



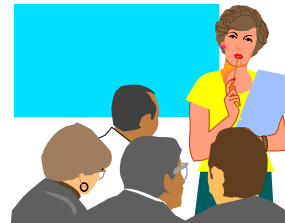
Country Report: Development of e-learning in Malaysia

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SCOPE

- Introduction
- MyGfL Initiatives
- National E-learning Centre Initiatives
- MYREN initiatives
- Smart Schools
- Universities' initiatives

National ICT Agenda



PEOPLE

- Work Culture
- ICT Skills
- Knowledge worker
- Learning Society
- United, moral & ethical

INFRASTRUCTURE

- Communication
- Fibre-Optic Cabling
- Gigabit ATM
- Satellite
- Transport/Logistic
- etc



KNOWLEDGE-BASED ECONOMY

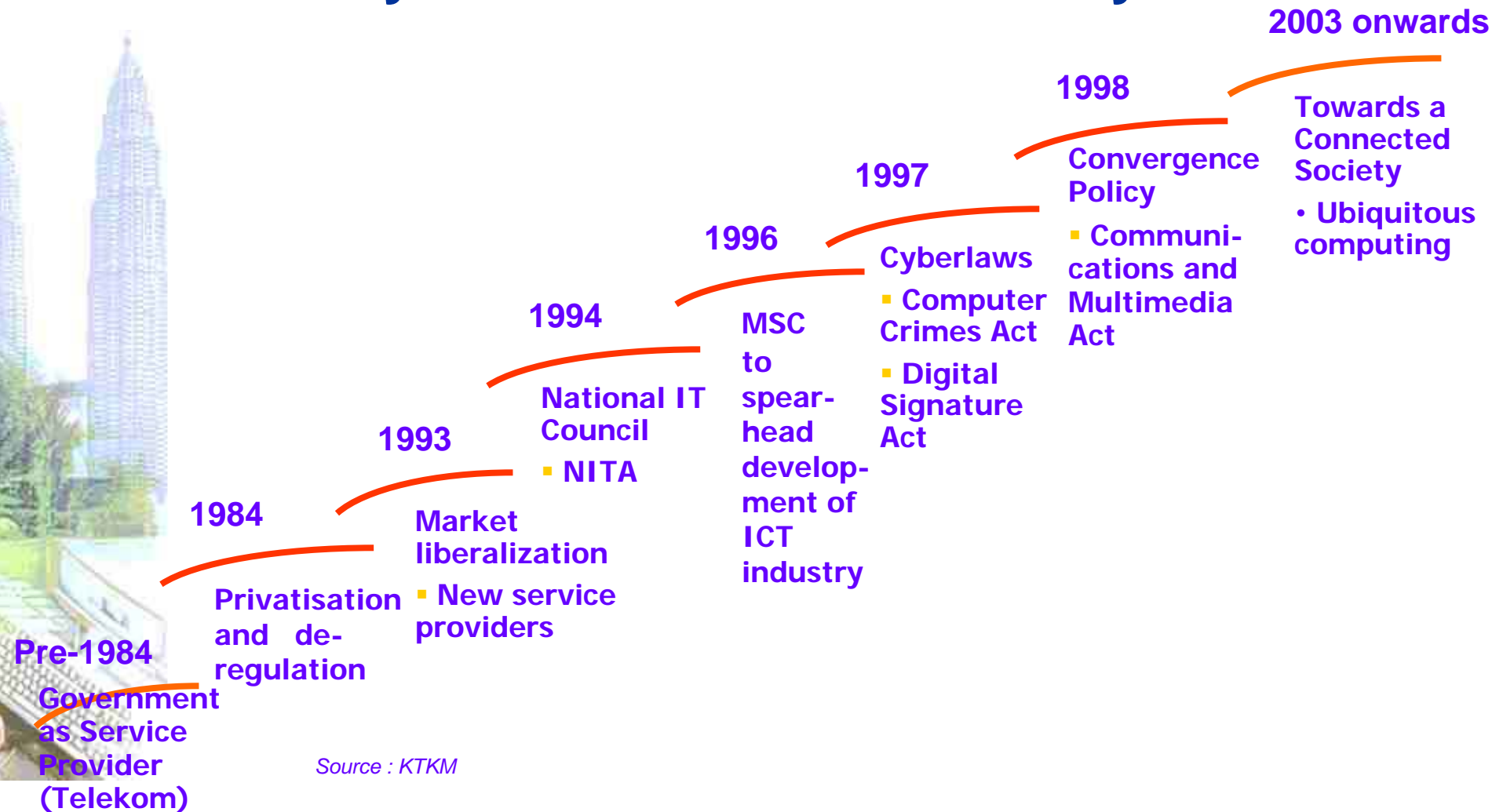
APPLICATION & CONTENT

- Smart Schools
- e-govt.
- Smartcard
- Tele-medicine
- Others



MILESTONES OF MALAYSIA'S ICT DEVELOPMENT

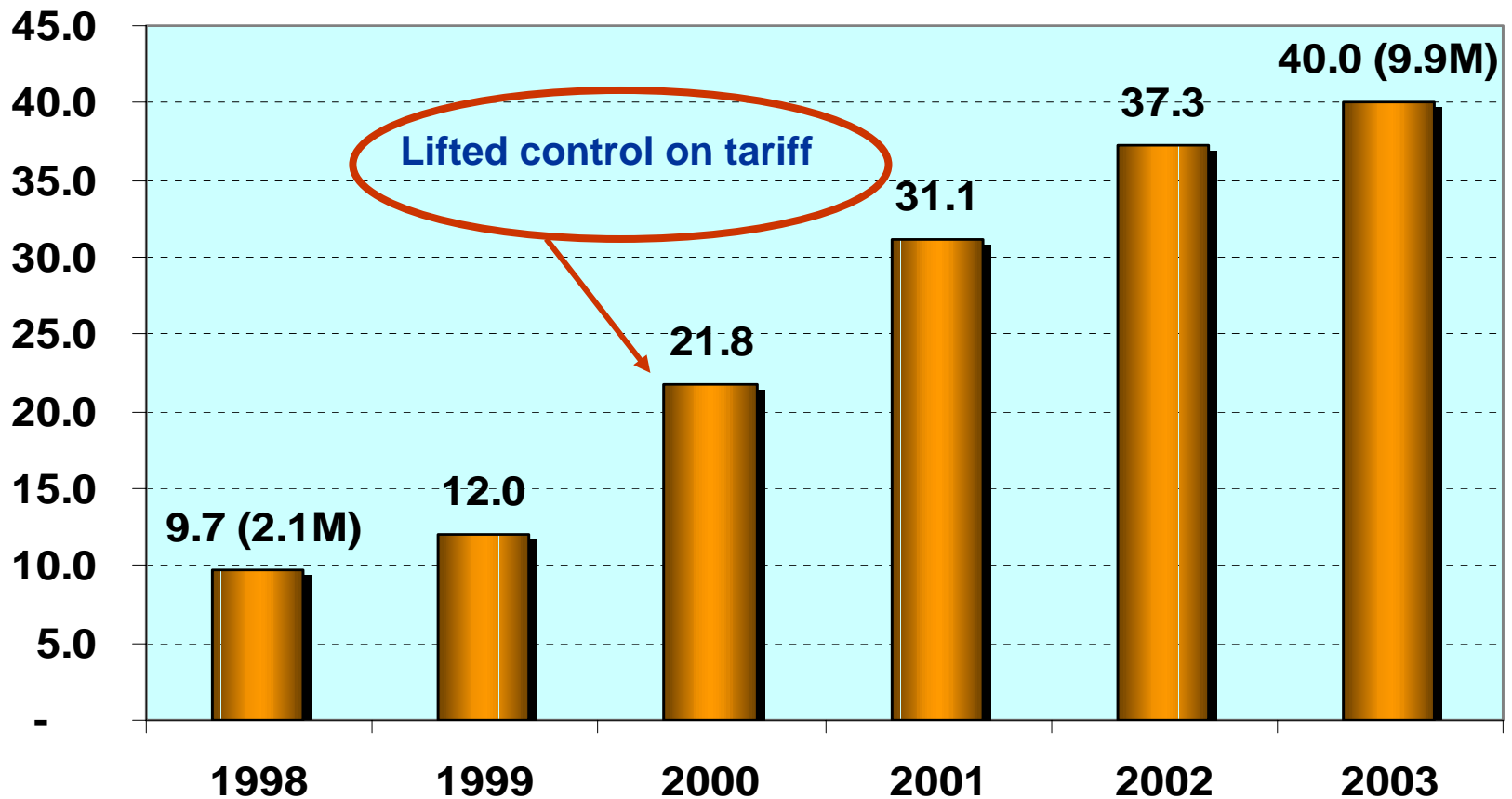
ICT in Malaysia has evolved over the years



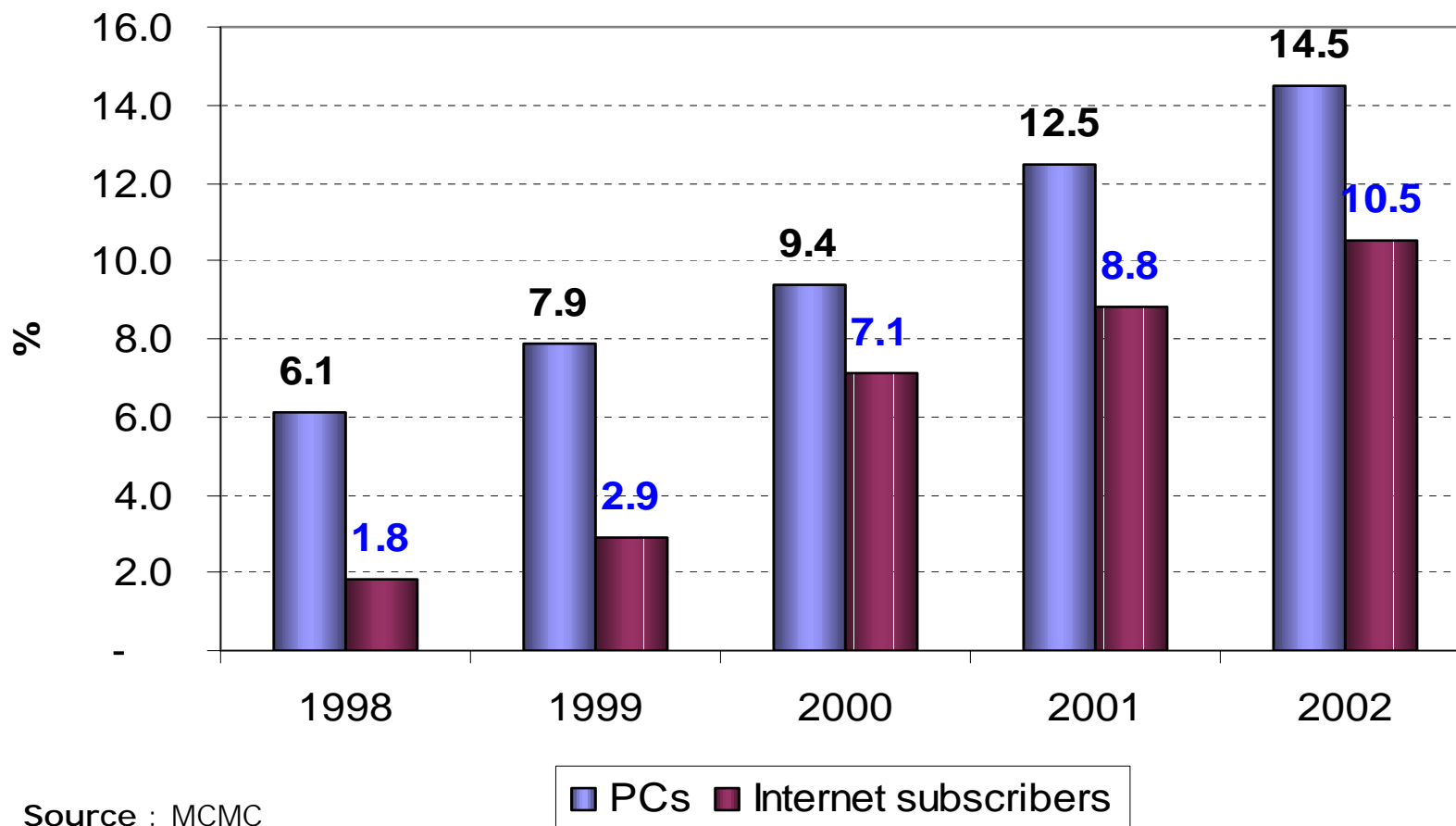
Source : KTKM

Mobile Penetration - 9.9 m Subscribers

- Very robust and offers opportunities for future growth in wireless applications and transactions



PC ownership and Internet penetration



Internet Users

TOP 20 COUNTRIES WITH HIGHEST NUMBER OF INTERNET USERS

#	Country or Region	Internet Users, Latest Data	Population (2004 Est.)	Internet Penetration	Source and Date of Latest Data	% World Users
1	United States	202,452,190	293,271,500	69.0 %	Nielsen//NR July/04	25.3 %
2	China	87,000,000	1,288,307,100	6.8 %	CNNIC June/04	10.9 %
3	Japan	66,548,060	127,853,600	52.1 %	Nielsen//NR July/04	8.3 %
4	Germany	47,182,668	82,633,200	57.1 %	Nielsen//NR July/04	5.9 %
5	United Kingdom	34,874,492	59,595,900	58.5 %	Nielsen//NR July/04	4.4 %
6	Korea (South)	30,670,000	49,131,700	62.4 %	KRNIC June/04	3.8 %
7	Italy	28,610,000	57,987,100	49.3 %	C.I.Almanac Dec/03	3.6 %
8	France	23,216,191	60,011,200	38.7 %	Nielsen//NR July/04	2.9 %
9	Canada	20,450,000	31,846,900	64.2 %	C.I.Almanac Dec/03	2.6 %
10	Brazil	19,311,854	179,383,500	10.8 %	Nielsen//NR July/04	2.4 %
11	India	18,481,000	1,088,056,200	1.7 %	ITU Dec/03	2.3 %
12	Spain	14,332,763	41,895,600	34.2 %	Nielsen//NR July/04	1.8 %
13	Australia	13,359,830	20,275,700	65.9 %	Nielsen//NR July/04	1.7 %
14	Taiwan	11,602,523	22,689,300	51.1 %	Nielsen//NR July/01	1.5 %
15	Netherlands	10,806,328	16,254,900	66.5 %	Nielsen//NR July/04	1.4 %
16	Mexico	10,033,000	102,797,200	9.8 %	ITU Dec/02	1.3 %
17	Poland	8,970,000	38,158,100	23.5 %	ITU Dec/03	1.1 %
18	Malaysia	8,692,100	25,581,000	34.0 %	ITU Dec/03	1.1 %
19	Indonesia	8,000,000	221,777,700	3.6 %	ITU Dec/02	1.0 %
20	Sweden	6,722,562	9,010,700	74.6 %	Nielsen//NR July/04	0.8 %
TOP 20 Countries		671,315,561	3,816,518,100	17.6 %	IWS - Sept./04	83.9 %
Rest of the World		128,724,937	2,573,629,387	5.0 %	IWS - Sept./04	16.1 %
TotalWorld - Users		800,040,498	6,390,147,487	12.5 %	IWS - Sept./04	100.0 %

2005/02

Malaysia: E-Readiness

EMERGING

- Basic infrastructure requirements for e-readiness in place
- Political commitment for ICT revolution

Cambodia, Laos,
Myanmar,
Vietnam

2005/02/04

EVOLVING

- Comprehensive infrastructure framework established
- Framework being updated for effective implementation

Thailand
Philippines

COUNTRY REPORT

EMBEDDING

- General acceptance of ICT by citizens, business and government
- Incorporating e-business requirements into policies, legislations and regulations
- Efforts taken to enhance international standing

Malaysia e-
readiness here

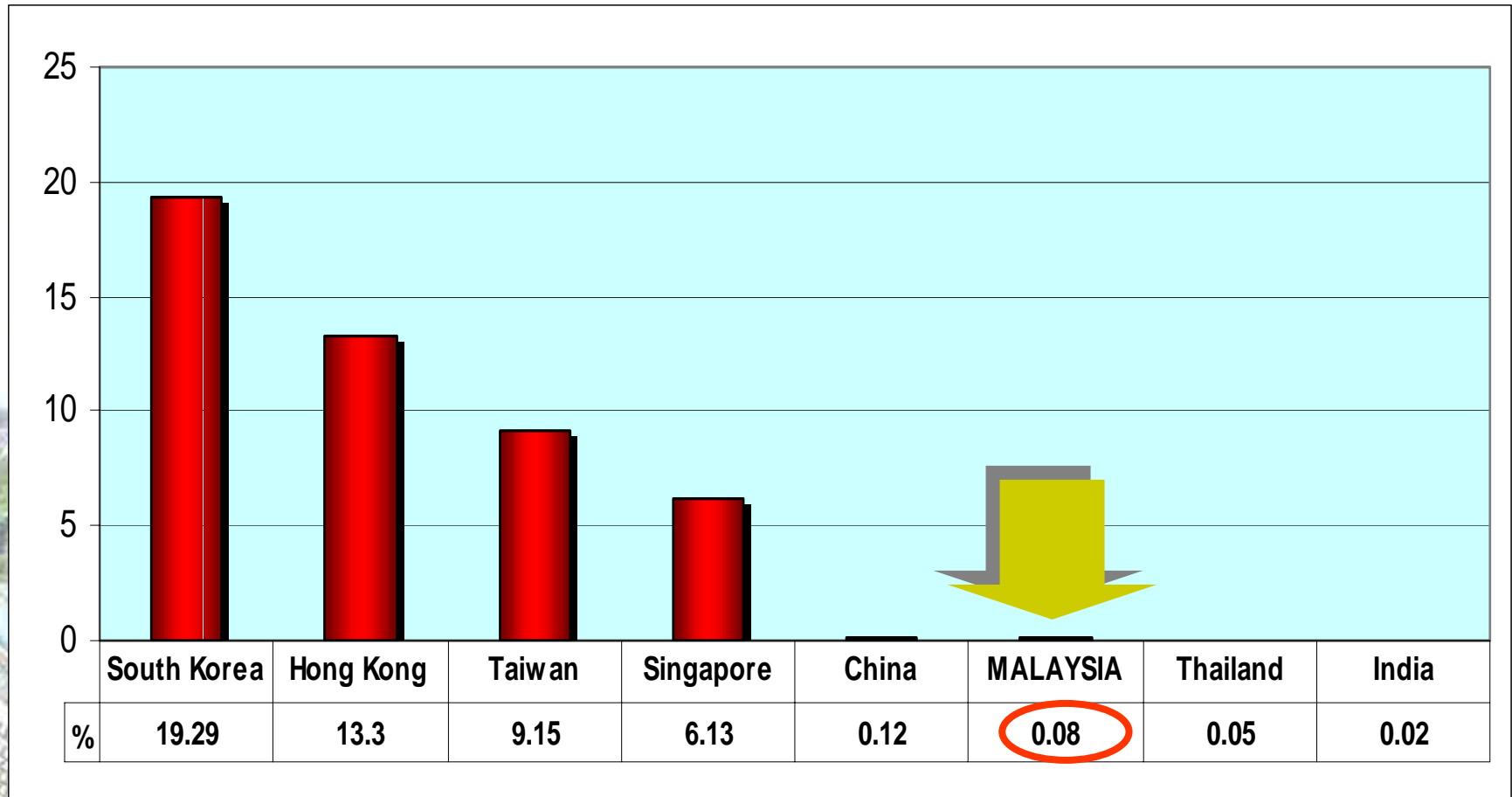
EXTENDING

- Has moved to world-class practice
- ICT used to improve productivity and standards of living

Singapore

Source - ASEAN Secretariat /IBM, 2001

Broadband Compared to East Asian Nations



Government to Promote Broadband

Community	Networks
Government Departments at federal, state and district levels	Government Integrated Telecommunication Network (GITN) - EG*Net
Schools (10,000)	Proposed dedicated network - SchoolNet
Universities and Research Institutes	Proposed dedicated Malaysia Research & Education Network (MyREN)
Trade and Customs Facilitation	Dagang Net
Hospitals and clinics	Telehealth Network
General Public	Asymmetrical Digital Subscriber Line (ADSL), Wireless LAN (WiFi), Integrated Service Digital Network (ISDN)

Education Market in Malaysia

A big growth is expected in the education market

In Malaysia, with one university in 1957 to over 37 public and private universities today

Malaysia's goal is to have 40% of the school leavers to enter higher education by 2020 (currently the figure stands at about 18%)

Educational trends in Malaysia



More universities are needed to cater for growing student population

Universities are expensive to build and maintain

Difficult for governments to fully fund all the universities



More virtual universities are being created

Cost effective solutions (e.g. e-learning)

Privatisation of education

E-Learning in Malaysia

- Many e-learning activities in the country
- Many seminars and workshops have been organised since 1999.
- MyGfL initiative by NITC, 1999
- First National E-Learning Conference started in 2000
- Two virtual universities were established i.e. UNITAR and Open University Malaysia
- Establishment of the National E-learning Steering Committee in 2002.
- Participation in the Asian E-Learning Network (AEN)
- Development of Smart School System in 1998 by MOE

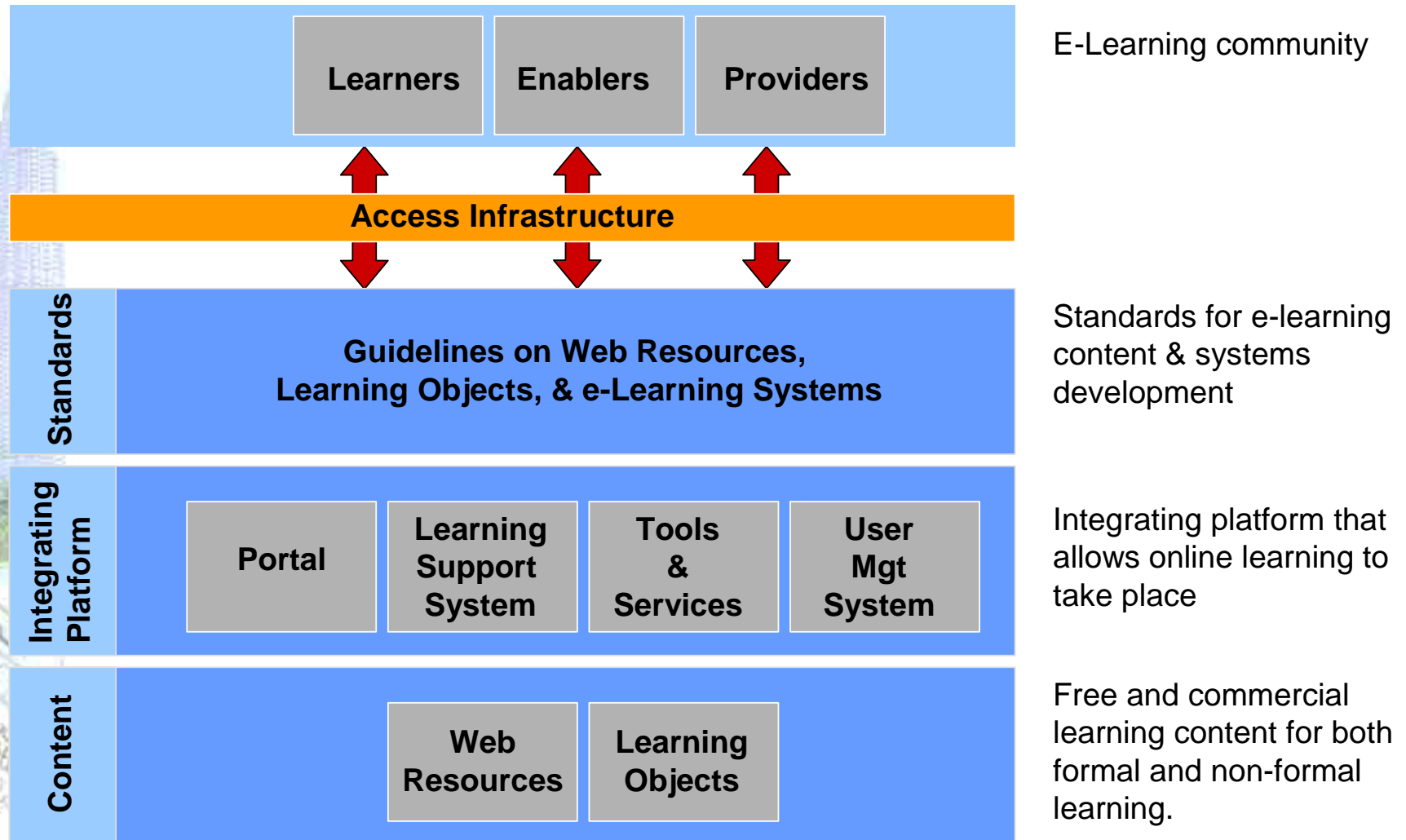
National IT Council: MyGfL Initiative

- March 1999
NITC E-Learning Working Group - Proposed National Learning Grid as one of the project under E-Learning Working Group
- June 6, 2002
NITC-SITC Meeting - Meeting endorsed the conceptual framework of Malaysian Grid for Learning (MyGfL)
- August 15, 2002
Strategic Thrust Implementation Committee (STIC) Meeting
MyGfL will be used as the integrating platform for the 16 Bridging Digital Divide (BDD) pilot projects
 - September 2002
Soft launch of MyGfL by MoHR
- March, 2003
Development of technical framework
Collaboration with National Library on content for MyGfL
- May, 2003
Formulation of Content, Instructional Design, & Technical Guidelines
- October, 2003
Development of Metadata Management Systems (MMS) by MIMOS
Malaysian Metadata Centre
Development of MyGfL technical architecture and framework by MIMOS
- Dec 2003 - Aug 2004
Three Standard Expert Group meeting were held. National Consultative Committee for e-Learning (NCCEL) approves standards.
- Sept 2004
Submitted the Malaysian e-Learning Standards/guidelines to SIRIM for endorsement and acceptance as Malaysian Standards

MyGfL Objectives

- 
- To **enhance discoverability of e-learning content** from heterogenous sources
 - To **develop technologies** to allow learning content to be delivered through any digital device
 - To **develop e-learning standards** to ensure conformance and adoption of best practices in e-learning content and systems
 - To **encourage development of indigenous content** so as to preserve Malaysian values and cultural heritage
 - To **stimulate the growth of web content industry** in Malaysia

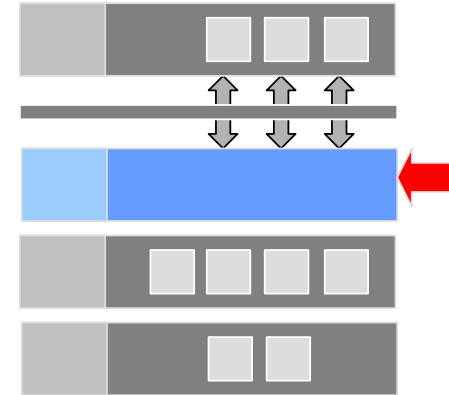
MyGfL Framework



Framework : Guidelines

Objectives

- to guide MyGfL content providers **to conform to a set of standards** and guidelines for content development
- as a **single point of reference** to all relevant e-Learning standards
- to achieve **Interoperability, Reusability, Manageability, Accessibility** and **Discoverability** of MyGfL content and systems



Scope

- Content Guidelines for Learning Objects
- Content Guidelines for Web resources
- Technical Guidelines for Courseware Mgmt Systems

http://www.mygfl.net.my/mygfl/documents/MyGfL_Guidelines.pdf

Framework : Integrating Platform

MyGfL Portal - a one-stop-centre for quality assured online learning content, web resources, tools and services

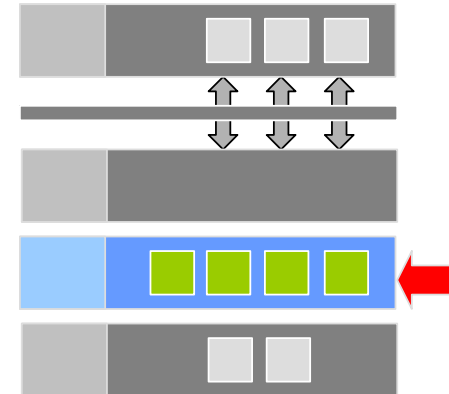
Learning Support System

- Collaboration Tools - tools to support learning activities
- Learning Management Systems - to facilitate learning processes

Tools & Services

- Metadata Repository - a repository of all catalogues of learning content
- Metadata Management System - facilitates the metadata tagging process which conforms to SCORM 1.2 and SCORM 2004
- Future plan : Career Guide, Web services for content sharing

User Management System – manages user profiles



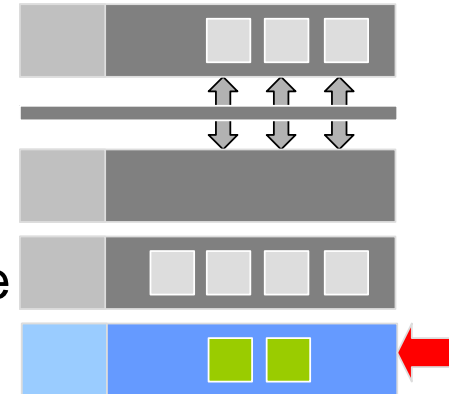
Framework : Content

- MyGfL shall host both free and commercial content.
MyGfL content types are :

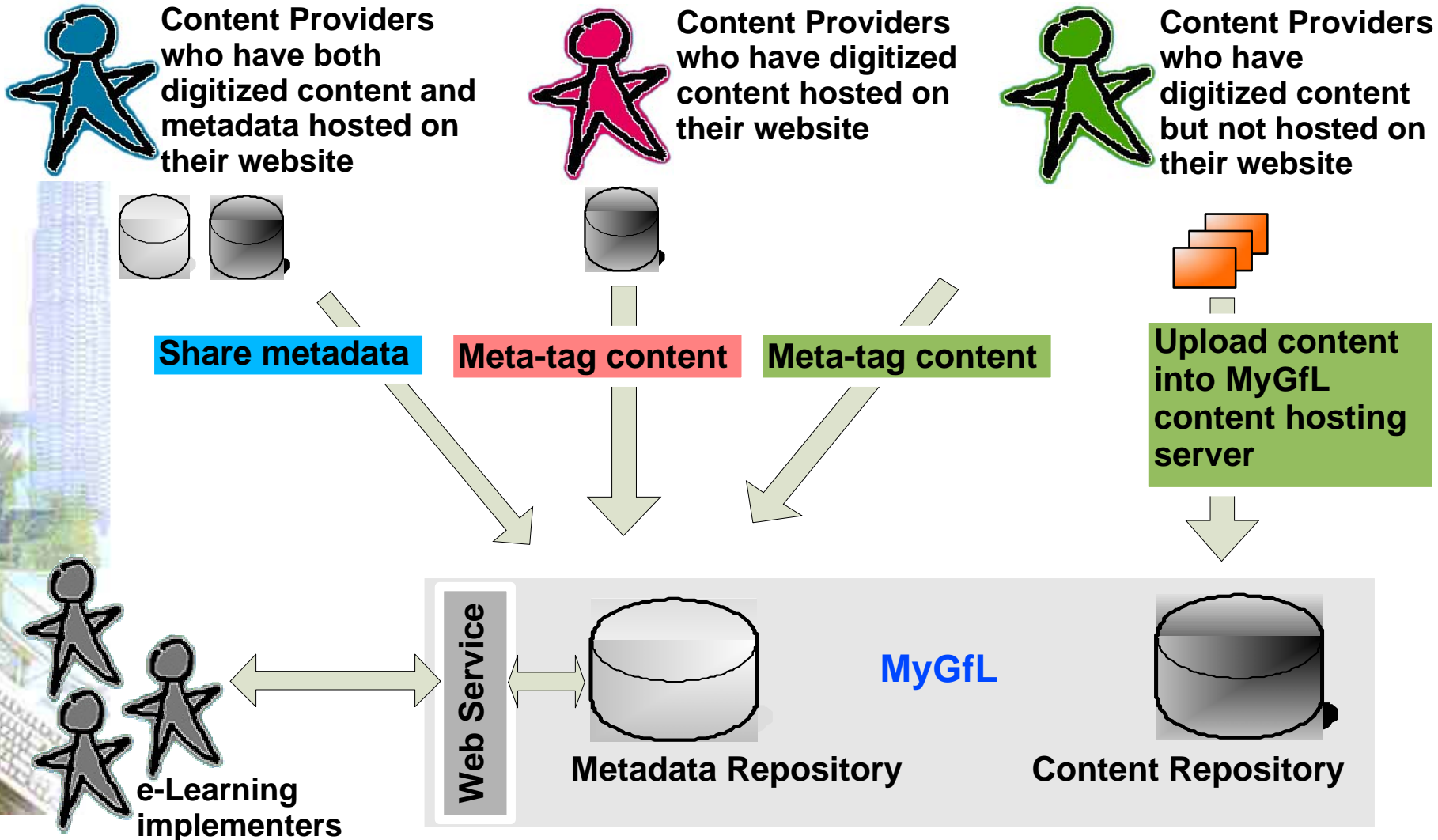
- **Web Resources** - information and knowledge resources on the web that support learning
- **Learning Objects** - learning content that have the following characteristics:-

- Centred around a learning objective
- Instructional Content that support the objective
- Practice and Feedback to ensure mastery of the subject

- **MyGfL also hosts metadata of learning content in its metadata repository.**



National Metadata Centre



MyGfL: Platform Integration Status

- MyGfL Portal
 - Completed and already go live in September 2004
 - Ongoing review and enhancement to further improve the portal
- Metadata Management System (MMS)
 - Completed and already go live in February 2004
 - <http://www.mygfl.net.my/metadata/>
 - Conducted metadata workshop for National, State and University librarians in March 2004
- Collaboration Tools
 - Completed with basic features
- Learning Management System (LMS)
 - Preparing of system requirements
- User Management System (UMS)
 - Preparing of system requirements

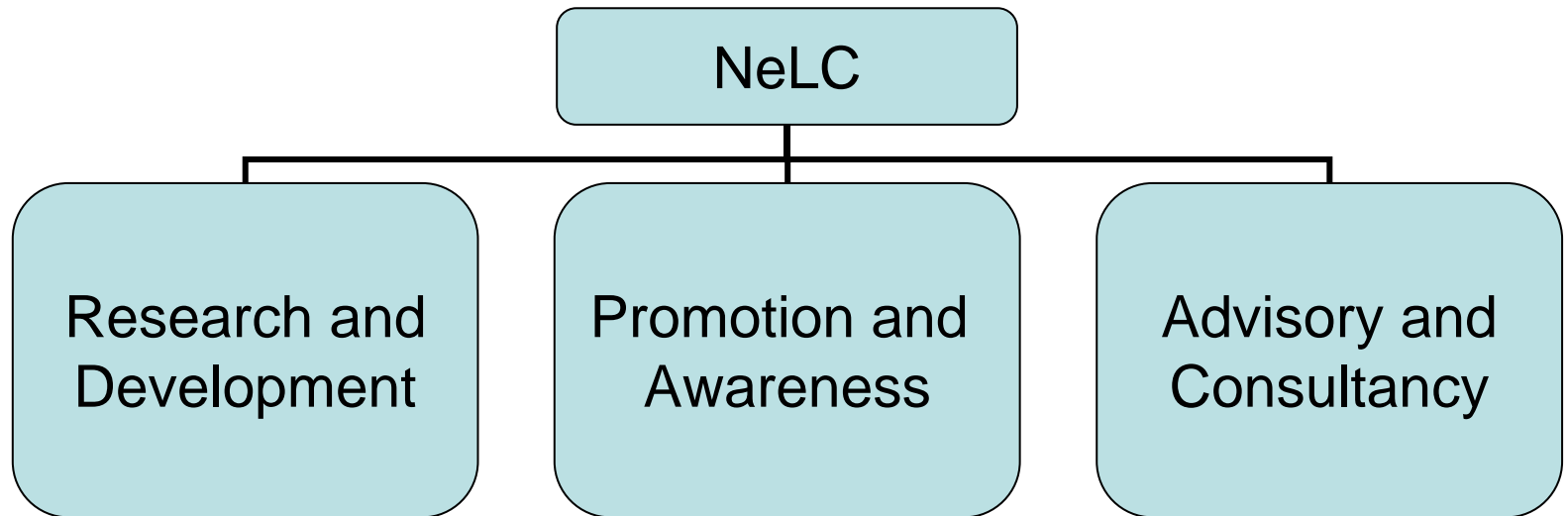
MyGfL: Status of Standards

- Document drafted -----May 2003
- Formation of MyGfL Standard-----Feb 2004
Expert Group (SEG)
- First Draft Reviewed by SEG-----Mar 5-7, 2004
- Second Draft Reviewed by SEG-----Apr 21, 2004
- Reviewed by MIMOS Legal Department-----May 2004
- Endorsement by SEG-----Jun 12, 2004
- Tabled at National Consultative Committee -----July 13, 2004
for e-Learning (NCCeL)
- Submitted to SIRIM for accreditation-----Sept 9, 2004


National e-Learning Centre Malaysia

- Vision
 - ***“to provide leadership for quality e-learning initiatives and practice in Malaysia”***
- Mission
 - ***“to provide a point of reference for all e-learning initiatives and practitioners in Malaysia”***


Main Role of National E-learning Centre



Research and Development Role

- 
- Establishment of a Community of Practice for designers, developers, etc.
 - To provide a network/forum for e-learning
 - To provide high-quality learning opportunities, networking services, resources, and publications for members.
 - Compile and create a database of e-learning research and development activities and expertise, to promote the sharing of knowledge and resources

Promotion and Awareness Role

- 
- To educate the public and generate awareness via mass-media,
 - To organize training, workshop and conferences/seminar
 - Publication of materials – newsletters, journals, etc.
 - Promote e-learning standards

Advisory and Consultancy Role

Provide e-learning consultancy to organizations and practitioners in the following areas:

- standards and guidelines for SCORM (International Standards) compliant for both systems and content etc.
- Pedagogical and instructional guidelines
- competency standards for e-learning providers and vendors
- certification for Instructional designers and SCORM Assessors

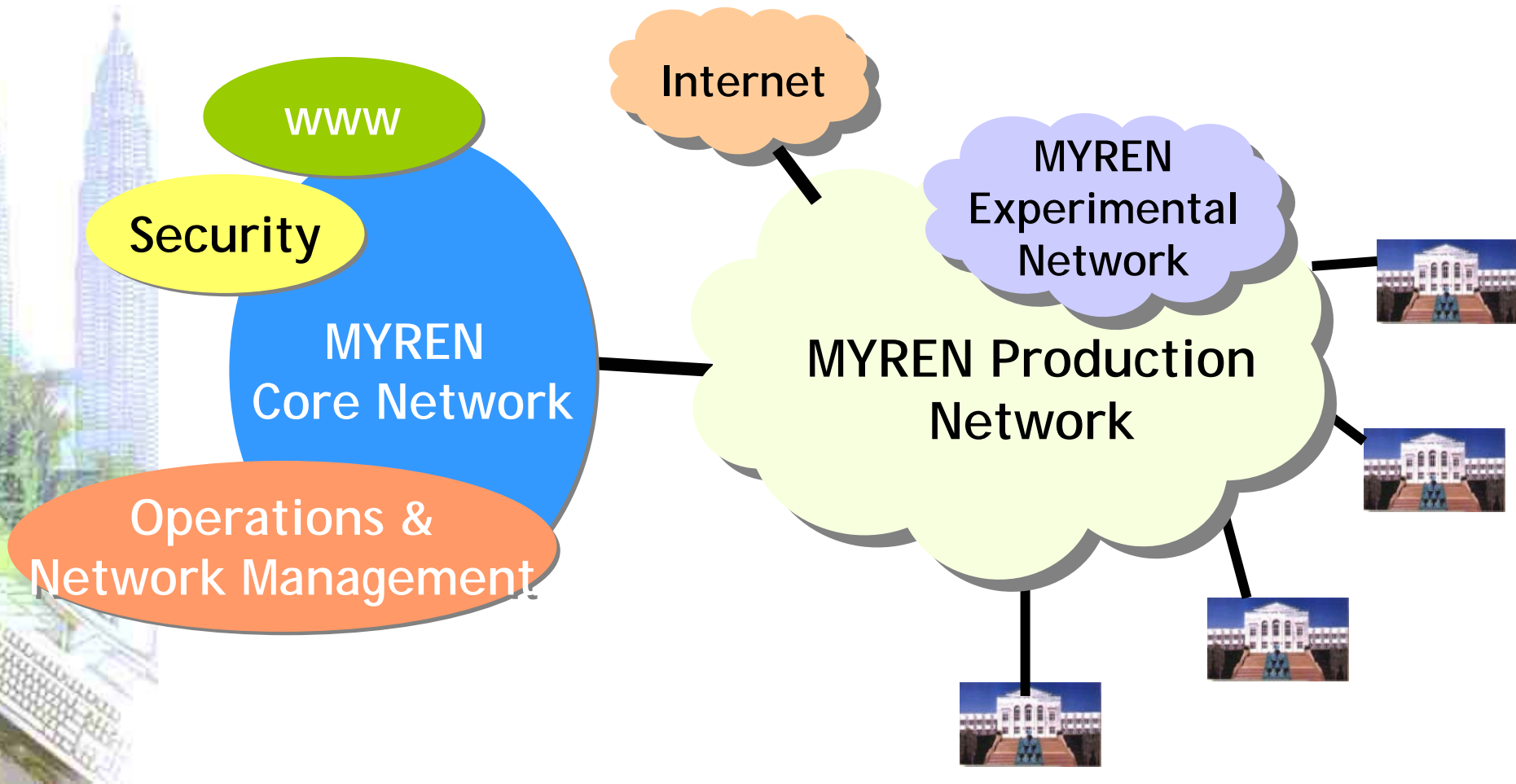
E-learning Initiative for the Government sector

- E-learning initiatives for the government sector to be spearheaded by INTAN
- Establishment of the National Steering Committee for e-learning in public sector
- Pilot implementation to be rolled-out by early 2005
- Platform and Content to conform to SCORM
- Many government-based tender and specification support SCROM
 - E.g. MHE, INTAN, MOE, etc

Research & Educational Networks

- First Research & Education Network was established in Malaysia in 1997, TEMAN – Test-bed Environment for Malaysian Multimedia Applications and Networking
- TEMAN connects 6 universities, ISP & telco research labs in Malaysia
- [Malaysia Research & Education Network](#) (MYREN) is the second R&E network for Malaysia
- MYREN is spearheaded by Ministry of Energy, Water & Communications and it will connect all universities and research organisations with 2 to 155 Mbps of bandwidth

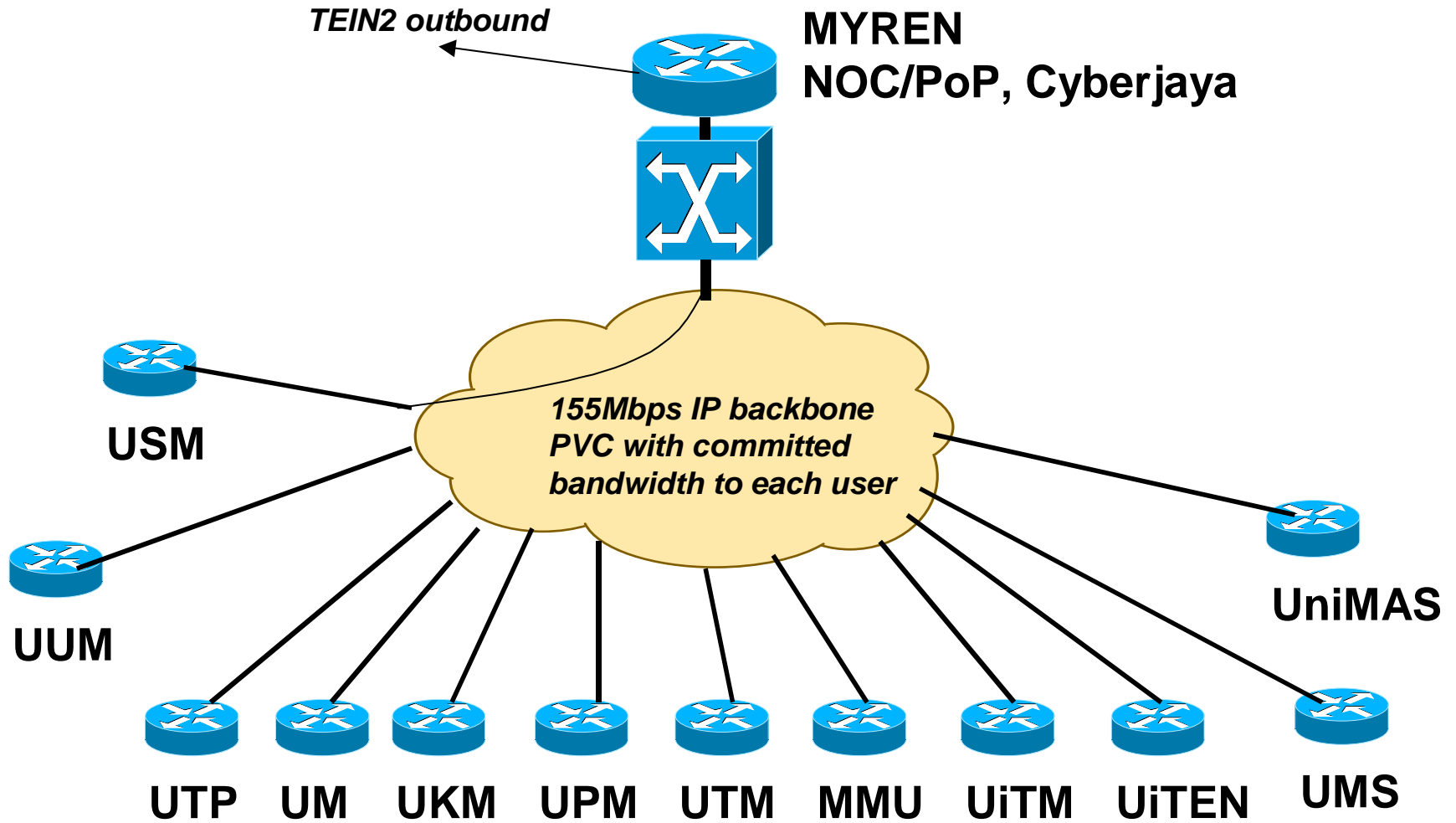
Basic components of MYREN



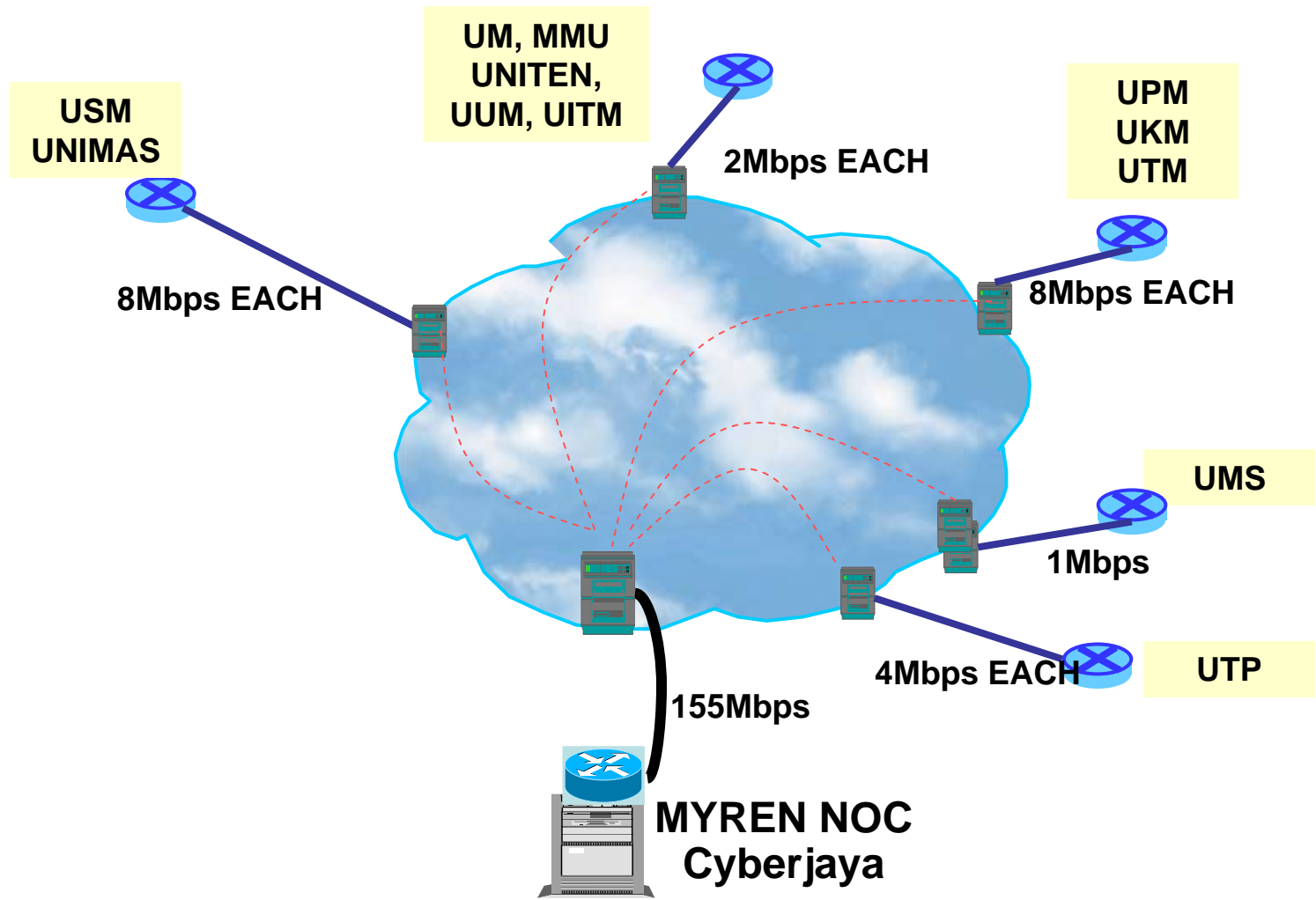
MYREN Activities

Organization Type	Examples of research activity using MYREN
Universities	<ul style="list-style-type: none">E-learning, Digital Library, Network Research, Network Applications, Biotechnology, Medical, VR, etc.
Government Research Institutions	<ul style="list-style-type: none">Electronics manufacturing, Agriculture, Fishery, Forestry Management, Palm oil research, veterinarian research, Remote sensing, meteorology
National Laboratories	<ul style="list-style-type: none">Biotechnology
Telecommunication Companies	<ul style="list-style-type: none">IPv6, broadband & wireless technologies
SME Research Companies	<ul style="list-style-type: none">Applications for broadband, smart homes

MYREN Network Infrastructure – Initial Phase



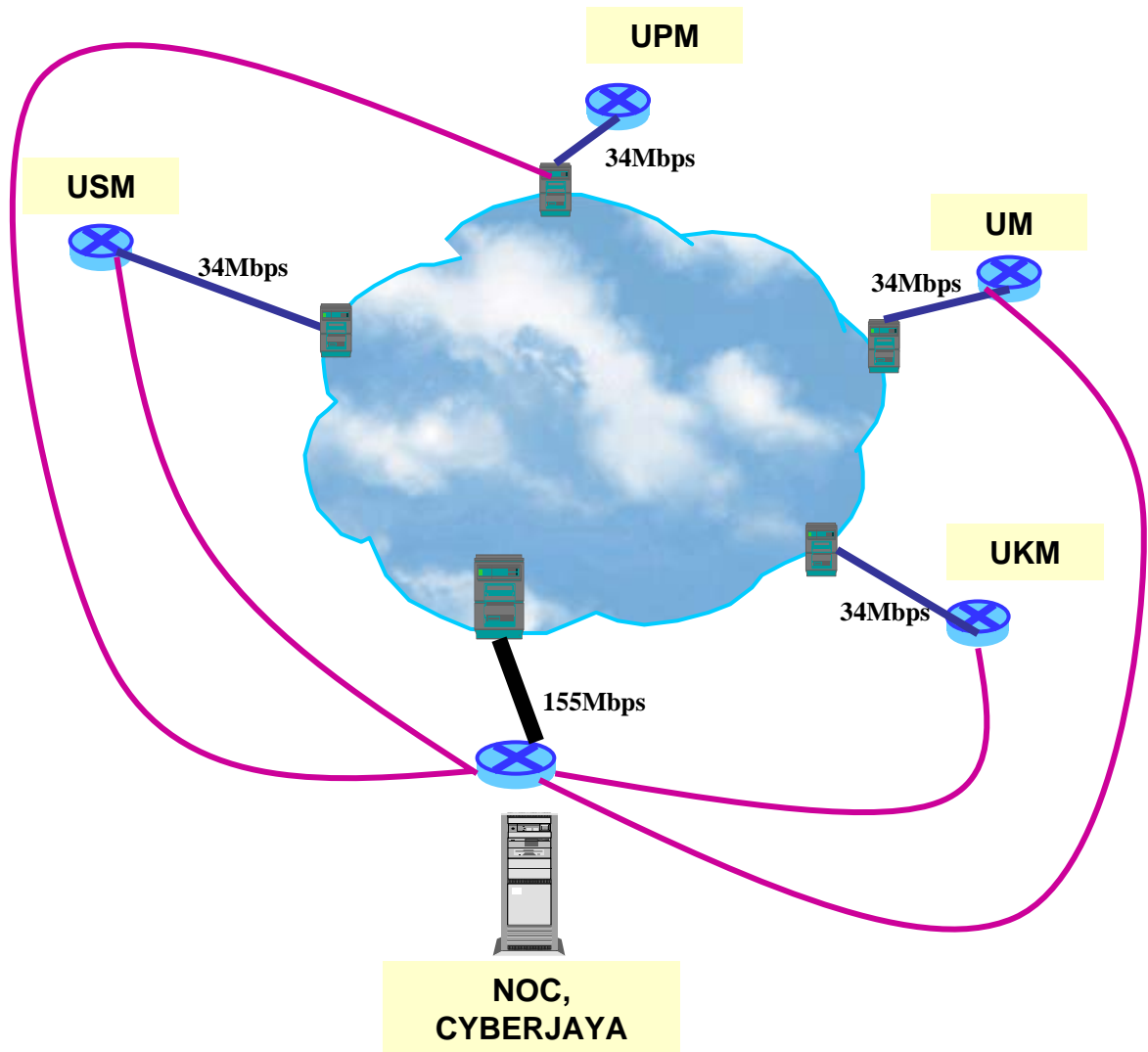
MYREN Production Network



Note:

1. All universities will be installed with 34Mbps Local Access/Port
2. Back-up: For 34M&155M via protection line

MYREN Experimental Network

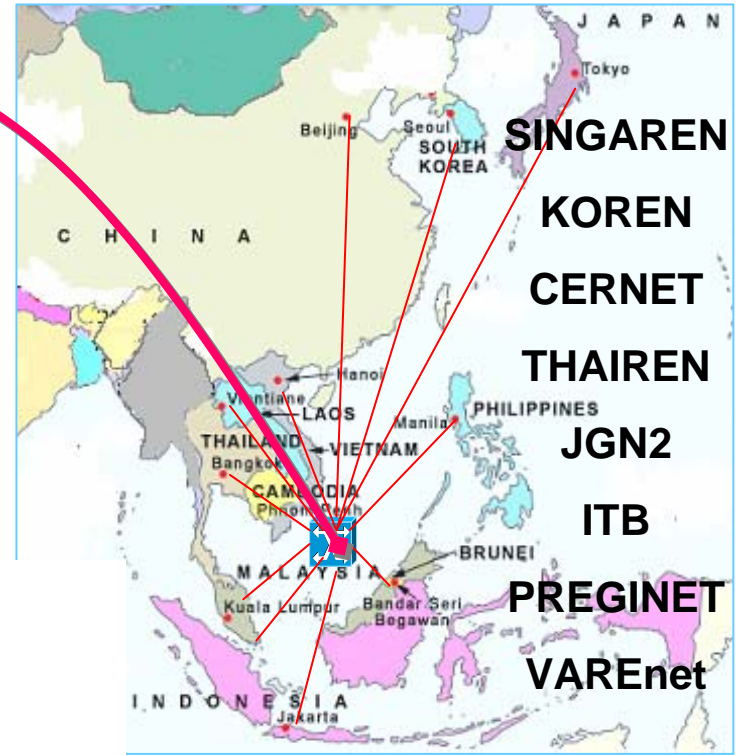
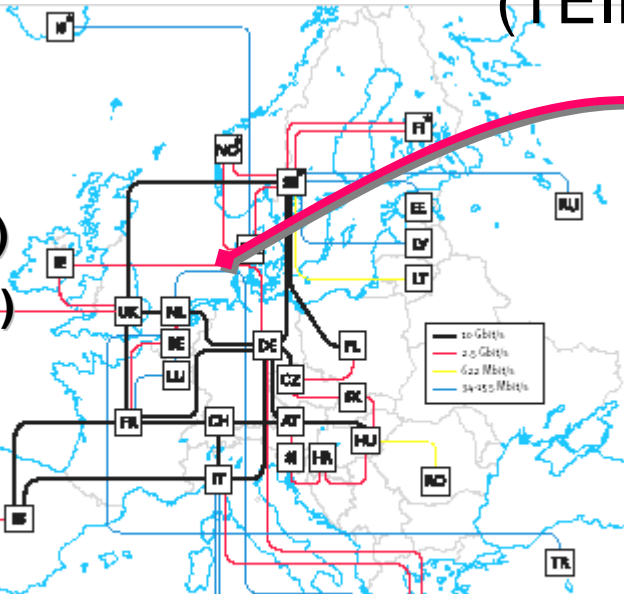


Network Diagram showing physically separated Exp Network using Digital Leased Line Services

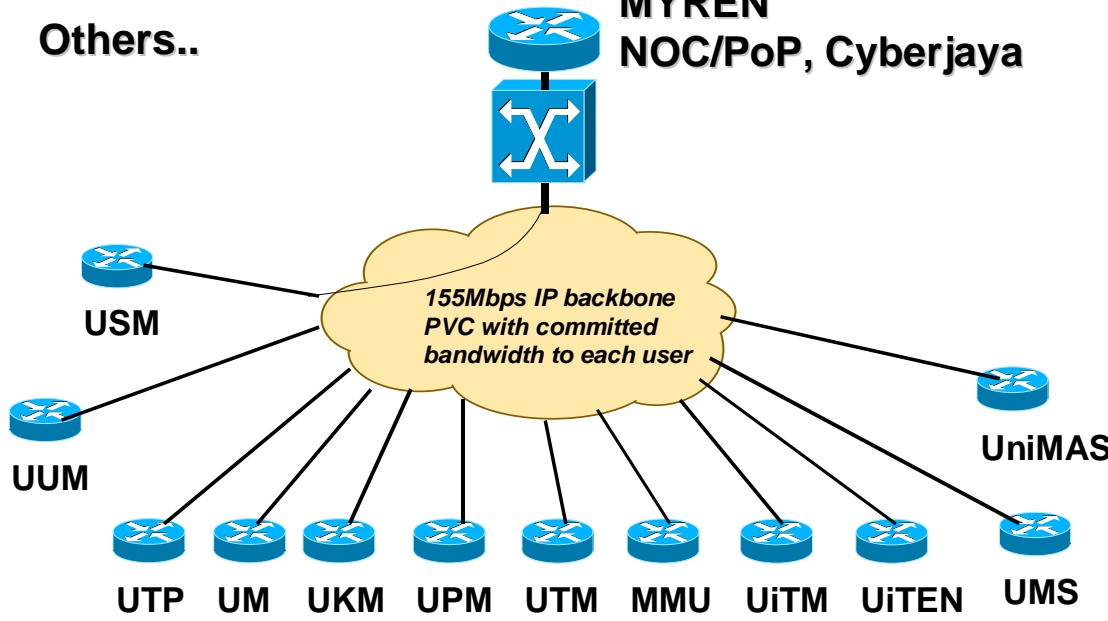
MYREN's International Connectivity to Asian & European Research Networks via Trans-Eurasia Information Network (TEIN2)

GÉANT:

- UKerna
- RENATER (Fr)
- SURFnet (Ned)
- DFN (Ger)
- NORDUnet
- GARR (It)
- REDIris (Sp)
- Others..



MYREN
NOC/PoP, Cyberjaya

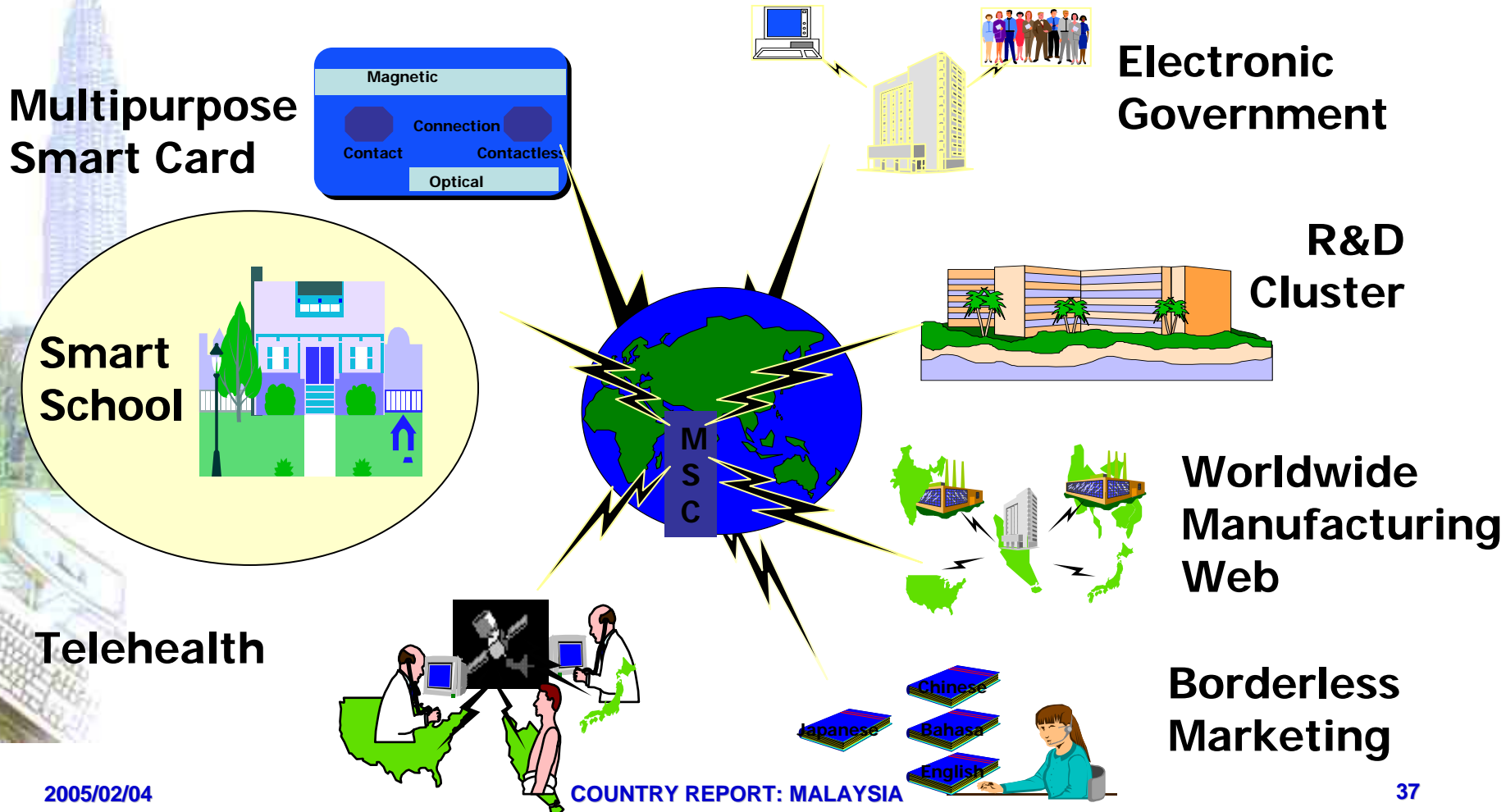


TEIN 2 - Development

- The European Commission, through its agency EuropeAid Cooperation Office had agreed to fund the TEIN2 project.
- EC's will contribute contribution about 80% of total costs
- Implementation contract between EC and DANTE has been signed in March 2004;
- Phase I
 - Feasibility study
 - May - Oct 2004
- Phase IIA
 - Procurement & Implementation
 - Nov 2004 – Aug 2005
- Phase IIB
 - Operational
 - First service expected by Sept/Oct 2005



The Malaysian Smart School: A Multimedia Super Corridor Flagship Application



Objectives of the Malaysian Smart School

To produce a thinking and technology literate workforce

To develop students physically, mentally, emotionally, and spiritually

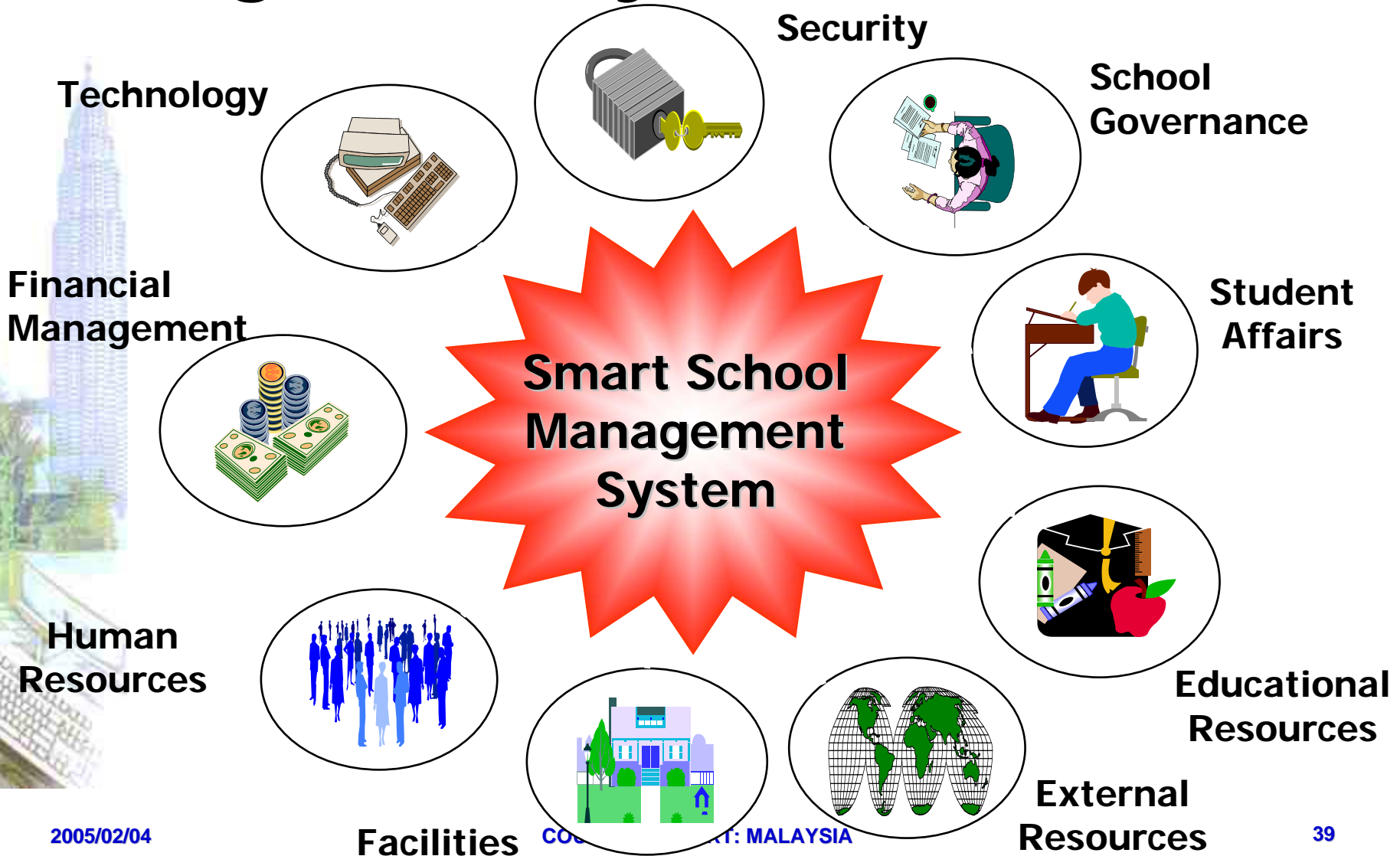
- To achieve the goals of the National Educational Philosophy
- To develop a workforce for the Information Age

To provide opportunities to improve individual strengths and abilities

To increase stakeholders' involvement

To democratise education

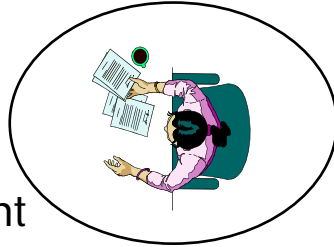
Components of the Smart School Management System . . . 1



Smart School Management System ...2

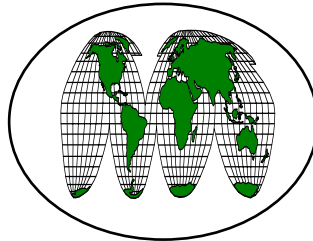
School Governance

- Communications
- Public relations
- School policy making
- Curriculum management
- Community involvement



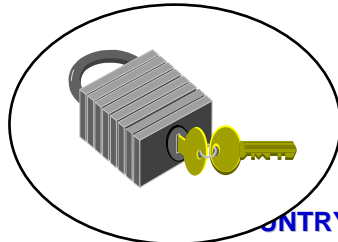
External resources

- Database management
- Liaison with external resources



Security

- Physical security
- IT security
- Student safety



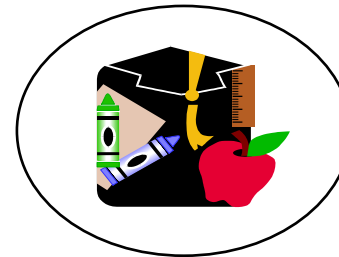
Student Affairs

- Student profiles
- Performance evaluation
- Test administration
- Counselling
- Health, insurance, etc.



Educational Resources

- Resource database management
- Input to curriculum management



BESTARInet, The Smart School Portal

BESTARInet - Sekolah Bestari Malaysia - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Refresh Print Stop

Address http://www.moe.edu.my/ Go Links




BESTARInet

PROJEK RINTIS SEKOLAH BESTARI

Jumaat, 27 Jun, 2003 | B. Melayu | English |

[Terkini](#) [Projek](#) [Bestari](#) [Forum](#) [Khidmat](#) [Pautan](#) [Tetamu](#)



TERKINI

PROJEK

BESTARI

FORUM

KHIDMAT

PAUTAN

FAQ

TETAMU

Ajukan [komen](#) anda.

[Lihat emel anda](#)

Terkini

Lihat [Keratan Akhbar Harian](#) || [Arkib](#) || [FAQ](#)(Bahasa Inggeris) || [Pekeliling IT](#) ||

MAKLUMAN

[Selamat datang kepada KPP Sektor TLM dan Sektor SSMS](#)

Pihak Pembangunan Pendidikan Bestari mengucapkan selamat datang kepada Dr. Masnah Ali Muda, KPP Sektor Pembangunan Bahan Pengajaran Dan Pembelajaran mulai 1 Feb 2003 manakala Dr. Salbiah Ismail sebagai Ketua Penolong Pengarah di Sektor Pembangunan Aplikasi Pengurusan Sekolah Bestari bermula pada 1 April 2003.

Kursus TOT Pegawai-Pegawai Meja Bantuan



PENGUMUMAN

Mesyuarat Pengenalpastian Pepijat (Bugs)



[Meja Bantuan Sekolah Bestari](#)



[Bahagian Teknologi Pendidikan](#)

Done Internet

start BESTARInet - Sekola... 11:15

Summary of Technology Infrastructure

Model B (Lab Model)	B+ Model (Limited Classroom Model)	Model A (Full Classroom Model)	Data Centre	Help Desk
37 computers	81 computers	520 computers	10 computers	13 computers
2 notebooks	2 notebooks	5 notebooks	-	-
3 servers	3 servers	6 servers	3 servers	5 servers
-	-	Videoconferencing equipment	-	-
RM50 million	RM2 million	RM11 million**	RM440,000	RM4 million

COINS leased line (128/64 kbps)	COINS leased line (128/64 kbps)	COINS leased line (512/256 kbps)	COINS leased line (2 Mbps)	COINS leased line (2Mbps)
RM15 million				

Overview: The Implementation

July 1997

Launch of the Smart School Conceptual Blueprint, and the Concept Request Proposals for the Smart School Flagship Application

July 1999

Signing of Smart School Pilot Project Agreement between the Government of Malaysian and Telekom Smart School Sdn. Bhd.

April 2000

Technology Infrastructure installation completed in Pilot Schools, the Data Centre and the Help Desk

Sept 2000

First Installation of Smart School Applications Software (Teaching-Learning Materials, Smart School Management System)

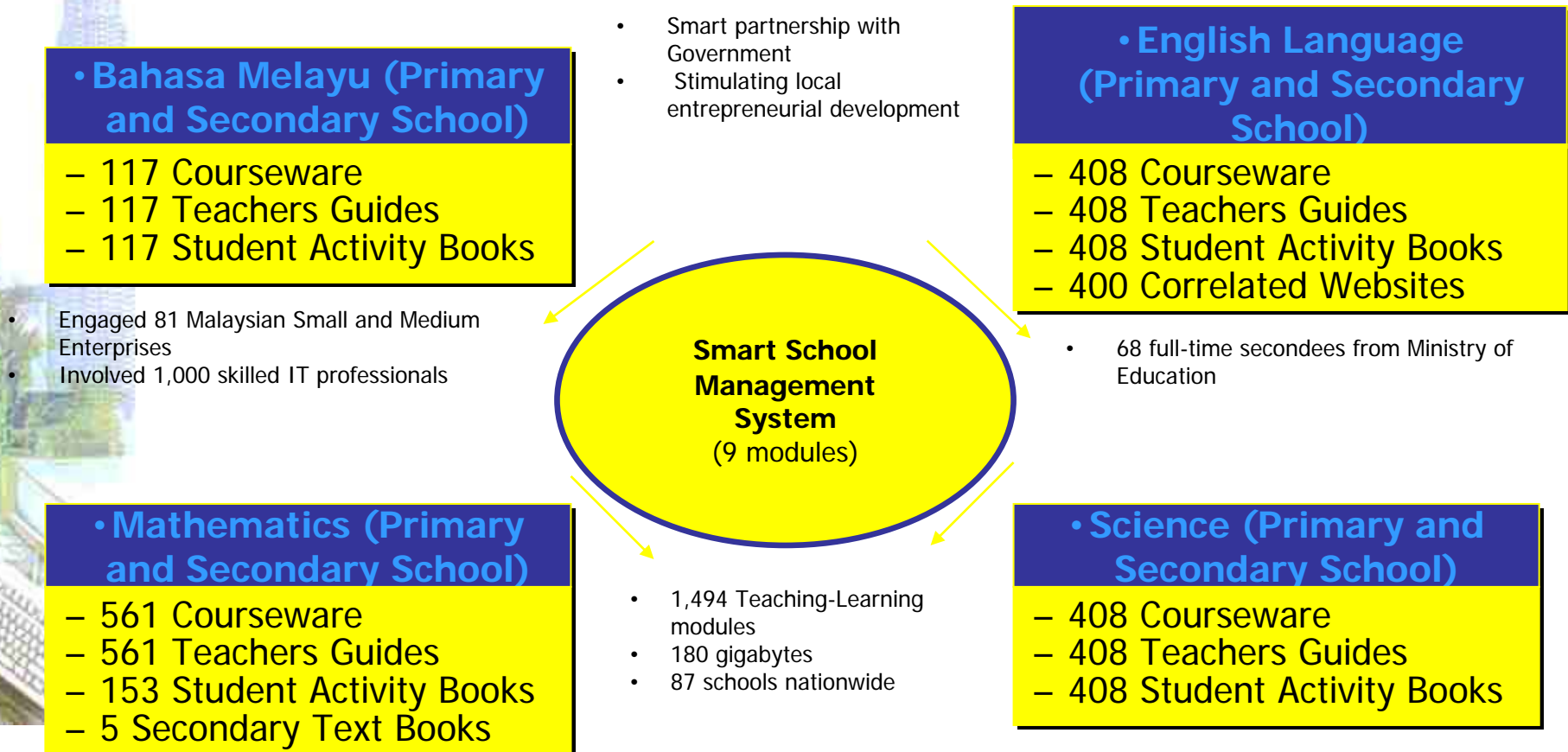
Dec 2002

**Final Installation of Smart School Applications Software
Completion of Final Systems Acceptance Test**

Pilot Project Achievements

High Quality Teaching-Learning Materials and Smart School Management System

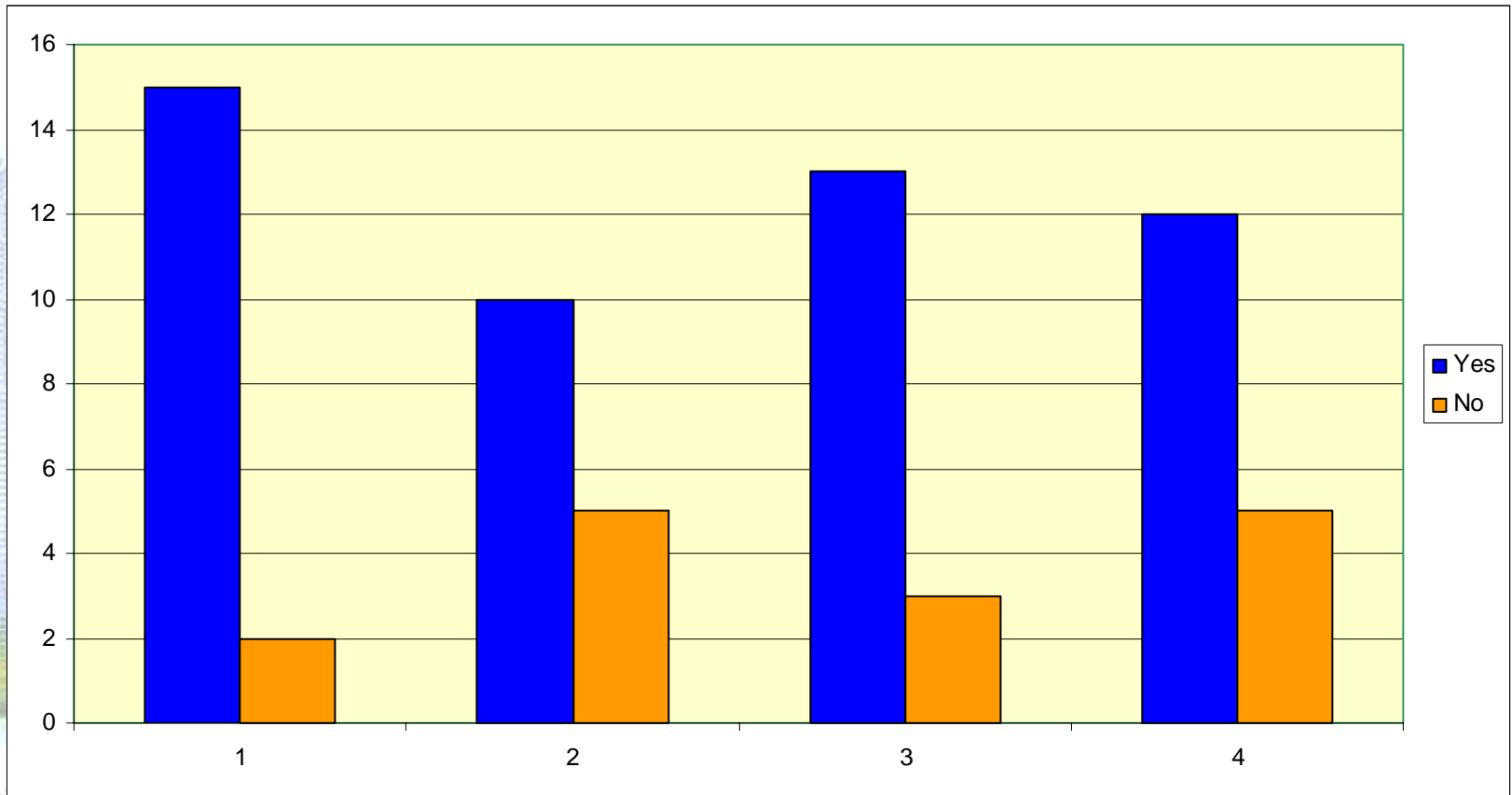
Creation of world class local industry



E-Learning in Higher Educational Institutions

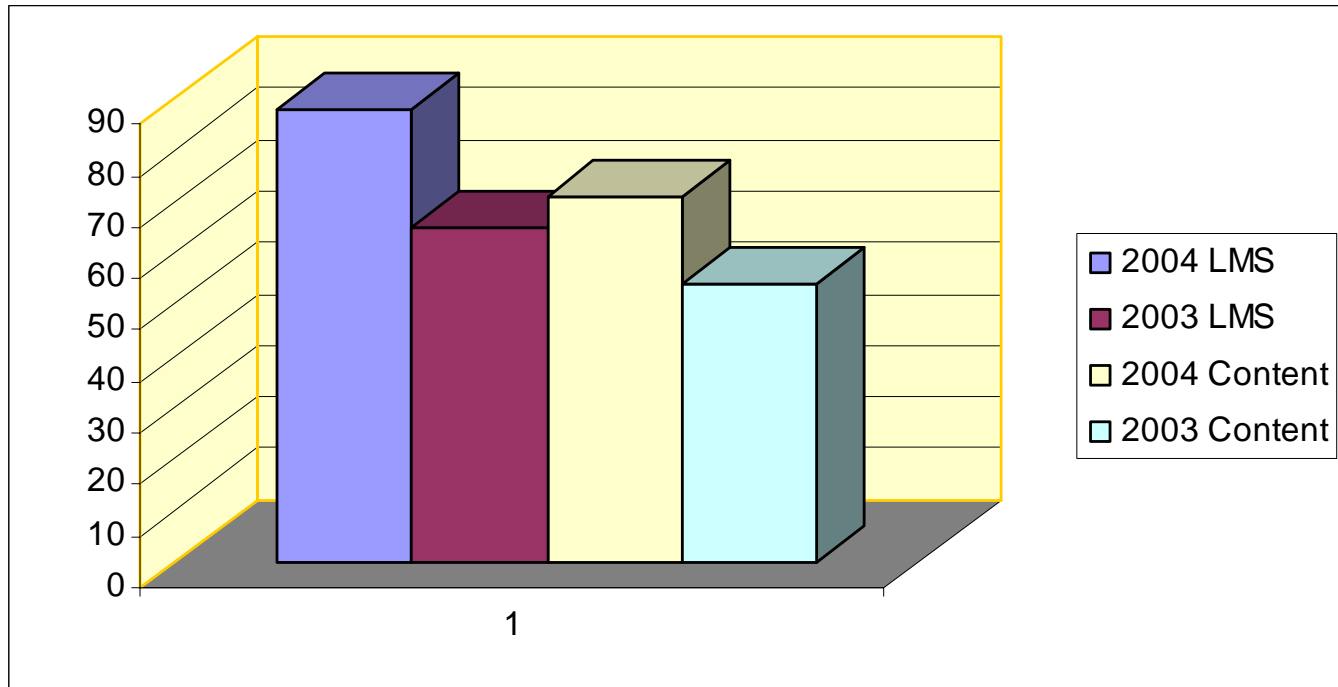
- Individual initiative
- Report to the University ICT Council
- Number of seminars, workshops, etc have been organised
- E-University Project initiative by MHE
 - Establishment of e-learning centre at each universities
 - Sharing of resources
 - Adopt common standards (e.g. SCORM) among universities

E-learning Survey among Universities (2004)



1. LMS availability
2. SCORM compliance LMS
3. Availability of e-learning policies/guidelines
4. SCORM compliance content

SCORM-based LMS and Content



Other initiatives

- Multimedia University
 - Developed own LMS called the Multimedia Learning System
 - Conducted training on SCORM
 - Ministry of Education
 - Industrial Institution, Pedas (Human Resource Ministry)
 - UNITAR
 - OUM
 - Matrushi College, India
 - Ajman University, UAE
 - Kries Technology Sdn. Bhd.
 - TM Net (ISP, Telekom Malaysia)
 - Develop Content for MOE & other companies
 - Provide consultancy on SCORM & Content Development
 - Participation in National e-learning Steering Committee, National e-Learning Steering Committee for Public Sector, Malaysian E-learning Standards and Guideline (expert groups),

Users/Collaborations



- MMU

- 15,000 students
- All lecture notes for all subjects are available online
- Multimedia content (more than 100 subjects)
- 250,000 hits per month
 - <http://mmlscyber.mmu.edu.my>
 - <http://mmlsmelaka.mmu.edu.my>

Other Collaborations in MMLS:

Malaysia: APN, TMNet, CIAST, and 17 Schools
France: La Rochelle University
S. Africa: NEMISA
India: Matrushi Academy
Iran: Kish University
Sudan: ComputerMan University

Private Sector

- Many companies involved in LMS and Content Development
- Most of these companies are adopting SCORM and other ID guidelines
- Many educational content development projects in Malaysia



Thank you
david@mmu.edu.my