Oracle Supply Chain Management

- *Introduction*

- *Supply Chain Management*

- *Cases*
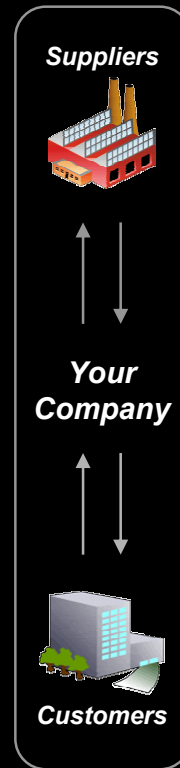
Harald Røneid   ErgoGroup

Information Age Applications

Traditional Supply Chain Pressures

Margin Pressure
- Intensified Global Competition
- Limited Pricing Power
- Economic Uncertainty
- Shorter Product Lifecycles

Customer Expectations
- Product & Service Innovation
- Higher Quality, Rapid Delivery
- Channel Demand Variability
- Decreasing Customer Loyalty

Suppliers

Your Company

Customers

Response:
Automation

Faster, Cheaper Processing

New Supply Chain Pressures

Margin Pressure
- Intensified Global Competition
- Limited Pricing Power
- Economic Uncertainty
- Shorter Product Lifecycles

Suppliers

Your Company

Customers

Supply Chain Complexity
- Highly Customized Products
- More Global Supply Base
- Contract Mfg / Outsourcing
- Fragmented Supply Chains

Customer Expectations
- Product & Service Innovation
- Higher Quality, Rapid Delivery
- Channel Demand Variability
- Decreasing Customer Loyalty

Compliance & Risk Mgmt
- Corporate Governance
- Industry Mandates
- Communication Standards
- Environmental Responsibility

Create New Challenges
How Do I…

… select the right balance between outsourcing and in-house production?

… structure pricing strategy to better shape product demand?

… deliver 100% perfect orders while still minimizing inventory?

… recall only contaminated lots while keeping good products on the shelf?

… deliver premium service to my top customers while containing cost?

… ensure service quality while relying on 3rd party service providers?

… comply with industry mandates such as RFID and
 still maintain margins?

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Supply Chain Management

- **New customer demands**

- **More reliable products <> less possibilities for service income**

- **More complex products <> Higher skilled people - higher costs**

- **Develop new service products**

- **Better resource utilization and better integrated value chains**

Using Oracle planning tools for optimazing resources and spareparts
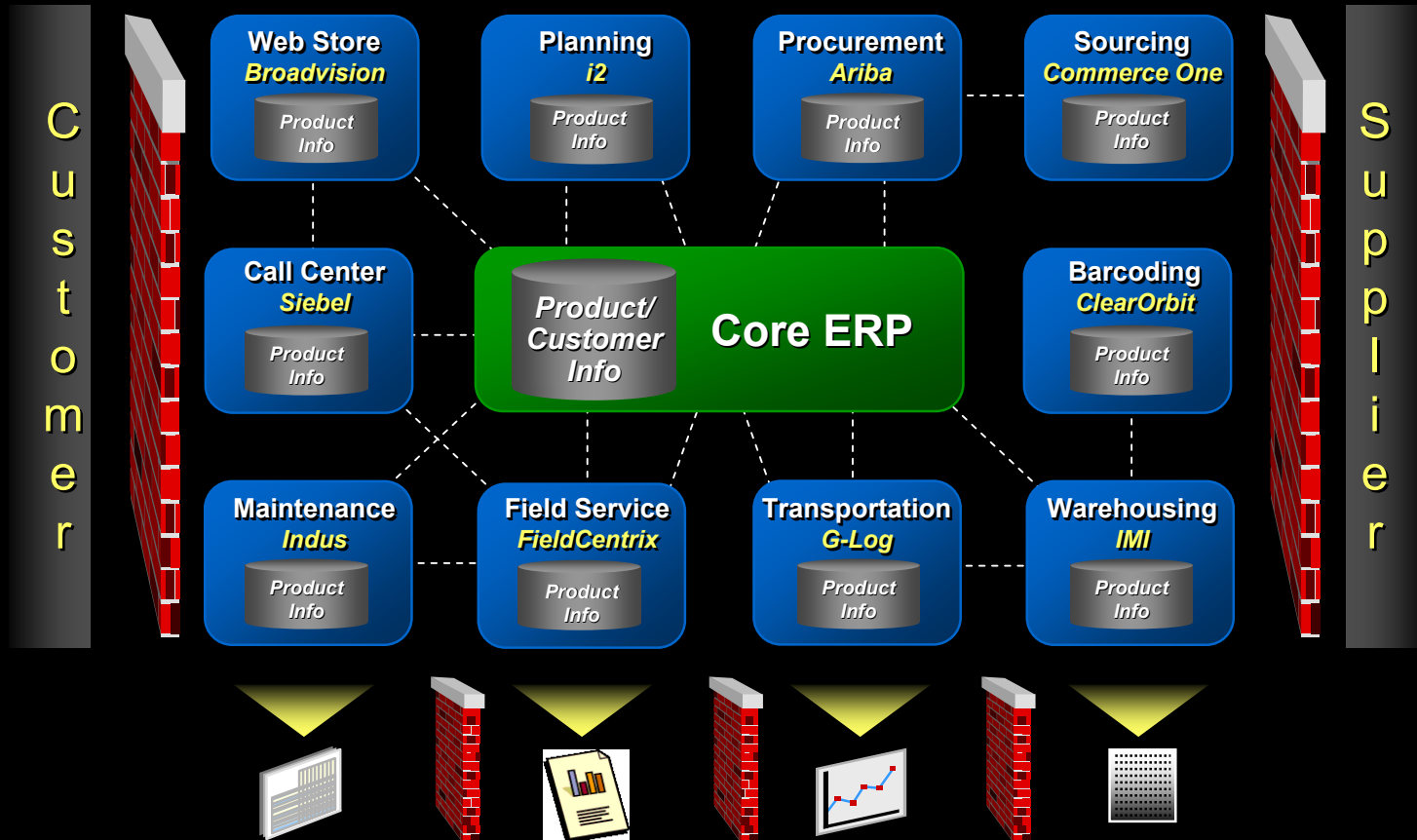
Information Promotes Collaboration

Suppliers

Product Specifications

Sales & Order Forecast

Negotiations, Contracts

Delivery Commitment

Invoices & Payments

Contract Manufacturing

Carrier Bookings

Drop Shipment

Spares Replenishment

Project Schedule

o
o
o

Your Company

Product Requirements

Sales & Order Forecast

Pricing & Promotions

Orders

Promise Dates

Delivery Status

Bill Presentment

Payment

Product Warranties

Service Requests

o
o
o

Customers
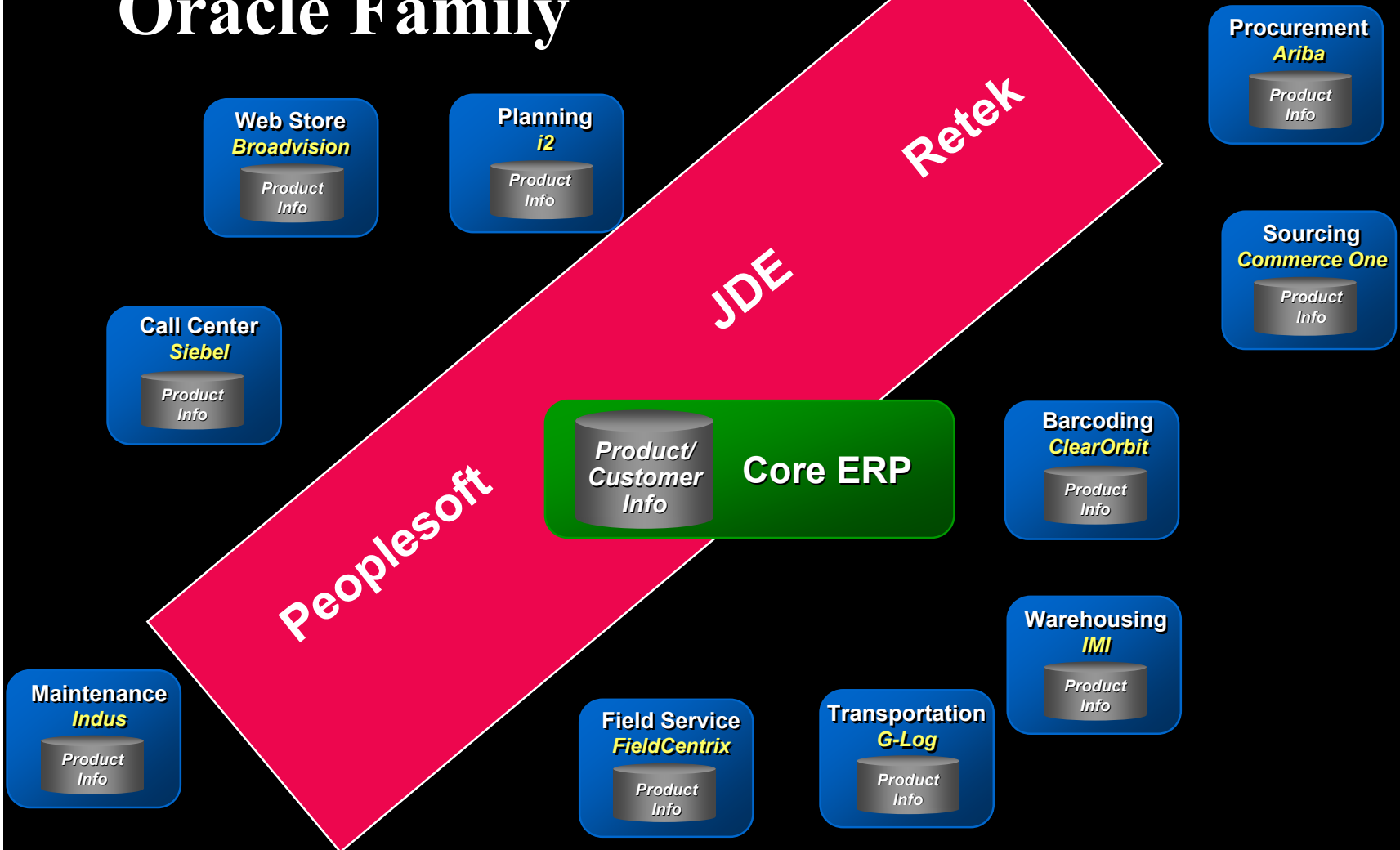
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However, There Are Obstacles…

- **Disparate Systems, Processes, Technologies**
- **Fragmented Data in Information Silos**
- **Limited Partner Communications**

Market Changes – New members in the Oracle Family

Procurement
Ariba
Product Info

Web Store
Broadvision
Product Info

Planning
i2
Product Info

Retek

JDE

Sourcing
Commerce One
Product Info

Call Center
Siebel
Product Info

Peoplesoft

Product/ Customer Info — **Core ERP**

Barcoding
ClearOrbit
Product Info

Warehousing
IMI
Product Info

Maintenance
Indus
Product Info

Field Service
FieldCentrix
Product Info

Transportation
G-Log
Product Info

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Oracle's Approach to Business Applications
Unique Information Architecture

E-Business Suite

Customers, Suppliers, Products, …

Develop
Market
Sell
Order
Plan
Procure
Make
Fulfill
Service
Maintain
Finance
HR
Projects
Contracts

- **Start with leading business practices**

- **Build a robust suite of applications on a common data model**

- **Enable modular deployment by business flow**

- **Leverage open standards to promote integration and low-cost deployment**

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Supply Chain Footprint

Product Development

- Adv Product Catalog
- UCCnet Trading Connector
- CAD Sharing & Viewing
- Collaboration Suite
- Product Intelligence

Order Management

- Order Management
- Configurator
- Advanced Pricing
- Release Management
- Receivables
- Order Intelligence

SC Planning

- Collaborative Planning
- Demand Planning
- Advanced SC Planning
- Constraint Optimization
- Inventory Optimization
- Global Order Promising
- Exception Management
- Planning Intelligence

Procurement

- Sourcing
- Procurement Contracts
- iProcurement
- Services Procurement
- Purchasing
- Supplier Collaboration
- Oracle Supplier Network
- Payables
- Purchasing Intelligence

E-Business Suite

Customers, Suppliers, Products

Develop
Contracts
Market
HR
Sell
Finance
Order
Projects
Plan
Maintain
Procure
Service
Make
Fulfill

■ New in 11i.10

Supply Chain Footprint

Logistics

- Inventory Management
- Mobile SC Apps
- Warehouse Mgmt
- Transportation Planning
- Transportation Exec
- Sensor Based Services
- Fulfillment Intelligence

E-Business Suite

Customers, Suppliers, Products

Develop
Contracts
Market
HR
Sell
Finance
Order
Projects
Plan
Maintain
Procure
Service
Make
Fulfill

Manufacturing

- Mfg Scheduling
- Discrete Manufacturing
- Flow / Lean Mfg
- Process Manufacturing
- Project Manufacturing
- Shop Floor Mgmt
- Mfg Intelligence

Service

- iSupport
- TeleService
- Field Service
- Mobile Field Service
- Advanced Scheduler
- Spares Management
- Depot Repair
- Service Contracts
- Interaction Center
- Service Intelligence

Maintenance

- Enterprise Asset Mgmt
- Self-Service Work Reqs
- Property Manager
- Maintenance Intelligence

■ New in 11i.10

Information Drives Decision Making
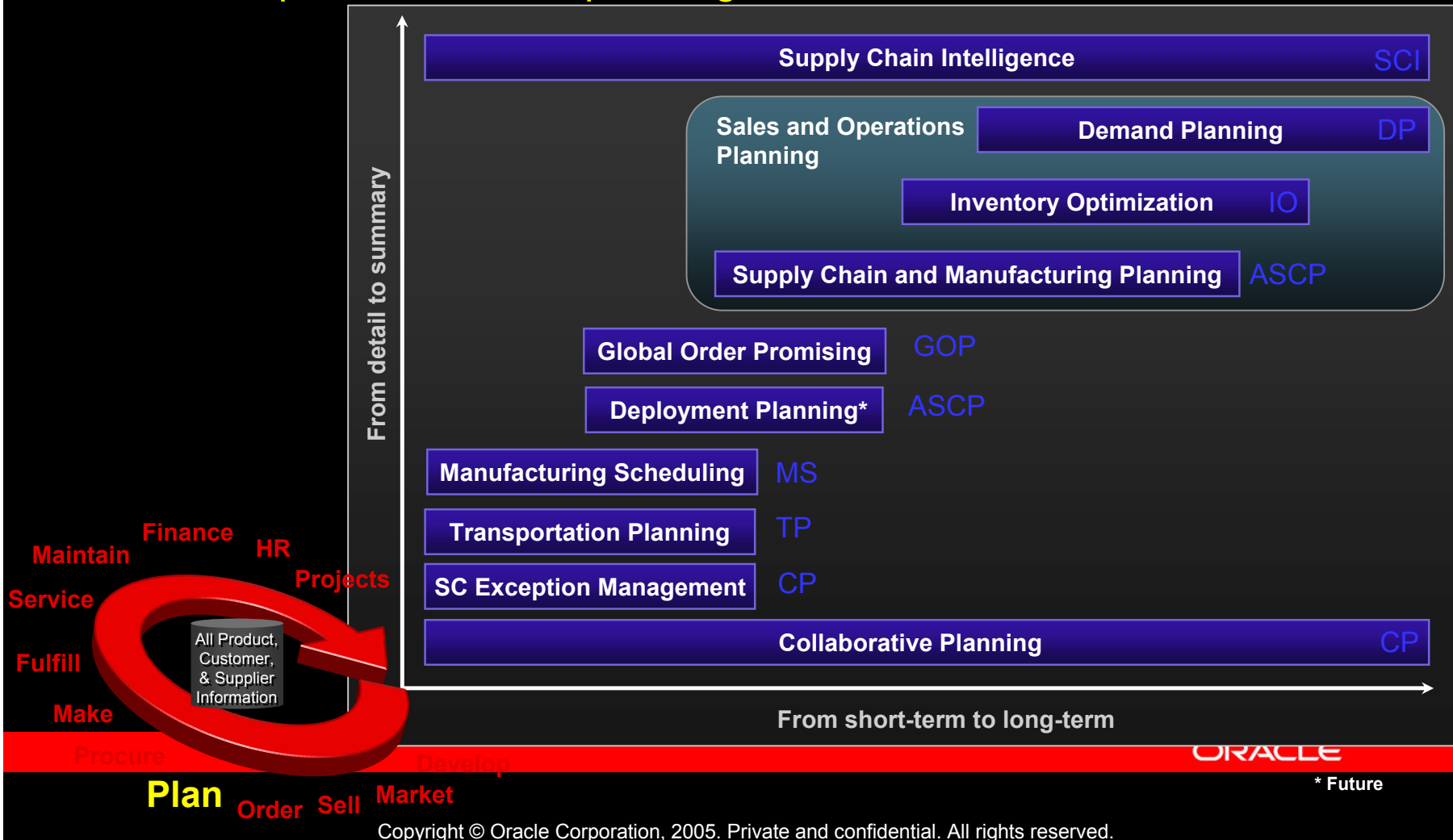## *Identify and Act Upon Improvement Opportunities*
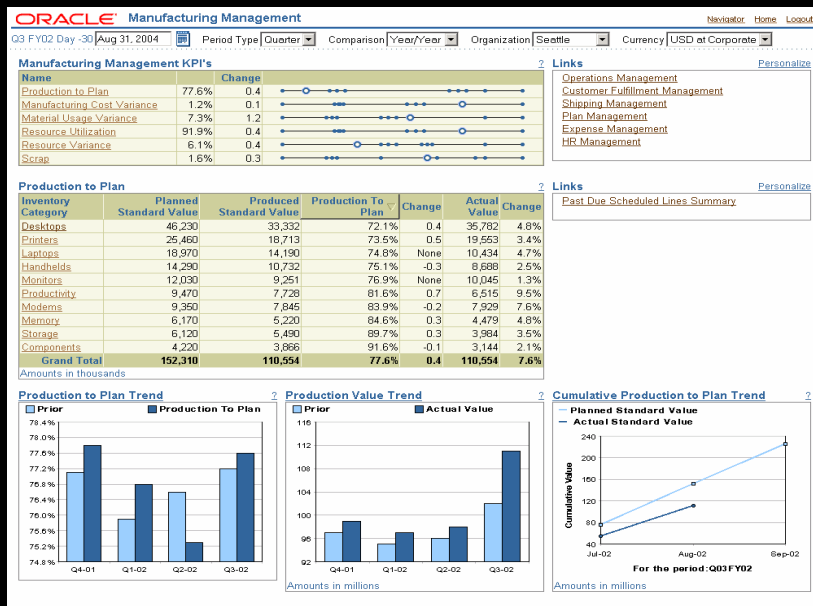
- **Real-time updates on key performance indicators**

- **Complete information from summary to detail**

- **Information across all supply chain domains**

- **Presentation via role-based dashboards**

- **Internet browser-based delivery to your desktop**

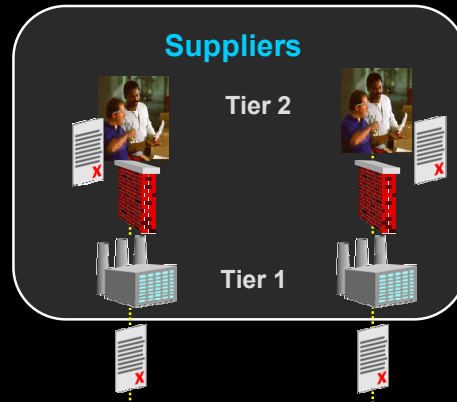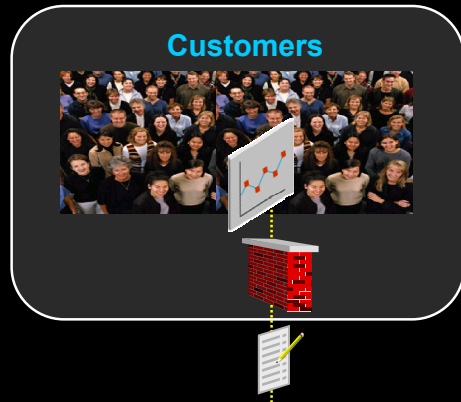- **Compare performance against different time periods and organizations**

Oracle Advanced Planning

Complete e-business planning solution

From detail to summary

| Supply Chain Intelligence | SCI |

Sales and Operations Planning

| Demand Planning | DP |

| Inventory Optimization | IO |

| Supply Chain and Manufacturing Planning | ASCP |

| Global Order Promising | GOP |

| Deployment Planning* | ASCP |

| Manufacturing Scheduling | MS |

| Transportation Planning | TP |

| SC Exception Management | CP |

| Collaborative Planning | CP |

From short-term to long-term

Finance
HR
Maintain
Projects
Service
Fulfill
All Product, Customer, & Supplier Information
Make
Procure
Develop
Plan Order Sell Market
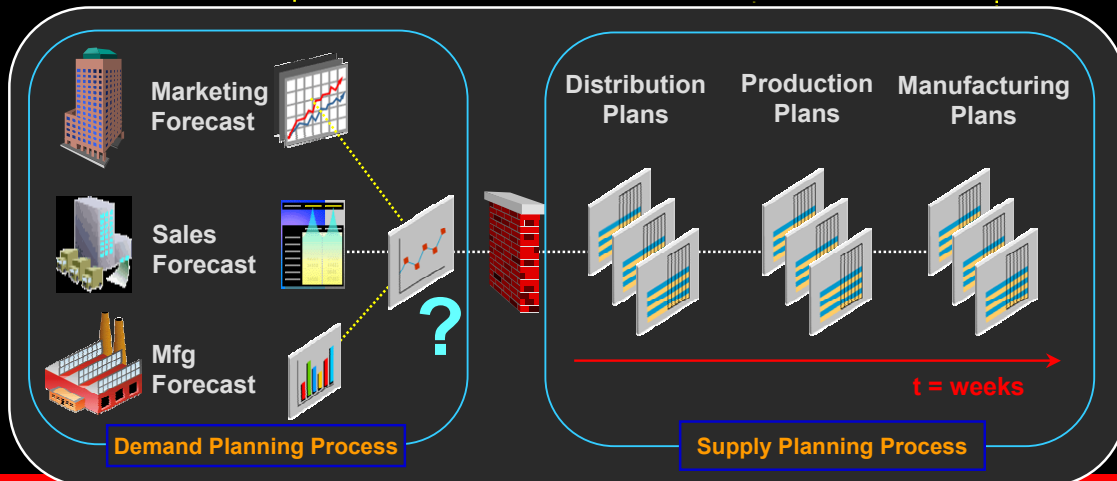
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* Future

Traditional Approach

Multi-step planning processes, high latency, limited collaboration

- *Response 1:*
  Maintain Excess Inventory
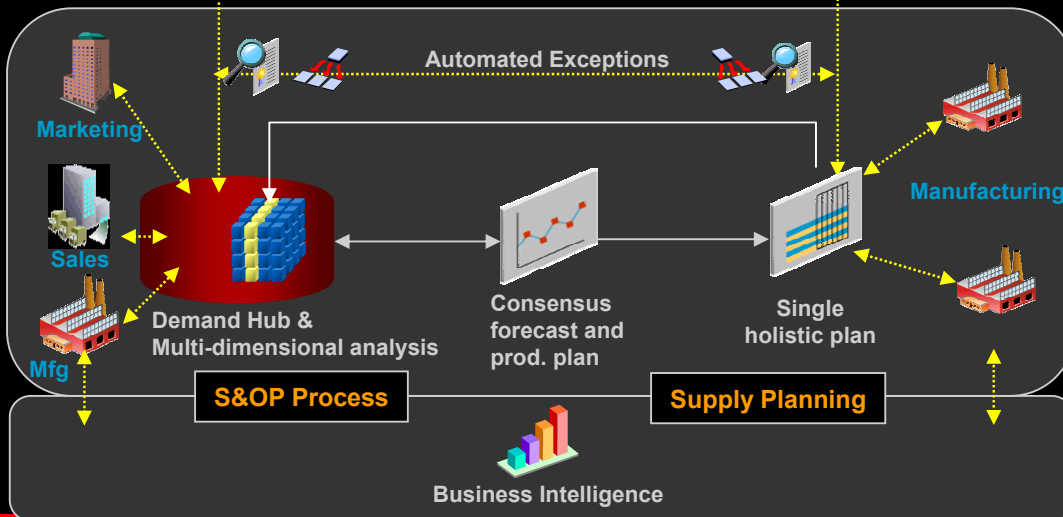
- *Response 2:*
  Reserve Production Capacity

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Supply Chains Built on INVENTORY

Move To A More Competitive Model

E-Business planning solution: zero latency, real-time collaboration

Customers

Suppliers

Tier 2

Tier 1

Portal

Portal

Internet

Automated Exceptions

Marketing

Sales

Mfg

Manufacturing

Demand Hub &
Multi-dimensional analysis

Consensus
forecast and
prod. plan

Single
holistic plan

S&OP Process

Supply Planning

Business Intelligence

- Enable closed loop collaborative planning processes across your value chain

- Have complete supply chain visibility

- Make better decisions

- React immediately to disruptions in supply chain

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Build a responsive Supply Chain on INFORMATION not inventory

- **Powec – Norwegian based company bought by Power One**
- **Sell and produce power supplies and energy systems**
- **Started to implement a new manufacturing solution**
- **Focus changed to implement a new global Supply Chain Solution**

power-one™
Changing the Shape of Power

About | Contacts | Investors | Newsroom | Tech Reference

Power-One Tools

Site Search [Go]

Search Careers
Download Graphics
Order Literature
Product Selector
Where to Buy
Download Data Sheet
By Part Number

Locate Product Inventory
Enter Model Number

[Europe ▾]

[Locate]

Enter a DC-DC or AC-DC power supply model and geographical area to locate distributor inventory.

Please contact your local representative for DC Energy System inventory information.

(PWER) 6.89 +0.34
As of 10/27/2004 3:19 PM EST

FNP300 AC-DC Front End

Understand the advantages of a microcontroller-managed AC-DC front end

Read More

Z-One Digital IBA
Digitally integrated power management and conversion architecture dramatically simplifies power system development (read more).

Forza Power System
Forza Power System delivers up to 16kW from a single-shelf configuration (read more).

FNP300
Onboard microcontroller manages AC-DC front end I²C interface (read more).

Power-One Announces On-Time Z-One™ Digital IBA Production Release (read more)

AC-DC Power Supplies (overview)
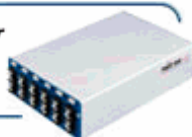
Product Selector
Download Data Sheets/App Notes by Part Number

Board, chassis, & rack mount
Modular high power products
Battery chargers
Cassette style
DIN-rail mount
CompactPCI
Distributed power front ends

DC-DC Converters (overview)

Product Selector
Download Data Sheets/App Notes by Part Number

High density bricks (1/8 to full)
maXyz IBA products
Non-isolated SIP's
Industry-standard board mount
Rack, chassis, & DIN-rail mount
Cassette style
Compact PCI

DC Energy Systems (overview)

Product Selector
Download Data Sheets/App Notes by Part Number

Modular rectifiers
System controllers
Monitoring/Management software
Power subracks and shelves
Primary and secondary distribution
Complete power systems

Admin | Resources | Universal Access

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Supply Chain Management – Vision Statement

- Provide Power-One with a competitive advantage by driving to the lowest cost and the shortest lead times.

- Building a cost effective Global Supply Chain by using Oracle planning tools, techniques and the right people.

- Be a part of our Customer's Supply organization.

power-one™
Changing the Shape of Power

Energy Solutions -
Supply Chain in Action

Move production from Norway to Far East

Legend:
- Module Manufacturing Center
- System Integration and Test Center
- Distribution Center
- Future Facilities

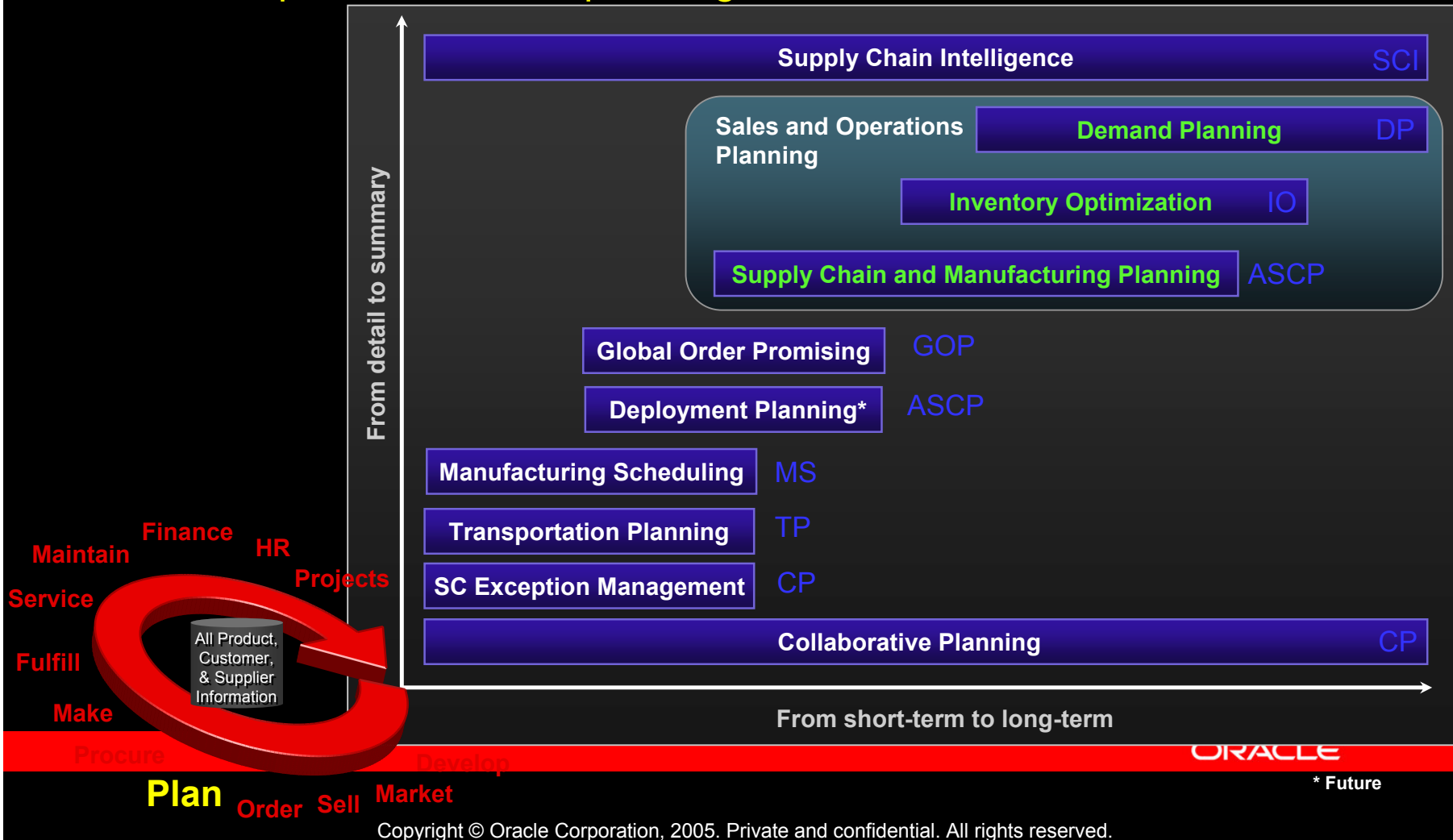# Global System Integration

- **Deliver global product's for global customer's**
  - **"The customer shall not see the difference"**
- **Using Oracle Forecasting and Supply Chain Planning for Optimization**
- **One database for traceability**
- **One tool for recording serial number's on deliveries**
- **Global distribution of documentation**
- **Can deliver from "anywhere" through our 3PL-partner**

Power One using Oracle Advanced Planning for the Global Supply Chain

Complete e-business planning solution

From detail to summary

| Supply Chain Intelligence | SCI |

Sales and Operations Planning

Demand Planning	DP
Inventory Optimization	IO
Supply Chain and Manufacturing Planning	ASCP

Global Order Promising	GOP
Deployment Planning*	ASCP
Manufacturing Scheduling	MS
Transportation Planning	TP
SC Exception Management	CP
Collaborative Planning	CP

From short-term to long-term

Maintain · Finance · HR · Projects · Service · Fulfill · Make · Procure · Develop

All Product, Customer, & Supplier Information

Plan · Order · Sell · Market

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* Future

Inventory Postponement Optimization

Inventory Optimization
Utilize Postponement to Support the Lean Enterprise

Region 1
Cust 1   Cust 2

Region 2
Cust 1   Cust 2

Distribution Center 1

Distribution Center 2

**Test**

Fab Shop
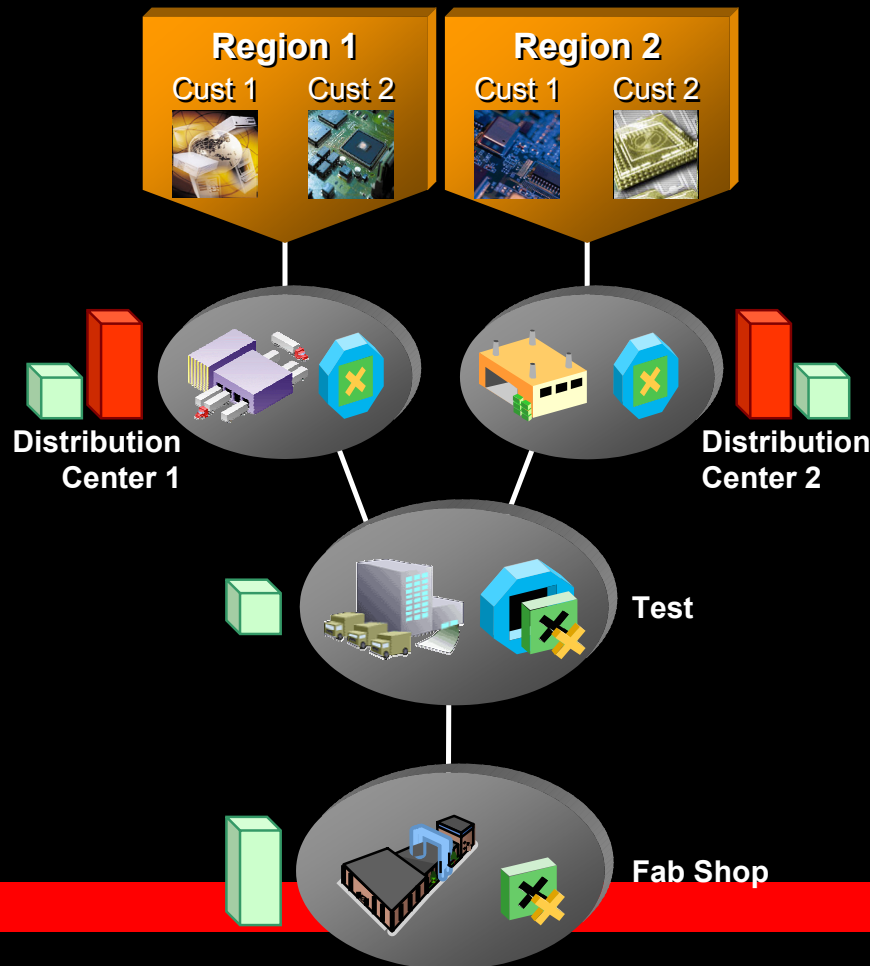
- **Determine Where to Hold Inventory to Guarantee a Desired Service Level**
  - Manufacturing plants
  - Distribution centers
  - Central warehouses
- **Determine What Stage of Production to Hold Inventory**
  - Finished goods
  - Die bank
  - Wafers
- **Postpone Value-Add Activities Until Actual Demand Pull**

■	**Initial Safety Stock Levels**	**Safety Stock with Postponement**

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Inventory Postponement Optimization

Key capabilities
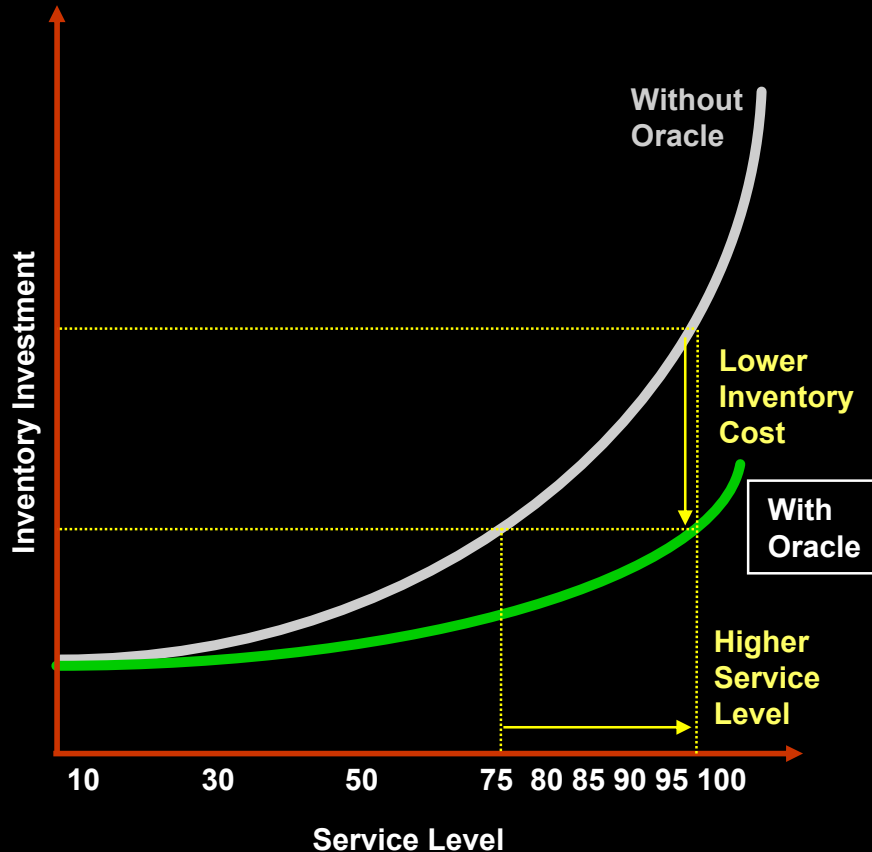
- **Reduce inventory without sacrificing customer service**
  - Postponement

- **Manage supply chain variability**

- **Choose the best service level strategy based on cost and revenue**

- **Invest in profitable channels, products, and customers**

- **Manage seasonality and product life cycle characteristics**
  - Recommend time-phased safety stock to supply planning

- **Out-of-the-box optimization**
  - For planners, not programmers

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Inventory Optimization

| Profit | **Postponement** | Safety Stock | Budget | Revenue and Cost | Service Le |

Postponement Analysis

[Workbench] [Printable Page]

Search

▶ Show Search

Display using Preference Set [▼] [Create/Edit] [Save As Default] [Go]

☑ **TIP** Select one or more plans and drilldown
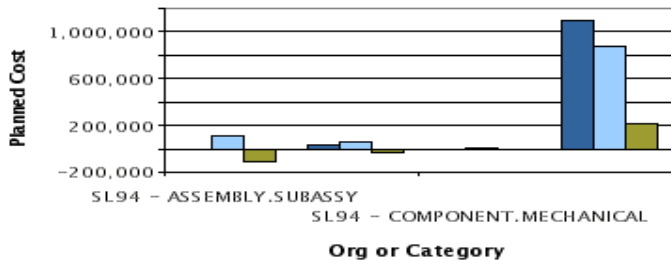
SL94

[Safety Stock]

▼ Hide Graph

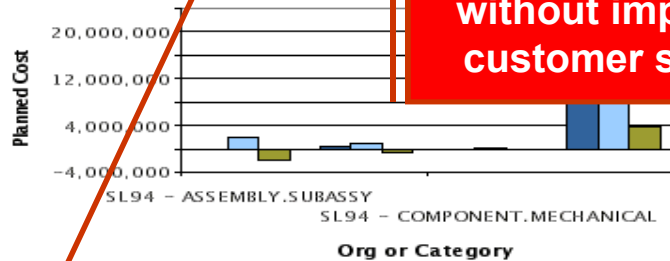■ Safety Stock Carrying Cost – No Postponement
■ Safety Stock Carrying Cost
■ Safety Stock Carrying Cost Savings

■ Safety Stock Inventory Value – No Postponement
■ Safety Stock Inventory Value
■ Safety Stock Inventory Value Savings

Reduce inventory without impacting customer service

Safety Stock Carrying Cost Breakdown

Planned Cost: 1,000,000 / 600,000 / 200,000 / -200,000

SL94 – ASSEMBLY.SUBASSY
SL94 – COMPONENT.MECHANICAL

Org or Category

Safety Stock Inv... Breakdo...

Planned Cost: 20,000,000 / 12,000,000 / 4,000,000 / -4,000,000

SL94 – ASSEMBLY.SUBASSY
SL94 – COMPONENT.MECHANICAL

Org or Category

▼ Hide Table

Plan △	Category	Safety Stock Carrying Cost - without Postponement	Safety Stock Carrying Cost - with Postponement	Safety Stock Carrying Cost Savings	Safety Stock Inventory Value - without Postponement	Safety Stock Inventory Value - with Postponement	Safety Stock Inventory Value Savings
SL94	ASSEMBLY.SUBASSY	0	107796.97	-107796.97	0	1892368.82	-1892368.82
SL94	COMPONENT.ELECTRICAL	29938.06	58284.07	-28346.01	489001.6	1003637.52	-514635.92
SL94	COMPONENT.MECHANICAL	0	9667.89	-9667.89	0	169742.16	-169742.16
SL94	COMPUTER.HANDHELD	1094127.14	873373.58	220753.57	19252611.77	15368046.25	3884565.52
	Total	**1124065.2**	**1049122.51**	**74942.7**	**19741613.37**	**18433794.75**	**1307818.62**

[Workbench] [Printable Page]

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☑ **TIP** Select one or more plans and drilldown

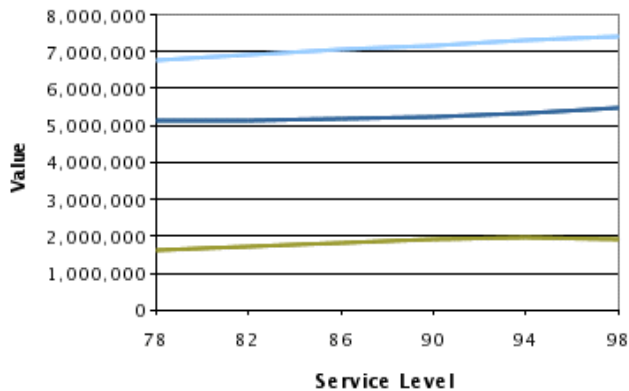| SL78 ▲ |
| SL82 |
| SL86 ▼ |

(Revenue and Cost) (Postponement) (Budget) (Service Levels) (Safety Stock)

▼ Hide Graph

▬ Planned Total Cost   ▬ Planned Revenue
▬ Planned Gross Profit

▬ Planned Gross Profit %

Plan Gross Profit Breakdown

(line chart: Value axis 0 to 8,000,000; Service Level axis 78 to 98)

Planned Gross Profit Percent

(line chart: Planned Gross Profit % axis 0 to 32; Service Level axis 78 to 90+)
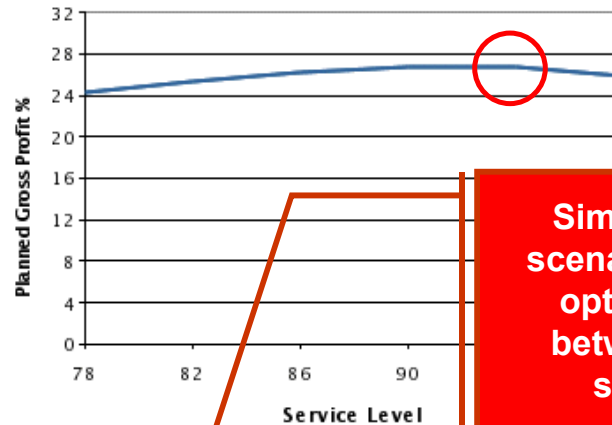
Simulate multiple scenarios to find the optimal trade-off between cost and service level

▼ Hide Table

Attained Service Level △	Target Service Level	Planned Production Cost	Planned Carrying Cost	Planned Purchasing Cost	Planned Transportation Cost	Planned Total Cost	Planned Revenue	Planned Gross Profit	Planned Gross Profit %	Inventory Value	Plan
78.00	78.00	556,273.88	97,442.44	3,543,621.03	917,612.95	5,114,950.30	6,748,760.35	1,633,810.06	24.21	132,239.58	SL78
82.00	82.00	558,751.36	115,611.53	3,561,112.48	920,159.11	5,155,634.49	6,905,075.03	1,749,440.54	25.34	156,898.11	SL82
86.00	86.00	561,570.56	136,292.39	3,581,024.82	923,056.46	5,201,944.23	7,045,055.86	1,843,111.63	26.16	184,965.49	SL86
90.00	90.00	564,987.78	161,418.48	3,605,310.72	926,568.38	5,258,285.36	7,170,535.12	1,912,249.76	26.67	219,063.76	SL90
94.00	94.00	569,686.45	195,982.57	3,638,718.42	931,397.32	5,335,784.76	7,287,830.16	1,952,045.40	26.79	265,976.92	SL94
98.00	98.00	578,144.06	258,217.34	3,698,861.34	940,089.36	5,475,312.10	7,383,451.71	1,908,139.61	25.84	350,455.71	SL98

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About this Page   Privacy Statement

Cambrigde Silicon Radio

Revenues

2001	2002	2003	2004
17''	28'	68'	253' (1000$)

Revenues 4times 2003
Market share of 50%
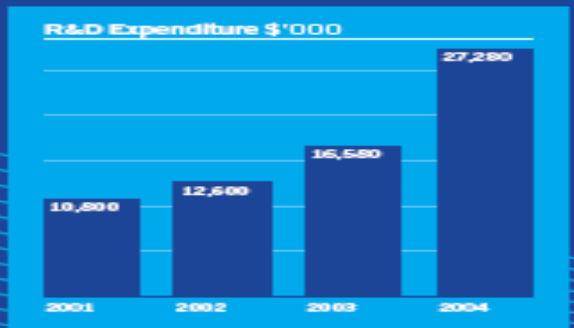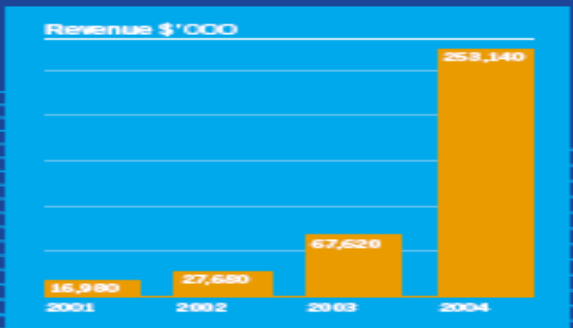**Shipped 50 million single chips Bluetooth devices**

A Fabless Company

IPO

CSR listed on the London Stock Exchange under the symbol CSR on 2 March 2004. It was originally listed at an offer price of 200p per share, representing an initial market capitalisation of £240 million and was the most successful European IPO of 2004.

CSR's Offices

Aalborg, Denmark
Lund, Sweden
Detroit, Michigan, USA
Richardson, Texas, USA
Cambridge, UK
Corporate Headquarters

Seoul, Korea
Tokyo, Japan
Taipei, Taiwan

Total number of employees **316**

Revenue $'000

2001	2002	2003	2004
16,980	27,680	67,620	253,140

R&D Expenditure $'000

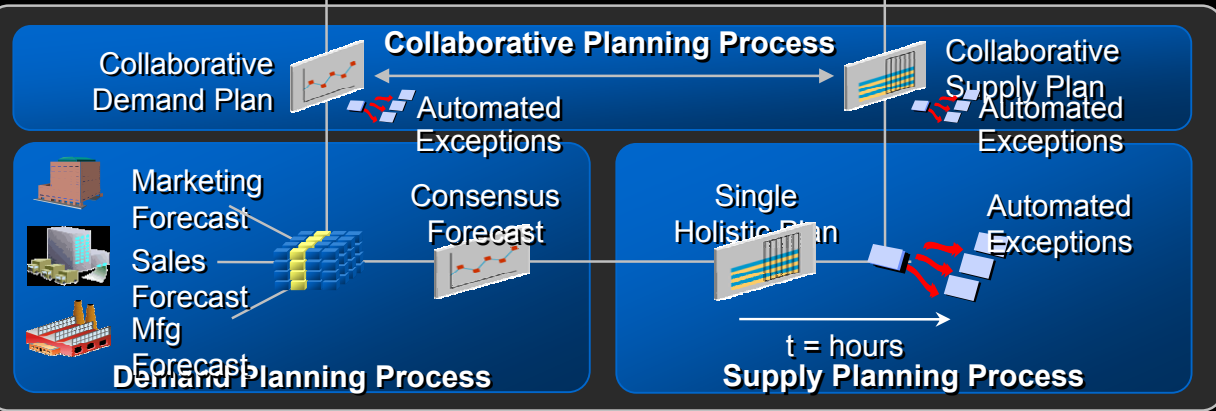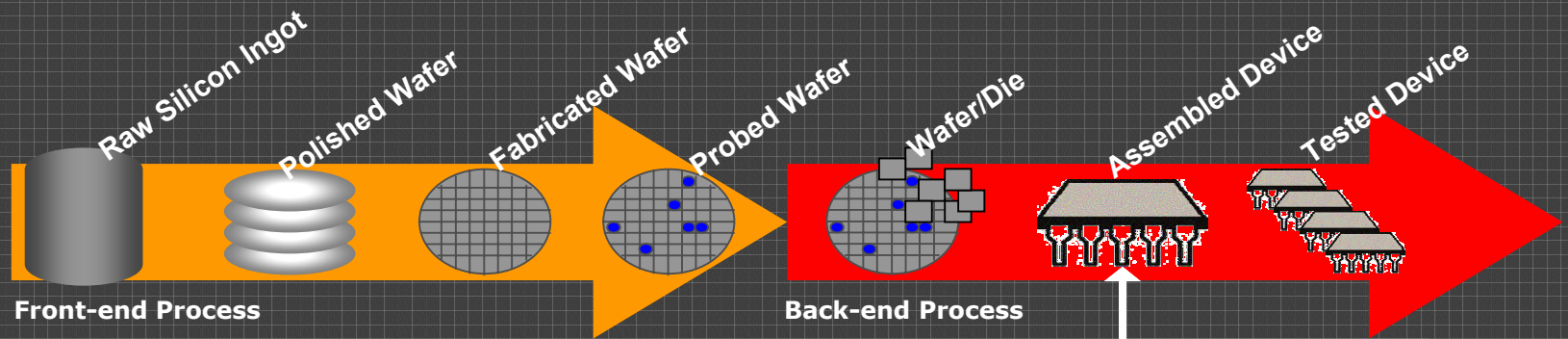| 2001	2002	2003	2004
10,800	12,600	16,580	27,280

Cambrigde Silicon Radio

A brief introduction to CSR:

CSR designs and manufactures single-chip wireless devices. Our business started with a focus on solutions for the 2.4GHz Bluetooth® personal area networking standard; in November 2004, we entered the IEEE 802.11 marketplace - a family of wireless standards also referred to as 'Wi-Fi' or 'Wireless LAN' - with devices capable of operation in both the 2.4 and 5GHz frequency bands.

CSR's leading position in the Bluetooth business has been won by a unique approach to IC design based on extremely high levels of integration, providing compelling performance and cost advantages to OEMs. This brand ethos has been carried through to 802.11 applications, with an IC architecture that integrates a new level of functionality embracing all three major variants of the protocol (802.11a, b and g), and IC choices that offer solutions for both current applications, and emerging embedded applications in portable consumer electronics devices (including mobile phone handsets) and home appliances.

In the Bluetooth market, CSR is ranked #1 in every Bluetooth market segment with a unit market share in excess of 50%.

Industry Solution - High Tech: Semiconductor

Raw Silicon Ingot · Polished Wafer · Fabricated Wafer · Probed Wafer · Wafer/Die · Assembled Device · Tested Device

Front-end Process

Back-end Process

Customers

Suppliers

Secondary Die · Lead Frame · Gold Wire · Molding Compound

Portal · **Portal** · **Internet**

Collaborative Planning Process

Collaborative Demand Plan

Collaborative Supply Plan

Automated Exceptions

Automated Exceptions

Marketing Forecast
Sales Forecast
Mfg Forecast

Consensus Forecast

Single Holistic Plan

Automated Exceptions

t = hours

Demand Planning Process

Supply Planning Process

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CSR – is using Oracle's Sophisticated Planning tools to get full visibility of all goods in the whole and outsourced Global Supply Chain

From detail to summary

Supply Chain Intelligence		SCI

Sales and Operations Planning

Demand Planning — DP

Inventory Optimization — IO

Supply Chain and Manufacturing Planning — ASCP

Global Order Promising — GOP

Deployment Planning* — ASCP

Manufacturing Scheduling — MS

Transportation Planning — TP

SC Exception Management — CP

Collaborative Planning — CP

From short-term to long-term

Finance
HR
Maintain
Projects
Service
Fulfill
Make
Procure
Develop
Plan Order Sell Market

All Product, Customer, & Supplier Information

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* Future