUTION

Oracle SCM Cloud:

- Oracle Product Hub Cloud
- Oracle Purchasing Cloud
- Oracle Inventory Cloud
- Oracle Order
 Management Cloud
- Oracle Manufacturing Cloud

Oracle ERP Cloud:

- Oracle Financials Cloud
- Oracle Project Portfolio Management Cloud
- Financial Reporting Compliance Cloud

- Centralized Item Master for ERP Cloud
- Governance and workflow for product maintenance
- Improve Product Data Quality and Reduce duplicate items
- Integrated and scalable ERP solution that simplified decision making



Oracle Manufacturing Cloud



 Integral part of the Supply Chain Cloud, providing unmatched end-to-end supply chain process breath



MODERN

- Innovative, consumer-grade user experience
- Embedded social collaboration
- Built for the cloud



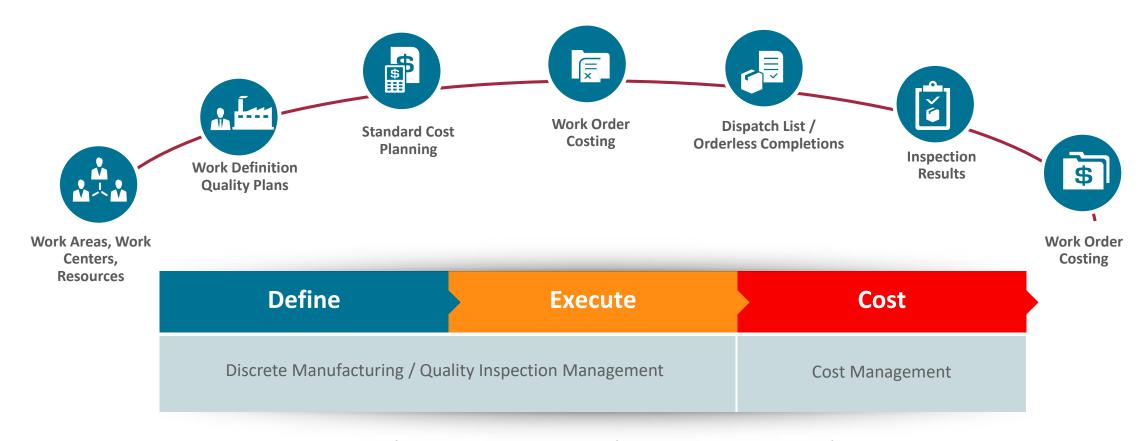
- Analytics driven navigation
- Actionable information



ORACLE®

Manufacturing Cloud

Enabling efficient and productive discrete manufacturing operations



Visually Model Shop Floor Processes | Simplify Shop Floor Experience | Enforce Execution Compliance | Control Work Order Variances



Define

Quickly establish process standards

Define Plant Hierarchy and Process Standards

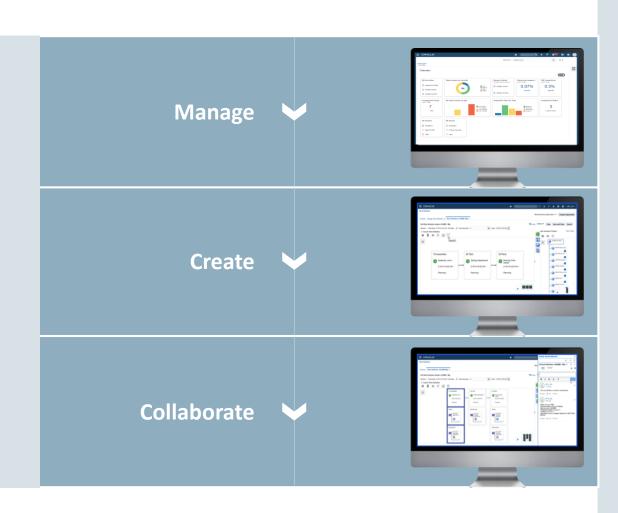
- Define working calendar and plant controls
- Create work areas, work centers and resources
- Define standard or template operations

Design Your Production Process

- Visually create the process for each make item
- Drag and drop resources and components
- Determine shop floor controls
- Collaborate with colleagues within context

• Identify Your Quality Plan

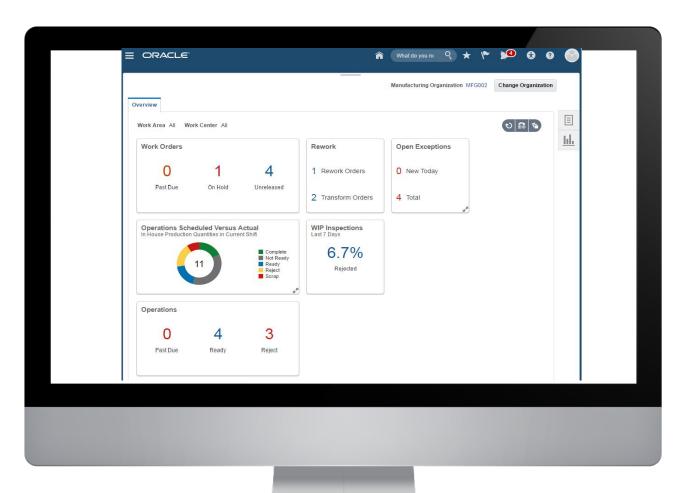
- Define Inspection Plans, Characteristics, and Levels
- Optionally integrate quality specifications with product attributes





Define Plant Hierarchy and Process Standards

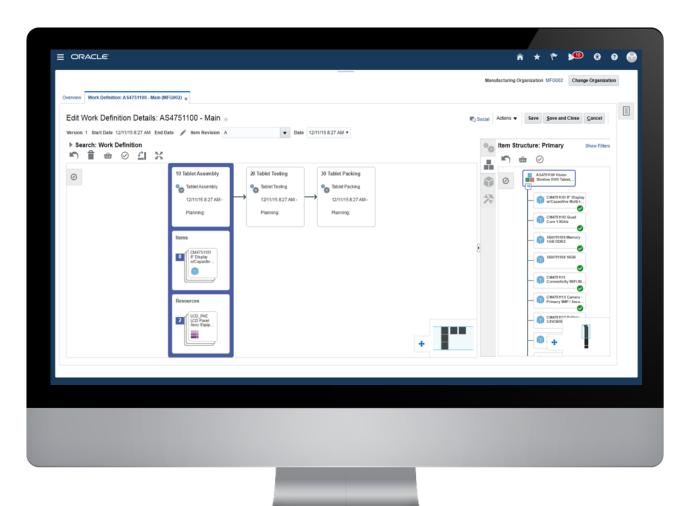
- Define plant controls
- Model work areas, work centers, and equipment and labor resources
- Define standard operations





Design the Production Process

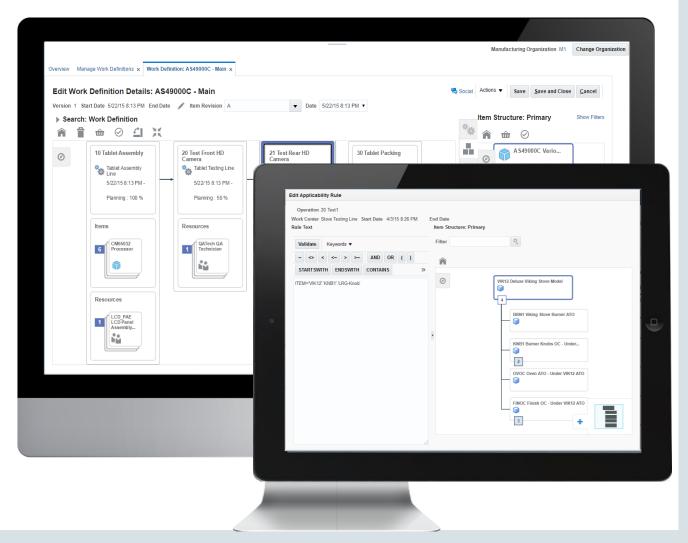
- Design a work definition using an intuitive visualization tool
- Assign operations, materials, and resources
- Indicate which operations out performed by an outside supplier
- Add operation controls and establish serialization start operations
- Manage changes with work definition versioning
- Collaborate internally and / or externally using social networking





Define All Variations of the ATO Model Production Process

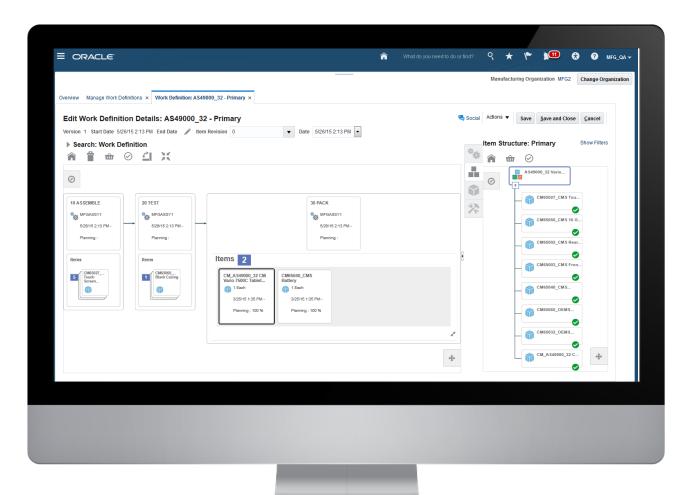
- Define the production process to build any configuration of an assemble-to-order product
- Mandatory and option-dependent operations, components, and resources
- Define the criteria for including an option dependent operation





Define the Strategic Contract Manufacturing Process

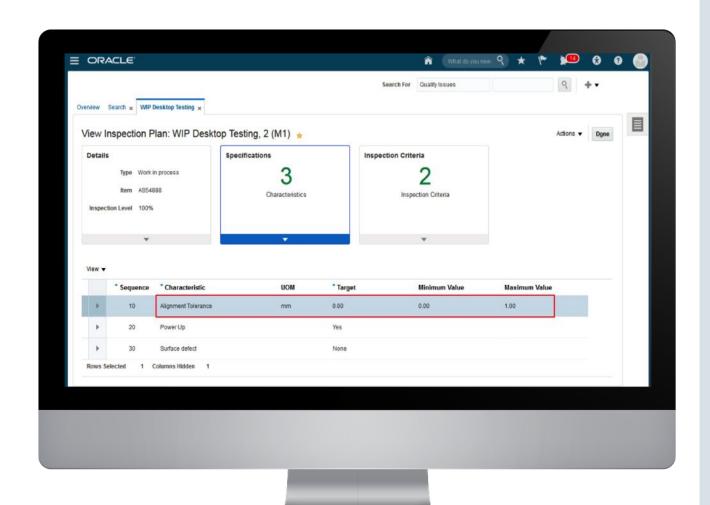
- Create a structure that includes only the OEM owned components and CM service item
- Model key milestone operations with a work definition





Define Quality Plan*

- Maintain inspection plans for items, item categories and resources
- Identify how much to sample and the frequency of inspections
- Maintain multiple versions of inspection plans
- Allows copying of inspection plans to other organizations in the installation
- Optionally integrate quality specifications with product attributes





*Additional license

Execute

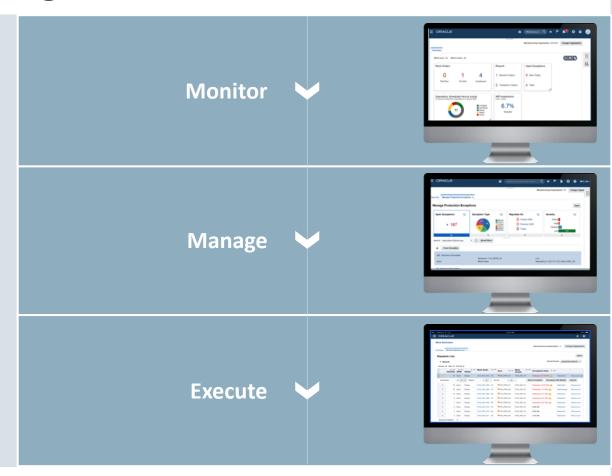
Efficiently manage your shop floor while on the go

Manage Production

- Quickly See Status and Take Action
- Create and Manage Work Orders
- Print Travelers, Generate Parts List and View History

Execute Production

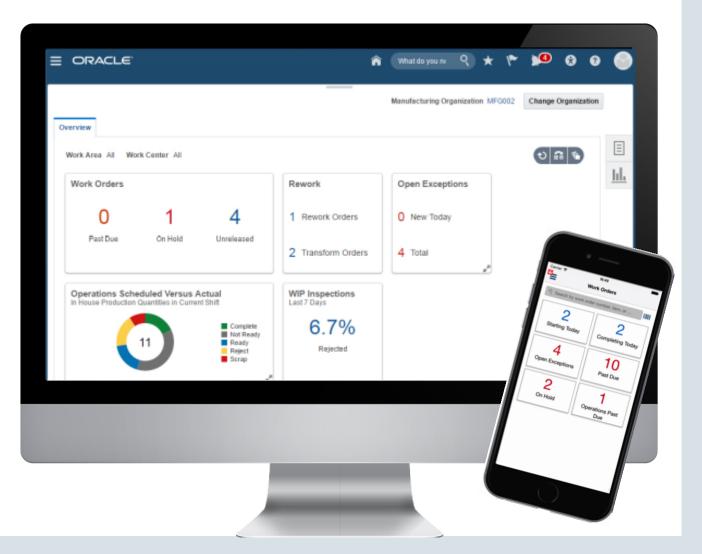
- Two Clicks to Transact
- Embedded Quality
- Enforce Serialized Transactions
- Report Orderless Completions
- Optimized for use on a tablet
- Social and OTBI Enabled





Get Summarized View of Current State

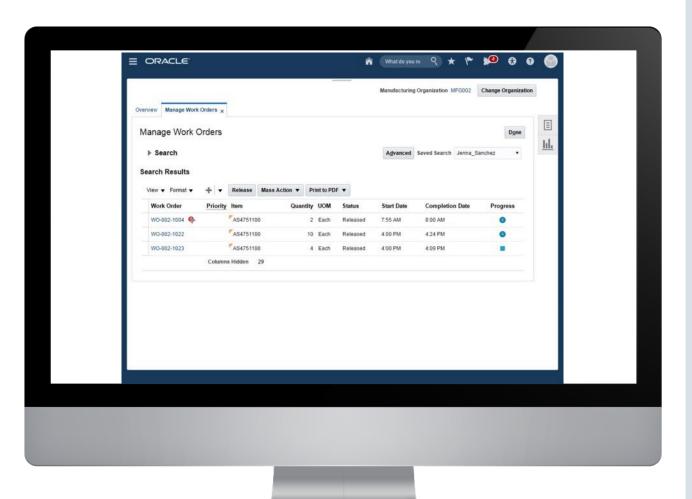
- Get insight to plant level work order and operation performance
- Monitor work order and operation exceptions
- Access all production tasks
- Develop shift and work center schedules based on a plant calendar





Efficiently Manage Work Orders

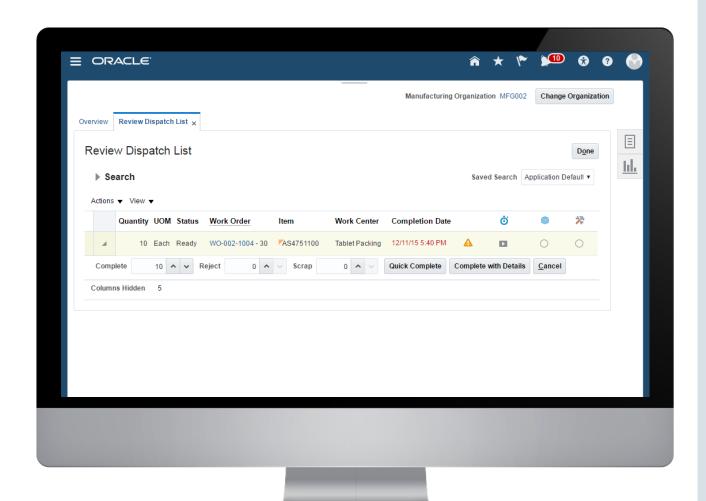
- Create standard and non-standard work orders
- Build standard or configured items
- Edit work order details
- Perform repetitive tasks with single click
- Print production documents like travelers, parts List
- Collaborate with co-workers on social tool





Execute Production

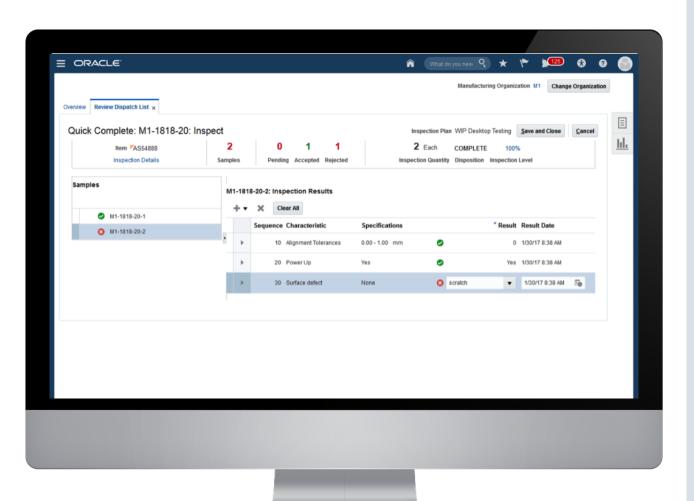
- Simplified reporting for production tasks.
 Complete a Work order operation in two clicks
- Complete with details action provides detailed reporting
- Report Lot / serial controlled components during backflush
- Report rejections, scrap
- Printing production documents, Labels.
- Transact configured products and serialized assemblies
- Transact through UI or REST services





Enforce Quality Inspections

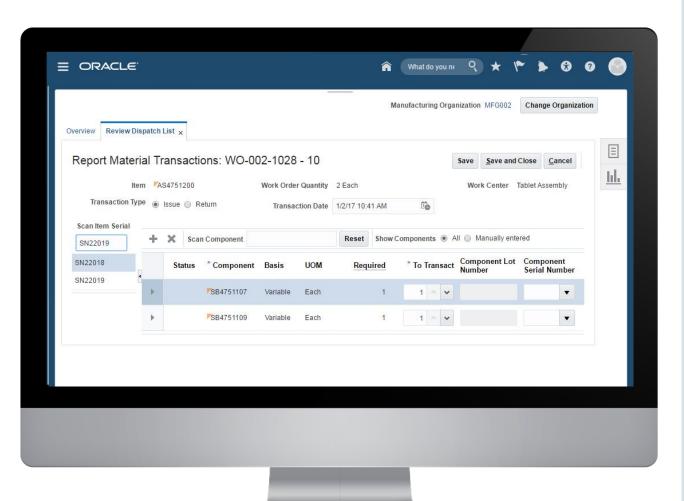
- Enforce in process and final inspection or perform equipment monitoring
- Drive work in process transactions based on inspection results
- Initiate quality issues for non-conformances
- Report results with ad-hoc OTBI analysis
- Collaborate in real-time with Oracle Social Network (OSN)
- Collect results through UI or REST services





Report Materials and Resources

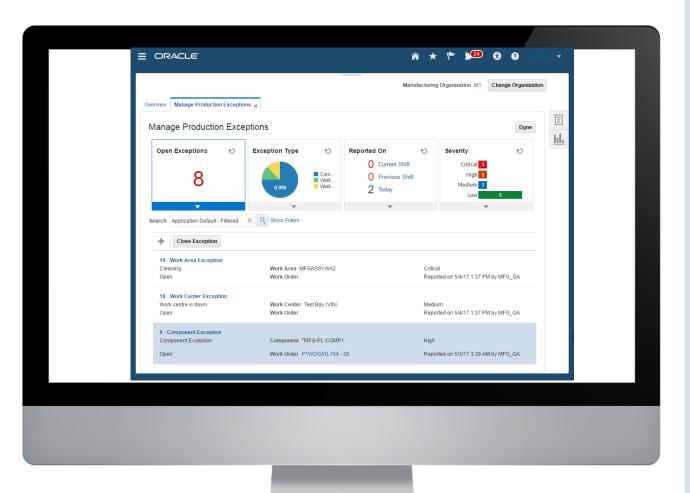
- Issue production materials manually or by back flush
- Touchless reporting using scanner for materials including item, serials, lot.
- Report resource transactions manually or by backflush
- Visual clue for completion of all information during material issue
- Transact through UI or REST services





Log and Manage Shop Floor Exceptions

- Record the exceptions related to work areas, work centers, materials, resources, or others
- Manage and review exceptions
- Add impacted work orders
- Resolve exceptions
- Notify stakeholders with rule based messages and visual alerts on the dispatch list
- Expedite exception resolution by engaging with additional stake holders using internal social platform.

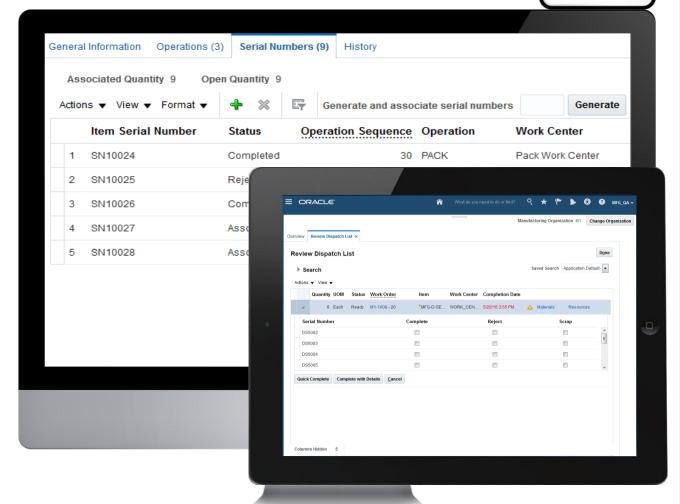




Manage and Execute Serialized Work Orders



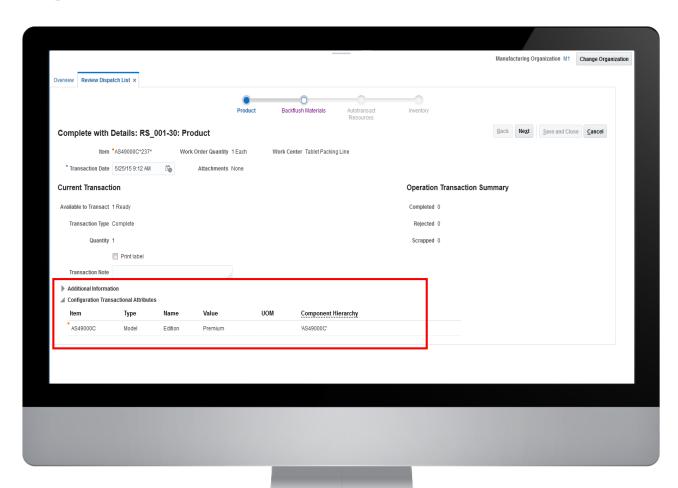
- Enforce serialization enabled manufacturing
- Automatically generates pre-defined serials and associate them to the work orders
- Manually associate serial numbers
- Report operation progress by product serials
- Issue or return materials for a specific product serial.
- Track and review status of serials





Make Products that are Configured-to-Order

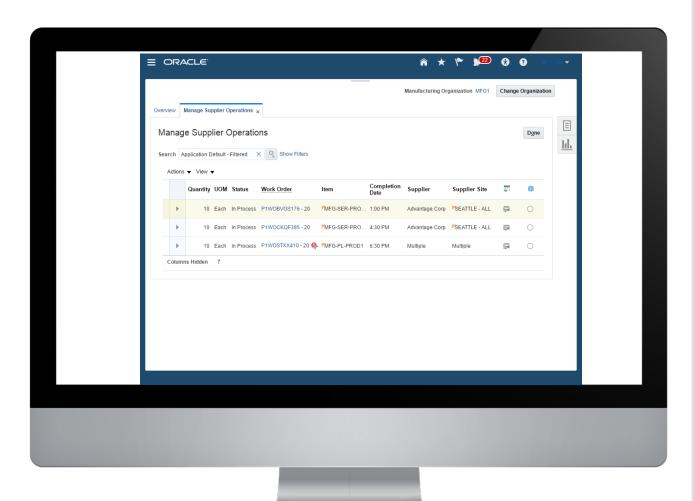
- Create back to back or planned work orders for configured items
- Work Definition is generated "on demand" using
 - Primary ATO model work definition
 - Selected options, transactional item attributes and applicability rules
- Work order and execution UI displays TIAs selected during order capture





Track Outside Process Operations

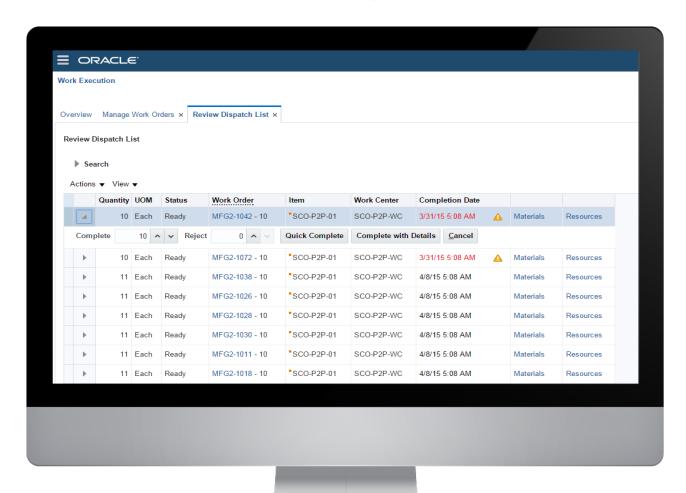
- End to end automation of Outside Processing business flow for one or more operation
- Schedule supplier operations based on the processing lead times
- Automatic purchasing / shipping document generation
- Review supplier operation details, manage supply exceptions
- Plan, account and review outside processing costs





Track Contract Manufacturers Production Progress

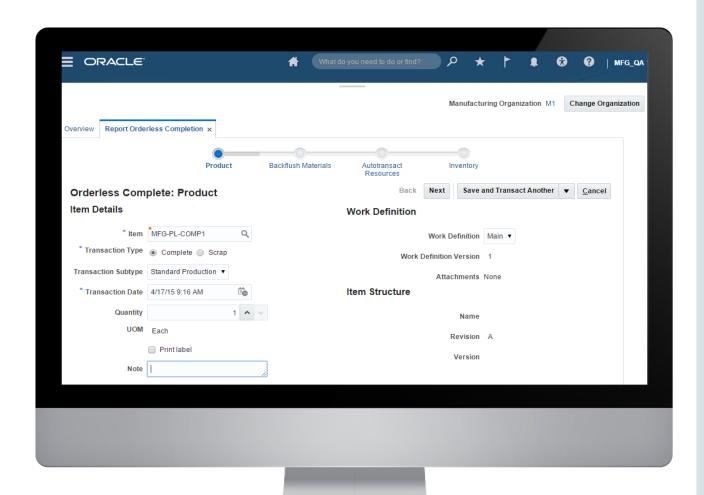
- Track actual status of production milestone operations
- Receive updates via a web service or spreadsheet upload
- Or enter manually via the dispatch list
- Completing the work order automatically creates a receipt for purchase from the contract manufacturer





Go Lean with Orderless Transactions

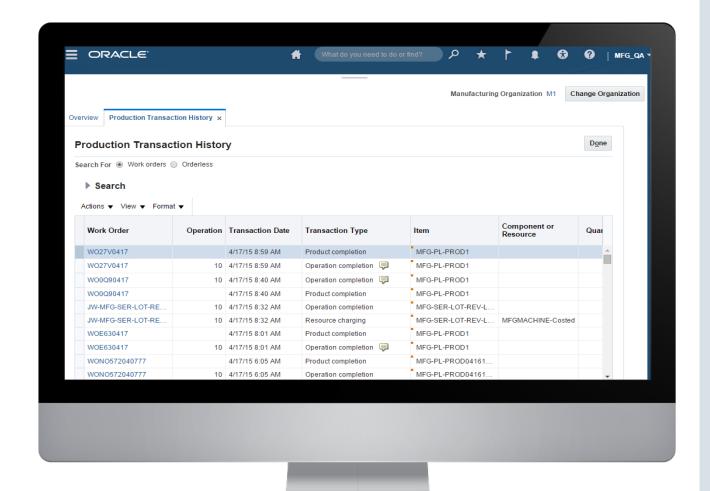
- Support lean manufacturing using Orderless Production
- Simply report which item and quantity was produced
- Optionally review and edit the material and resource usages





Review Production History

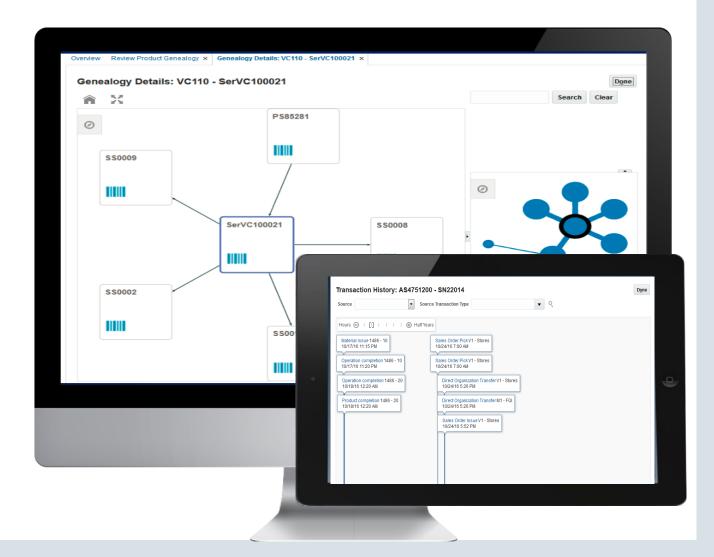
- Review a chronologically ordered list of production transactions
- Filter by work order or product serial
- Export to excel for offline analysis
- Provides parent-child serial traceability





Trace Product Genealogy

- Provides complete traceability of a lot or serial in order to support containment and recall analysis
- Trace genealogy from raw material to finished product
- Capture lot and serial transactions in inventory and manufacturing
- Search and track lot and serial numbers across organizations





Integrate to External Execution Systems

Must be done using standard interfaces





Effectively Plan and Track Manufacturing Costs

Standard Cost Planning

- Prioritize work definitions used to cost
- Efficiently enter costs with spreadsheet import
- Scalable cost rollup process

Work Order Costing

- Choice of standard or actual-based cost methods or both!
- Flexible user-defined account defaulting rules
- Work order valuation policies using cost profiles

Manufacturing Cost Analysis

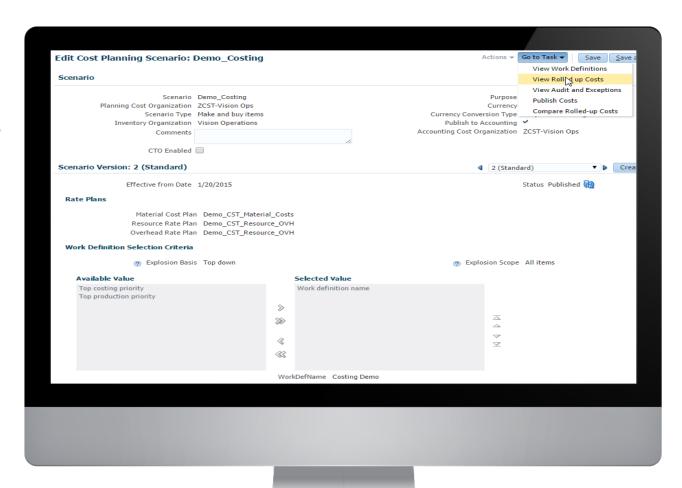
- Hierarchical view of buy item standard costs
- Intuitive reporting of work order cost variances
- Standard, Configured & Contract Manufacturing Items





Scenario Driven Cost Estimation and Rollup

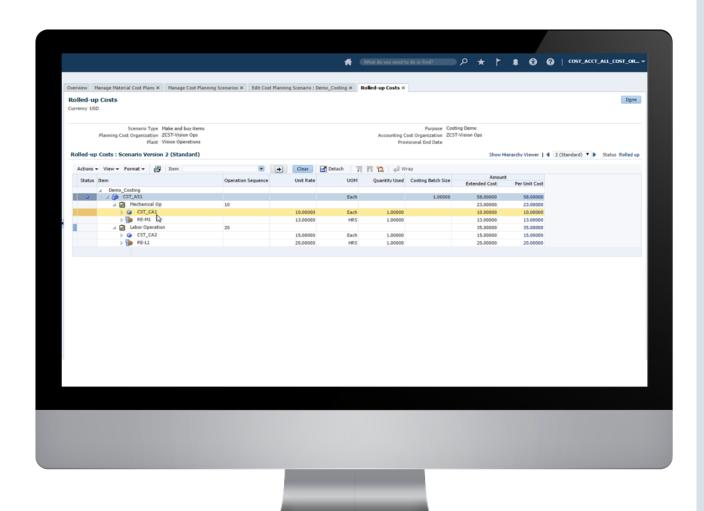
- Cost scenarios specify overall scope of standard cost planning for future period
- Estimation of costs in material and resource plans
- User selectable work definition prioritization for cost rollup
- Ability to schedule build, roll up and publish process
- Support for discrete manufacturing, contract manufacturing, phantoms and configured items





Publish Standard Costs

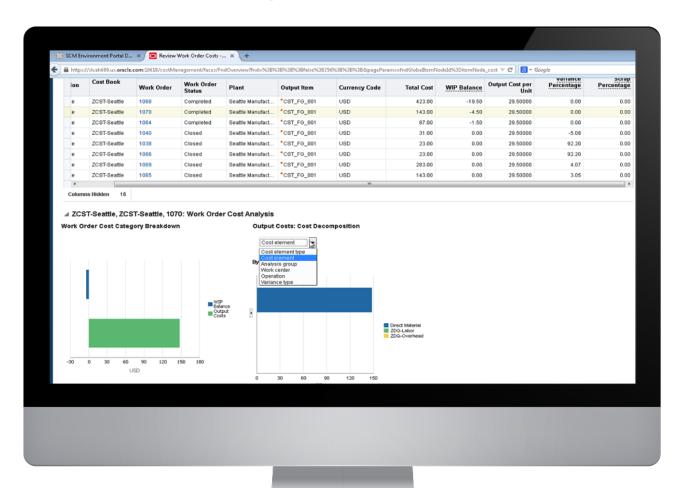
- Enter costs with spreadsheet import
- Publish standard costs on demand or on schedule
- Review and resolve warnings and errors





Accounting for Material / Resource Charges

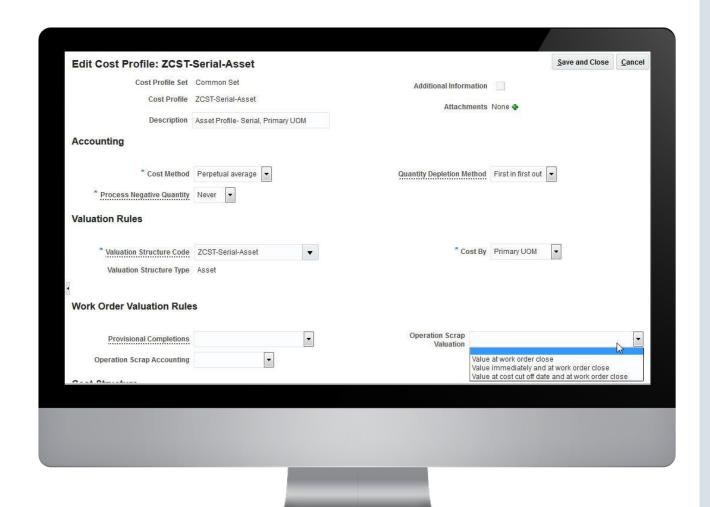
- Unified view of all work order related costs
- Calculate cost of work orders based on material, resource transactions and overheads
- Partial completions costed according to user defined method. Entries adjusted to actual when work order is closed
- Analyze WIP balances, total cost incurred, scrap and variances for work orders





Accounting for Scrap

- Option to expense or include scrap in inventory valuation
- Timing of scrap accounting user defined: immediate or wait until work order is closed/ period end
- Scrap accounting finalized at work order close





Review and Analyze Work Order Costs

- Analyze summary and detailed level work order costs
- Gain visibility into work-in-process balances, scrap and variances
- Improve sourcing decisions with better cost information

