



Persatuan Insinyur Indonesia
The Institution of Engineers Indonesia



WE-AFEO 35

Indonesia Country Report

Bangkok, 17 November 2017

Indonesia – The Facts



- Total land area: 1.89 mio km².
- Approximately 17,000 islands.
- 32 Provinces.
- Enrouten by Ring of Fire (line of volcanoes and earthquake).
- Population: 237 mio (predicted 263 mio in 2025).
- Total number of Engineers: 603,000.
- 2017 PII members: 27,788 with women engineer: 8,366 (30%).

Indonesia – The Facts

Total Population: 237,641,326 ppl.

SUMATRA 50,631,031:
21,30%

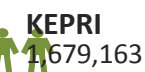
NAD
4,494,410



SUMUT
12,982,204



KEPRI
1,679,163



RIAU
5,538,367



SUMBAR
4,846,909



JAMBI
3,092,365



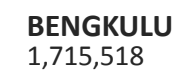
BABEL
1,223,296



SUMSEL
7,450,394



BENGGULU
1,715,518



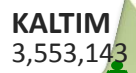
LAMPUNG
7,608,405



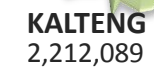
KALBAR
4,395,983



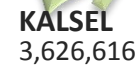
KALTIM
3,553,143



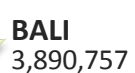
KALTENG
2,212,089



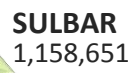
KALSEL
3,626,616



BALI
3,890,757



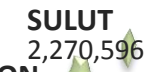
SULBAR
1,158,651



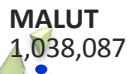
GORON-TALO
1,040,164



SULUT
2,270,596



MALUT
1,038,087



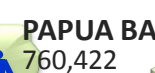
SULTENG
2,635,009



MALUKU
1,533,506



PAPUA BARAT
760,422



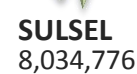
SULTRA
2,232,586



PAPUA
2,833,381



SULSEL
8,034,776



NTB
4,500,212



NTT
4,683,827



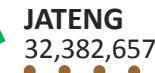
DKI JAKARTA
9,607,787



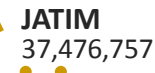
BANTEN
10,632,166



JATENG
32,382,657



JATIM
37,476,757



**JAWA
136,610,590
(57.84%)**

JABAR
43,053,732



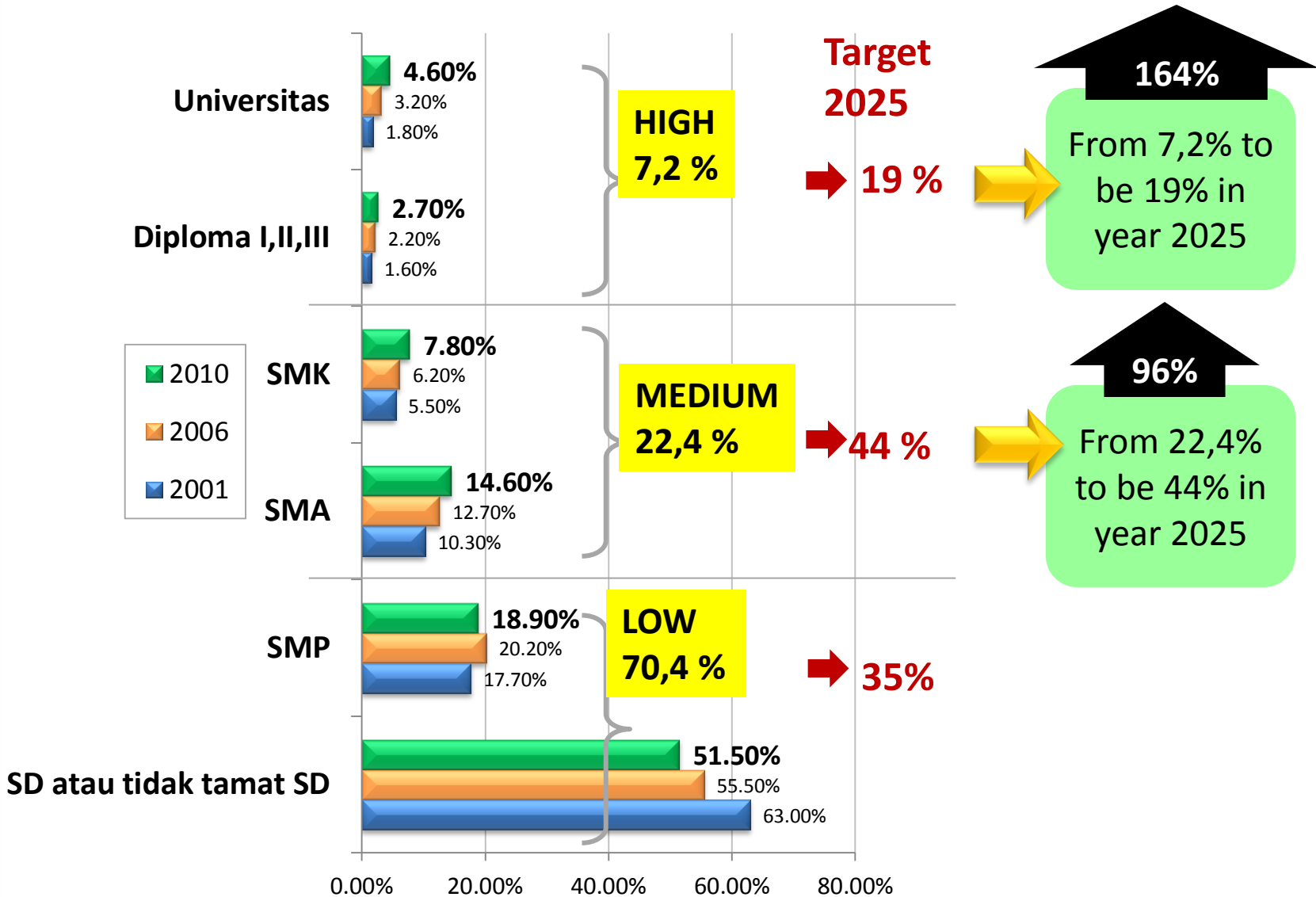
DI YOGYAKARTA
3,457,491



PERSATUAN INSINYUR INDONESIA

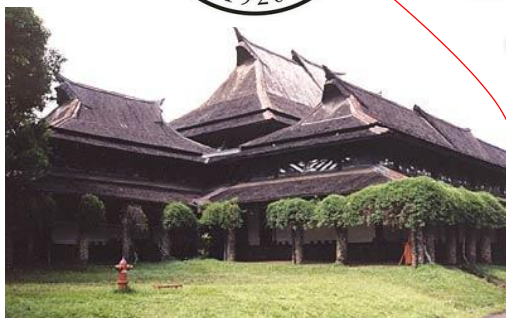
Human Resources Education

Setting a better composition for the human resources education level



Engineering Education Studies Program

Indonesia currently has 374 Engineering Education Studies Program



Until now only 4 universities obtain accreditation from ABET for studies program:

- (1) Electro Engineering
- (2) Ocean Engineering and
- (3) Physics Engineering
- (4) Chemical Engineering
- (5) Industrial Engineering

1. SUMATERA	
Science	49
Agriculture	33
Engineering	96
Others	321
Total	499
SAE/Total	19 %

3. KALIMANTAN	
Science	21
Agriculture	16
Engineering	32
Others	122
Total	191
SAE/Total	16 %

4. SULAWESI	
Science	28
Agriculture	27
Engineering	59
Others	229
Total	343
SAE/Total	17 %

6. PAPUA - MALUT	
Science	18
Agriculture	17
Engineering	30
Others	110
Total	175
SAE/Total	17 %

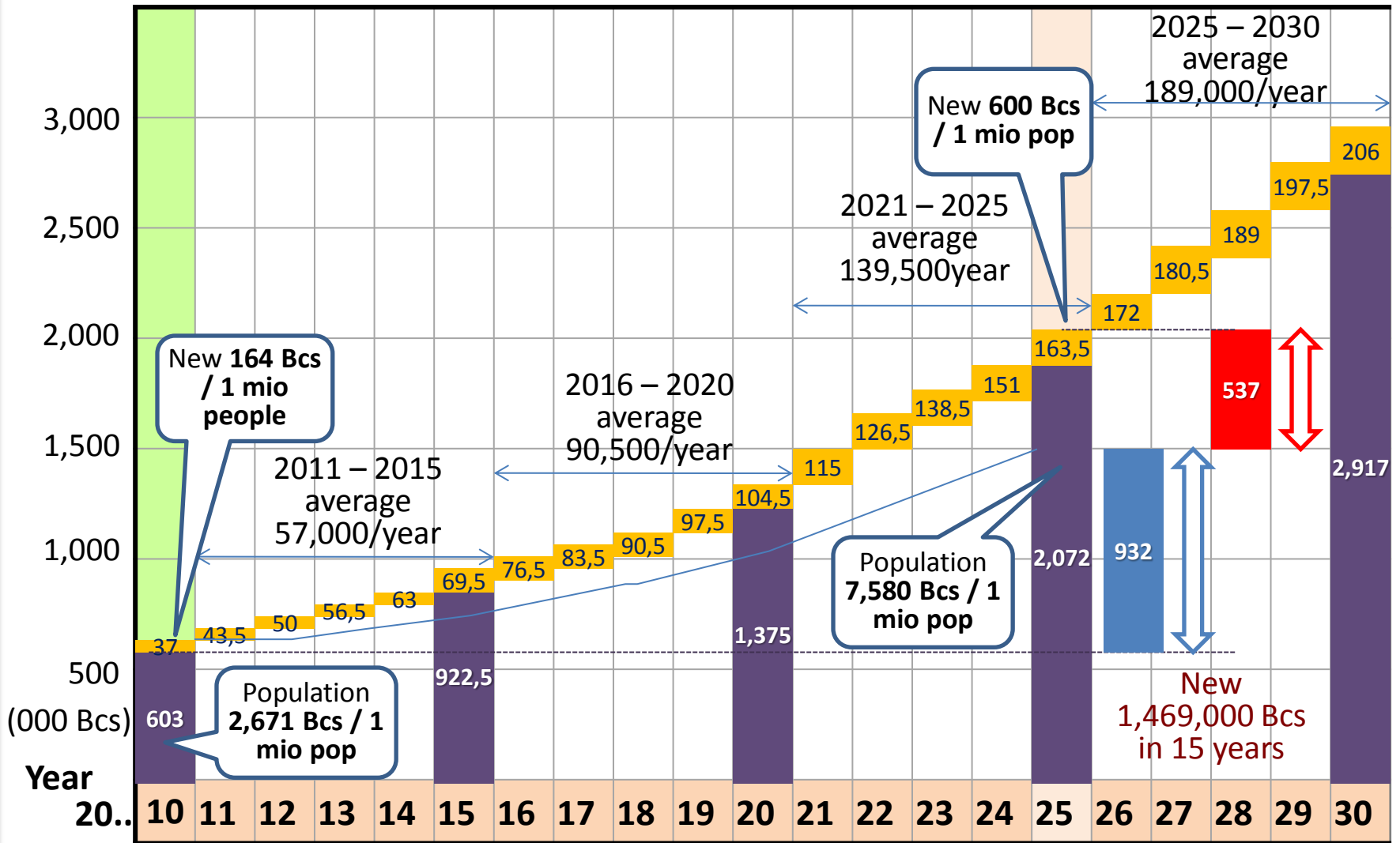


2. JAWA	
Science	38
Agriculture	33
Engineering	125
Others	518
Total	714
SAE/Total	17 %

5. BALI - NT	
Science	17
Agriculture	11
Engineering	32
Others	140
Total	200
SAE/Total	16 %

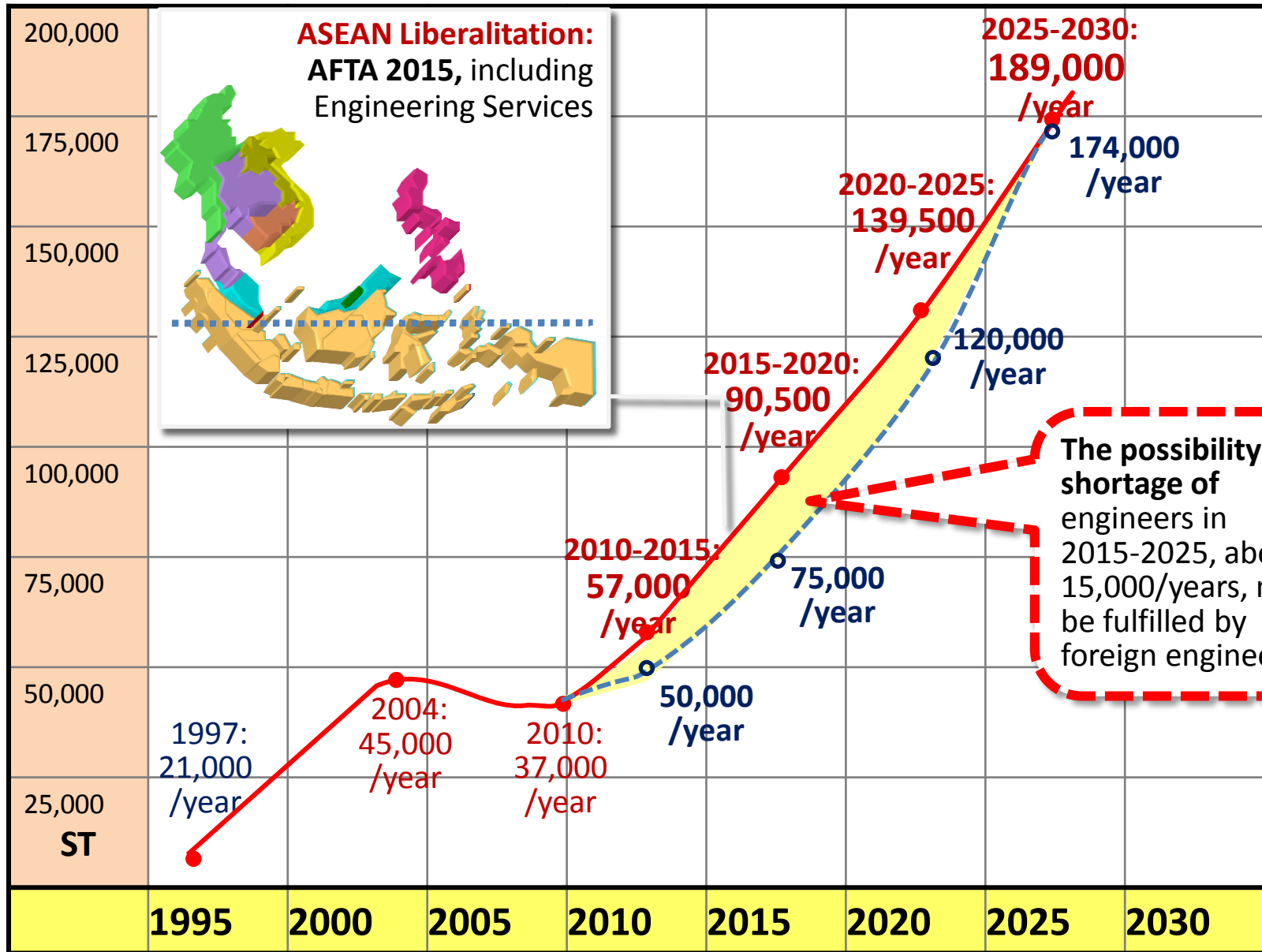
Engineering Bachelors Supply Planning

The total new Bachelor per year and Bachelors population ST per 5 years



Add 57.6% compare to existing growth

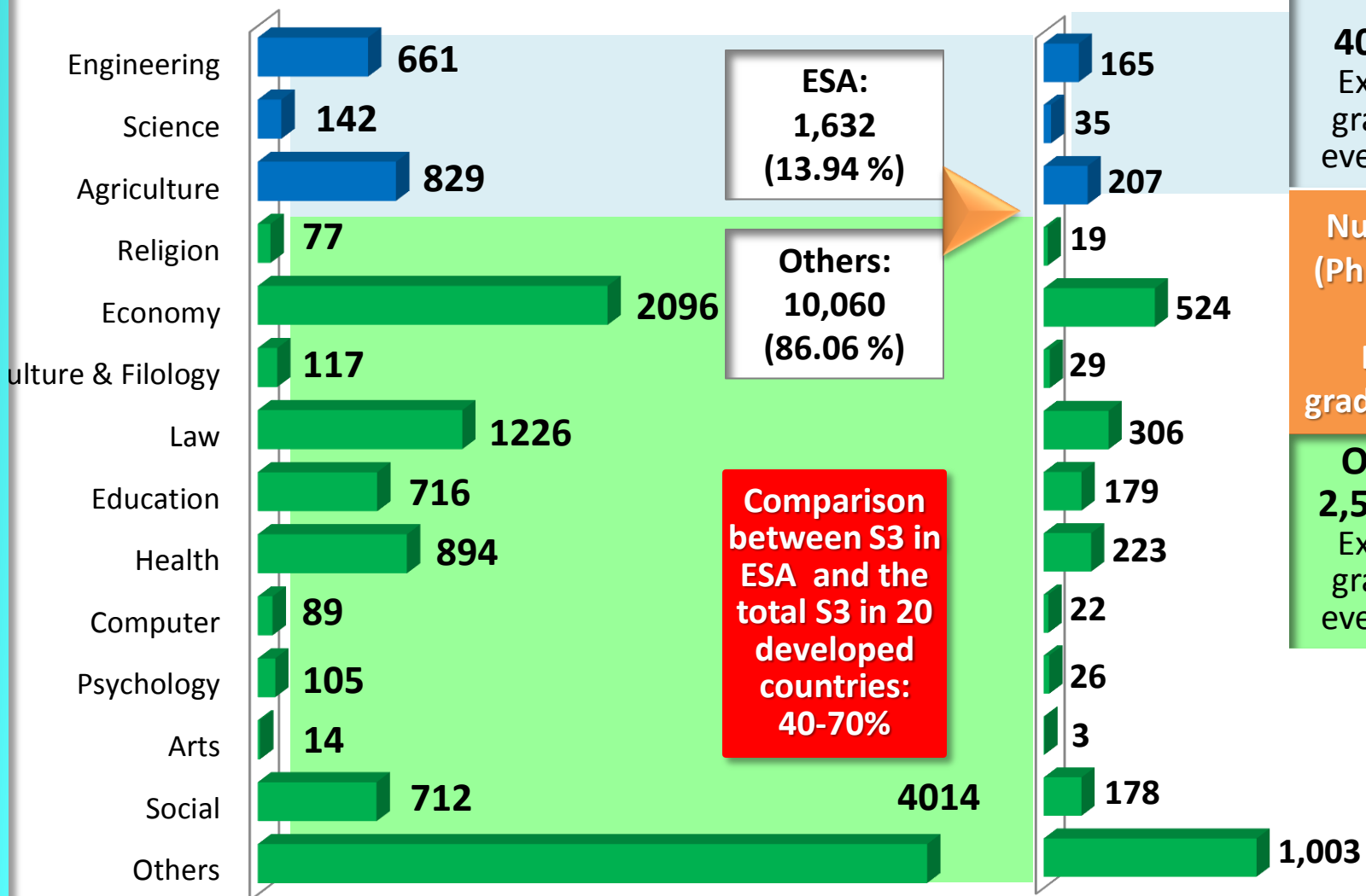
Prediction Gap: Demand and Supply



PhD in INDONESIA

Total PhD (2011): 23,000

Projection new PhD: 2,919/year



ESA:
1,632
(13.94 %)

Others:
10,060
(86.06 %)

ESA:
407 PhD
Expected
graduates
every years

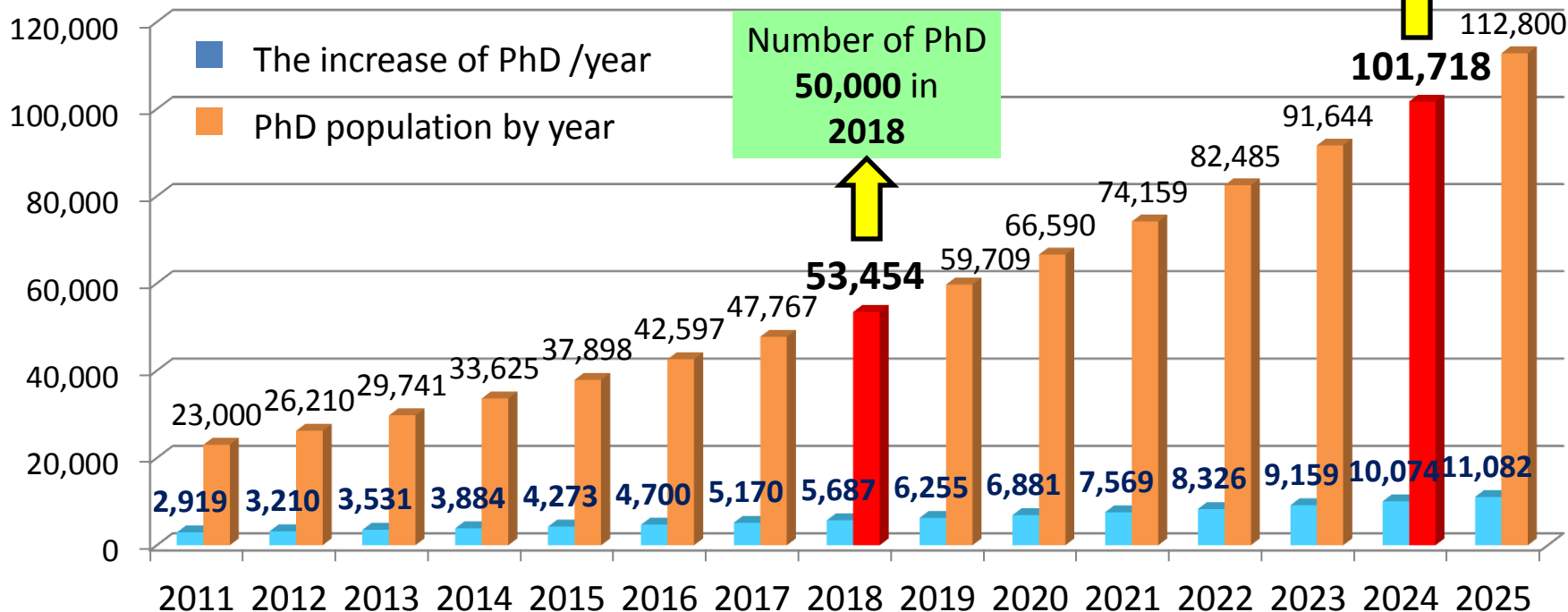
**Number of S3
(PhD students):**
11,692,
Expected
graduate in 4 yrs

Others:
2,512 PhD
Expected
graduates
every years

**Comparison
between S3 in
ESA and the
total S3 in 20
developed
countries:**
40-70%

PhD Degree Composition

PhD Increasing 10%/year Scenario



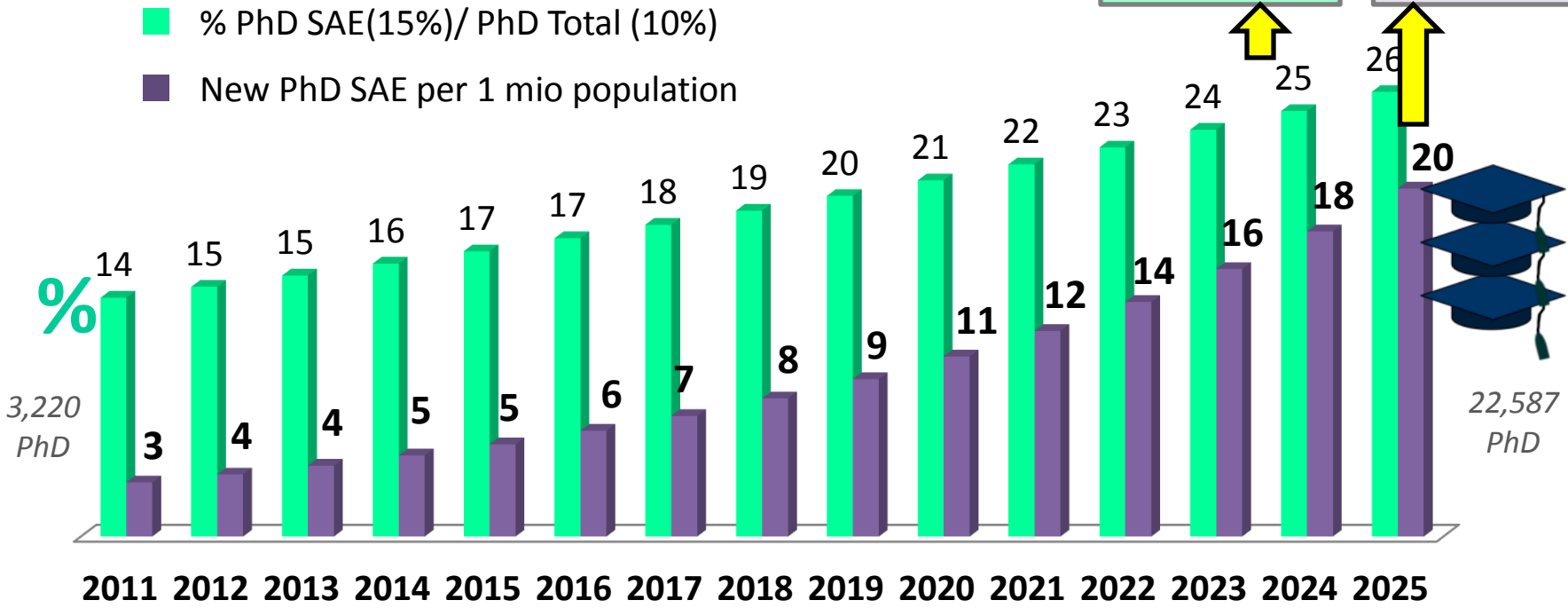
COUNTRY	Numbers PhD Thn 2011	POPULATION	PhD /1 mio population
INDONESIA	23,000	237,000,000	98
INDIA	1,690,000	1,198,000,000	1,410
GERMANY	328,000	82,200,000	3,990
FRANCE	320,000	62,300,000	5,136
JAPAN	819,000	127,200,000	6,438
USA	3,100,000	314,700,000	9,850

•With the raise of 10%, in 2024, expected number of PhD becomes 500 /1 mio population

PhD: Increasing 15%/year Scenario

The growth of comparison of PhD in ESA/ Total: 25% in 2024

The addition of 20 PhD in ESA /1 mio of pop /year

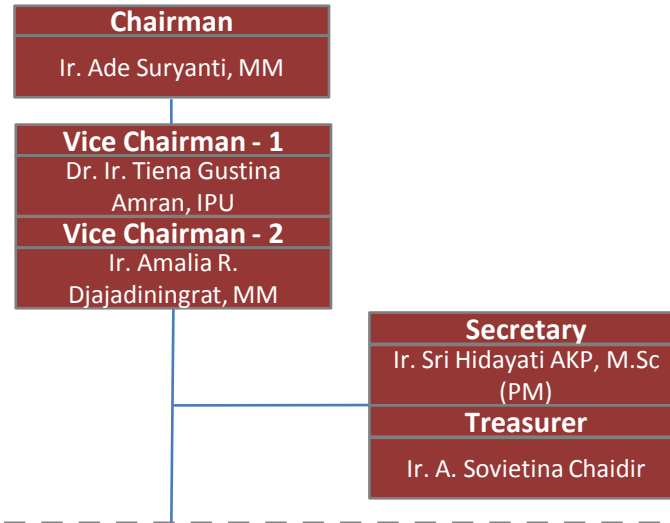


COUNTRY (2008)	Comparison PhD SAE/ PhD Total	Addition of PhD SAE/ 1mio pop
Indonesia	25%	2
Australia	39 %	95
USA	36 %	65
South Korea	33 %	60
Japan	40 %	45
China	60 %	28

With the raise of 15%, in 2024, expected, number of PhD becomes 11 /1 mio of population

PERSATUAN INSINYUR INDONESIA

Women Engineer Forum/FIW - PII



Central Board Branche

Sumatera	Jawa, Bali, Nusa Tenggara	Kalimantan	Sulawesi	Maluku & Papua
NAD & Sumut	Jawa Barat & Banten	Kalbar & Kalteng	Sulut	Malut & Maluku
Sumbar & Jambi	Jawa Tengah	Kalsel & Kaltim	Gorontalo & Sulbar	Irjabar & Papua
Riau & Kepri	DI Yogyakarta		Sulteng & Sultra	
Sulsel & Babel	Jawa Timur		Sulsel	
Bengkulu & Lampung	Bali & Nusa Tenggara			

❑ Established in 2015.

❑ Strengthened by Engineering Act No. 11 year 2014.

❑ **VISION:**

“To build a large network connecting women engineers, to embrace and deliver the results of living on purpose based on courage and joy.”

❑ **MISSION:**

- ❖ To encourage women engineers to remain in the engineering practice.
- ❖ To support the professional development for women engineers.
- ❖ To profile inspirational women engineers of exemplary model inspiring next generation.

❑ OBJECTIVES:

- ❖ To exchange viewpoints and information about engineering and technology.
- ❖ To promote greater contribution from women engineers in industry.
- ❖ To offer professional advice, consultation and assistance to women engineers.
- ❖ To serve as a venue for Indonesian women engineers to share opinions and experiences in their profession with counterparts from other countries.
- ❖ To organize engineering-related activities which contribute to society and benefit the general public.

□ PROGRAM:

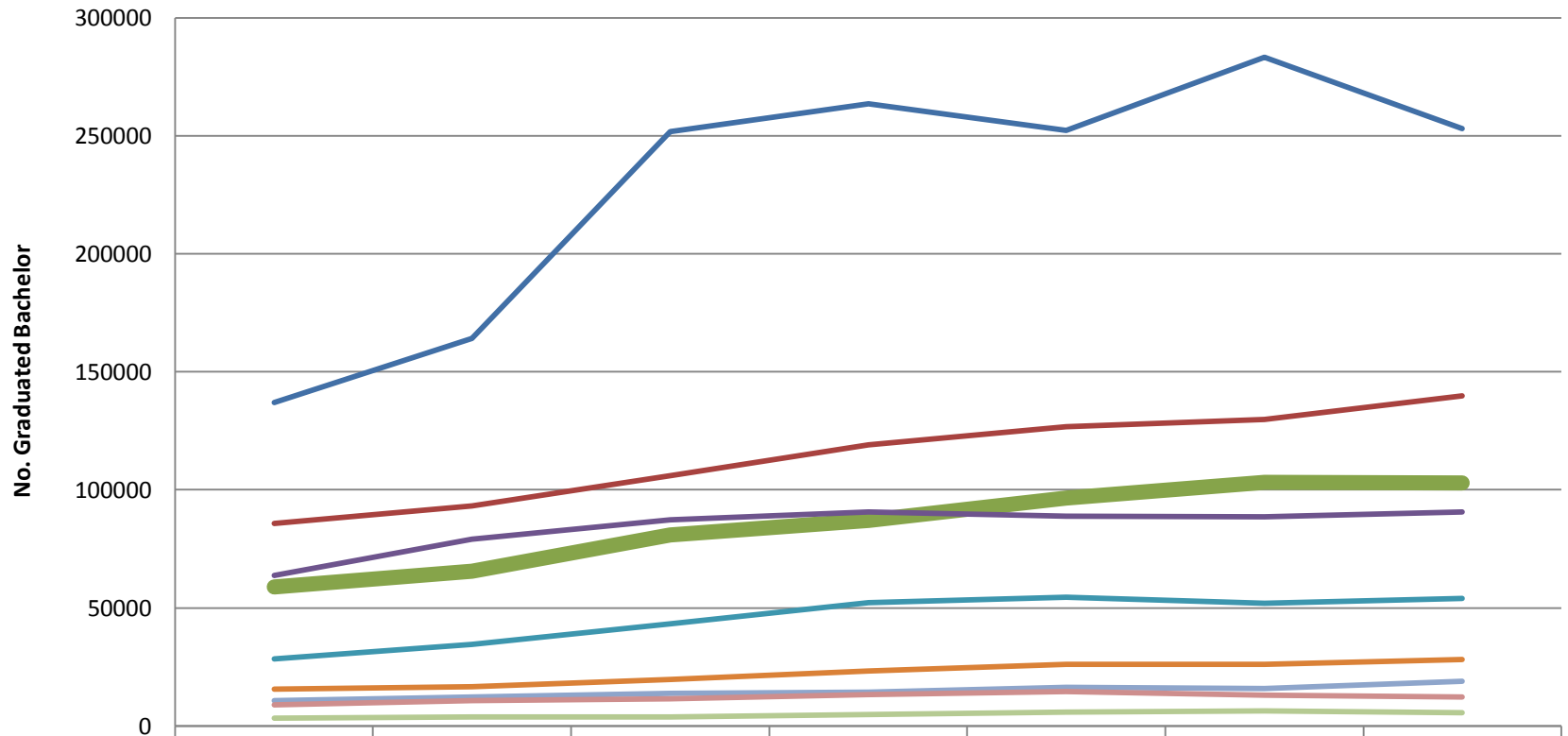
- ❖ Coordinates with other women engineer organizations in Indonesia and abroad.
- ❖ Provides career assistance and support to women engineers.
- ❖ Distributes information on engineering through various media channels.
- ❖ Organizes academic and professional meetings and seminars.

❑ OPERATIONS:

- ❖ Woman Engineer Forum (WEF) will be run by a current PII committee. The WEF will give more attention to attract woman engineer.
- ❖ The forum still within the PII organization and involved in existing program.
- ❖ Specifically, WEF will do dissemination on this initiative within the PII organization (including branches and district).

Women Engineer Forum/FIW - PII

Graduated Bachelor



	2010	2011	2012	2013	2014	2015	2016
— Pendidikan	137137	164074	251865	263503	252278	283345	253161
— Ekonomi	85697	93088	106131	119078	126703	129782	139777
— Teknik	58780	65649	80805	86955	96450	103138	102929
— Sosial	63726	79220	87278	90541	88954	88648	90695
— Kesehatan	28379	34471	43274	52288	54456	52079	53997
— Pertanian	15704	16724	19647	23219	25977	26191	28247
— MIPA	10779	12339	13917	14391	16388	15719	18954
— Agama	8809	10842	11413	13277	14557	12973	12359
— Seni	3370	3722	3733	4744	5772	6485	5686

Women Engineer Forum/FIW - PII

Graduated Bachelor in Engineering

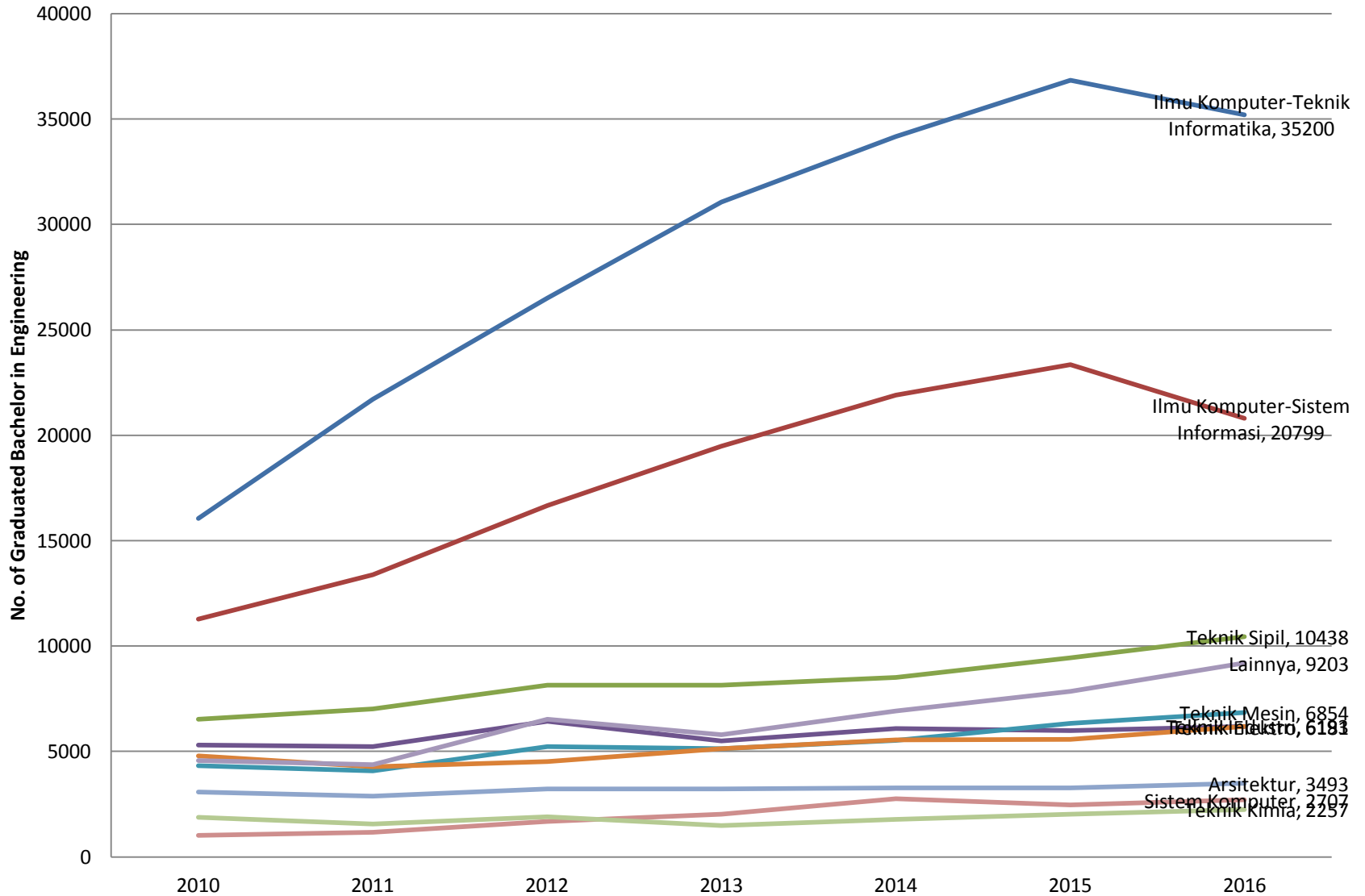


Table A.2. Employment by sex and risk of automation (thousand and per cent distribution by risk)

Country and sex	Low	Medium	High	Total	Low	Medium	High	Total
Cambodia	805.4	2 280.4	4 049.5	7 135.4	11.3	32.0	56.8	100.0
Male	451.8	1 380.1	1 904.2	3 736.1	12.1	36.9	51.0	100.0
Female	353.6	900.3	2 145.4	3 399.3	10.4	26.5	63.1	100.0
Indonesia	10 076.8	37 074.7	60 418.0	107 569.4	9.4	34.5	56.2	100.0
Male	5 569.6	24 178.3	37 103.2	66 851.1	8.3	36.2	55.5	100.0
Female	4 507.1	12 896.4	23 314.8	40 718.3	11.1	31.7	57.3	100.0
Philippines	7 042.6	12 580.2	18 798.5	38 421.3	18.3	32.7	48.9	100.0
Male	2 807.2	9 619.6	10 883.8	23 310.6	12.0	41.3	46.7	100.0
Female	4 235.4	2 960.6	7 914.7	15 110.8	28.0	19.6	52.4	100.0
Thailand	5 918.1	15 832.3	17 201.4	38 951.8	15.2	40.6	44.2	100.0
Male	3 134.2	9 545.0	8 588.3	21 267.5	14.7	44.9	40.4	100.0
Female	2 783.9	6 287.3	8 613.0	17 684.3	15.7	35.6	48.7	100.0
Viet Nam	6 120.2	9 278.9	36 681.1	52 080.2	11.8	17.8	70.4	100.0
Male	3 920.0	6 320.5	16 476.2	26 716.8	14.7	23.7	61.7	100.0
Female	2 200.2	2 958.4	20 204.9	25 363.4	8.7	11.7	79.7	100.0
ASEAN-5	29 963.1	77 046.5	137 148.6	244 158.2	12.3	31.6	56.2	100.0
Male	15 882.8	51 043.5	74 955.7	141 882.1	11.2	36.0	52.8	100.0
Female	14 080.2	26 003.0	62 192.8	102 276.1	13.8	25.4	60.8	100.0

Source: International Labour Organisation (2016)

**A study on "ASEAN in Transformation: The Future of Jobs at Risk of Automation"

Thank you,

