

**The Pacific Economic Cooperation Council's 15th General Meeting
Brunei Darussalam**

**Planning and Implementation of the Regional
Logistic and Supply Chain Management System
in the ASEAN Free-trade Area for Yong-Shing
Pharmaceutical Industries (Malaysia) SDN, BHD**

**Dr. Chun-Wei Lin, Chairman
Department of Industrial Management
National Yunlin University of Science and Technology
1 September 2003**



Agenda

- ◆ Initiatives
- ◆ Outstanding Achievements in ASEAN
- ◆ Yong-Shing Pharmaceutical Industries (Malaysia) SDN, BHD (YSP)
- ◆ Problem Statement and Project Scope
- ◆ Planning and Implementation Procedures
- ◆ Current Status and Achievement
- ◆ Concluding Remarks



Initiatives

◆ Major Focus of National Yunlin University of Science & Technology (NYUST):

- Academic and practical
- Regional Support and Global Connection
- Also as the crucial requirements for modern vocational and technological education



Initiatives (Cont.)

◆ “3+1” Faculty Industrial Practice Program at NYUST:

- Initiated by President T.M Lin of NYUST
- “3” → Three year teaching/research responsibility
- “1” → One year industrial practice
- Encourage faculties to not just apply but to verify their theories and research results to real industrial practice
- Tightly seal the gap between industries and faculties – mentality and achievement
- Go globally
- Most of all, still get pay check from NYUST



Outstanding Achievements in ASEAN



**Dr. Chun-Wei Remen Lin, Chairman
Department of Industrial Management**



Outstanding Achievements in ASEAN (Cont.)

Table VI.1. FDI in ASEAN by Host Country and Year During 1995-2000(US \$ million)

Host Countries	1995	1996	1997	1998	1999	2000	1995-2000
Brunei	582.8	653.6	701.7	573.3	596.0	600.2	3,707.6
Darussalam							
Cambodia	150.7	293.7	168.1	120.7	143.6	125.7	1,002.5
Indonesia	4,346.0	6,194.0	4,677.7	-355.2	-2,745.1	-4,550.0	7,567.5
Lao PDR	88.4	128.0	86.3	45.3	51.5	33.9	433.4
Malaysia	3,007.0	3,698.3	2,956.0	1,656.4	1,988.5	1,309.7	14,615.9
Myanmar	317.6	580.7	878.8	683.6	304.2	203.4	2,968.4
Philippines	1,578.0	1,632.0	1,285.0	1,790.0	1,701.0	1,726.0	9,712.0
Singapore	7,208.3	8,984.1	10,334.0	5,791.2	6,968.4	6,390.2	45,676.3
Thailand	2,004.0	2,270.6	3,626.8	7,433.6	6,149.8	3,280.2	24,765.0
Viet Nam	1,780.0	1,803.0	2,587.0	1,700.0	1,483.9	1,289.0	10,642.9
ASEAN	21,062.8	26,238.0	27,301.5	19,438.9	16,641.9	10,408.4	121,091.4
ASEAN 5	18,143.3	22,779.0	22,879.5	16,316.0	14,062.6	8,156.2	102,336.6
BCLMV	2,919.5	3,459.0	4,421.9	3,122.9	2,579.3	2,252.2	18,754.7

Source: ASEAN Statistical Year Book

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Outstanding Achievements in ASEAN (Cont.)

Table 2.1. Growth of Gross Domestic Product (% , y-o-y)

Country	1996	1997	1998	1999	2000	2001	2002
Brunei	1.01	3.60	-3.99	2.56	2.83	1.47	-
Cambodia	4.60	4.29	2.15	6.86	7.66	6.28	-
Indonesia	7.82	4.71	-13.13	0.79	4.92	3.44	3.66
Lao, PDR	6.89	6.91	3.99	7.28	5.74	6.40	-
Malaysia	10.00	7.32	-7.36	6.14	8.33	0.45	4.21
Myanmar	6.44	5.74	5.77	10.92	13.70	10.50	-
Philippines	5.85	5.19	-0.59	3.41	4.38	3.22	4.56
Singapore	7.71	8.54	-0.09	6.93	25.49	-2.32	2.20
Thailand	5.90	-1.37	-10.51	4.45	4.65	1.94	-
Viet Nam	9.34	8.15	5.83	4.71	6.76	6.84	7.04
ASEAN	7.30	4.14	-7.11	3.57	6.73	2.99	
ASEAN 5	7.23	3.77	-8.89	3.14	6.48	2.31	
BCLMV	7.85	7.07	5.12	6.43	8.42	7.52	

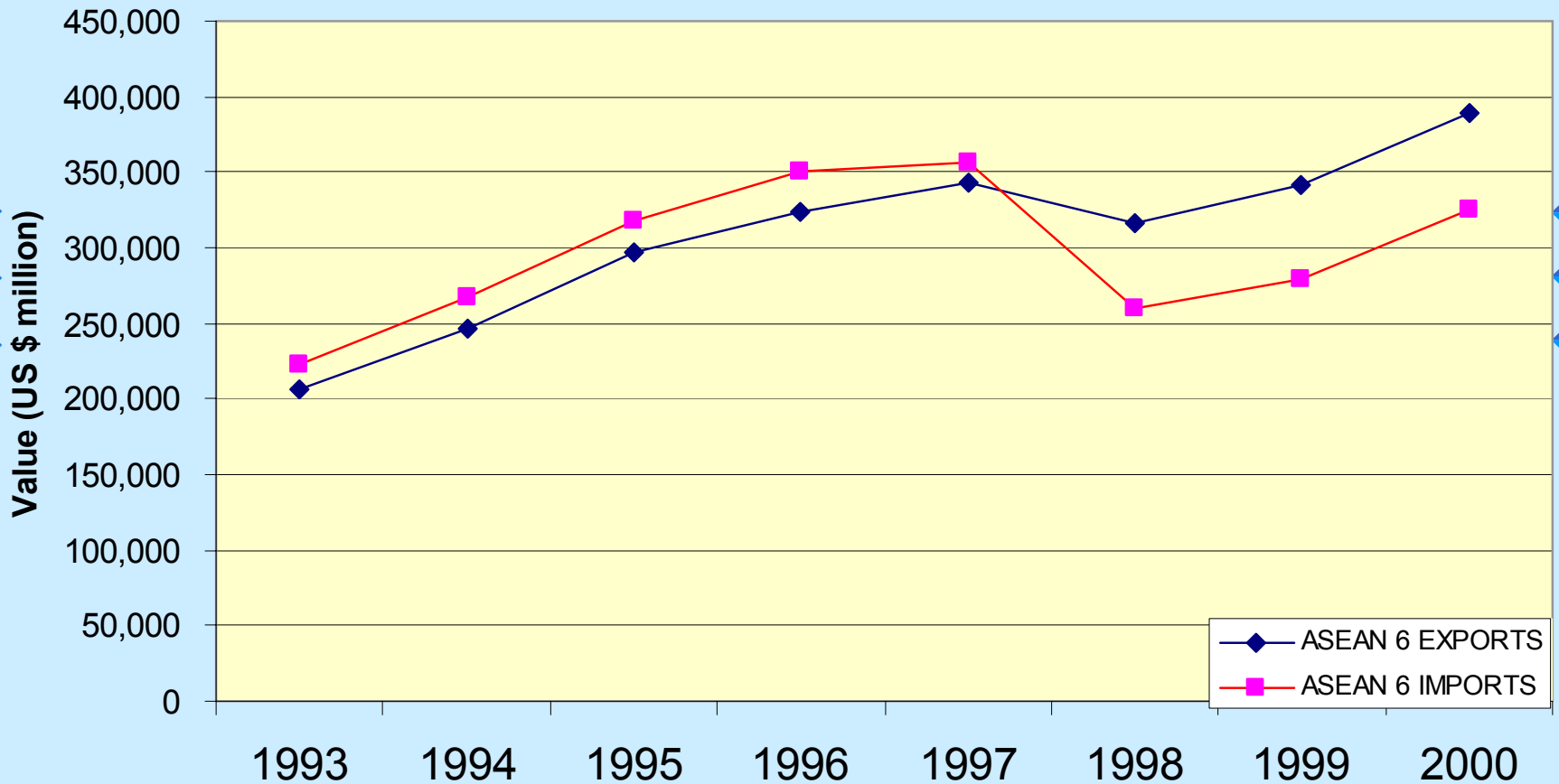
Source: ASEAN Statistical Year Book

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Outstanding Achievements in ASEAN (Cont.)

Graphic V.1. Trend in ASEAN 6 Total Exports and Imports, 1993-2000



Source: ASEAN Statistical Year Book

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Outstanding Achievements in ASEAN (Cont.)

Table III.4: Percentage of Employment by Major Industry Group (%)

Country	Year	Agriculture, Forestry, Hunting, Fisheries	Manufact. Industry	Construction	Wholesales Trade, Retail Trade, Restaurants and Hotels	Transportation, Storage, Communication	Finance, Insurance, Real Estate and Business Services	Public Services	Others (Mining, Electricity, Gas and Water)	Total
Brunei Darussalam	1995	2.0	5.8	50.4	15.6	5.7	6.8	5.6	7.9	100.0
	2000	-	-	-	-	-	-	-	-	-
Cambodia	1996	78.1	3.8	0.9	9.0	1.5	0.3	6.3	0.1	100.0
	1999	76.3	4.7	1.5	7.8	2.2	0.3	7.0	0.2	100.0
Indonesia	1996	44.0	12.6	4.4	18.8	4.6	0.8	13.7	1.1	100.0
	2000	45.3	13.0	3.9	20.6	5.1	1.0	10.7	0.6	100.0
Lao PDR	1996	-	-	-	-	-	-	-	-	-
	2000	-	-	-	-	-	-	-	-	-
Malaysia	1996	16.8	27.0	8.6	16.5	5.1	4.8	19.7	1.4	100.0
	2000	18.4	22.8	8.6	19.2	4.5	5.0	20.8	0.8	100.0
Myanmar	1996	66.6	8.8	2.1	9.7	2.6	7.9	1.5	0.9	100.0
	2000	-	-	-	-	-	-	-	-	-
The Philippines	1996	41.7	10.0	5.7	14.8	6.0	2.5	18.3	0.9	100.0
	1999	39.1	9.6	5.2	15.9	6.9	2.5	20.0	0.8	100.0
Singapore	1996	-	23.2	6.6	23.2	11.2	14.1	21.0	0.7	100.0
	2000	-	20.8	13.1	19.2	9.4	15.4	21.6	0.6	100.0
Thailand	1995	52.0	13.4	5.7	12.6	3.0	12.7	-	0.7	100.0
	1999	47.4	14.5	4.1	15.3	3.0	15.0	-	0.7	100.0
Viet Nam	1996	9.5	19.6	9.7	7.6	6.4	3.4	38.7	5.1	100.0
	2000	6.6	20.4	10.8	6.0	6.2	4.0	41.1	4.9	100.0

Source: ASEAN Statistical Year Book

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Yong-Shing Pharmaceutical Industries (Malaysia) SDN, BHD

Year	KEY ACHIEVEMENT/MILESTONE
1989	Acquired 3 acres of land in Kawasan Perindustrian Bandar Baru, Bangi, Selangor, Malaysia
1990	Began construction of manufacturing plant in Bangi Established warehouse in Kuching, Sarawak
1991	Obtained manufacturing license from MIDA and began operations of manufacturing plant in Bangi First veterinary product manufactured in Bangi
1992	Obtained GMP status for Bangi manufacturing plant Submission of 57 pharmaceutical product samples to the DCA Issue of First Product Pihak Berkuasa Kawalan Dadah (PBKD) number from DCA Issue of manufacturing license from DCA for pharmaceutical product Established warehouse in Bukit Mertajam, Penang
1993	Regular production output of pharmaceutical and veterinary products
1994	Established warehouse in Kota Kinabalu



Yong-Shing Pharmaceutical Industries (Malaysia) SDN, BHD

Year	KEY ACHIEVEMENT/MILESTONE
1995	Obtained GMP status for veterinary product manufacturing at Bangi plant
1996	Started Logistics Consultation Project with Professor Chun-Wei Lin of NYUST Expanded production area and warehouses Upgraded production batch size of syrup preparations Set up representative office in Vietnam
1997	Established R&D section in Bangi plant
1998	Started new production line of suppository dosage form Set up MYSP
1999	Installed automated suppository filling line
2000	Started bigger batch size production for solid dosage form Set up YS(P)



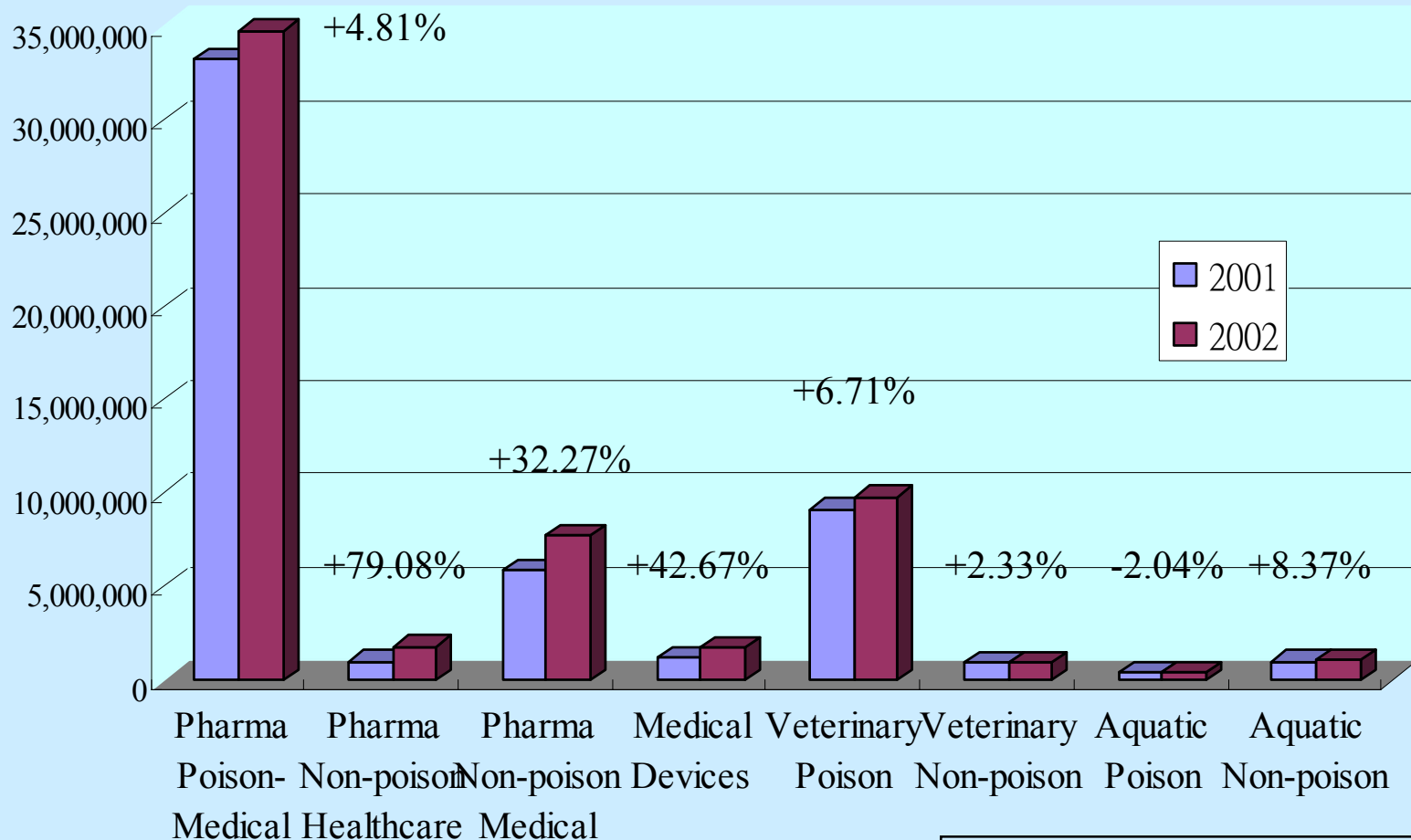
Yong-Shing Pharmaceutical Industries (Malaysia) SDN, BHD

Year	KEY ACHIEVEMENT/MILESTONE
2001	Take over YSP(S), Set up YSP(C) Began construction of new warehouse and production area at Bangi YSPI's achievement of the "Third National Award of Overseas Taiwanese Enterprise"
2002	Factory expansion of Block G for Warehousing and Production of Cephalosporin Started the on-site consultation project: "Planning and Implementation of the Regional Logistic and Supply Chain Management System in the ASEAN Free-trade Area" with Professor Chun-Wei Lin under the support of "3+1" program of NYUST
2003	Purchase new plant area (3.43 acre) at Pelan Struktur Bandar Baru Bangi for ASEAN logistics centre



Year 2001 vs. Year 2002 Sales by Product Type of YSP(M)

RM



Y.S.P. INDUSTRIES (M) SDN. BHD.
(Kawasan Perindustrian Bandar Baru,
Bangi, Selangor, Malaysia)





Problem Statement and Project Scope

◆ YSP needs:

- To get ready for the expanding market in the free-trade area of ASEAN ASAP !
- Full-time expert's consultation for the regional strategic logistics and supply chain management

◆ The NYUST research team needs:

- Opportunities to implement and verify the applicability of the innovative design concept of IMCC (Infrastructure of the Integrated Manufacturing and Commerce Curriculum at NYUST)
- To extend the research scope globally

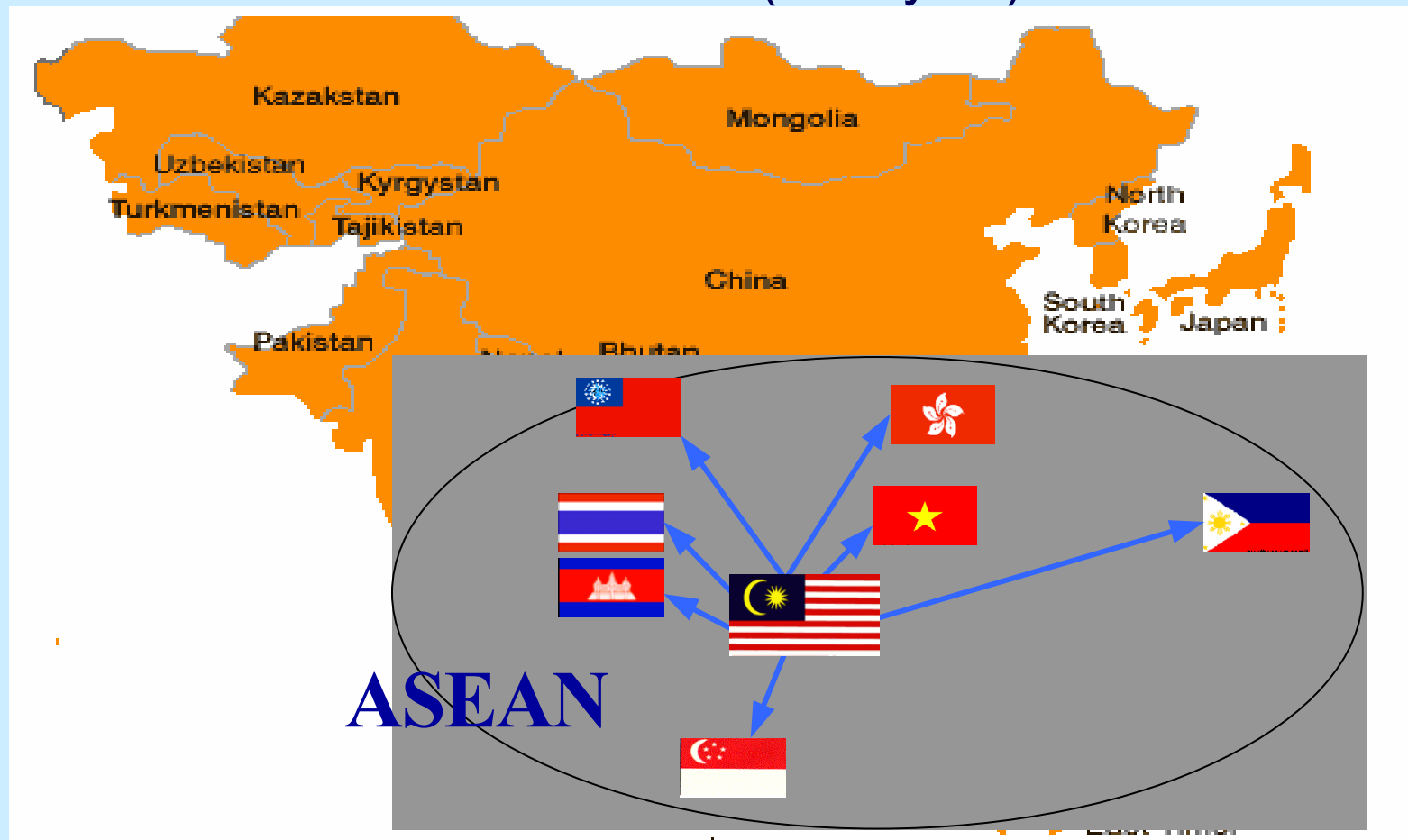


Problem Statement and Project Scope (Cont.)

- ◆ President T.M. Lin of NYUST timely initiated the “3+1” program:
 - YSP(Malaysia) \leftrightarrow Faculty(NYUST) \leftrightarrow “3+1”
= Practical Project: “Planning and Implementation of the Regional Logistic and Supply Chain Management System in the ASEAN Free-trade Area for YSP(Malaysia)”

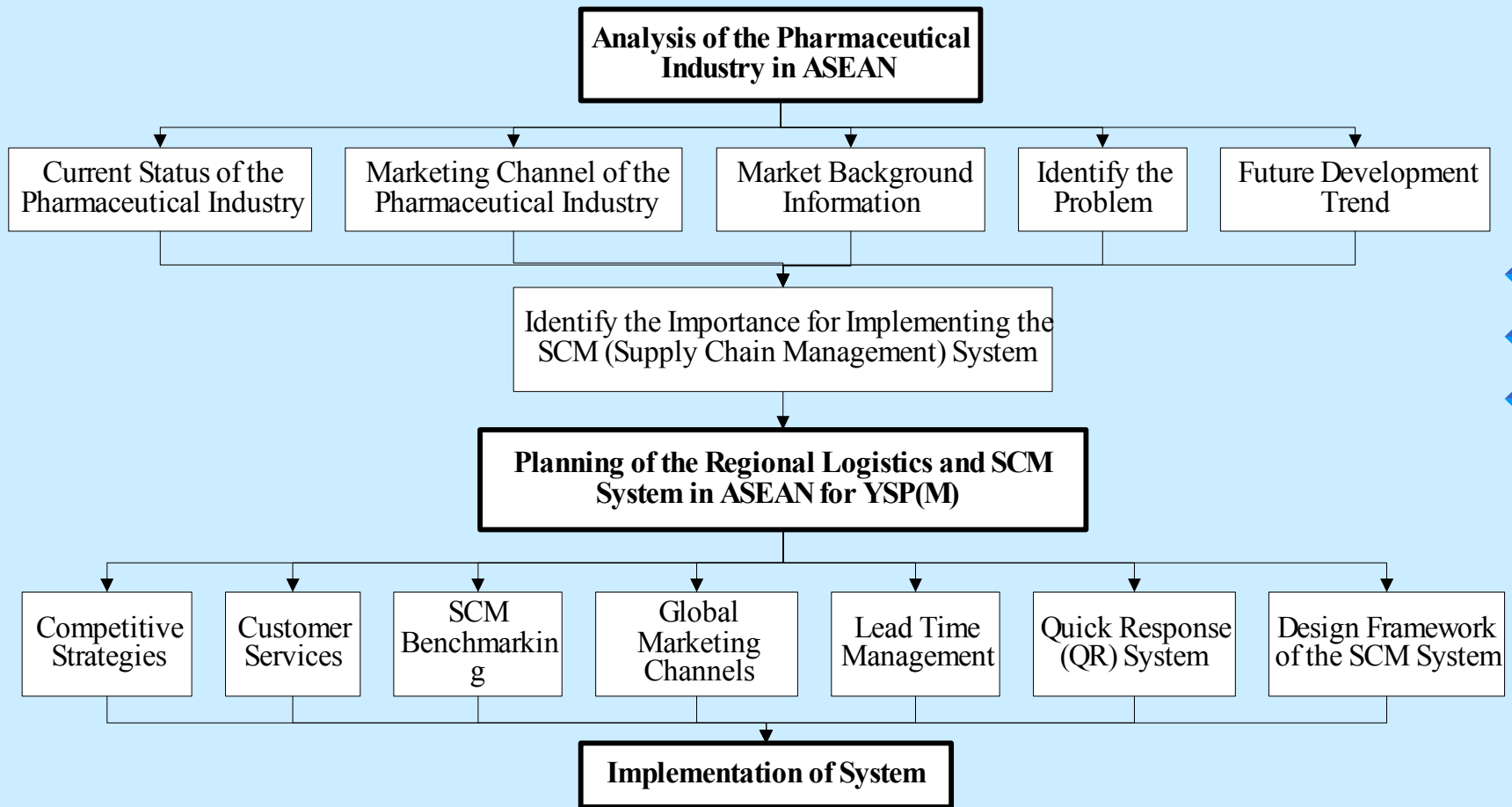


Planning and Implementation of the Regional Logistic and Supply Chain Management System in the ASEAN Free-trade Area for YSP(Malaysia)





Planning and Implementation Procedures





Characteristics of the Pharmaceutical Industry

- ◆ Under the strict regulation by the government
- ◆ Extremely high R&D expenses
- ◆ Under the long period patent protection
- ◆ Large varieties and small batch production type



Difficulties of the Pharmaceutical Industry in ASEAN

- ◆ Difficult to open export market
- ◆ High dependency on imported raw material
- ◆ Lack of standard document and bar code system
- ◆ Imported medicines take significant share of the market



Future Trend of the Pharmaceutical Industry in ASEAN

- ◆ Explore foreign investment and technological cooperation
- ◆ Industrial upgrade and integration
- ◆ Simplification of the marketing channels
- ◆ Full application of the information technology
- ◆ Globalization



Implementation Procedures

- ◆ Verify the competition strategies
- ◆ Confirmation of the competitiveness:
 - Cost
 - Differences
- ◆ Customer service system:
 - Timeline
 - Reliability
 - Communication
 - Convenience



Implementation Procedures (Cont.)

- ◆ Implementation of the ERP (Enterprise Resource Planning) Information System
- ◆ Setup benchmarking indices:
 - Innovation
 - Customer-oriented CS quality
 - Capability in continuous reengineering
 - Healthy financial planning capability
 - Global Logistics
 - Social responsibility
 - Long term investment



Implementation Procedures (Cont.)

◆ Global logistics centre:

- Collaborative training and education
- Serve ASEAN
- Quick response
- Short turnover
- Multiple distribution services
- Mid-term development: 3PL (3rd Party Logistics)
- Long-term development: 4PL (4th Party Logistics)



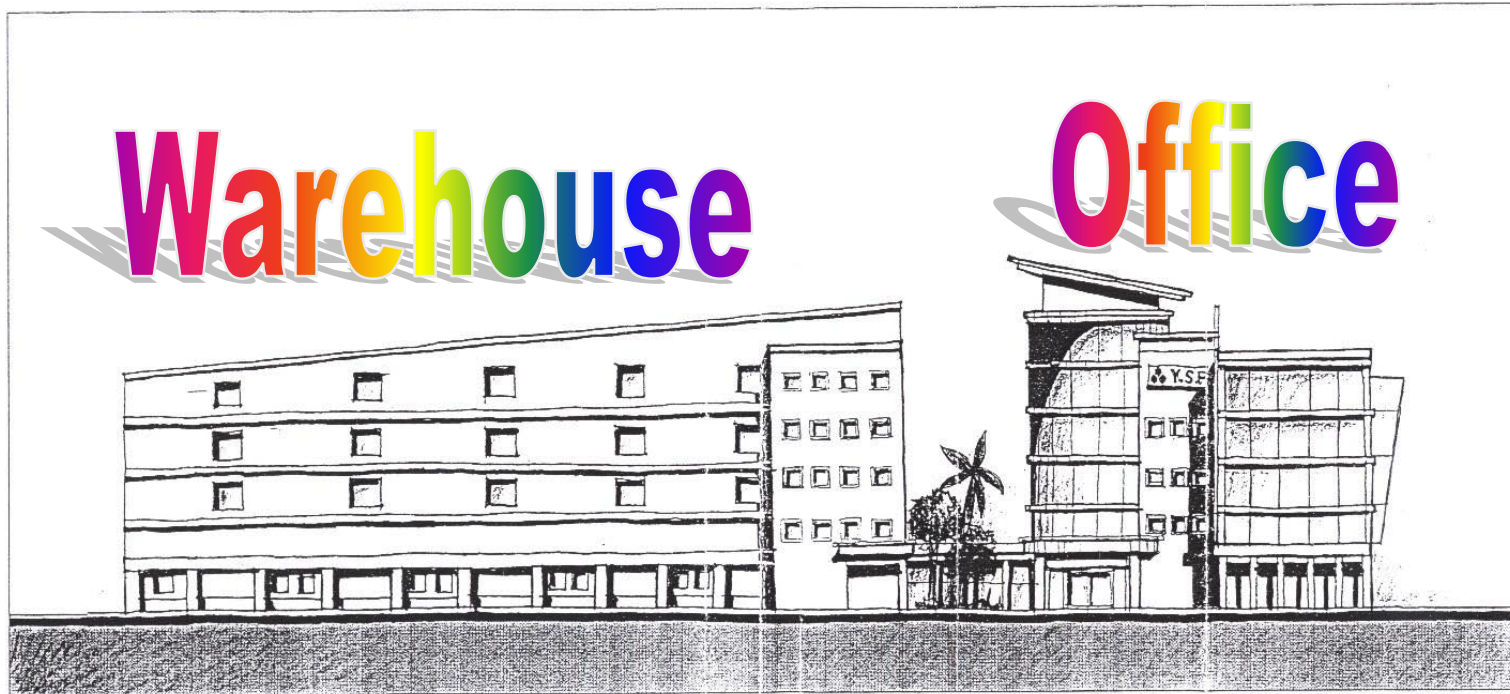
Current Status and Achievement

Pelan Struktur Bandar Baru Bangi

Global Logistics Centre

Global Logistics Centre

Current Status and Achievement



SKETCH FACADE

**PROPOSED OFFICE BLOCK AND WAREHOUSE ON LOT 6 & 8, JALAN 9/7,
SECTION 10, BANDAR BARU BANGI, SELANGOR DARUL EHSAN
FOR Y.S.P. INDUSTRIES (M) SDN. BHD.**

 **Arkitek E A
Sendirian Berhad**
No. 5-1, Jalan 10/17250, Taman
Desa Pelandok, 57100 Kuala Lumpur,
Tel: 03-90581726, Fax: 03-90586504

EA 0311

APRIL 2003



Current Status and Achievement in the ERP System

◆ Financial Subsystem

- General Ledger
- Account Receivable
- Account Payable
- Fixed Assets

◆ Sales Order Management Subsystem

- Daily Sales Order Processing
- Additional Sales Order Processing
- Sales Order End of Day Processing
- Sales Order Report
- Sales Order Inquiry
- Customer Management
- Commission Management



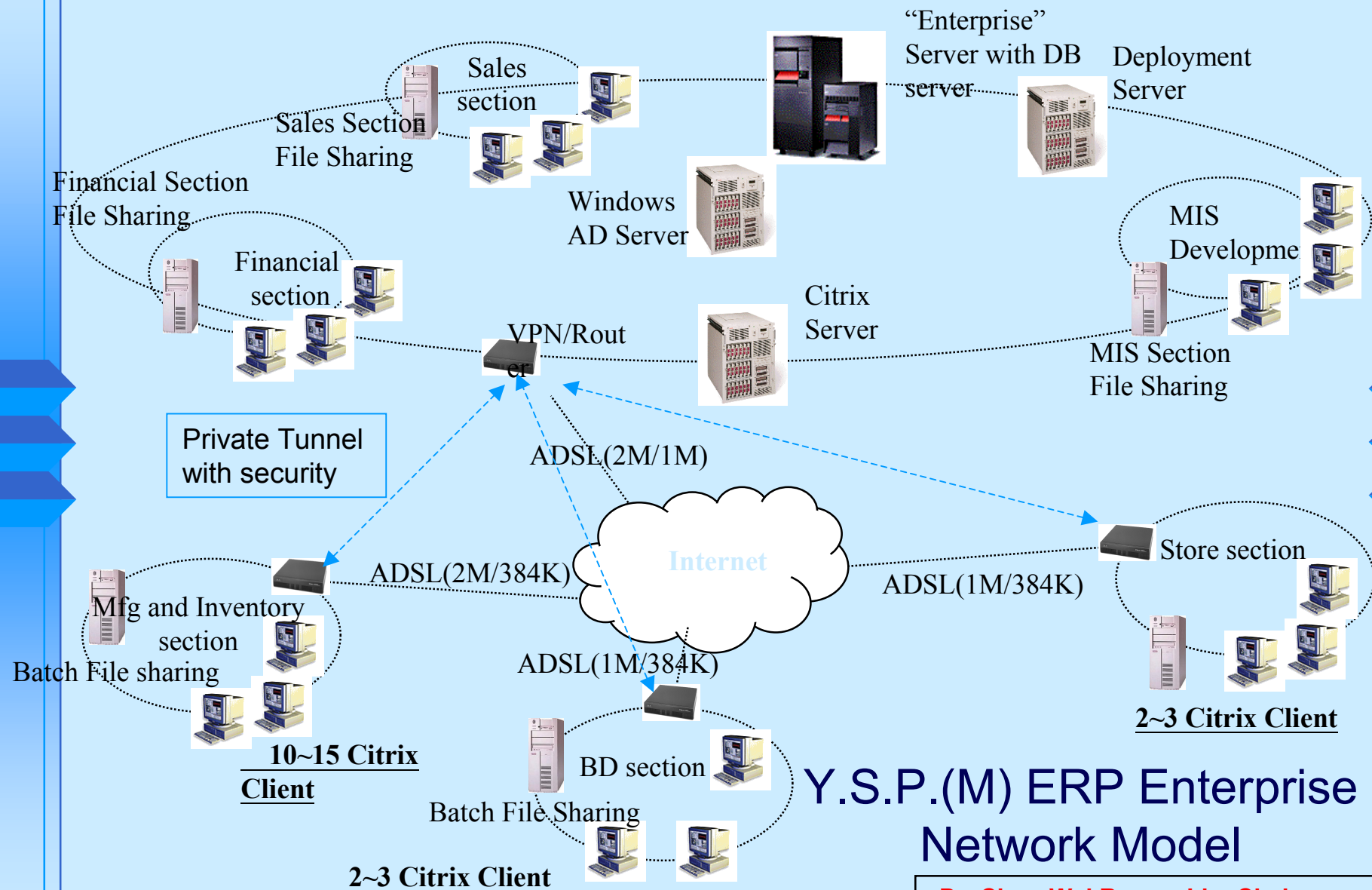
Current Status and Achievement in the ERP System (Cont.)

◆ Inventory Management Subsystem

- Item Master Data and Location Management
- Inventory Transaction
- Inventory Physical Counts
- Inventory Inquiries
- Inventory Reports

◆ Procurement Management Subsystem

- Daily Procurement Processing
- End of Day Processing
- Purchasing Inquiries
- Supplier Management
- Procurement Related Reports



Y.S.P.(M) ERP Enterprise Network Model

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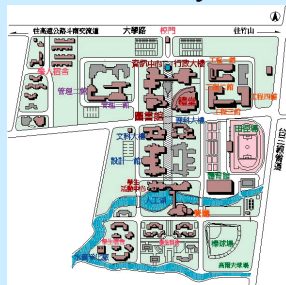
Concluding Remarks



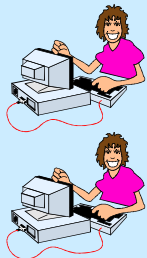
- ◆ The “3+1” faculty industrial practice program in NYUST successfully provides:
 - Global collaborative mechanism to enhance research applications and industrial upgrades
 - Training opportunities for both faculties and practitioners
 - Valuable experiences development in the ASEAN’s view for logistics and supply chain management
 - Synchronized and continual technological transfer and industrial feedback between NYUST and YSP(M)



NYUST Campus Geographic Information System



Campus Internet Shopping Center



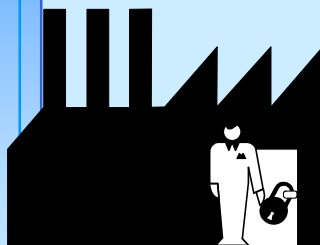
POS-to-EC Integration Platform
DC-to-EC Integration Platform
Credit Authorization
IBM Payment Gateway
Shopping Center MIS
Store MIS
Internet Marketing MIS

Campus Supermarket



POS Checkout
Counter MIS
POS Store MIS
POS Headquarter MIS
EOS/EDI
EFT/FEDI

Automated Manufacturing Center



Counter Integrated Manufacturing System(CIM)
Flexible Manufacturing Cell(FMC)
Automated Storage/Retrieval System(AS/RS)
Automatic Guided Vehicle(AGV)
Shop Floor Control System(SFC)
Manufacturing Resource Planning II(MRP-II)

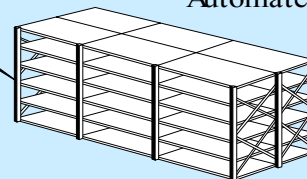
NYUST Optical Fiber Communication System

GPS-Based Transportation and Distribution Decision Support System



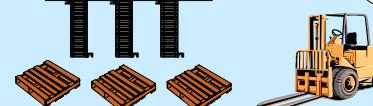
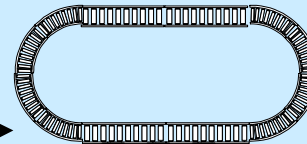
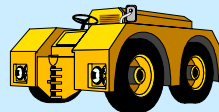
Optimal Distribution
Routing Generator
Real-time
Transportation
Monitor

Automated Distribution Center



Computer-Aided Picking System(CAPS)
RF Box-based Picking System
Automated Receiving System
Computer-Aided Dispatching System
CALs/QR Integration Platform

Continuous Acquisition & Life-cycle Support System(CALS)/ Quick Response System(QR)



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