Training on

"How to Establish an ICT Indicator Database in Indonesia"

Jakarta, 29 October – 2 November 2007

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Center for ICT - BPPT

BPPT'S EXPERIENCE IN PROVIDING INDONESIA ICT INDICATORS

OUTLINE

I. BACKGROUND

II. THE WORK

III. COMMON PROBLEMS AND LESSONS LEARNED

IV. EXPECTATION AND PROPOSAL FOR THE FUTURE

DISCUSSION

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1. **BPPT'S ROLE *(Agency for the Assessment and Application of Technology)***
   - *Non-departmental government institution*
   - Assessment and application of technology
   - Technological services (to businessess and government)
   - Assistance, monitoring and evaluation ~ technology innovation, transfer, diffusion, learning
2. **DATA/INDICATORS : NEEDS AND AVAILABILITY**
3. **INTERNATIONAL CONCENSUS**

In 2000 :

Decided to initiate the measurement/collection and provision of the Indonesia IT (ICT) data/indicators

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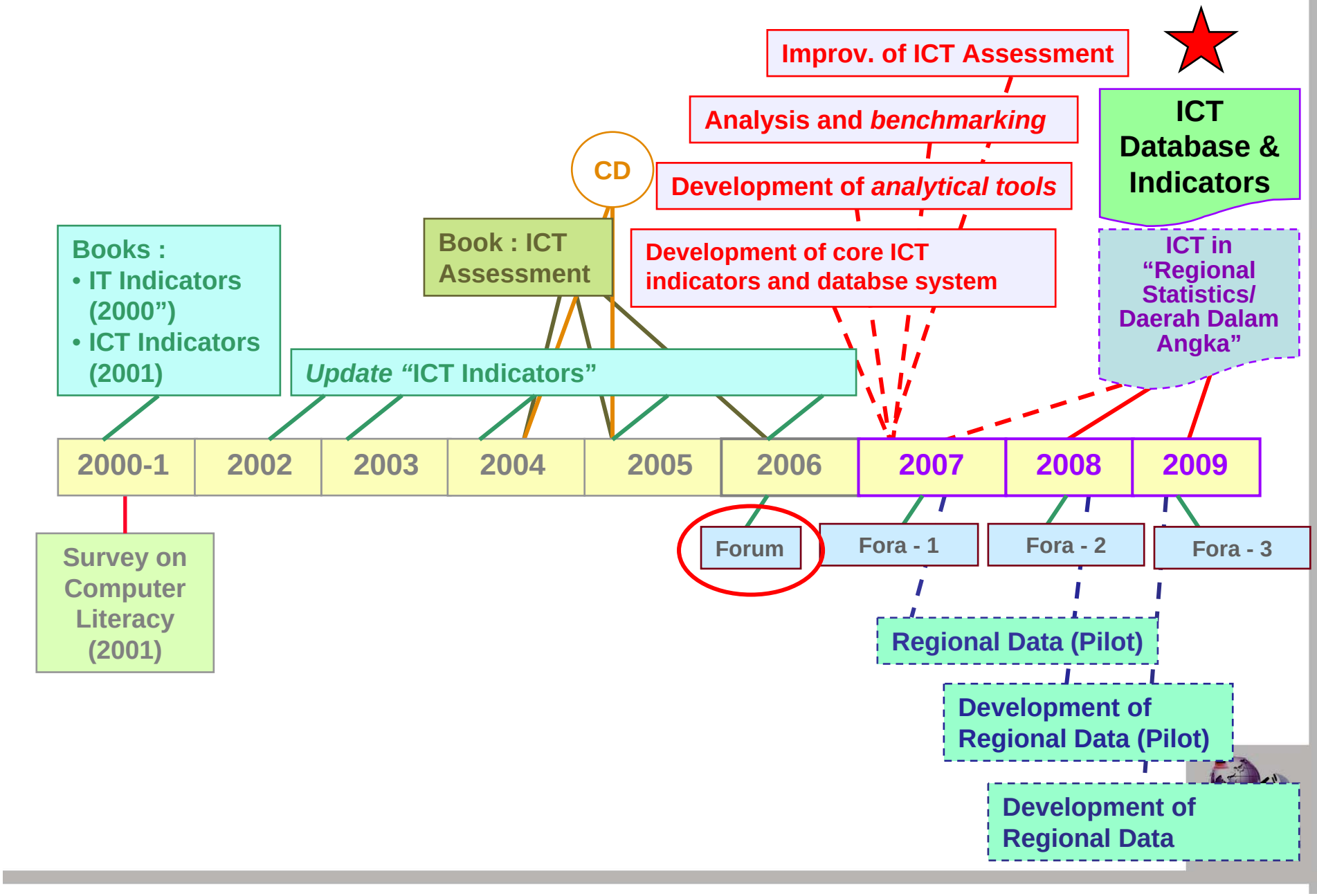
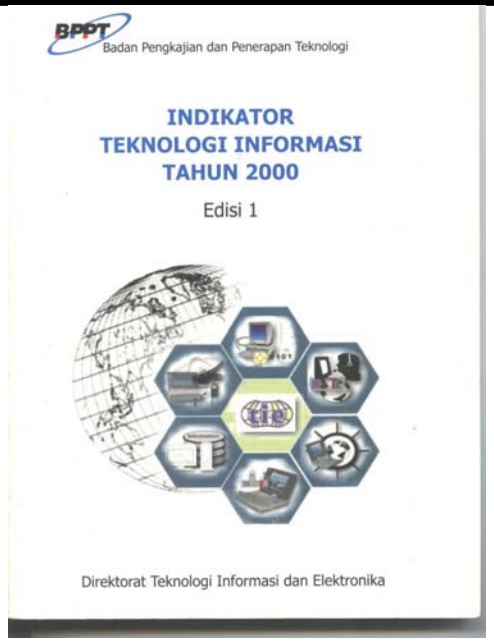
II. THE WORK

1. **Data :**
   - Primary data : “ocassionally” only for those specific issues but unavailable data
   - Secondary data : obtained from various sources (depend on the available data owned by the sources)
2. **Survey & analysis :**
   - List the indicators (definition & methodology followed, as far as possible, those suggested by international institutions, e.g., OECD, UN, ITU; Many data/indicators could not be followed)
   - Identify data sources
   - Specify data formats (questionnaires)
   - Informal and formal data collection approaches
   - Collect and process/analys the data (adjustment was frequently needed according to the success of data collection)
   - Data storage S/W : MS Excel & MS Access
3. **Dissemination of results :**
   - Published books (reports)
   - Internet (a dedicated website is under costruction)
   - Fora (seminars, workshops, etc.)

THE WORK AND MILESTONES





- **The Scope (2000) :**
  - IT Manufacturing
  - IT Investment
  - IT Trading (Export & Import)
  - Government Spending on IT
  - Patents on IT

- **IT Data :**
  - Sources : BPS, BKPM, Ditjen Paten & Hak Cipta, Dep. Keuangan, KMNRT, OECD
  - Classification Standards : ISIC rev.2, SITC, IPC ver.6

- **The Scope (2001) :**
  - ICT Infrastructure and access
  - ICT manufacturing
  - ICT Investment
  - ICT Trading (Export & Import)
  - Government Spending on ICT
  - Patents on ICT

- **ICT Data :**
  - Sources : BPS, BKPM, Telkom Tbk, BBT, Mars-e, Ditjen Postel, APJII, IDNIC, Ditjen Paten & Hak Cipta, Dep. Keuangan, Internet
  - Classification Standards : ISIC rev. 2 & 3, SITC, IPC ver.6

- **The Scope (2002) :**
  - ICT Infrastructure and access (e-Government)
  - ICT Manufacturing
  - ICT Investment
  - ICT Trading (Export & Import)
  - Government Spending on ICT
  - Patents on ICT

- **ICT Data :**
  - Sources : BPS, BKPM, Telkom Tbk, Mars-e, Ditjen Postel, APJII, IDNIC, Menkominfo, ITU, IDC, Ditjen Paten & Hak Cipta, Dep. Keuangan, Internet
  - Classification Standards : ISIC rev. 2 & 3, SITC, IPC ver.6

- **The Scope (2003) :**
  - ICT Infrastructure and access (including e-Government)
  - ICT Investment
  - ICT Trading (Export & Import)
  - Government Spending on ICT
  - Patents and Copyrights on ICT
  - Education on ICT

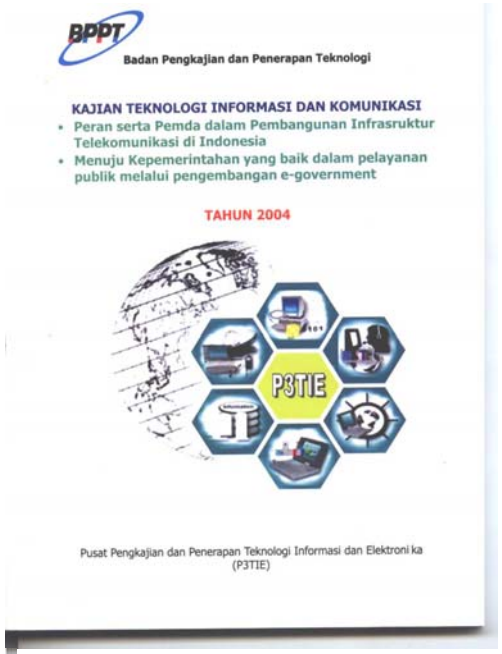
- **ICT Data :**
  - Sources : BPS, BKPM, Telkom Tbk, Mars-e, Ditjen Postel, APJII, IDNIC, Menkominfo, ITU, IDC, Ditjen Dikti, Ditjen Paten & Hak Cipta, Dep. Keuangan, Internet
  - Classification Standards : ISIC rev. 2 & 3, SITC, IPC ver.6

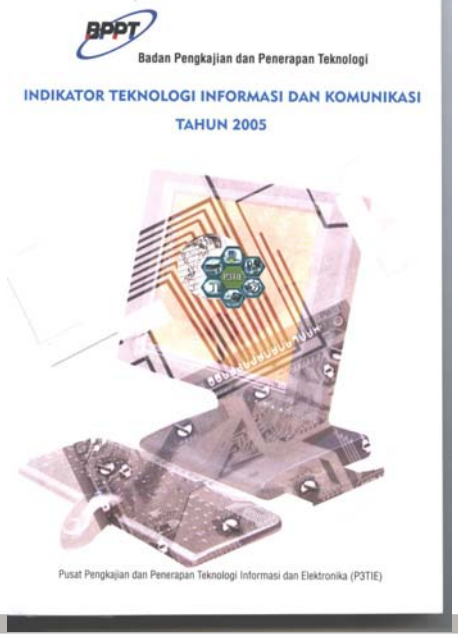
REPORTS (2004 - 2005)

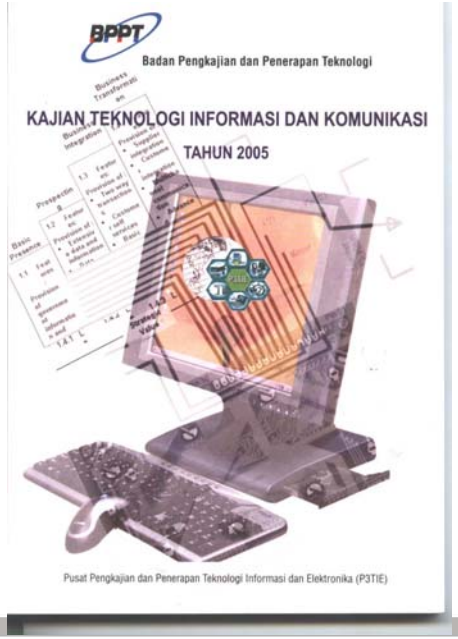
- **The Scope (2004-2005) :**
  - ICT Infrastructure and access (including e-Government)
  - ICT Investment
  - ICT Trading (Export & Import)
  - Government Spending on ICT
  - Patents and Copyrights on ICT
  - Education on ICT

- **ICT Data :**
  - Sources : BPS, BKPM, Telkom Tbk, Mars-e, Ditjen Postel, APJII, IDNIC, Menkominfo (Depkominfo – 2005), ITU, Ditjen Dikti, ATSI, APWKomitel, Indosat, Telkomsel, Excelkomindo, Mobile8, Mandara, PSN, Bakrie Telecom, Ditjen HAKI (Ditjen HKI – 2005), Dep. Keuangan, Internet
  - Classification Standards : ISIC rev. 2 & 3, SITC, IPC ver.6

REPORTS (2004 – 2005)







REPORTS (2006)

- **The Scope (2006) :**
  - ICT Infrastructure and access (excluding e-Government)
  - ICT Investment
  - ICT Trading (Export & Import)
  - Government Spending on ICT
  - Patents and Copyrights on ICT
  - Education on ICT

- **ICT Data :**
  - Sources : BPS, BKPM, Telkom Tbk, Ditjen Postel, APJII, IDNIC, Depkominfo, ITU, Ditjen Dikti, ATSI, Indosat, Telkomsel, Excelkomindo, Mobile8, Mandara, PSN, Bakrie Telecom, Ditjen HKI, Dep. Keuangan, Internet
  - Classification Standards : ISIC rev. 2 & 3, SITC, IPC ver.6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Tahun 2006


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III. COMMON PROBLEMS & LESSONS LEARNED

1. **Data sources :**
   - Limited data awareness, poor data management
   - Willingness to share data ("confidentiality" was frequently as the means to refuse data access/sharing)

2. **Data :**
   - Data availability and quality ⇨ depend on the external data sources ~ many actors (no "formal" relationship with BPPT on the subject). Needs more organized institutional arrangement in measuring the Indonesian ICT
   - Many irregular available data, lack of up-to-date data
   - Codification/classification of data : Classification change/concordance
3. **Data on government spending : difficulties in capturing ICT spending in non-ICT activities (ICT as supporting activities)**
4. **No local government ICT data available**
5. **Too "personalised" data collection process ⇨ time and energy consuming (inefficient)**
6. **No professional statisticians in the BPPT team ⇨ the "quality of the statistical data and indicator measurement and presentation."**

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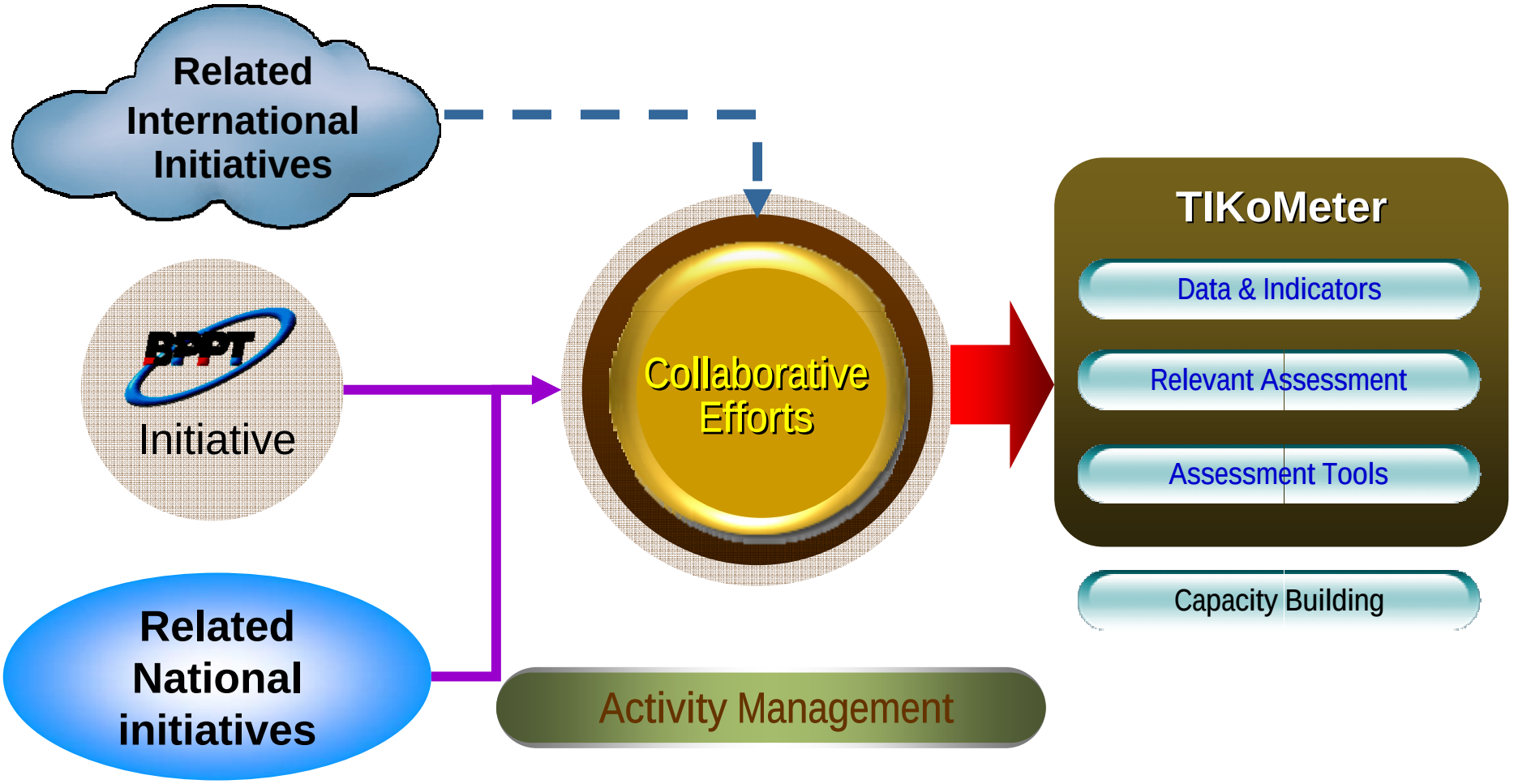
IV. EXPECTATION FOR THE FUTURE



- Organizing the roles
- Prioritized Activities and Staging

A Set of assessment/measurement tools, data/indicators, and assessment (reports and/or other relevant publications) on Indonesian ICT. Forms :

- ICT Data and Indicators
  - E.g., *ICT Core Indicators, Indonesian ICT Outlook, etc.*
- *Assessment Tools* (general and specific) :
  - General : e.g., for *e-readiness assessment*
  - Specific : e.g., for *Technology Readiness Level (TRL) assessment*
- Relevant assessment on ICT
  - E.g., *ICT convergence, ICT IO Analysis, etc.*

PROPOSED CONTENT : TIKoMeter

- **Key Statistics : Core ICT Indicators**
- **E-Readiness Overviews : DOI, DAI, Regional Readiness, ETC.**
- **Impact Analysis : ICT on macro economy, WSIS & MDG**
- **The Nation Creativity/Innovativeness : HRD, IPR, ICT-Technopreneurship**
- **Market and Industry Overviews : IO Analysis**
- **Regulatory Environment and Standards**
- **Major Players in Industry ~ e.g., fixed and mobile**
- **Infrastructure Maps**
- **Current Thematic Issues :**
  1. Mobile Voice and Data Markets
  2. Internet, VoIP, IPTV
  3. Broadband (FttH, DSL, cable TV, wireless)
  4. **Convergence and Digital Media**

Terimakasih dan Selamat Berdiskusi

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SUPPLEMENT SLIDES

WSIS Plan of Action (paragraph 28)

"A realistic international performance evaluation and benchmarking (both qualitative and quantitative), through ***comparable statistical indicators*** *and research results, should be developed to follow up the implementation of the objectives, goals and targets in the Plan of Action …"*

"All countries and regions should develop ***tools so as to provide statistical information on the Information Society****, with basic indicators and analysis of its key dimensions. Priority should be given to setting up* ***coherent and internationally comparable indicator systems*****, taking into account different levels of development."**

WSIS Thematic Meeting:
Measuring the Information Society

- **Geneva, 7-9 February 2005**
- **270 participants from 85 countries**

Agenda:

- Global ICT indicators stocktaking results
- Core list of ICT indicators and methodological issues
- Capacity building needs of NSOs in developing countries
- ICT impact indicators and MDGs – benchmarking and monitoring

Key outcome: adoption of core list of indicators

Core list of ICT indicators

Set of indicators	*Basic core*	*Extended core*	*Reference*	*Total*
ICT infrastructure and access	10	2		12
ICT access and usage by households and individuals	10	3	1	14
ICT access and usage by businesses	8	4		12
ICT sector	4			4
Total	32	9	1	42

Examples of Data Collected

- Number of telephone subscribers (wireline & wireless, local & national/cellular)
- Telephone subscribers composition
- Cellular phone payment scheme composition
- Telephone capacity
- International phone traffics
- Number of internet users & subscribers
- Number of PC's, internet hosts and ISPs
- Internet usage
- Domain .id
- Number of households with radio and TV
- Number of radio and TV stations
- Foreign investment s on ICT industry (manufacture & service)
- Local investment on ICT industry (manufacture & service)
- Central government budgets & realization on ICT related activities/programs
- Export/import values/volumes of ICT goods/commodity (data processing, telecommunication inc. audio/video, electronics component)
- Number of applications for ICT related patent
- Number of ICT copy rights (source code/application programs)
- Number of institutions for high education (state/private owned)
- Number of ICT education programs
- Number of students and lecturer
- … and more …