

**CERAMAH**

**Kebijakan Strategis Pembangunan Iptek  
dalam  
Meningkatkan Daya Saing Bangsa Indonesia**

oleh  
Benyamin Lakitan

Ceramah pada PPRA XLIX Lemhannas RI, Jakarta, 29 Juli 2013

# Unsur Daya Saing

- kelembagaan
- jaringan infrastruktur
- makroekonomi
- tenaga kerja

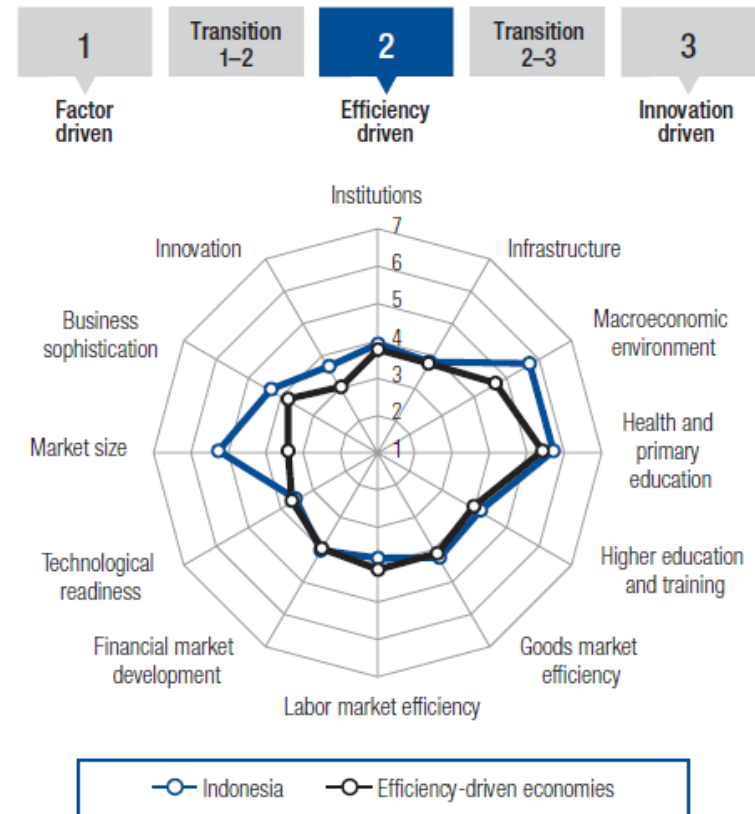
- kapasitas inovasi
- sofistikasi bisnis

- institusi pendidikan tinggi
- mekanisme pasar
- layanan jasa-jasa keuangan
- kesiapan teknologis
- kapasitas pasar domestik

## The Global Competitiveness Index

	Rank (out of 144)	Score (1-7)
<b>GCI 2012-2013</b> .....	<b>50</b>	<b>4.4</b>
GCI 2011-2012 (out of 142).....	46	4.4
GCI 2010-2011 (out of 139).....	44	4.4
<b>Basic requirements (40.0%)</b> .....	<b>58</b>	<b>4.7</b>
Institutions .....	72	3.9
Infrastructure .....	78	3.7
Macroeconomic environment .....	25	5.7
Health and primary education.....	70	5.7
<b>Efficiency enhancers (50.0%)</b> .....	<b>58</b>	<b>4.2</b>
Higher education and training.....	73	4.2
Goods market efficiency .....	63	4.3
Labor market efficiency .....	120	3.9
Financial market development .....	70	4.1
Technological readiness.....	85	3.6
Market size.....	16	5.3
<b>Innovation and sophistication factors (10.0%)</b> .....	<b>40</b>	<b>4.0</b>
Business sophistication .....	42	4.3
Innovation.....	39	3.6

### Stage of development



## The most problematic factors for doing business



Score

Rank

## 12th pillar: Innovation

12.01	Capacity for innovation.....	3.9	30
12.02	Quality of scientific research institutions .....	3.9	56
12.03	Company spending on R&D.....	3.9	25
12.04	University-industry collaboration in R&D .....	4.2	40
12.05	Gov't procurement of advanced tech products .....	4.0	29
12.06	Availability of scientists and engineers .....	4.3	51
12.07	PCT patents, applications/million pop.* .....	0.1	101

\* ) Nilai aktual, bukan skor. Jumlah aplikasi paten per juta penduduk

WEF (2013)

Negara	Komponen Daya Saing Teknologi				Agregat
	Infrastruktur	Dukungan TIK	Kegiatan Litbang	Manajemen Teknologi	
Singapura	9,74	8,72	9,37	10,00	9,46
Malaysia	4,51	4,45	4,55	8,37	5,49
Thailand	4,60	2,36	4,40	7,08	4,60
Indonesia	3,89	1,57	4,38	6,68	4,12
Brunei	0,97	4,54	1,56	6,22	3,37
Filipina	1,22	2,07	3,52	6,03	3,22
Vietnam	2,51	1,79	1,07	5,38	2,70
Cambodia	2,14	0,60	1,36	6,28	2,60
Myanmar	0,85	0,08	1,37	5,67	2,01
Laos	0,85	1,33	0,92	3,92	1,77

# Kendala pertumbuhan TFP\*

- infrastruktur dasar yang memperkuat interkoneksi dalam perekonomian
- kecukupan pasokan energi
- kurang memadainya aktivitas penelitian dan pengembangan
- kualitas modal manusia dan inklusivitas sistem pendidikan nasional
- kesenjangan digital

Bank Indonesia (2010)

\*) TFP = Total Factor Productivity, sebagai proxy kontribusi teknologi terhadap pertumbuhan ekonomi

*'The case of Indonesia appears that economic growth in recent decades was 'perspiration', rather than 'inspiration'-based.'*

van der Eng (2010)



*'In the long run, standards of living can be enhanced  
only by technological innovation.'*

*It means sufficient investment in R&D, especially by the private sector; the presence of high-quality scientific research institutions; extensive collaboration in research between universities and industry; and the protection of intellectual property'*

WEF (2011)

# visi pembangunan iptek

2010-2014

“Iptek untuk kesejahteraan dan kemajuan peradaban”

Kemenristek (2010)

# Arah Penguatan

Kelembagaan

Sumberdaya

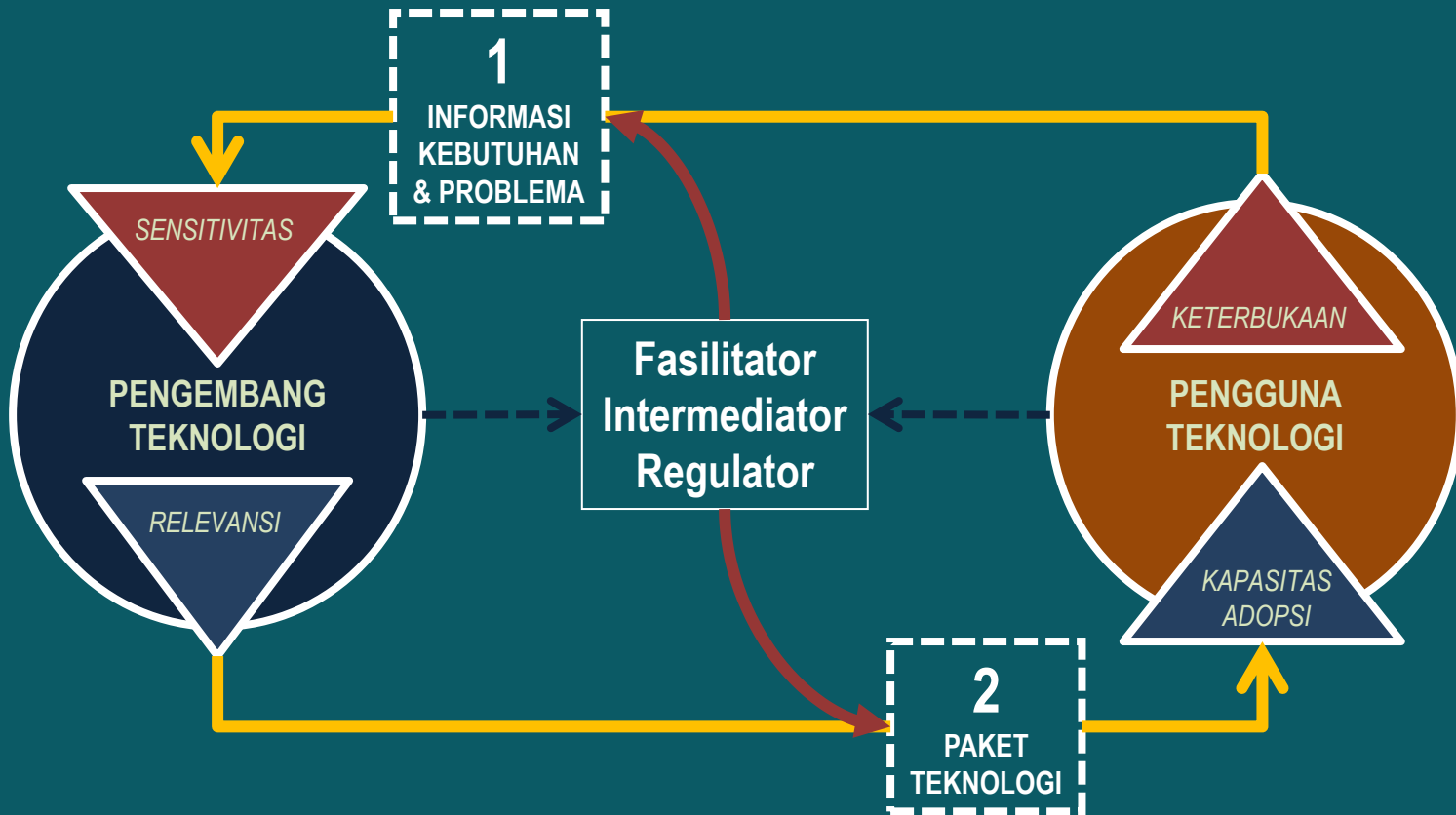
Jaringan

Relevansi & Produktivitas

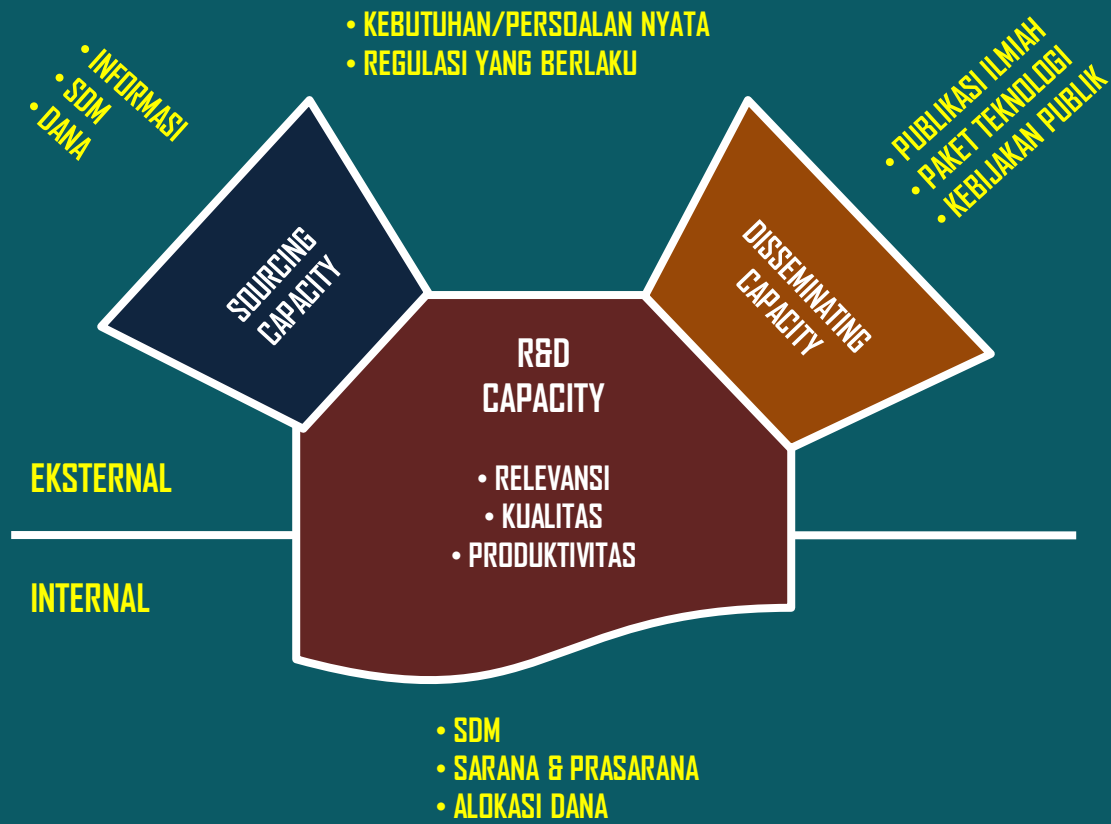
Pendayagunaan

# Strategi Pembangunan Iptek

1. Penguatan Sistem Inovasi Nasional (SINas)
2. Peningkatan Penelitian, Pengembangan, dan Penerapan Iptek (P3 Iptek)



Lakitan (2013)



Lakitan (2011)



(Perpres 32/2011)

*“History is changed when we put into it the technology that counts: not only the famous spectacular technologies but also the low and ubiquitous ones”.*

Edgerton (2006)



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