



Introduce to UMC e-Business

簡江智 (Kenny J Chien)

2010 / 12 / 25

- 中原大學 電子工程學系 1989
- 元智大學 管理研究所 2006 (EMBA 94級)
- **Experience:**
- 現任：聯華電子公司 資材處採購二部--部經理
-
- 歷任：產品工程師、業務企劃/客戶工程副理、資訊工程副理、工業工程經理、TQM/KM經理
- 專長：系統整合、流程再造
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TEL: 0975-614868

My Experience

- 聯華電子資材處採購經理 2007.1 – 迄今
- 聯華電子TQM委員會知識管理經理 2004.2
- 聯華電子中央生產企劃部中央工業工程經理 1999.12
- 聯華電子資訊工程部供應鏈管理正工程師 1997.4
- 聯華電子Foundry營業部客戶工程副理 1995.7
- 聯華電子通訊產品事業部產品工程師 1993.3
- 華隆微電子 產品部工程師 1991. 8

1. (a)企業流程再造 (b)採購管理(c)知識管理 (d) 專案管理

2.目前負責：

(a) 設備零配件採購

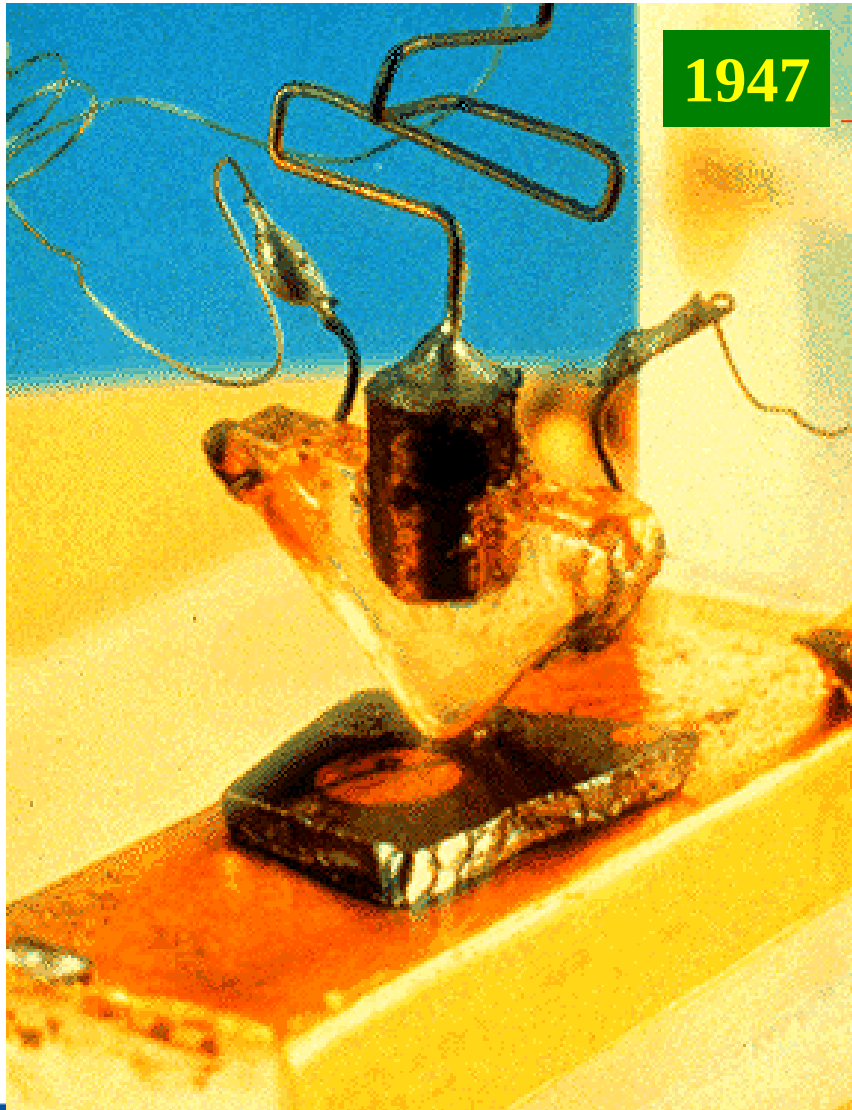
(b) 智慧財產權(Silicon IP及專利)相關購案

(c) 全公司資材處系統整合及流程再造

(SAP,SRM,採購/倉管/進出口/保稅等系統管理)

- 半導體產業及IT應用介紹
- B to B (customer view)
- B to B (supplier view)
- e-Auction Practice

首席



1947

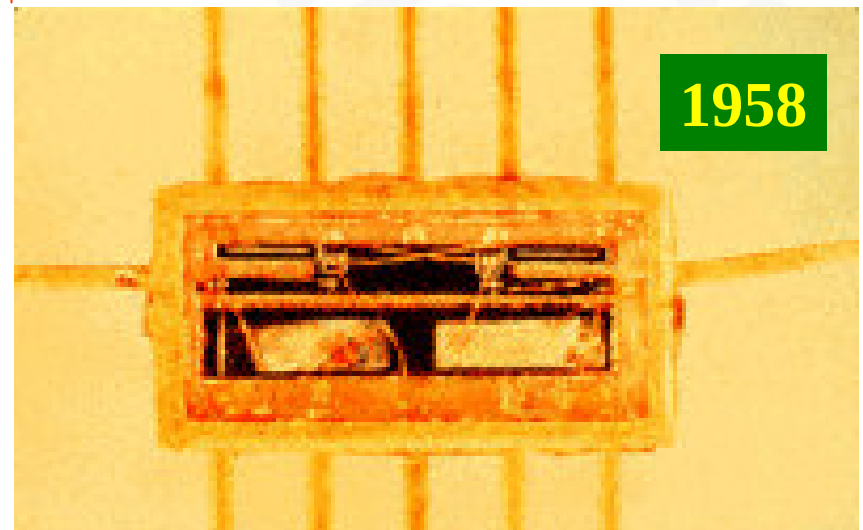
世界第一顆電晶體 (Transistor)

by W. Shockley, W. Brattain, J. Bardeen (Bell Lab)

0101010001010111011010001010100101010101110101001110101010001001010101
1010100011010101011010101010001111101011110101010010101010001010010111
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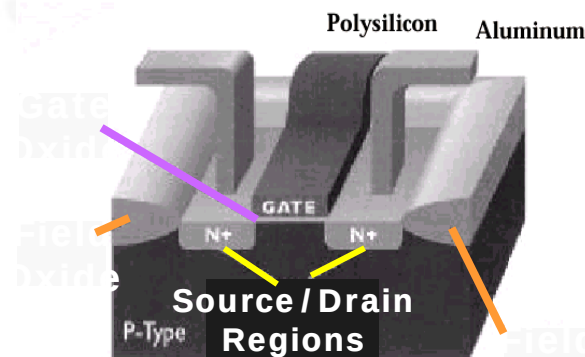
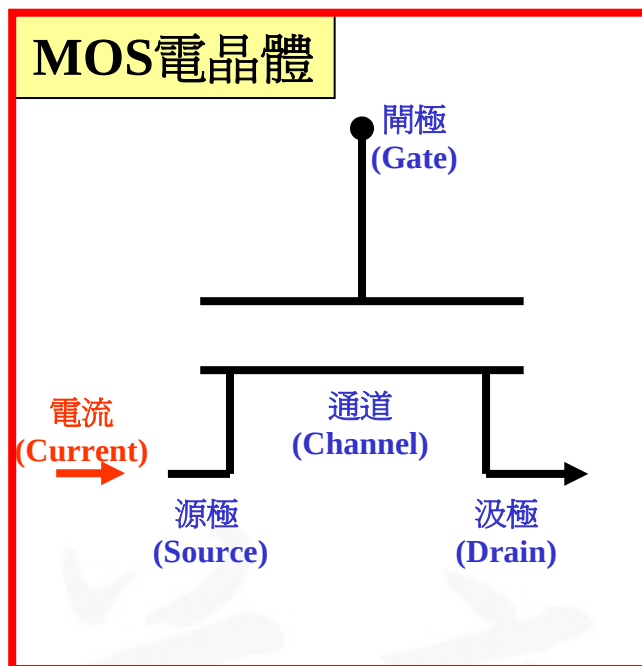
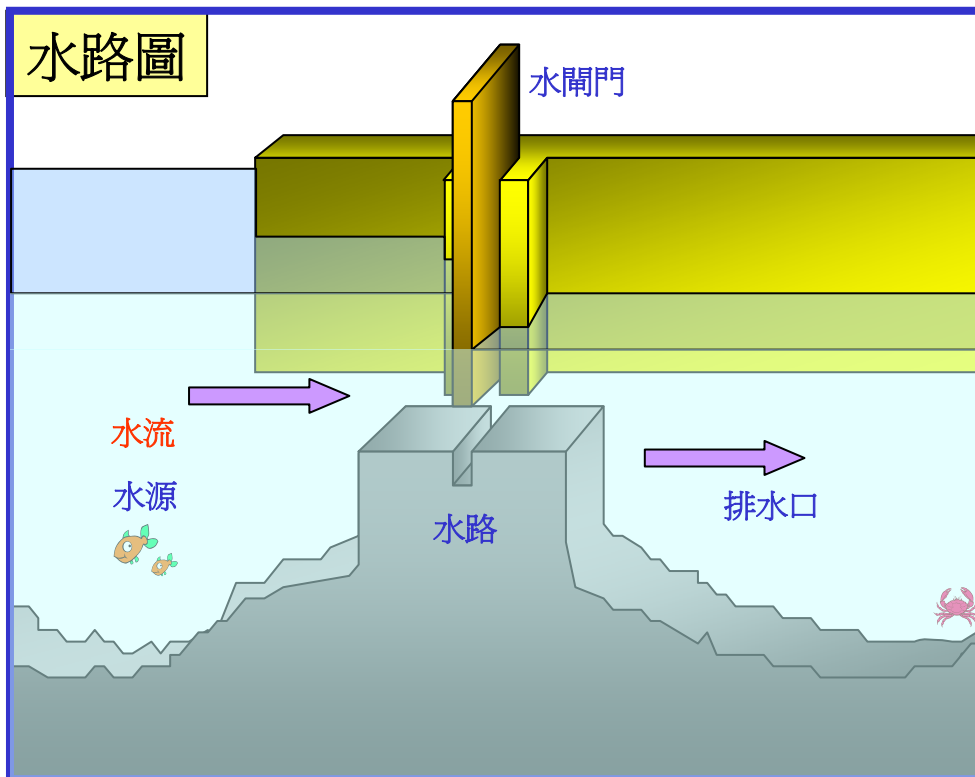
世界第一顆積體電路 IC

by Jack Kilby (Texas Instruments)



1958

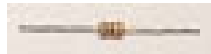
何謂金-氧-半導(MOS)電晶體



What is Integrated Circuit ? IC ?

IC =

電阻



+

電容



+

二極體

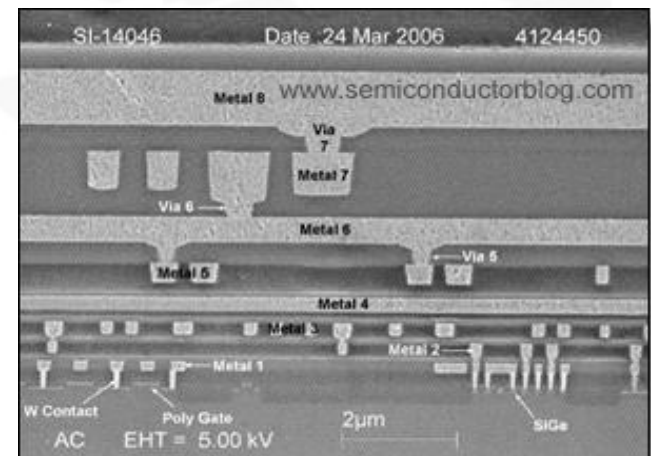
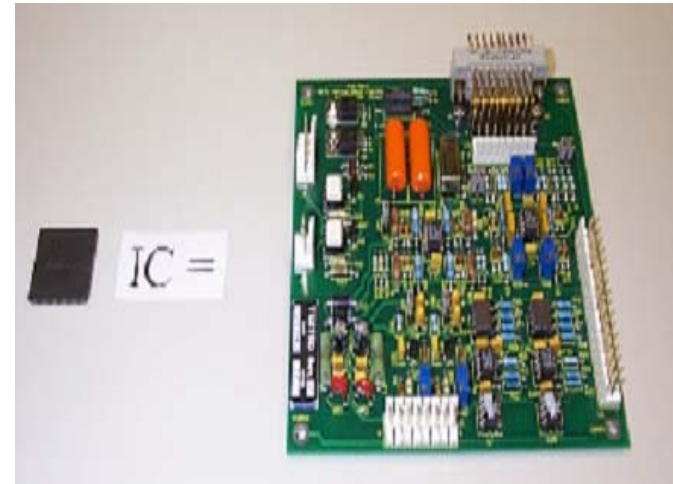


+

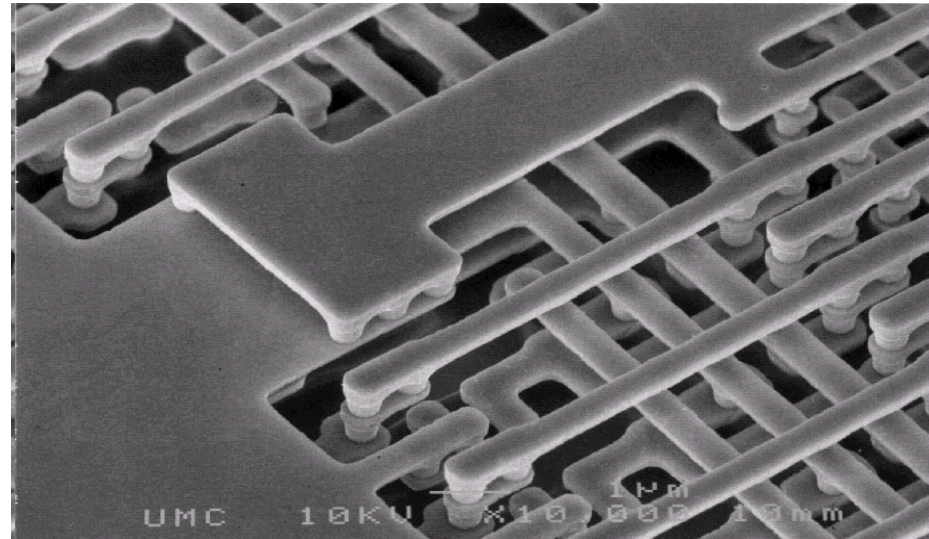
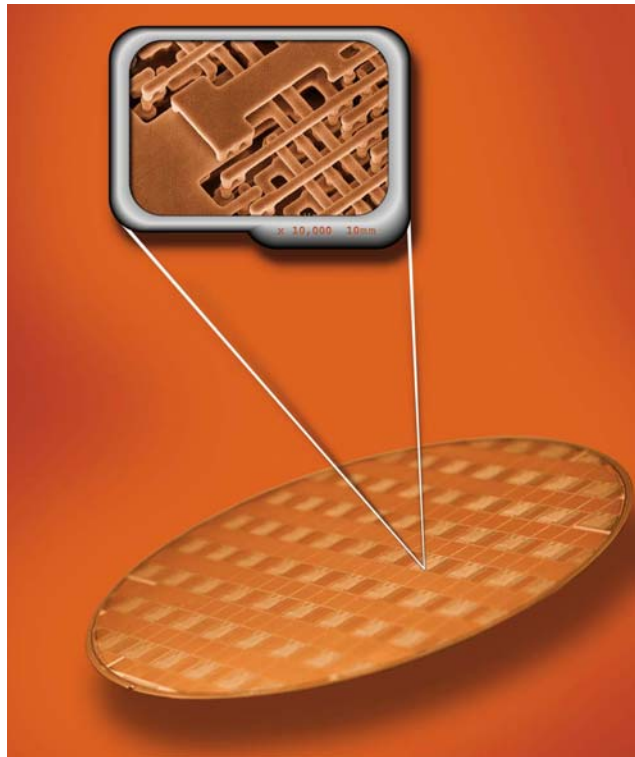
電晶體



CC

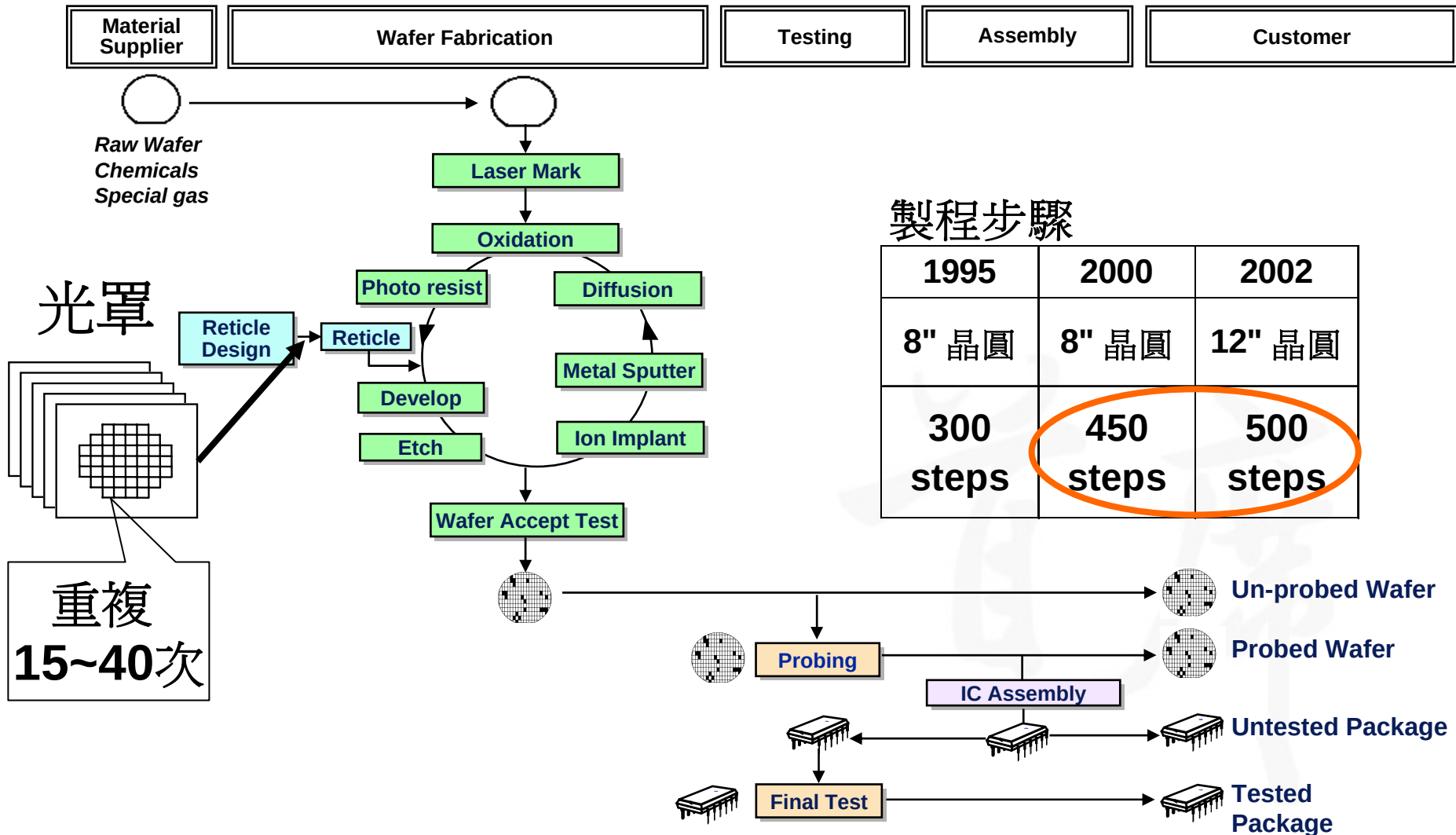


General SEM cross-section of Intel 'Yonah' die.

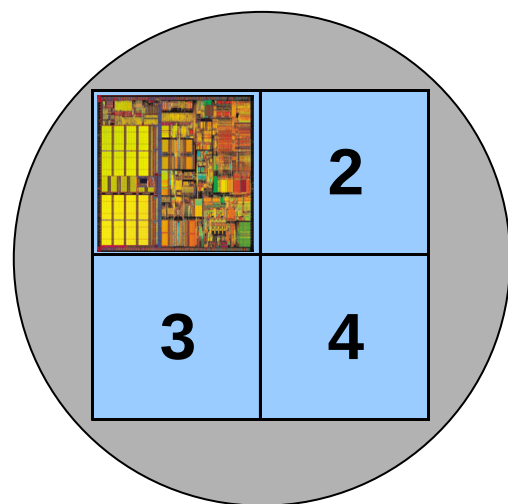
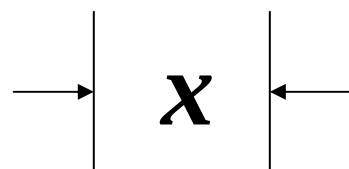


經電子顯微鏡放大一萬倍的
斷層攝影上視圖

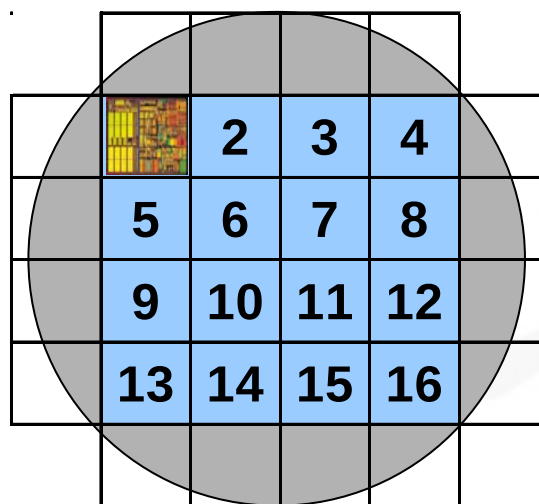
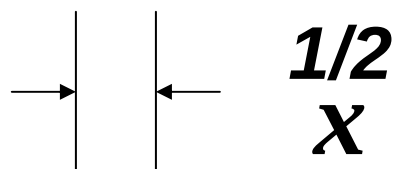
IC Manufacturing Flow



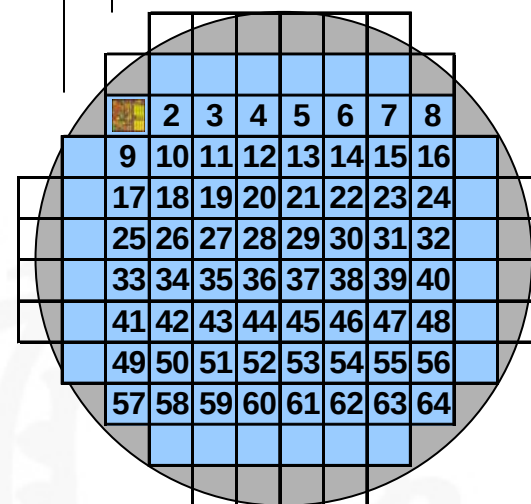
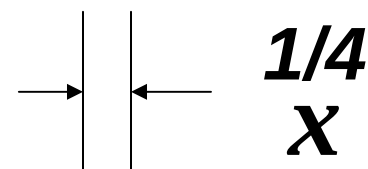
線幅縮小一半，晶粒增加四倍以上



1 微米



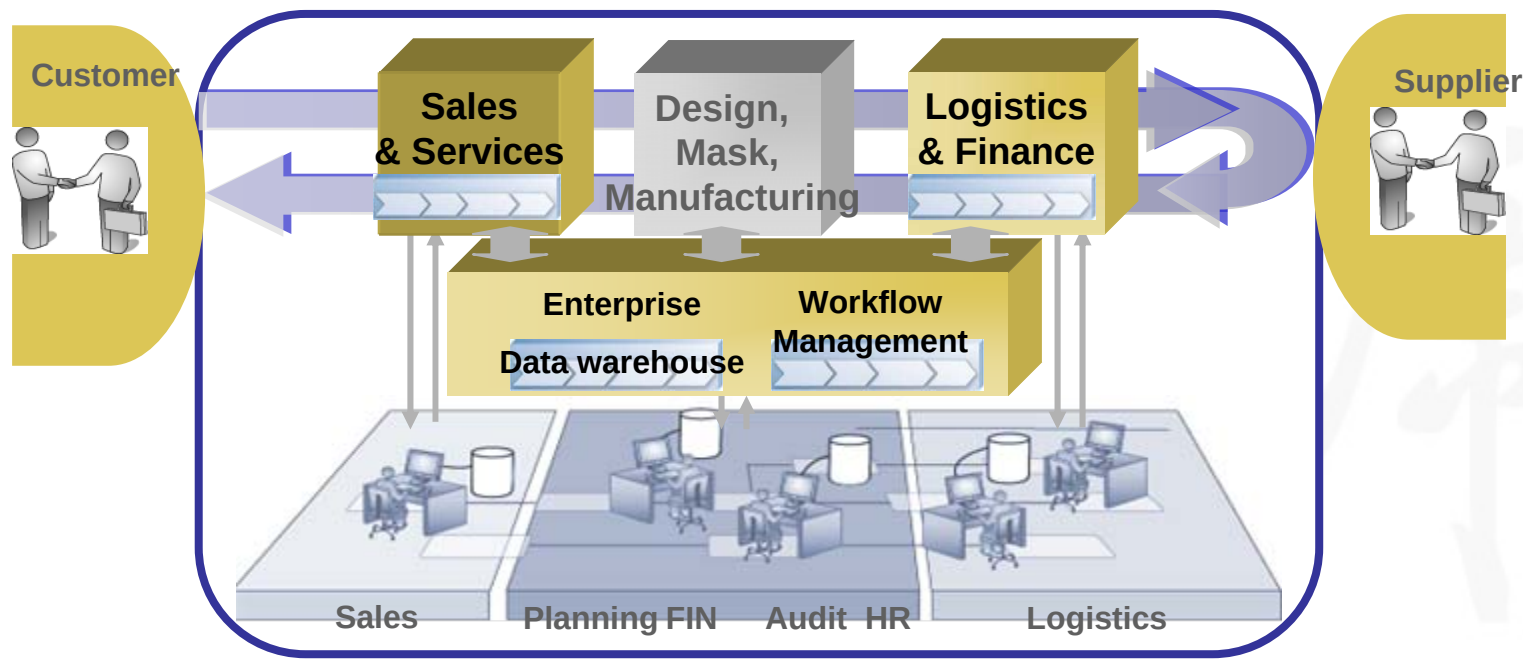
0.5 微米



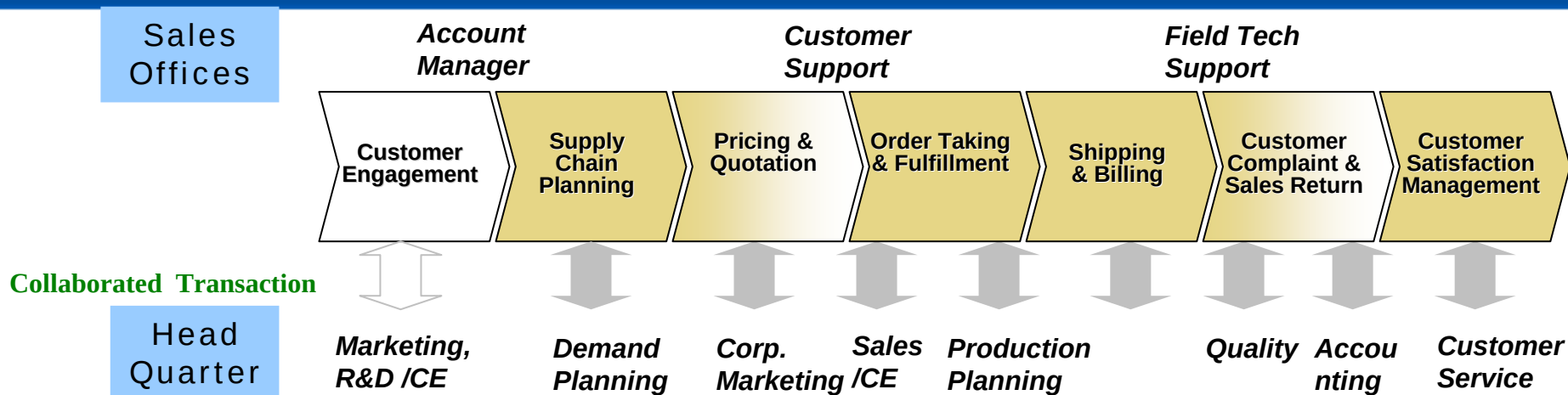
0.25 微米



- 半導體產業水平分工將繼續進行，但虛擬垂直整合的必要性也愈來愈高。
- 物流
 - BS系統平台支援Foundry四大領域商務運作。
 - 提供電子商務服務平台，與廠商及客戶上下游結合成IC產業完整的價值鏈。
- 金流
 - 建構在整合的物流之上，才能快速反應全球營運與企業績效，並且及時作出財務預測提供經營決策的資訊。



銷售服務系統 Scope



System

Supply Chain Management

Price and Quotation

Order Management

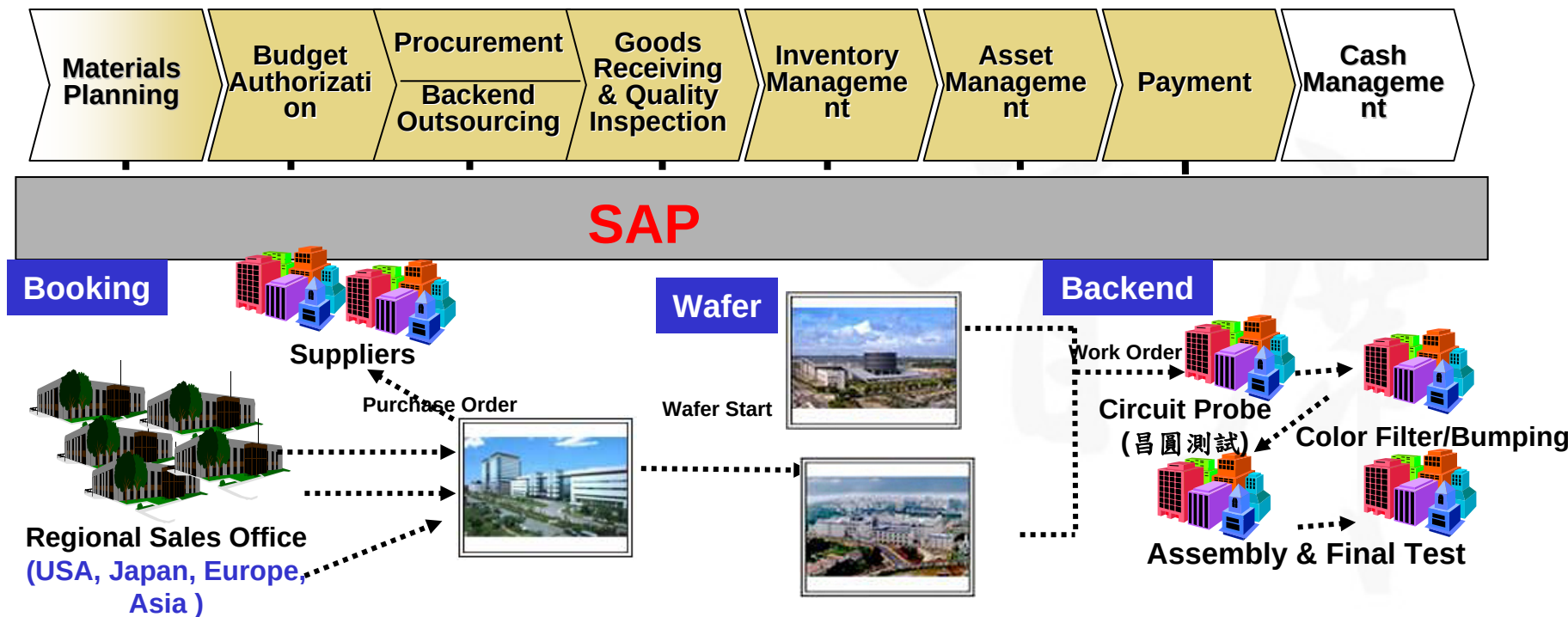
Customer Management

Capability

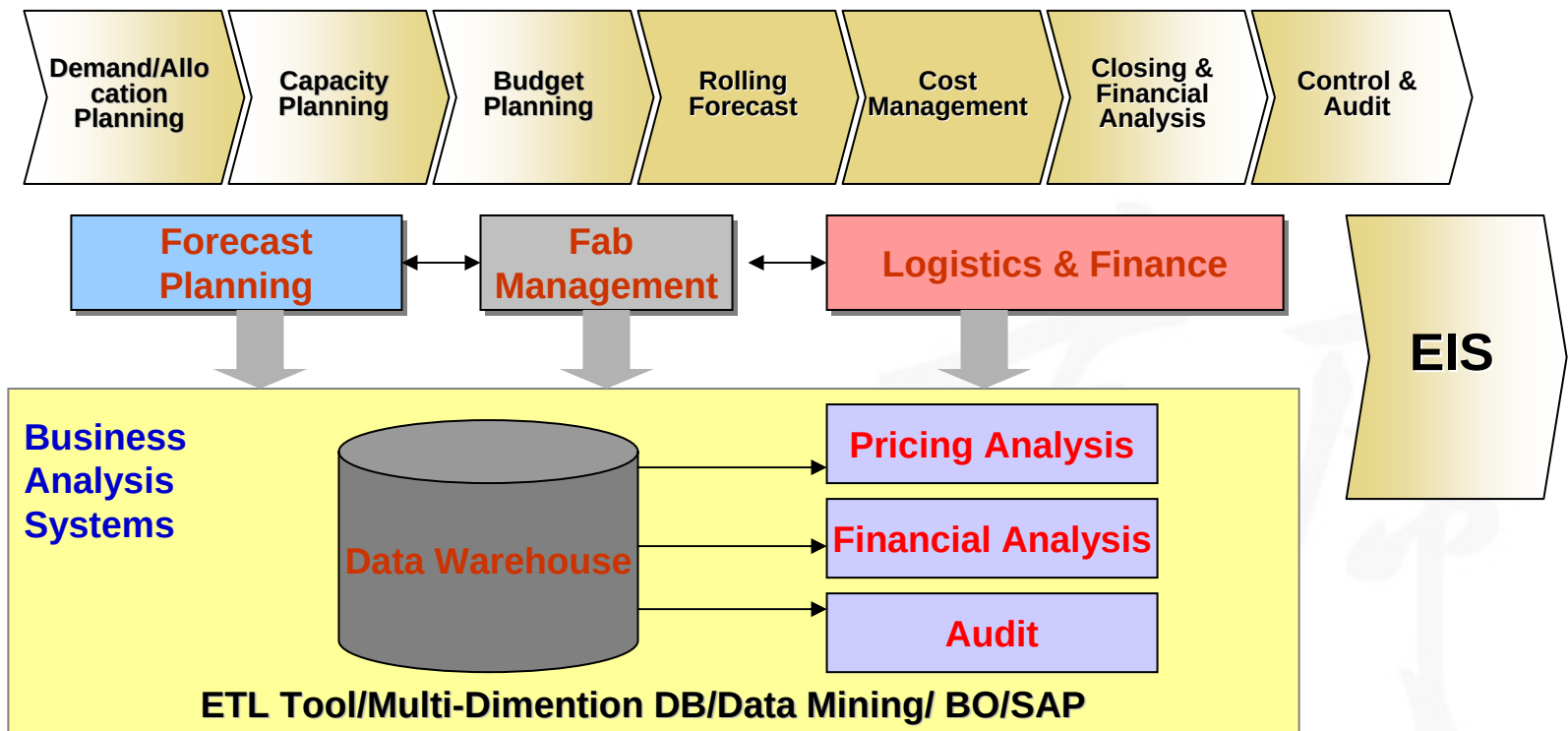
- Demand Planning
- Allocation Planning
- Capacity Modeling
- Price Guide /Quotation
- ASP Forecast
- Order Entry / Fulfillment
- Shipment
- Customer Claim / RMA
- Customer DataManagement

物流與金流的商務整合

- ERP套裝軟體SAP ERP6.0 以整合企業內部財務會計及後勤支援作業，透過物流與金流緊密整合來支援銷售與製造另外二大主要領域商務作業(MM,FI,CO)
- 透過模組化的configuration快速的反應商業改變
 - 並提供企業複雜的商業模式，包括：跨國企業內部運作、全球接單、集中產能規畫、跨國生產、外包管理、等服務。



- 運全面性整合計劃系統以加速企業流程及營運
- 採用多元化的成本管控機制(ABC, Cost Management)來協助與衡量組織及企業的運作績效。
- 匯集各作業流程數據 (Data)，以資料倉儲的技術組織成商業智慧(BI)，提供經營決策的EIS。



- 半導體產業介紹及IT應用介紹
- ***B to B (customer view)***
 1. ***MyUMC (Customer Service Web)***
 2. ***B2B***
- ***B to B (supplier view)***
- ***e-Auction Practice***

首席

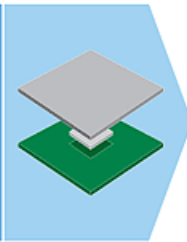
- MyUMC：客戶資訊服務平台。
 - 依據 foundry service flows 各階段如 Design, Mask, Logistics, Engineering...之作業流程，提供客戶作業上所需之線上資訊查詢服務。
- B2B：企業資訊交換平台。
 - 藉由即時的資訊交換機制，整合聯電之客戶，委外測試廠，IP provider，Forwarder 及光罩廠之 Design, Mask, Logistics, Engineering 之資訊流以及作業流程，強化企業間之合作關係。

MyUMC



[CONTACT US](#) | [HOME](#) | [SITE MAP](#) | [中文](#)

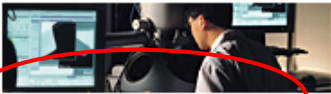
[MY UMC LOGIN](#)

ABOUT UMC	FOUNDRY SOLUTIONS	INVESTOR RELATIONS	CAREERS	SEARCH
 FOUNDRY SOLUTIONS System Architecture Knowledge IP and Design Methodology Process Technologies World Class Manufacturing Test and Package Solutions Design Support Manuals	Complete SoC Solutions  System Architecture Knowledge  IP  Process Technologies  World Class Manufacturing  Test and Packaging Solutions			

依據 Foundry business flows 將功能切分成五個類別。



MY PROFILE MY BOOKMARK REPORT SUBSCRIPTION
MyUMC BULLETIN MyUMC HOME UMC.COM LOGOUT



Design Support

Download design document and EDA decks at the [Technical Data Service \(TDS\)](#). Access UMC's [IP Master](#) and introduction to [Design Methodology](#).



Silicon Shuttle

Access [Silicon Shuttle](#) service and book shuttle seats.



Tapeout

SHTC - [Declaration file](#) for every new tape out.

Use [e-mask@ Service](#) to provide tape-out information and check real time mask WIP status

[Virtual Mask Shop](#) and check [Mask House Logistics Information](#) (UMC Internal Only)



Production Information

Check [Product Information](#), [Logistics Reports](#) and [Quality/Yield reports](#). Analyze test data with [Engineering Data Analysis \(EDA\)](#) system.



Service Center

Communicate with UMC through [Voice of Customer](#).

[Accounting Status](#) (UMC Internal Only)

→ MyUMC Bulletin

[UMC's Calendar - 2009](#)
[UMC's Calendar - 2008](#)

2009/04/03
[MyUMC on-line services will be suspended from April 5th, 2009 \(Sun.\) 16:00 to April 5th 21:00 \(Sun.\) \(GMT+8\)](#)

2009/04/03
[UMC e-mask Service Shutdown Notice](#)

2009/02/12
[UMC e-mask Service Shutdown Notice](#)

[More](#)

MyUMC Service Scopes

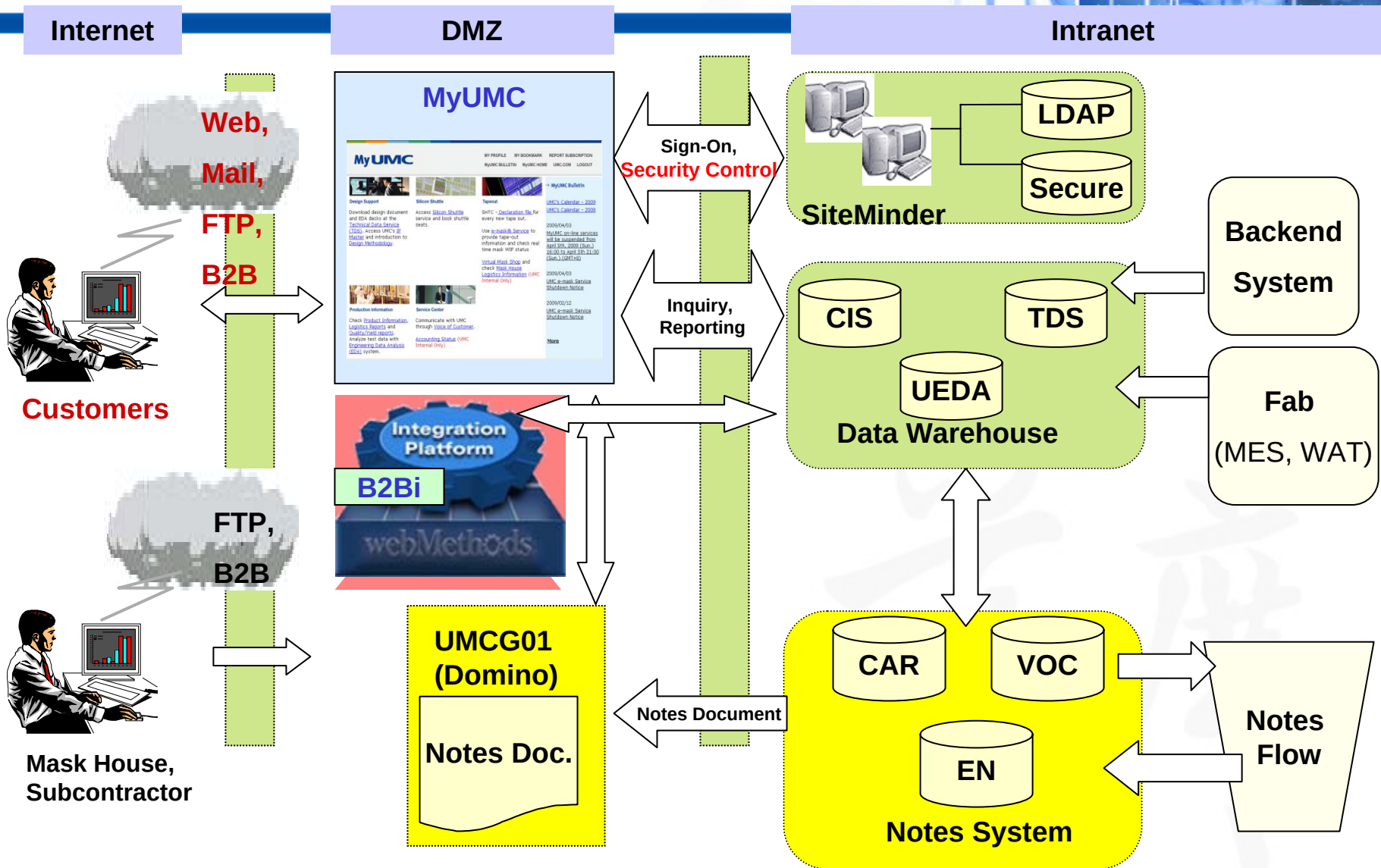
Foundry Service Flows

	Design Services	Engineering Services	Logistics Services	Customer Services
Promotion Center				
Design Support	Reference Design flow TDS IP Master Shuttle			
Tape Out	Remote Service	Tape Out Status	Product data	
Manufacturing		WLR, Reliability Inline WAT OQA Insp. C/P Yield	Mask status	Product Release Order WS WIP, Scrap.. W/O Shipping
Wafer Sort		Engineering Notice Non Conforming Notice	Customer Request & Notice	Logistics Planning
Assembly		Assembly Yield		Online Survey Form
Final Test		FT Yield		VOC

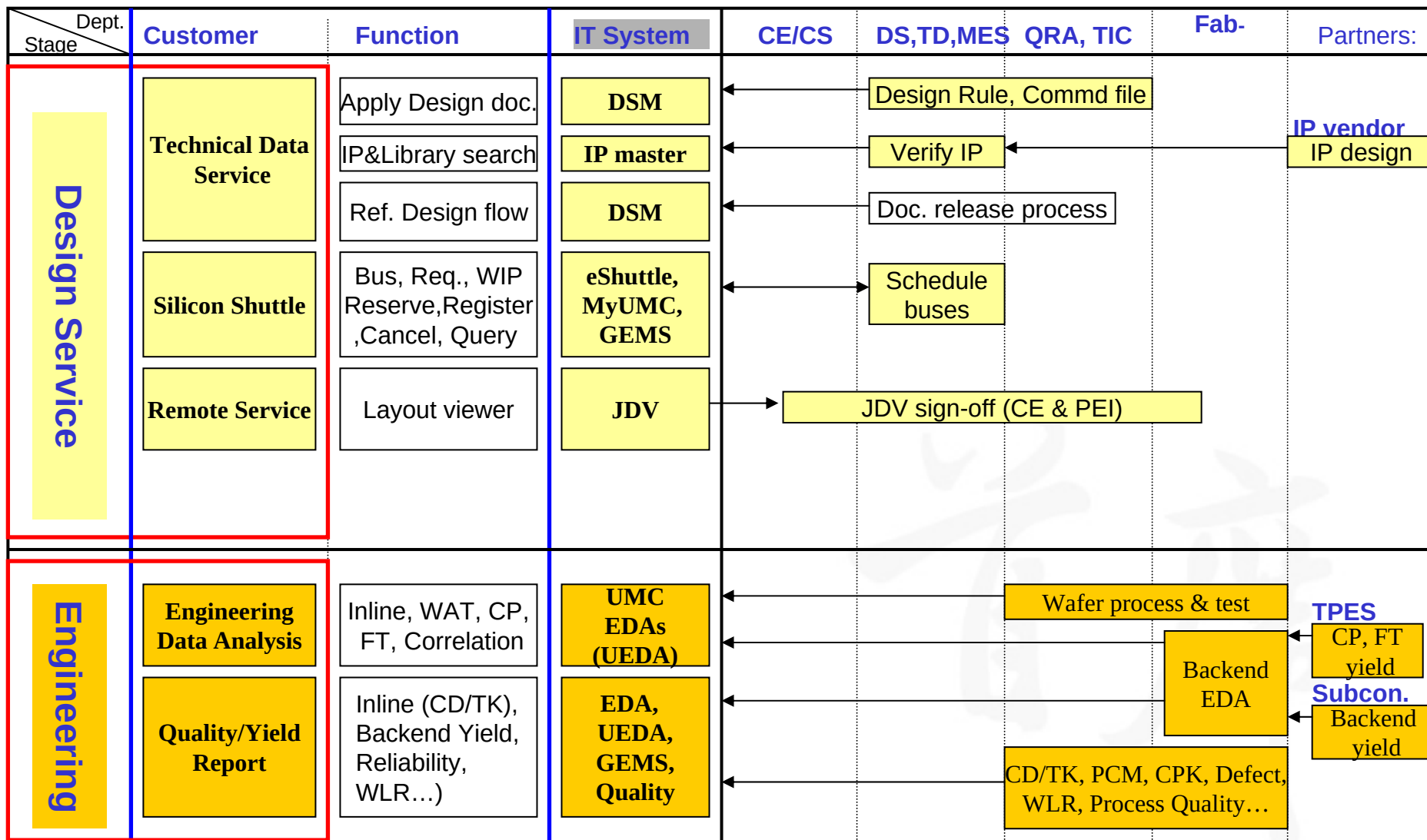
MyUMC Applications

CAR

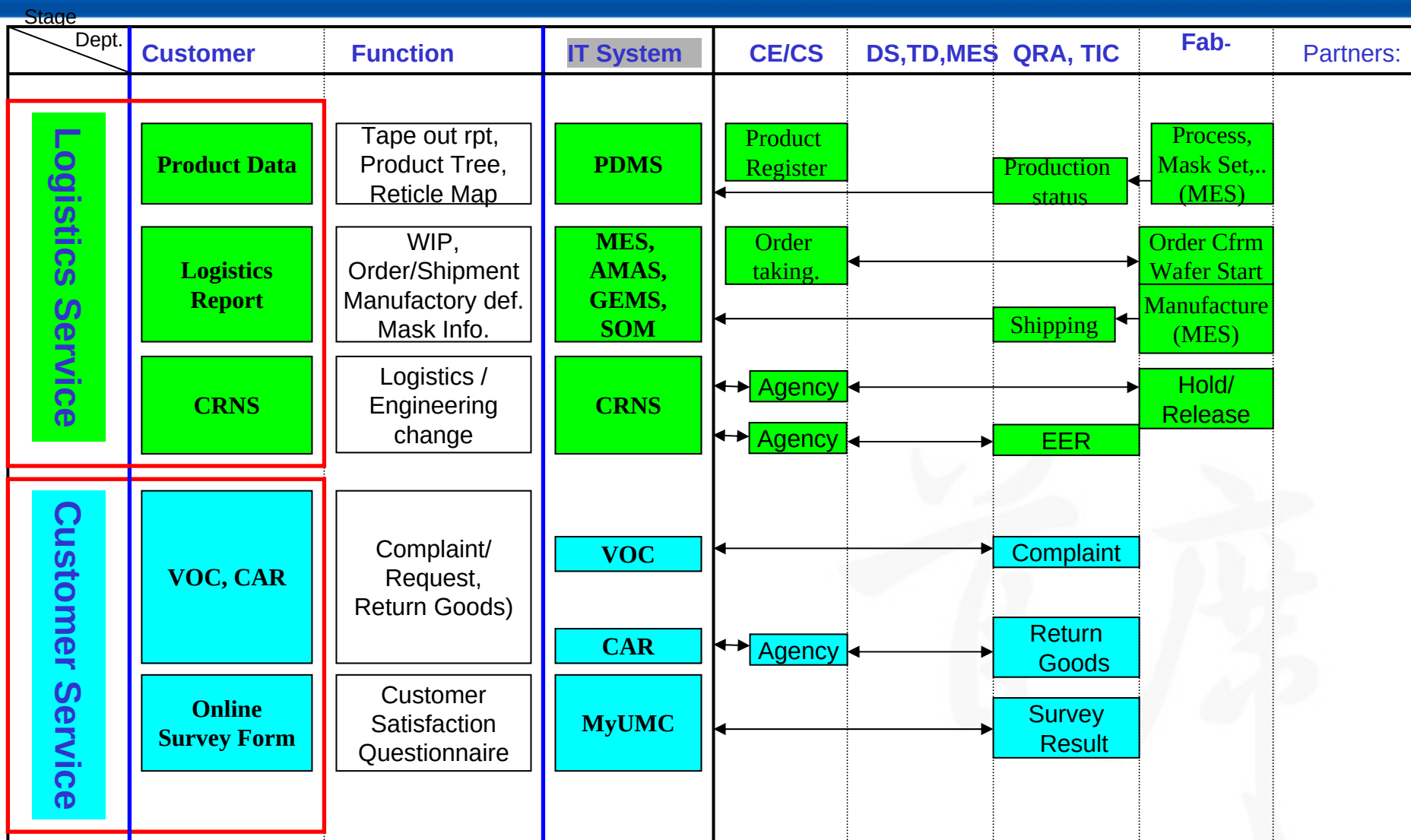
MyUMC System Architecture



Service Flows and Supporting Dept.I



Service Flows and Supporting Dept.II



MyUMC

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PRODUCTION INFORMATION

[Customer] :
Change Customer

Design Support

TDS Database
IP Libraries
Design Methodology

Silicon Shuttle

Tape Out

Mask House Logistics

Production Information

Product Information
Logistics Reports
Quality/Yield Reports
Engineering Data
Analysis

Service Center

Voice of Customer

Using the logistics function of MyUMC, customers can view the status of their orders from the start of production to the final shipping stage. Users have access to WIP reports, shipping reports, process flow information, weekly delivery updates, and many other resources, to provide a truly transparent manufacturing environment.

■ WIP Information

■ On Line Query

- [WIP Summary](#)
- [Dynamic WIP Report](#)
- [Dynamic Dead WIP Report](#)
- [WIP Query Information](#)
- [Dynamic Wafer Started Report](#)
- [Scrap History Report](#)

■ Standard Report

- [Standard WIP Report](#)
- [Engineering Lot List](#)(including lot type P,E,O)
- [Wafer Started Report](#)([Weekly](#),[Monthly](#))
- [Line Yield Report](#)(UMC internal and X0 only)
- [Backend Customer Hold Report](#)(UMC internal and X0 only)NEW
- [WIP Summary Report](#)(UMC internal and A1)

■ LOT History Information

- [Lot History](#)

■ Order/Shipment Information

■ On-line Query

- [Order Summary](#)
- [Dynamic Shipping Report](#)
- [Order/Shipping Query Information](#)

• Provides customers the PO W/S summary and detail status by selecting FAB, shipping prod. And duration criteria.

• Provides customers the scrap status and comment by selecting lot type, shipping prod. And duration criteria.

• Provides customers the specific lot status history, such as route, move in/out time, W/S W/O date, process information by selecting customer/UMC lot

Logistics Report - Order

MyUMC

MY PROFILE MY BOOKMARK REPORT SUBSCRIPTION

MyUMC BULLETIN MyUMC HOME UMC.COM LOGOUT

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- [Line Yield Report](#)([UMC internal](#) and [X0 only](#))
- [Backend Customer Hold Report](#)([UMC internal](#) and [X0 only](#))
- [WIP Summary Report](#)([UMC internal](#) and [A1](#))
- LOT History Information
 - [Lot History](#)
- Order/Shipment Information
 - On-line Query
 - [Order Summary](#)
 - [Dynamic Shipping Report](#)
 - [Order/Shipping Query Information](#)
 - [Cancelled Invoice Inquiry](#)
 - Standard Report
 - [Shipping Notice](#)(by destination)
 - [Shipping Lots List](#)([Daily](#),[Weekly](#),[Monthly](#))
 - [Weekly Delivery Schedule](#)
 - [GSM mailing service](#)([UMC internal Customer](#) and [X0 only](#))
 - [Daily GSM Documents](#) ([Order ACK](#),[Invoice](#),[Packaging](#),[Shipping Info.](#))
- Manufactory Definition([UMC internal only](#))
 - [Process Flow Information](#)
- MaskSet Information
 - On Line Query
 - [Mask Status Information](#)
 - [WIP Lot v.s. Mask Set](#)
 - [Shipped Lot v.s. Mask Set](#)

• Provides customers the specific PO status status, such as order status, confirm/ship q'ty etc. information

• Both Dynamic Shipping Report and Order/Shipping Query Information provide customers the detail order/shipping summary, such as order, product, production and shipment information by selecting specific invoice date, invoice, PO, Sales order, Customer Part or Customer Lot

• Provides customers the SOM/GSM cancel Invoice list by selecting invoice date.

Logistics Report - Shipment

PRODUCTION INFORMATION

[Customer] :
Change Customer

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Product Information
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- [Engineering Lot List](#)(including lot type P,E)
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- [Line Yield Report](#)(UMC internal and X0 only)
- [Backend Customer Hold Report](#)(UMC internal and X0 only)
- [WIP Summary Report](#)(UMC internal and A1 only)
- LOT History Information
 - [Lot History](#)
- Order/Shipment Information
 - On-line Query
 - [Order Summary](#)
 - [Dynamic Shipping Report](#)
 - [Order/Shipping Query Information](#)
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 - [Shipped Lot v.s. Mask Set](#)

• Report of shipment notice information(invoice, order, product, shipping information)

• Report of detail lot shipment information(invoice, order, lot, production and shipping information),

• Report of customer shipment list, including order information and shipping status. not regular reports, and depends on PP's operation.

MyUMC

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MyUMC BULLETIN MyUMC HOME UMC.COM LOGOUT

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Voice of Customer

- [Engineering Lot List](#)(including lot type P,EC,E1,E2)
- Wafer Started Report([Weekly](#),[Monthly](#))
- [Line Yield Report](#)(UMC internal and X0 only)
- [Backend Customer Hold Report](#)(UMC internal and X0 only)^{NEW}
- [WIP Summary Report](#)(UMC internal and A1 only)

LOT History Information

- [Lot History](#)

Order/Shipment Information

On-line Query

- [Order Summary](#)
- [Dynamic Shipping Report](#)
- [Order/Shipping Query Information](#)
- [Cancelled Invoice Inquiry](#)

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Manufactory Definition(UMC internal only)

- [Process Flow Information](#)

MaskSet Information

On Line Query

- [Mask Status Information](#)
- [WIP Lot v.s. Mask Set](#)
- [Shipped Lot v.s. Mask Set](#)

• Provides customers the maskset current status, such as product, mask info. And mask status by selecting FAB, PO, customer part, shipping prod, location, mask status and last usage day over criteria.

• Provides customers the product, lot and maskset relationship by selecting FAB, PO, customer part, shipping prod, lot and duration.

- Cpk criteria setting
 - Set data fields and grouping fields for Cpk calculation
- Cpk table
 - A Cpk summary table
- Raw data table
 - Display lot level data of the selected items at Cpk table

The screenshot shows the 'MyUMC-EDA WAT' software interface. The 'Cpk Review' tab is active, displaying a 'Cpk table' with columns for UMC_PRODUCT, PARAMETER, Qty, Ca, Cp, Cpk, Average, Stddev, and Max. The 'Raw Data' tab is also visible, showing a table with columns for UMC_PRODUCT, PROCESS, LOT, PARAMETER, MEASURE_TIME, MAX_VALUE, MIN_VALUE, and AVERAGE. The 'Cpk criteria setting' is indicated by a red circle around the 'Group By' and 'Calculated field' sections. The 'Raw data table' is indicated by a red circle around the 'Raw Data' table.

Cpk criteria setting

Cpk table

UMC_PRODUCT	PARAMETER	Qty	Ca	Cp	Cpk	Average	Stddev	Max
D1A061F	BVDN10/12	4	.	7.854038	6.89956	3.07	0.0276	
D1A061F	BVDN10/32	4	68.2873	68.2873	9.41	0.0215		
D1A061F	BVDP10/12	4	1.292407	0.7209902	3.82	0.1934		
D1A061F	BVDP10/32	4	36.5983	36.5983	6.89	0.0172		
D1A061F	BVG0X/NM	4	5.562951	5.562951	2.20	0.0417		

Raw data table

UMC_PRODUCT	PROCESS	LOT	PARAMETER	MEASURE_TIME	MAX_VALUE	MIN_VALUE	AVERAGE
D1A061F	L13188-E4	QG9H8	BVDP10/12	2004-10-08 03:55:05	4	3.7999999523162797	3.8941199779510498
D1A061F	L13188-E4	QGAPK	BVDP10/12	2004-12-06 19:49:46	4	1.79999995231628	3.5305900573730495
D1A061F	L13188-E4	QGCJ0	BVDP10/12	2005-01-07 23:52:57	3.90000000953674299	3.90000000953674299	3.90000000953674299
D1A061F	L13188-E4	QGFG4	BVDP10/12	2005-02-23 16:42:37	4	3.8000000000000003	3.94889

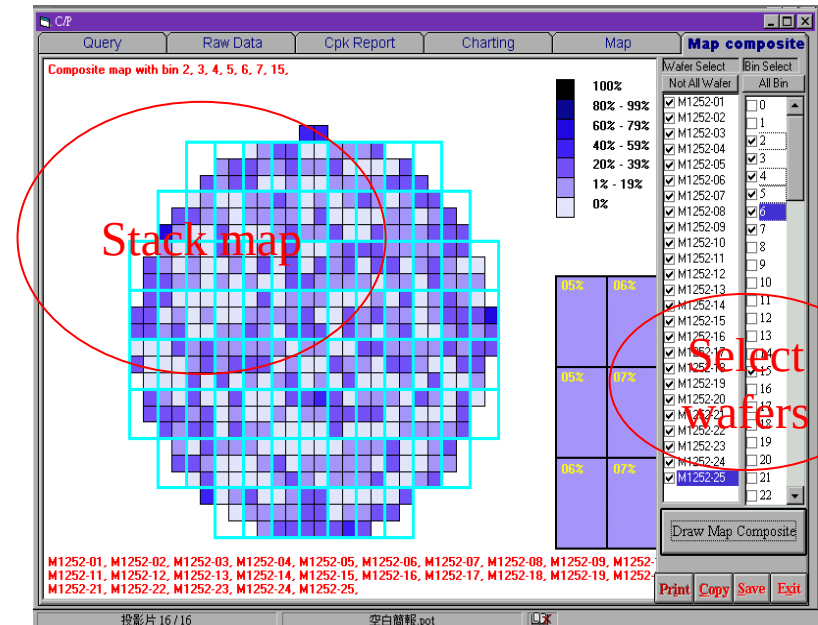
Quantity: 4, Max: 3.95, Spec H: 4.90, Ca: ., Mean: 3.82, Min: 3.53, Target: ., Cp: 1.292407, Sigma: 0.1934, Spec L: 3.40, Cpk: 0.7209902

➤ Select lots

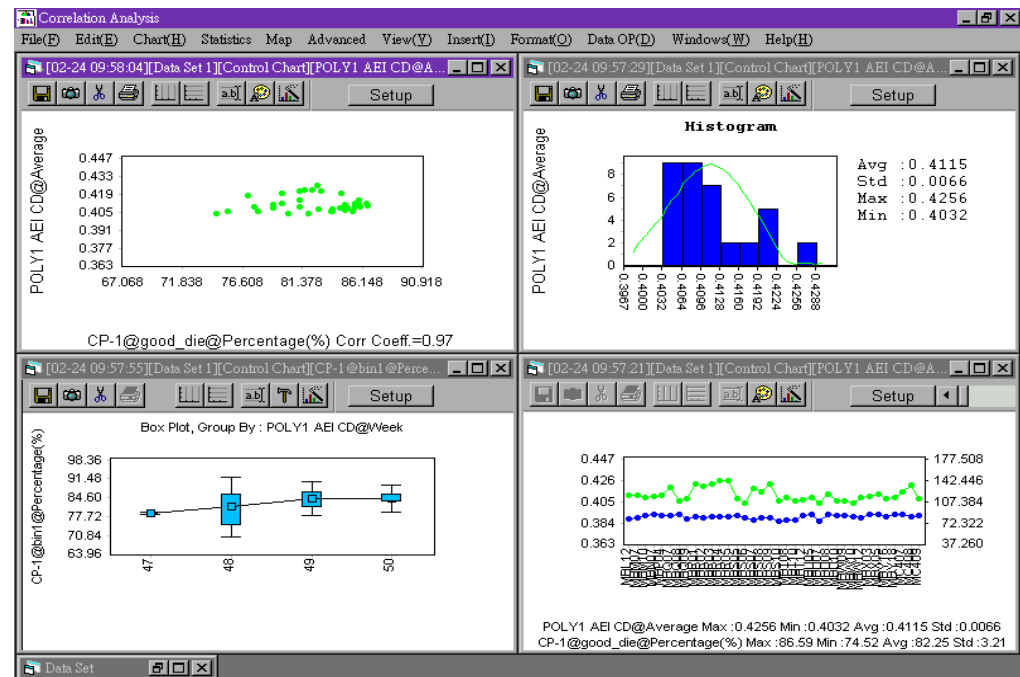
- Select lots and wafers for Stack Map analyzing

➤ Stack map

- The selected wafers are stacked against together.
- Percentage of selected bins on each die located at the same position where each wafers are calculated
- The darker color on the die location of stack map means the higher percentage of selected bins on this die location



- To display Scatter plot, Histogram, Box plot and Trend chart analysis result in one screen



Shuttle Status 2005

Shuttle Process	UMC 1H/ 2005						UMC 2H/ 2005					
8 inch wafer	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.25um		Launched			Available			Available			Available	
0.18um	Launched	Launched	Launched	Waiting	Available	Available	Available	Available	Available	Available	Available	Available
0.15um	Launched			Available			Available			Available		
0.13um			Launched			Available			Available			Available
90nm	Cancelled	Launched		Available			Available			Available		
12 inch wafer	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.13um		Launched										
90nm	Cancelled	Launched										

Select the bus and apply the application form.

UMC Silicon Shuttle™ Application Form

☒ Regular Passenger
 ☐ Waiting

2005/03/21 PM 03:44:46

- Name of Customer (Vendor): LME_SHPHIA_TSENG Region: Which Region?

 Process: L90G (HVT/RVT) Category: Which Category?
- Shuttle taken:

 Reserving Shuttle Code: L90504-S

 Required Process: L90G (HVT/RVT) 1P9M

 Remark: This is split lot for particular process support, which share the same mask with regular lot. W/O will be after regular lot.
- Special Option:

 3-1.If you have special requirement in top metal layer? No, follow UMC standard 8K thickness for top metal

 3-2.Do you have dual voltage design? 1.Yes

B2B



UMC B2B – System flow

1 Outsourcing Vendor

SBX (e-Logistics)



Shipment Info.

- Shipping confirmation
- Shipment Tracking Info.

Shipment Info.

- Packing
- Shipment
- Invoice
- Forwarder

Internet

Order Request

- Purchase order

Outsourcing Order

- Work order

UMC-B2B

Integration Platform

webMethods

Internet

Internet

Outsourcing Info

- WIP

Production Info

- PO confirmation
- WIP
- Ship alert
- Invoice
- Engineering Data

Internet

Mask Info

- WIP
- COA
- Product CD
- Cell CD
- Daily CD



Mask House

5 Mask Houses



Assembly Test

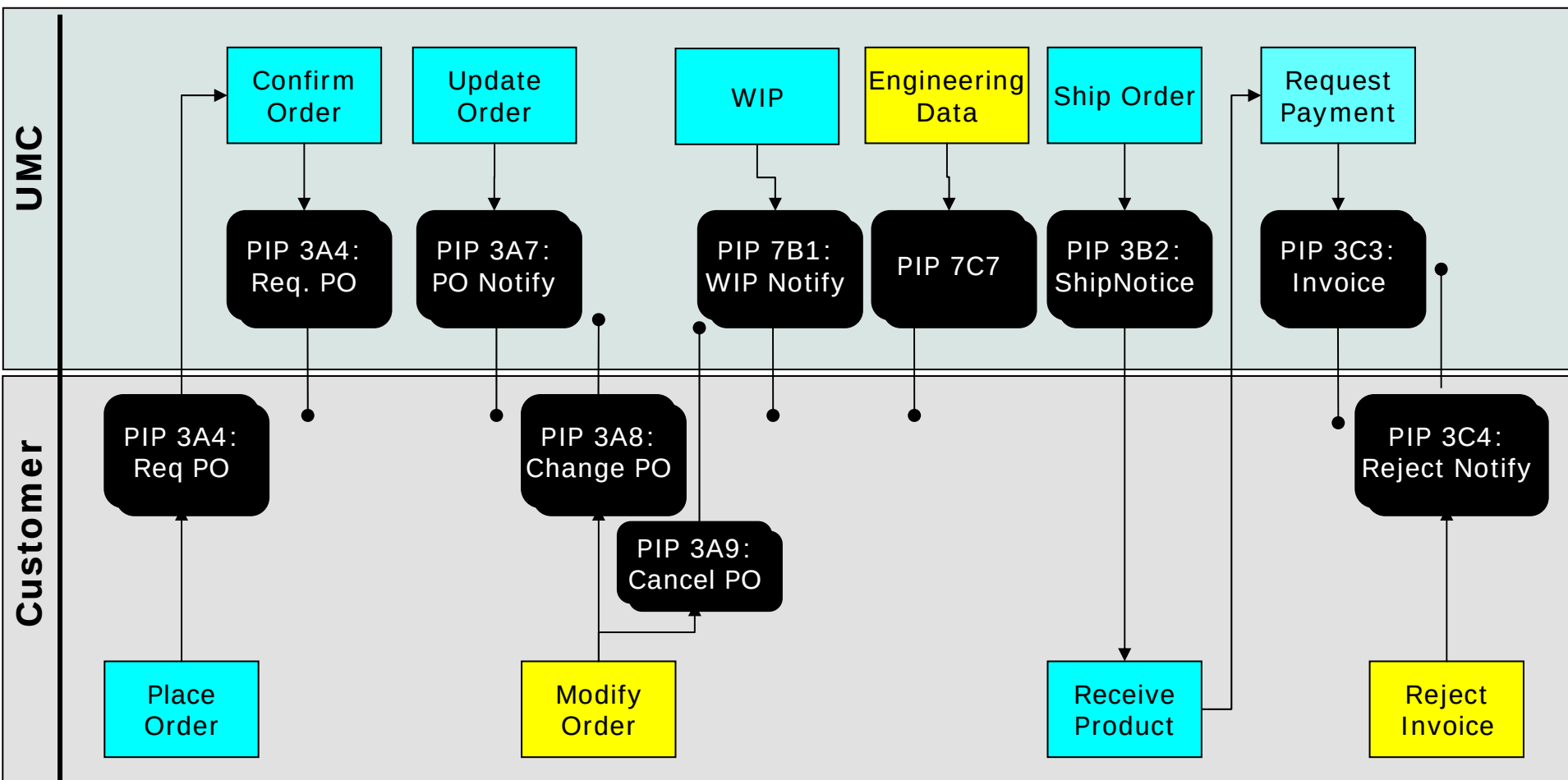
2 Subcontractors



Customer

23 Customers

UMC B2B – RosettaNet PIP



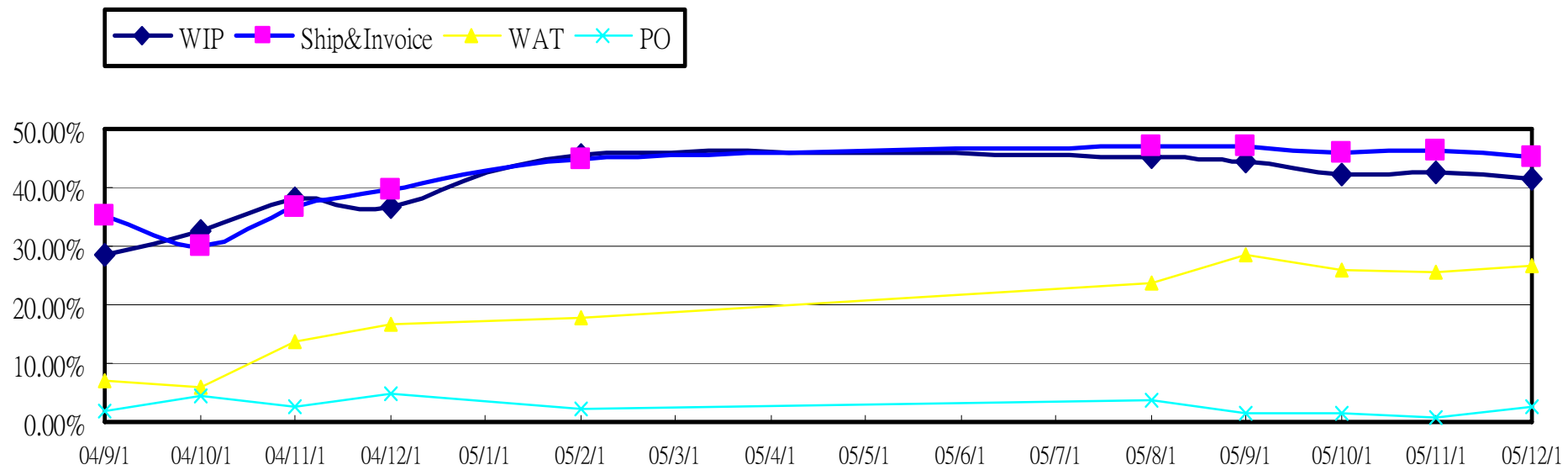
- Customer
 - **Order** : 3A4, 3A7, **3A8**, 3A9 or Proprietary format
 - **WIP** : 7B1, EDI870 or Proprietary format
 - **Shipping** : 3B2, EDI856 or Proprietary format
 - **Invoice** : **3C3** or Proprietary format
 - **Engineering Data**(Inline,WAT,CP) : **7C7**, **EDI863** or Proprietary format
- Mask House
 - **WIP, COA, CD** data in proprietary format
- Subcontractor
 - **Work order** : 7B5 or Proprietary format
 - **WIP** : 7B1 or Proprietary format
- **Logistics**
 - **Shipment-related Data** (forwarder, broker, custom): **Proprietary format**
- **IP Vendor**
 - **IP/Library information**: **Proprietary format**

UMC B2B - Data delivery ratio

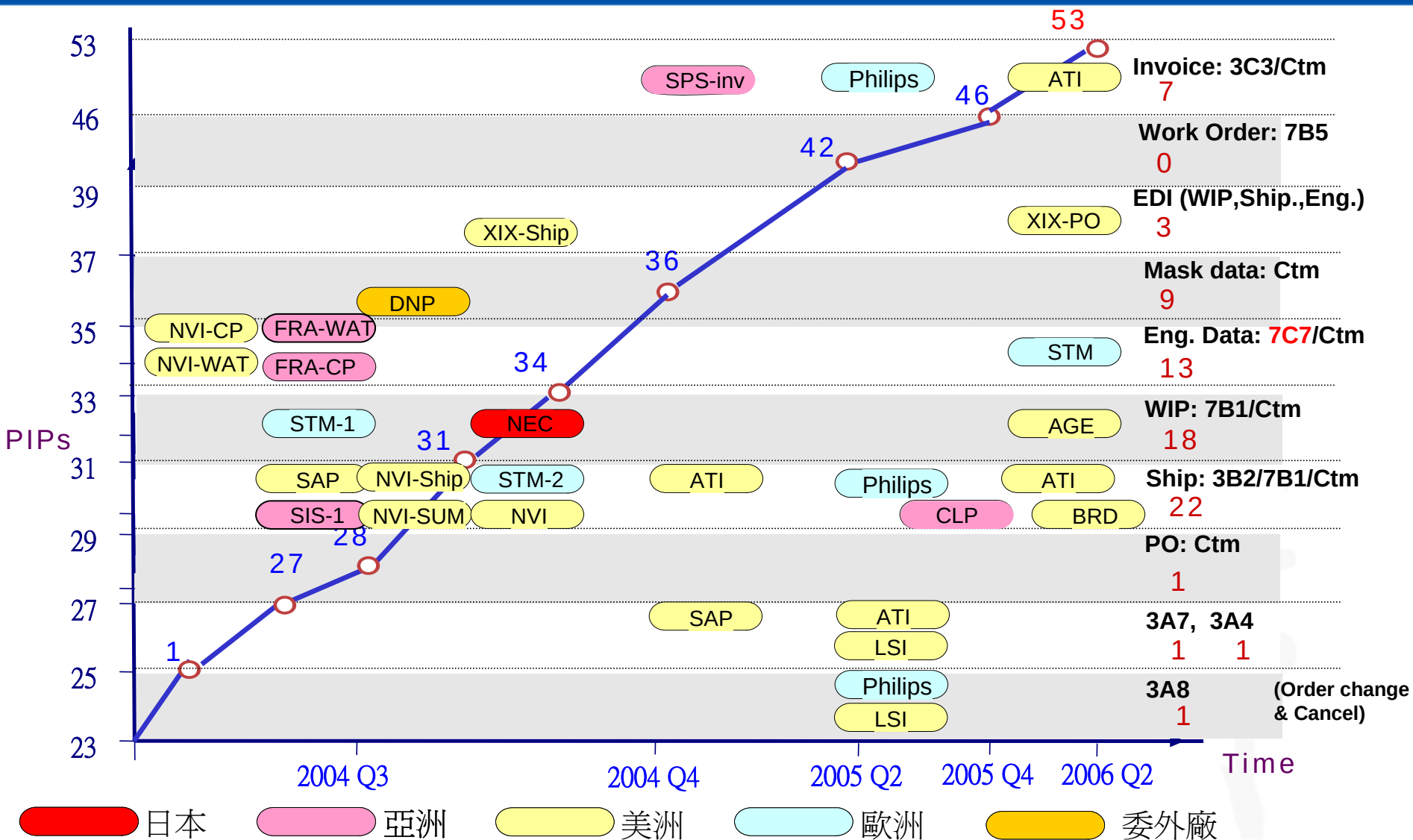
1. **WIP**(B2B WIP/Total Wip) = **41.38 %**
2. **Ship&Invoice**(B2B Ship/Total Ship) = **45.23 %**
3. **WAT**(B2B WAT/Total WAT) = **26.73 %**
4. **PO**(B2B PO/Total PO) = **2.56 %**

Note: monthly ratio, unit: wafer piece.

Ratio (B2B/UMCTotal)



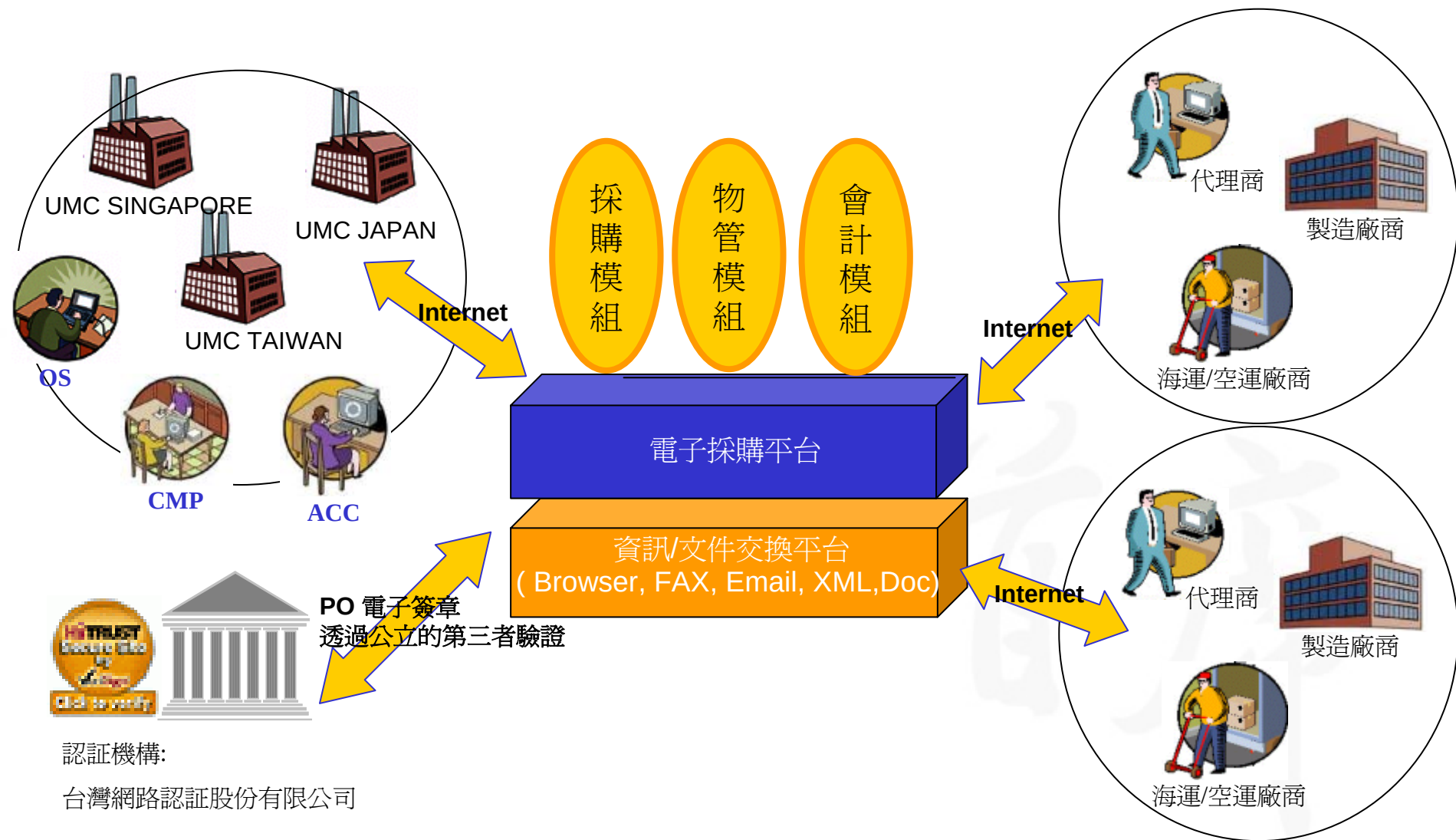
UMC B2B – PIP Counts



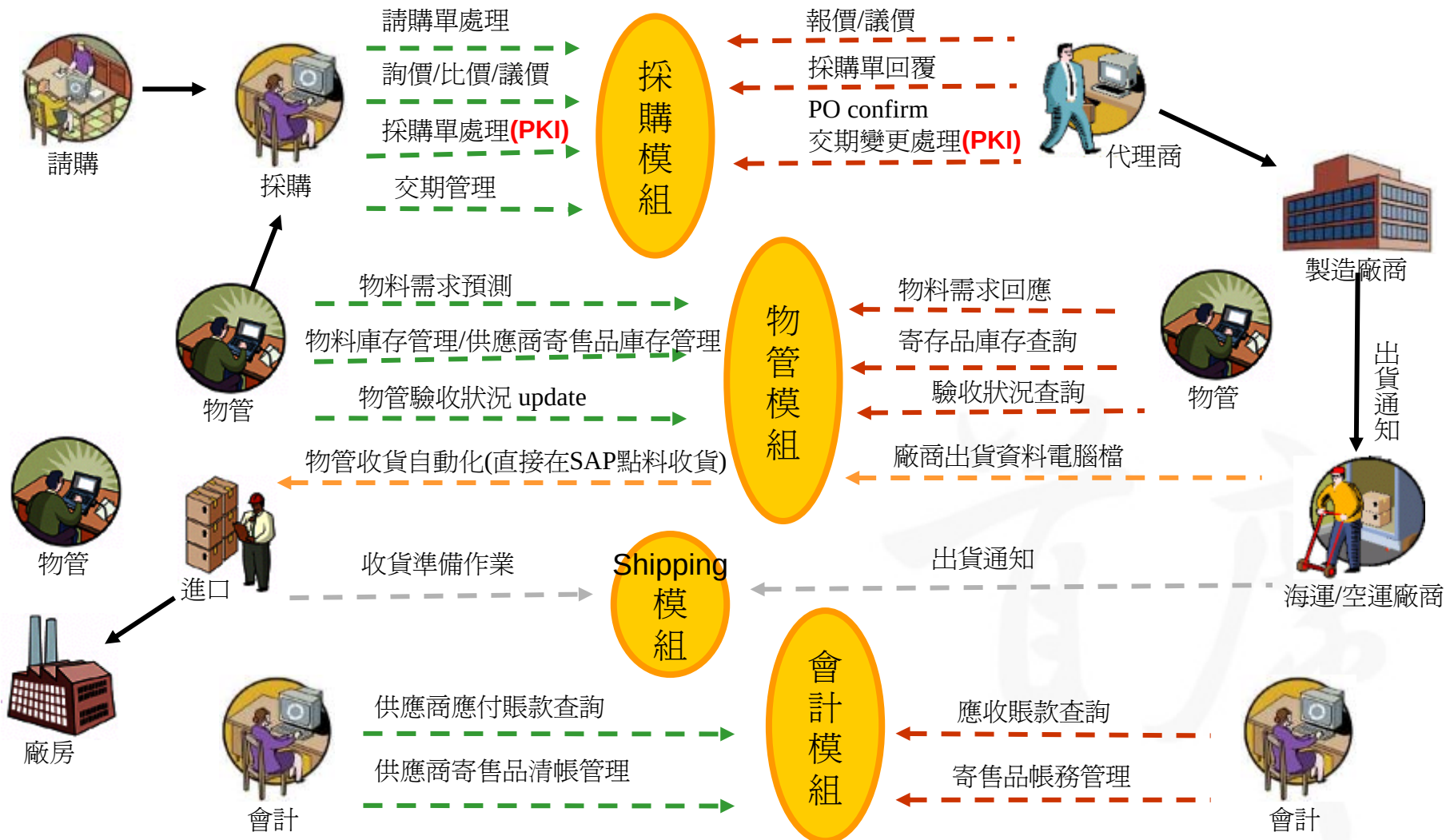
- 半導體產業介紹及IT應用介紹
- *B to B (customer view)*
- ***B to B (supplier view)***
 - *E-Procurement (eP) (Vender Service web)*
- *e-Auction Practice*

- 2000.01.01：五合一(聯電,聯誠,聯瑞,聯嘉,合泰)內部組織迅速重整
- 2000.06~12：ERP SAP系統導入：含採購,物管,進口,保稅,會計,財務,稅務 Module，達成後端 ERP系統整合之狀態
- 2001.01~06：ERP系統整合後，始評估整合後端部門(OS,ACC,CMP)與供應商的交易界面，欲以提高聯電與廠商間的互動過程效率並整合價格管理及物料管理的e化機制,提昇專業採購及物料管理層次。
- 2001.07.01：茲決定與HP合作，利用Broadvision平台開發e-Procurement Portal 提昇運作效率及因應未來國際化發展
- 2002.02.01：eP Go live.
- 2002.05.01：PO PKI 電子簽章 Go live

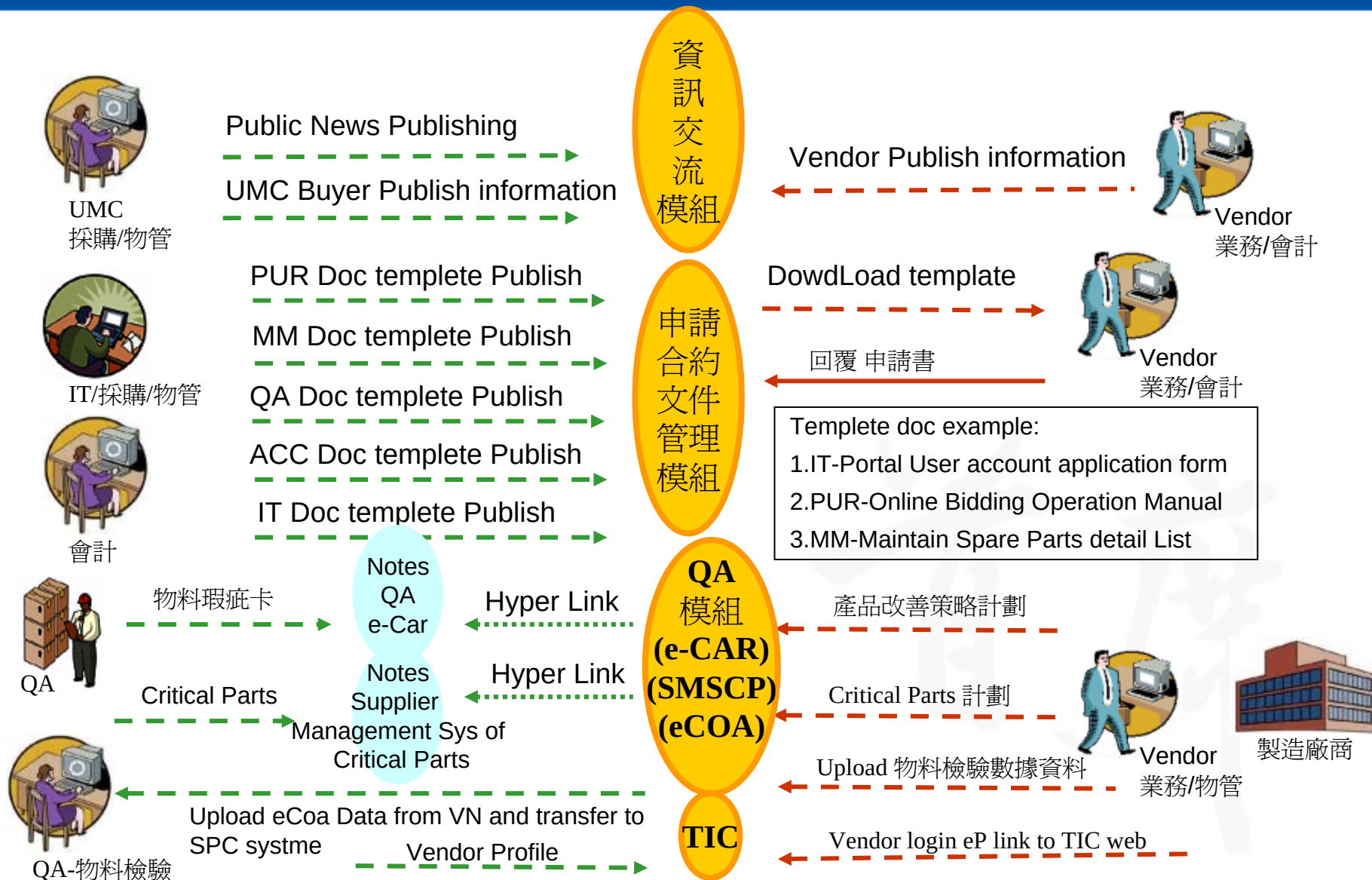
eP Portal Objective



eP Major Functionality(I)



eP Major Functionality(II)



UMC

E-PROCUREMENT PORTAL

FAQ (問題集) Help



FIND OUT MORE ABOUT E-PROCUREMENT PORTAL ...

Procurement
Management

Logistic
Management

Materials
Management

Accounting
Management

Vender ID

User ID

Password

SIGN IN

[Forgot password?](#) [Reset](#)



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Kenny J Chien 2009-4-21 SINGLE MODE

Home | My Profile | FAQ | Glossary | Contact Us | Support | [PO terms and conditions](#)

+

 GENERAL

-

 PUR

+

 Purchase Requisition

+

 Request for Quotation

+

 Quotation

-

 Purchase Order

[PO Status Tracking](#)

[PO Search](#)

-

 Price Catalog

[Price Template Download](#)

[Price Publishing](#)

[Vendor Price Search](#)

+

 Price Book

-

 SHIP

+

 Shipping Notice

+

 ACC

+

 MM

+

 Portal

+

 eLearning

-

 EPMS

[EPMS Status Tracking](#)

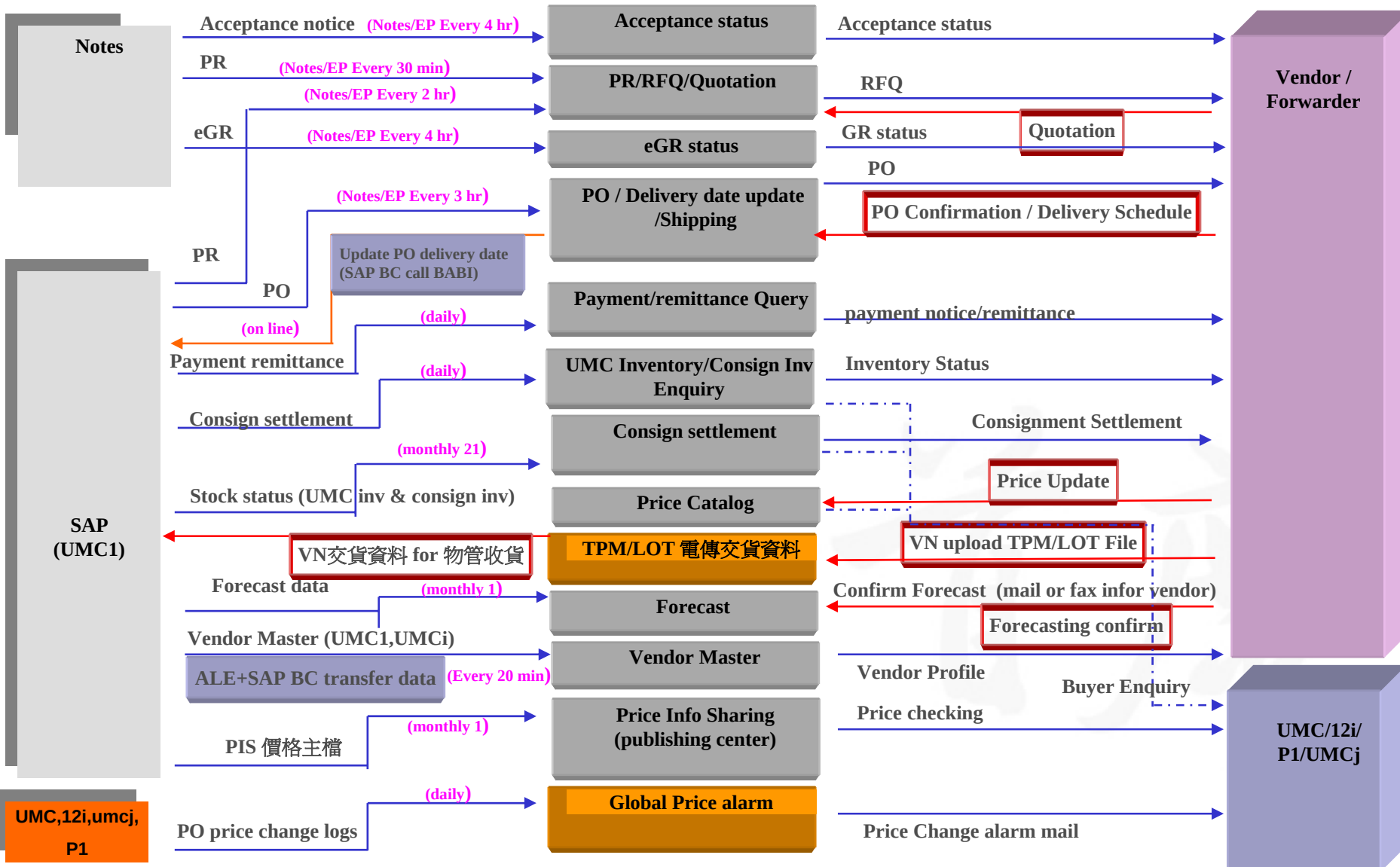
[EPMS Search](#)

 **PO Status Tracking**

[PO Status Tracking](#) [PO Item-Delivery Line Status Tracking](#)

	Non-PKI	PKI	Total
All Open PO (Not Assigned with Contact Window)	0	0	0
All Vendor Review PO	0	0	0
All Confirmed PO	0	0	0
All Waiting for Vendor Sign PO	0	0	0
All Waiting for UMC Sign PO	0	0	0

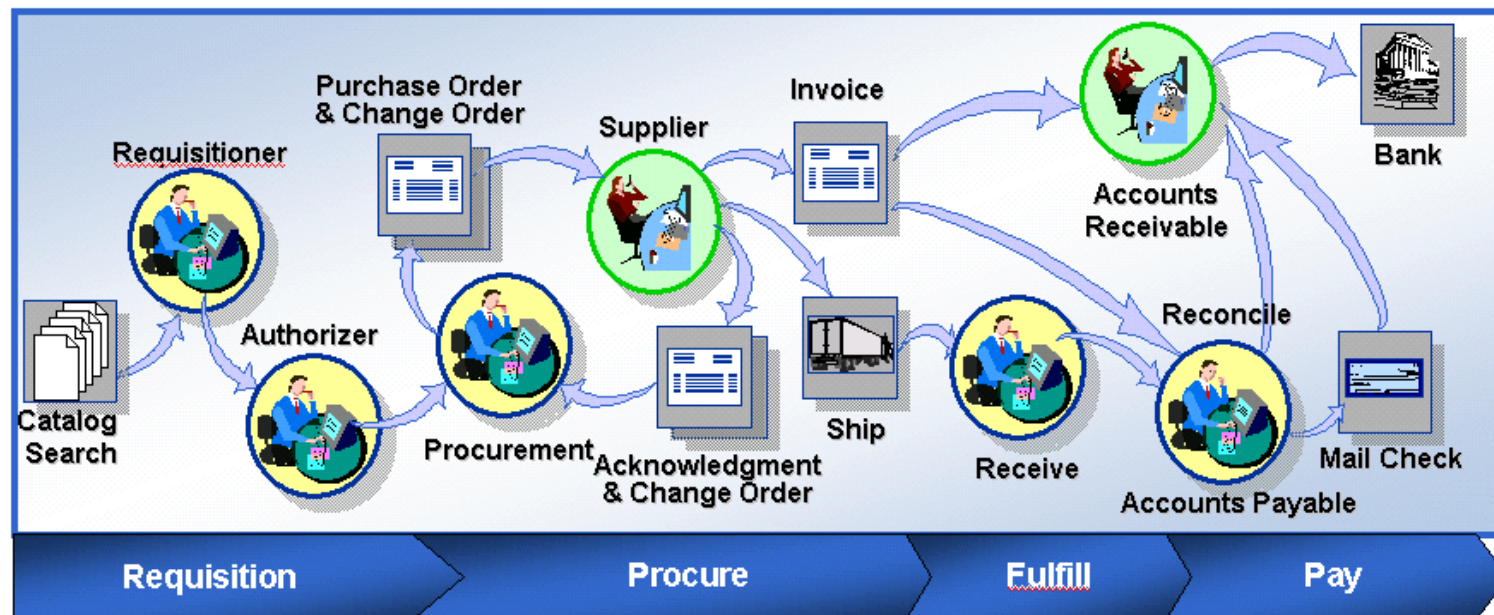
eP Function detail list

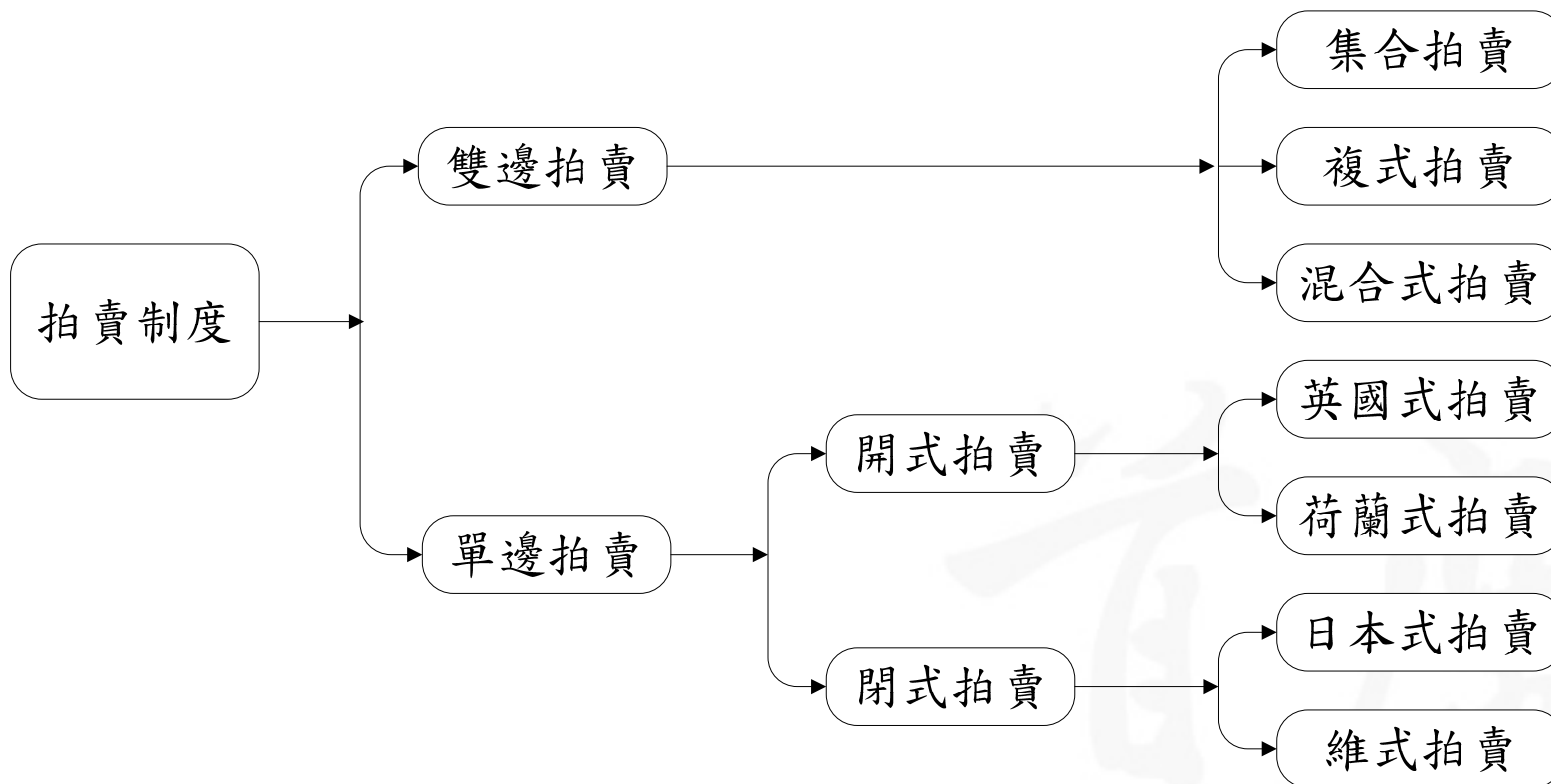


- 半導體產業介紹
- *B to B (customer view)*
- *B to B (supplier view)*
 - *E-Procurement (eP) (Vender Service web)*
- ***e-Auction Practice***

• 作業績效的挑戰！

- 節省作業成本，採購人能夠專注於策略與新供應商開發
- 議價與溝通的流程簡化
- 採購管理的透明化，供應商的出價資料的分析





Source: 葉貞枝, 「台灣高科技業者網路採購之研究」

- 雙邊拍賣指買方與賣方有數位參與者,雙方觀察市場後喊出自己願買或賣的價格,最後市場的成交價格就是供給與需求相等時的市場結清 (clearing) 價格。最常見的例子為股票、外匯與期貨市場交易。
- 單邊拍賣是指多個買方(many buyers)叫價競爭同一件貨品,稱為正向拍賣(Forward Auctions), 價高者得;或是許多賣方(may sellers)出價競爭同一件採購案,稱為反向拍賣(Reverse Auctions), 價低者得。又可依舉行方式分為開放式及封閉式(Sealed Bids)兩種。

Source: 葉貞枝, 「台灣高科技業者網路採購之研究」 & 陳歷峰, 「網際網路拍賣機制之初探研究」

- 開放式又可依叫價由低至高或由高至低而稱為英國式拍賣或荷蘭式拍賣，理由是這兩種拍賣類型最早出現在這兩個國家。
 - 英國式拍賣(English Auction): 最常見的一種拍賣方式，為公開喊價，價格遞增的一種拍賣。出最高價格的買主得標，也就是賣方可以獲得最高的價格。常見的英式拍賣有古董品、藝術品市場與法院抵押物拍賣，目前熱門的線上競標網站也大多數採用英式拍賣。
 - 荷蘭式拍賣(Dutch Auction)是一種價格遞減式的公開叫賣，競價開始由一很高的價格逐漸減至買者同意喊出"minie"完成交易。由於這種拍賣類型主要用於荷蘭地區拍賣商品及花卉，故稱之為荷蘭式拍賣。
- 封閉式拍賣又稱秘密競標 (Sealed-bid Auctions) 指競標者只能出一次價格，出價不會公開。秘密競標根據得標價格的決定可以分為2種方式：
 - 日本式拍賣(Japanese Auction)又稱為第一價位秘密競標(First price sealed bids)進行方式為公開一個開標日期，各投標者只能提出依次競標價而不能修改，在開標日當天公開所有競標價格，由最高標價者得標。這種方式最早出現在日本的魚市場。
 - 維式拍賣(Vickrey auction)又稱為第二價位秘密競標(Second price sealed bids) Vickrey 教授於1961年提出，其競標方式與第一價位秘密競標大致相同，唯一差別於得標價格的決定，買方只要付次高叫價，鼓勵競標者出較高的標金。

Source: 葉貞枝，「台灣高科技業者網路採購之研究」

Ex: Forward Auctions:

賣方 A: 賣一件衣服,起標價 NTD100, 底標 NTD450,增幅
NTD50

- 開式拍賣:

- 1.英式拍賣

買方 B 出價 100,200,....400

買方 C 150,250....500

C 得標.

- 2.荷蘭式拍賣:

賣方 A: 賣一件衣服,開標價 NTD1000,無人可以接受,因此再
喊價NTD900..... NTD500 時 C第一個同意接受,則 C 得標.

Ex: Forward Auctions:

閉式拍賣:

1. 日本式拍賣 (first price sealed bids):

賣方 A: 12/16 賣一件衣服, 設定底標價 NTD450, 12/22 截止
投標,

12/23開標

買方 B, C, D....於 12/22前投標完成. 12/23 開標 C 投
NTD500 高於
底標則, C 得標.

2. 維式拍賣 (second price sealed bids):

買方 B 喊價 100,200,300.....600

買方 C 喊價 150,250,.....500

買方 B 得標但成交價為 500

反向拍賣方式優缺點比較

拍賣方式	遊戲規則	優點	缺點
英式反向拍賣	廠商不斷動態出價，系統上可以看出最低價廠商或所有出價廠商之價格	有效激勵廠商降價	廠商合謀及圍標情形容易發生
			廠商擔心價格外洩
一段式密封反向拍賣	廠商在投標截止日前只能投一次標，無法知道競爭者價格	遊戲規則簡單 廠商合謀及圍標情形不易發生	廠商降價效果不及英式反向拍賣
多段式密封反向拍賣	為加強一段式密封反向拍賣之不足，為第一次密封反向拍賣開標後，買方可以視情況再開一次或數次密封反向拍賣。	降價效果優於一段式密封反向拍賣	廠商合謀及圍標情形不易發生
維式反向拍賣	報價最低的廠商得標，但買方需支付該廠商次低之價格	容易反映真實市場價格	廠商較不熟悉操作方式

Source: Srinivas Talluri, Gary L Ragatz, "Multi-Attribute Reverse Auctions in B2B Exchanges: A Framework for Design and..."

- 電子競標 **Online Auction, e-Auction**
 - 電子競標 Online Bidding
 - 線上議價, 線上競標, 線上標案, 線上發標
- 定義：
 - 買方與賣方針對特定的採購標的在網路上進行即時議價，短時間內密集互動下產生共同接受的交易價格，引導出最終的交易。
 - 這種動態交易模式能協助買方與賣方企業之間的交易談判過程即時化、自動化與快速化，在這種機制下的市場價格是動態的。
- 電子競標 **Online Bidding** 包括：
 - 電子招標 Reverse Auctions (購買作業)
 - 電子競標拍賣 Forward Auctions (出售作業)

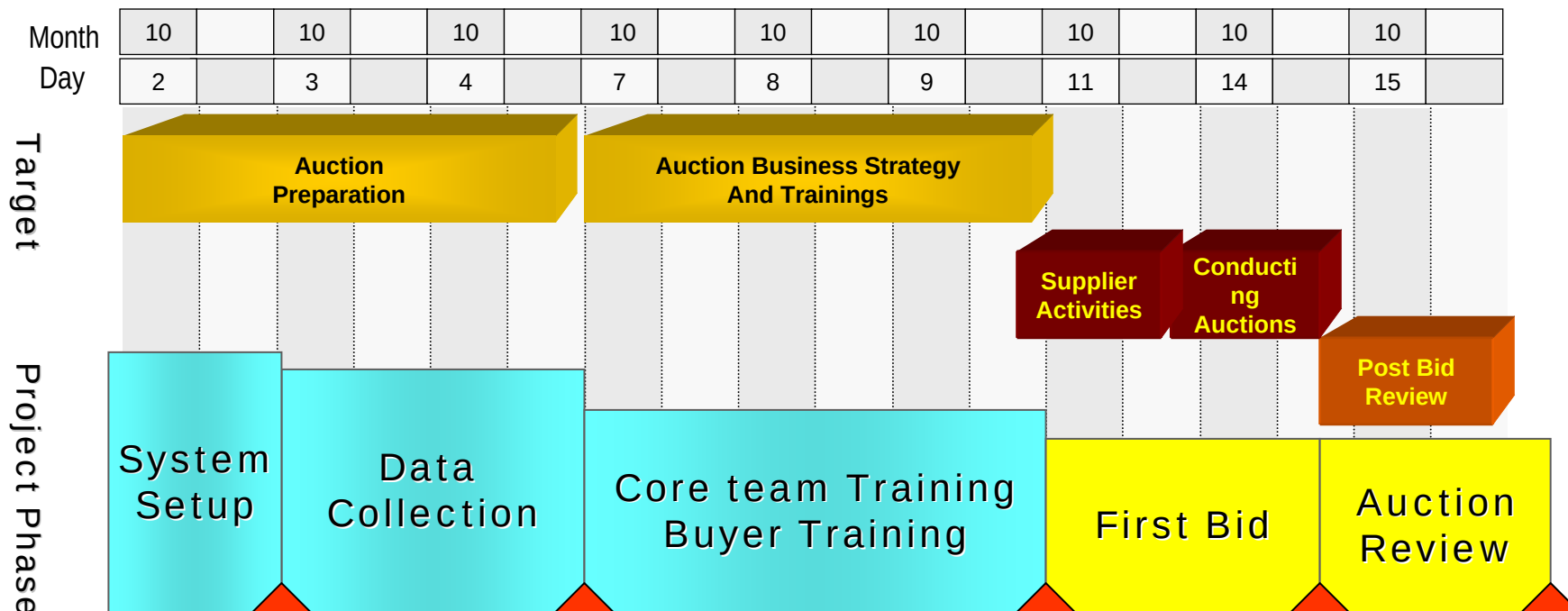
電子競標	採購議價
➤ 清楚的競標規則 供應商知道-最低價且符合底價者得標(英式招標)	➤ 面對人的談判 供應商知道-見面談判可將價錢保持一定的利潤
➤ 時間壓縮效應 標案時程為約一至二十分鐘，減少供應商思考與判斷	➤ 無時間壓縮效應 議價模式對供應商而言無時間壓力，價格不易下降
策略性延長標案截止時間，讓得標價更低	
➤ 激烈競爭市場 可看到其他供應商價格	➤ 傳統議價市場 不需面對其他供應商較低價格的壓力
新供應商參與迫使價格下降	

線上招標流程



UMC e-Auction project milestone

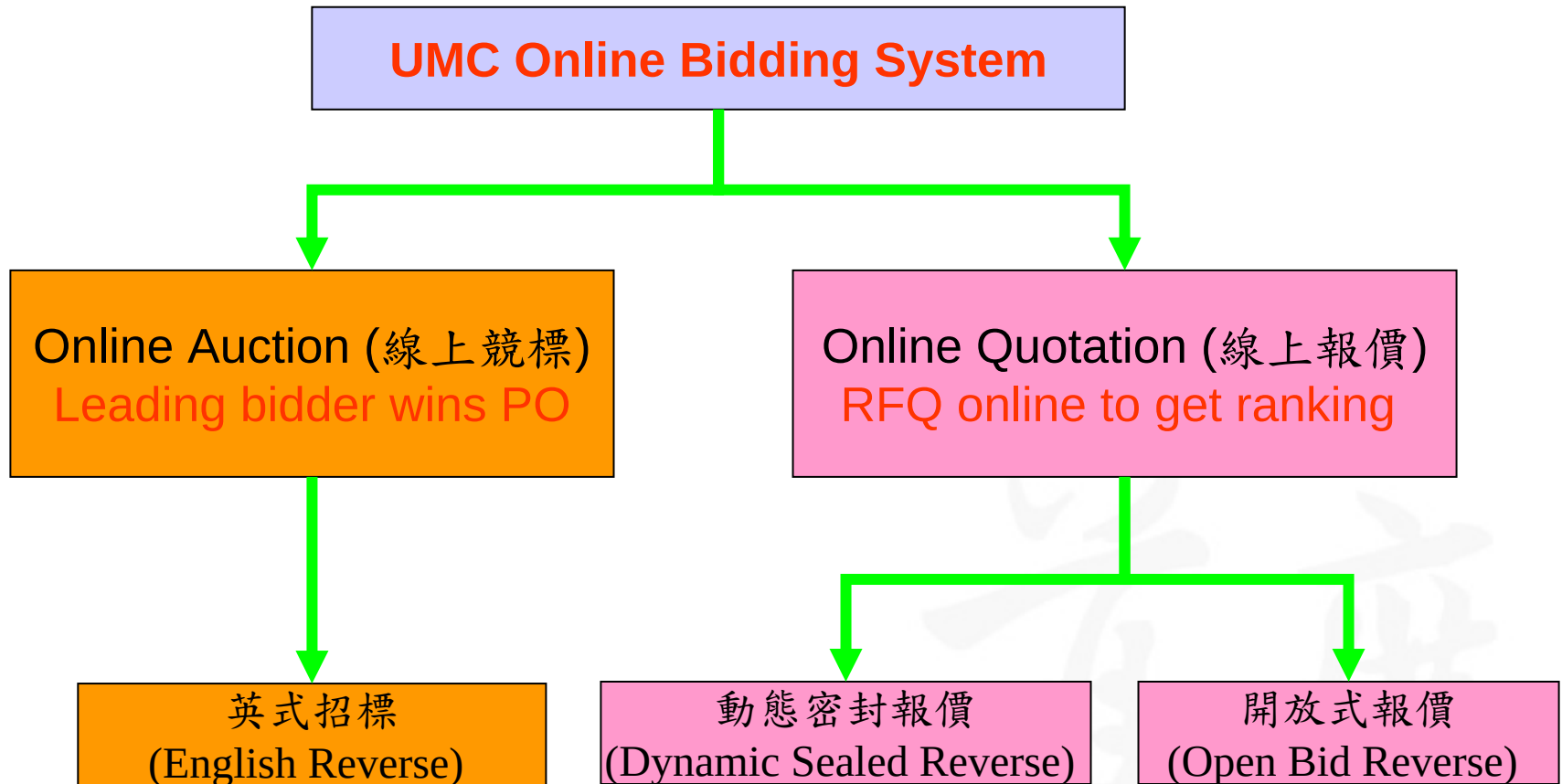
2002



模式	透明度	系統後續 維護費用	系統建 構成本	系統建構 時間	系統修改 彈性
第三者經營之系統	高	低	低	2~3星期	低
自行建構之系統	低	高	高	3個月	高

- ❖ UMC treat e-Auction as a TOOL.
- ❖ A tool to shorten the the negotiation process.
- ❖ A tool to improve the transparency and fairness.
- ❖ Not only price, but also efficiency & ranking

**So, we develop two models for this tool.
(a) Price Bid & (b) Online Quotation.**



- **Online Auction (線上競標)**
 1. No other considerations, only price.
 2. Spec is well defined, even trade terms.
 3. Leading bidder wins the PO.

- **Online Quotation (線上詢報價)**
 1. RFQ & Price Nego. online.
 2. Price is one of the conditions to select supplier.
 3. Get rankings quickly. And drive the price in a real competition situation.
 4. Most of the case, we still place the PO to the leading one.

- ❑ **邀請報價：**聯華電子股份有限公司(以下簡稱本公司)於詢價案件開放前適當時間製作邀請單邀請供應商參與報價。
- ❑ **本公司此次之線上報價作業目的在於請有意願之廠商提供建議交易價格，報價結果將做為此次採購案之主要參考依據之一；但不為擇選供應商之唯一依據。**
- ❑ **報價：**廠商依本公司邀請單上提供之規格及報價數量計算總價，並於邀請單指定時間登入本公司設置之線上報價系統(以下簡稱報價系統)進行報價。
- ❑ **報價法：**本公司之報價系統採以下報價法：「**開放式報價**」(“Open Bid Reverse”)。
- ❑ **延長競標：**報價系統於詢價案件預定結束時間前2分鐘內有任何一方出價時，將自動延長2分鐘，最長延長500分鐘。

- ❑ **得標廠商公佈：**原則上於「招標項目」正式結束之後一週內，本公司將依照招標規則決定得標者，並將此決定即刻通知各個參加競標之廠商。
- ❑ **PO:**本公司將依標準流程簽發訂單予得標廠商，得標廠商須依約將標的物送抵買方。



The login interface features a blue background with a faint image of a circuit board. In the top left, the UMC logo and Chinese name '聯華電子' are displayed. In the top right, the 'COMMERCE ONE' logo is present. The central text reads '歡迎加入 ActiveMarket'. On the right side, there are three input fields labeled '使用者 ID', '密碼', and '公司 ID', followed by a '登入' (Login) button.

UMC
聯華電子

歡迎加入

ActiveMarket

COMMERCE ONE

使用者 ID

密碼

公司 ID

登入

聯電 e-Auction system 操作手冊

UMC e-Auction system operation manual

Copyright (c) 2001, 2002 Commerce One, Inc. 版權所有。



拍賣精靈

1. 定義拍賣品 ✓ 2. 拍賣品詳細資訊 >> 3. 項目詳細資訊 >> 4. 貨幣和媒體 >> 5. 選取投標人 >> 6. 摘要 >>

2. 拍賣品詳細資訊 拍賣品名稱: Test Auction 200607-1

請填妥所有必要欄位 (*), 然後按一下「儲存並繼續」按鈕。您只要按一下上述任一步驟, 即可回到該步驟。

仿製

仿製現有拍賣品

[請按一下這裡](#)

時間管理

2006/7/4 08:08 PM

拍賣品起始時間 (yyyy/M/d) *

2006 / 7 / 4 11 : 00 PM

拍賣品截止時間 (yyyy/M/d) *

2006 / 7 / 4 11 : 20 PM

請核取, 啟用這個拍賣品的延長時間



延期間隔 (分鐘)

2

最大延期數目

100

延期方式

在投標時間延期

類型

選取方式

反向 (買)

選取拍賣類型

標金公開

規則

選取得標規則

最佳出價

選取 MVB 範本



請核取, 強制投標人務必針對所有項目投標。



[設定檔](#) [登出](#) [說明](#)
 使用者: release-TW release-TW
 組織: 聯華電子 UMC

[首頁](#) | [拍賣中心](#) | [即時行情看板](#) | [訊息中心](#) | [偏好設定](#)

☒ 下載項目上傳工具

拍賣中心 顯示方式: 反向拍賣品
如果要自訂這個畫面，請按一下 [這裡](#)。

[開啟](#) [未來](#) [已關閉](#) [已暫停](#) [待命中](#) [不完整](#) [核准](#) [搜尋](#)

反向拍賣品 - 上次更新日期 2006/7/4 11:22 PM

組織	事件名稱	拍賣品 ID	拍賣品名稱	起始時間	截止時間	分類	類型 貨幣
Taiwan (Chinese)	Test Auction 200607	87	Test Auction 200607-1 (1)	2006/7/4 11:00 PM	2006/7/4 11:20 PM	All Products	TWD

1 - 1 [1]

荷蘭式
 動態
 英式
 英式 (代理出價不得相同)
 MVB
 標金公開
 標金密封
 美式

[離開拍賣中心](#) | ☒ 下載項目上傳工具

拍賣品詳細資訊

[拍賣中心](#) [詳細資訊](#)

詳細資訊

摘要	標籤	詳細資訊
Test Auction 200607 └─ Test Auction 200607-1 ▶ └─ Test Auction 200607-1 Item A	事件名稱 組織名稱 事件內的拍賣品從屬關係	Test Auction 200607 UMC Taiwan 無
	拍賣品名稱 拍賣品說明	Test Auction 200607-1 Test Auction 200607-1
	起始時間 截止時間 允許延長時間 延期間隔 (分鐘) 最大延期數目 拍賣類型 拍賣方式 拍賣規則 投標人必須針對所有項目 投標 分類	2006/7/4 11:00 PM 2006/7/5 11:20 PM 在投標時間延期 2 100 標金公開 反向 最佳出價 否 All Products

差異點	英式競標 English Reverse	動態密封報價 Dynamic Sealed Reverse	開放式報價 Open Bid Reverse
顯示目前之領先價格	V	V	X
依報價高低顯示排名	V	V	V
設有最小降價幅度	V	V	X
出價需低於起標價 (Opening price)	V	V	V
本次出價需低於自己前一次出價	V	V	X
出價必須低於競爭者的前一次出價	V	X	X
系統會限制最低價只有一位	V	V	X

Source: UMC 內部文件

UMC Taiwan for Buy of December_2008

	Category	Auctions	Reference Price	Final Price	Saving	%
1	Raw Material	106	10,552,726	8,361,385	2,191,341	20.8%
2	Parts	3	7,242,710	6,544,000	698,710	9.6%
3	Facility	35	86,799,694	80,287,159	6,512,535	7.5%
4	General Affair	4	27,907,011	19,625,769	8,281,242	29.7%
5	IT	1	5,050,000	4,620,000	430,000	8.5%
6	Mask	3	19,884,387	10,513,800	9,370,587	47.1%
	Total	152	157,436,528	129,952,113	27,484,415	17.5%

UMC Taiwan for Buy up-to December_2008

Period	Auctions	Reference Price (K)	Final Price (K)	Saving (K)	%
2008	334	796,707	702,185	94,522	11.9%
2007	269	668,801	558,193	110,608	16.5%
2006	108	1,472,122	1,382,752	89,369	6.1%
2005	522	1,469,508	1,282,953	186,555	12.7%
2004	304	10,960,071	10,170,344	789,727	7.2%
2002/10 ~ 2003	227	1,471,808	1,131,472	340,336	23.1%
Total	1,764	16,839,017	15,227,899	1,611,118	9.6%

1. 聯電使用電子競標的年度採購金額為何？佔全部採購金額多少？案件數為何？佔全部案件的比例？
2. 聯電使用電子競標的採購品項為何？
3. 聯電使用電子競標時，供應商是否曾不承認投標價格，件數約有多少？貴公司處理方式為何？
4. 聯電使用電子競標時，電子競標作業與原有詢比議價／請訂驗／廠商管理等流程如何搭配？

1. 聯電使用電子競標的年度採購金額為何? 佔全部採購金額多少? 案件數為何? 佔全部案件的比例?

A:

2007總採購金額460億

2008總採購金額580億

2009總採購金額700億

2010總採購金額1100億

Period	Auctions	Reference Price (K)	Final Price (K)	Saving (K)	%
2008	334	796,707	702,185	94,522	11.9%
2007	269	668,801	558,193	110,608	16.5%
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Total	1,764	16,839,017	15,227,899	1,611,118	9.6%

2. 聯電使用電子競標的採購品項為何？

A:

**Raw materials,
Spare parts,
Facility,
IT Hardware/ software, OA,
General affairs
Mask**

3. 聯電使用電子競標時，供應商是否曾不承認投標價格，件數約有多少？ 貴公司處理方式為何？

A:

1. 不多

2. 由2nd 遞補， 毀約廠商限制期限內或永遠不來往

首席

4. 聯電使用電子競標時，電子競標作業與原有詢比議價/請訂驗/廠商管理等流程如何搭配？

A:

1. 主要focus 在詢比議價，不影響暨有之請訂購
2. 部分case 會要求user 對更多vendor進行 qualification以擴大supplier base.
3. 部分case會進行1st 人工議價取得 opening price, 接著進行bidding.
4. final得標廠商，大部份以bidding 之 ranking 為主
5. 廠商管理：會更重視IQA & Delivery & Allocation 管理(for multiple source case)

Q & A

