



INDUSTRY.GOV.PH
Securing the Future of
Philippine Industries



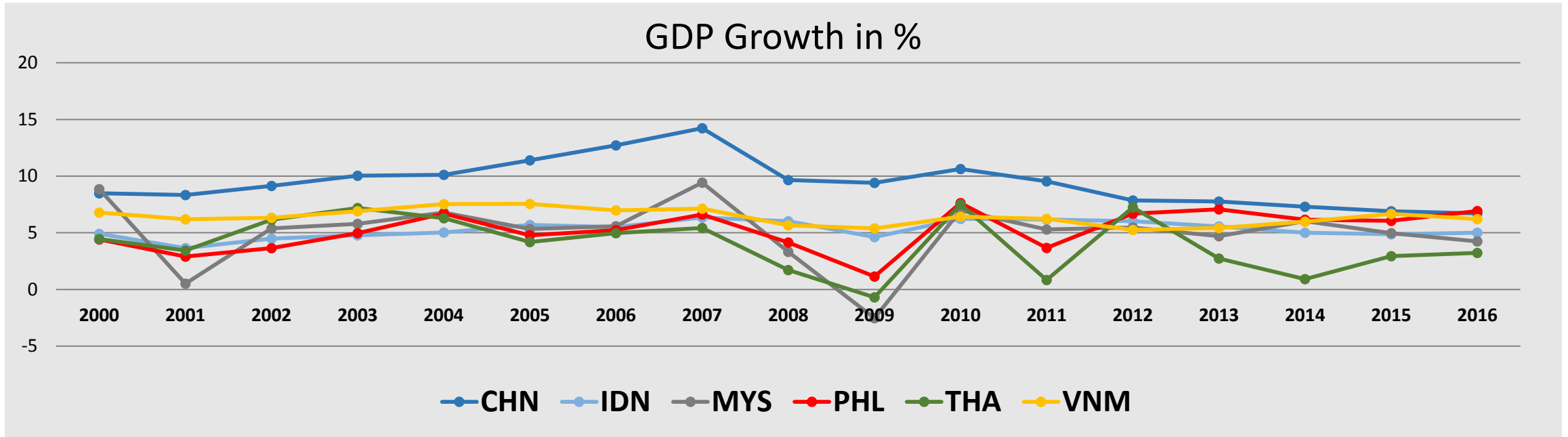
The Philippine New Industrial Strategy: Inclusive, Innovative, & Sustainable

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Economic Integration and Nation Building Symposium
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Presentation Outline

- PH Macroeconomic Performance
- New Industrial Strategy: sustainable, inclusive, innovation-led industrial strategy (si³s)
 - Top 12 Industry Priorities
- 4th Industrial Revolution: Connecting Industries
 - Automotive, Electronics, and IT-Business Process Management
 - Engineering Services Outsourcing (ESO), system/components related to Advance Driver Assistance System (ADAS) & Electric Vehicles

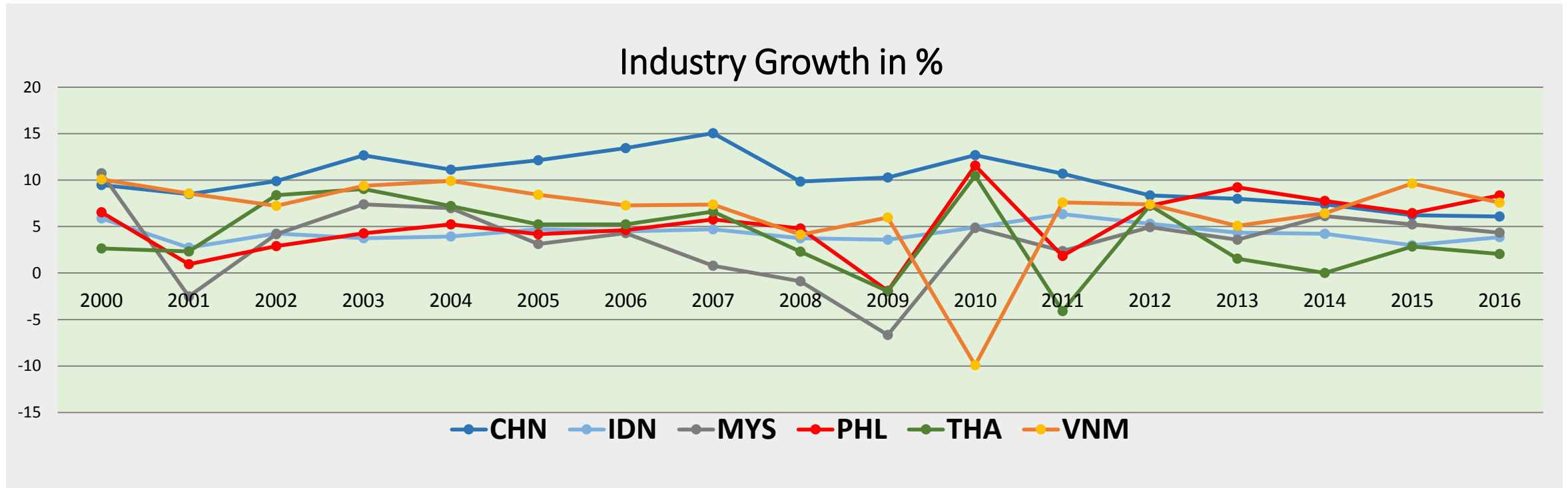
Part 1: Macro Performance: PH Remarkable Growth



Source: World Development Indicators, The World Bank

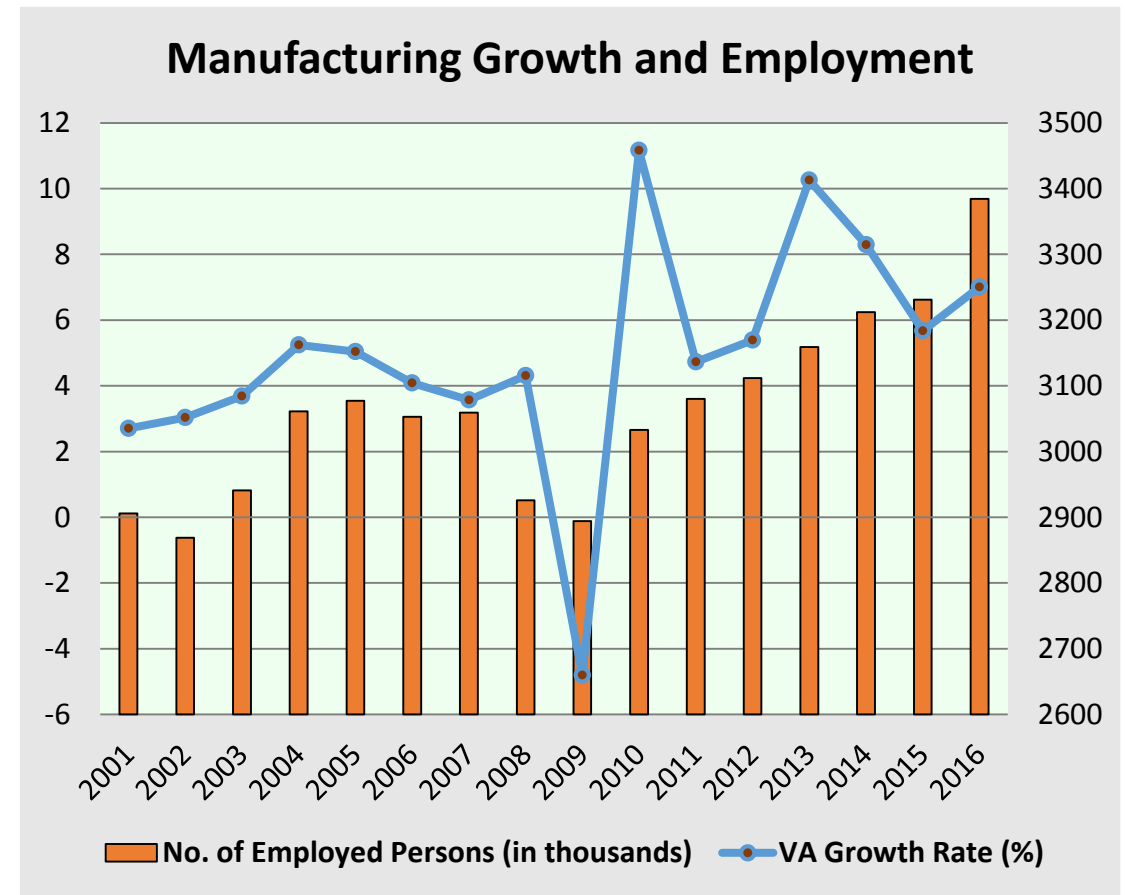
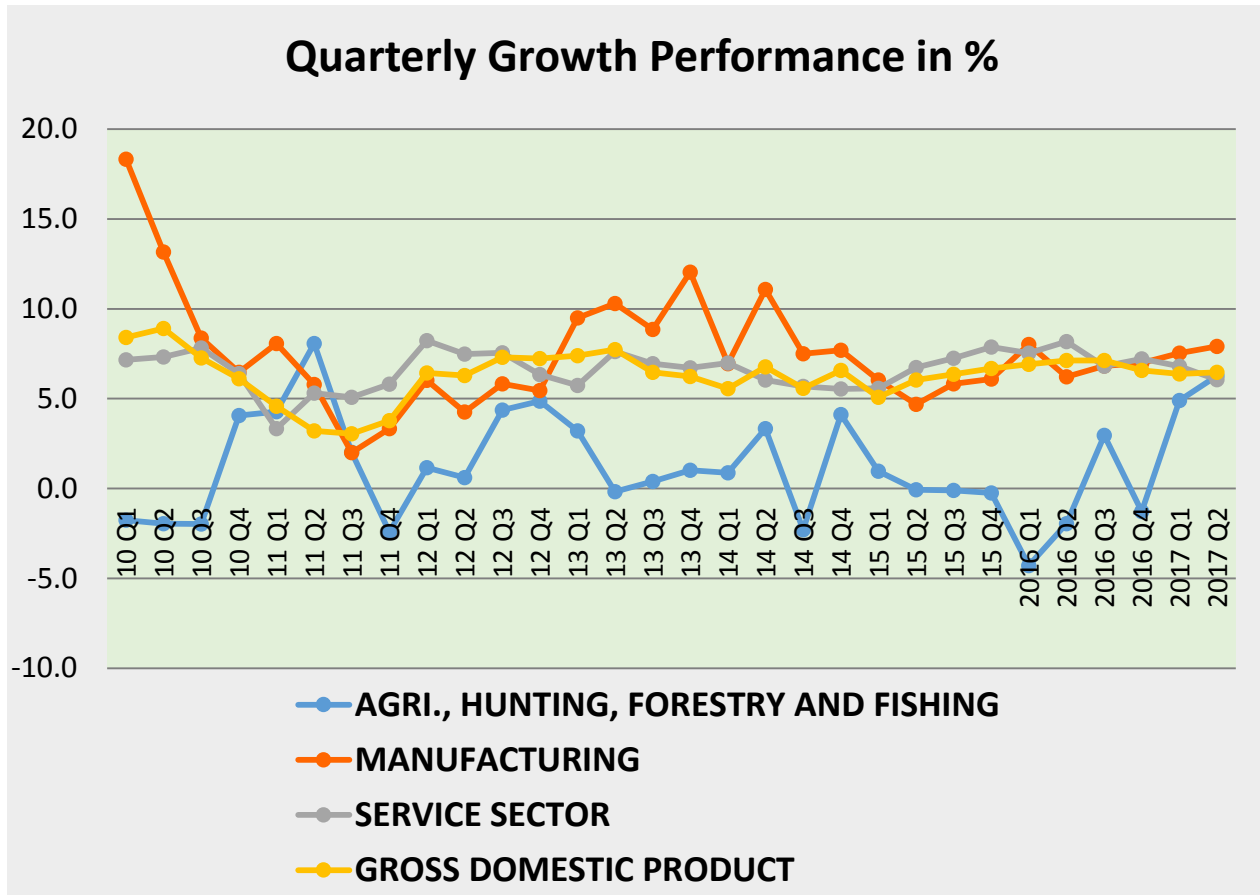
- Amid economic & global uncertainty, PH grew 6.3% from 2010 to 2016
- H1 2017: China 6.9%, **Philippines 6.4%**, Vietnam 5.7% Malaysia 5.7%, Thailand 3.5%, Indonesia 5%
- PH impressive growth: a new growth area, Asia's new economic tiger

High industry growth driven by manufacturing



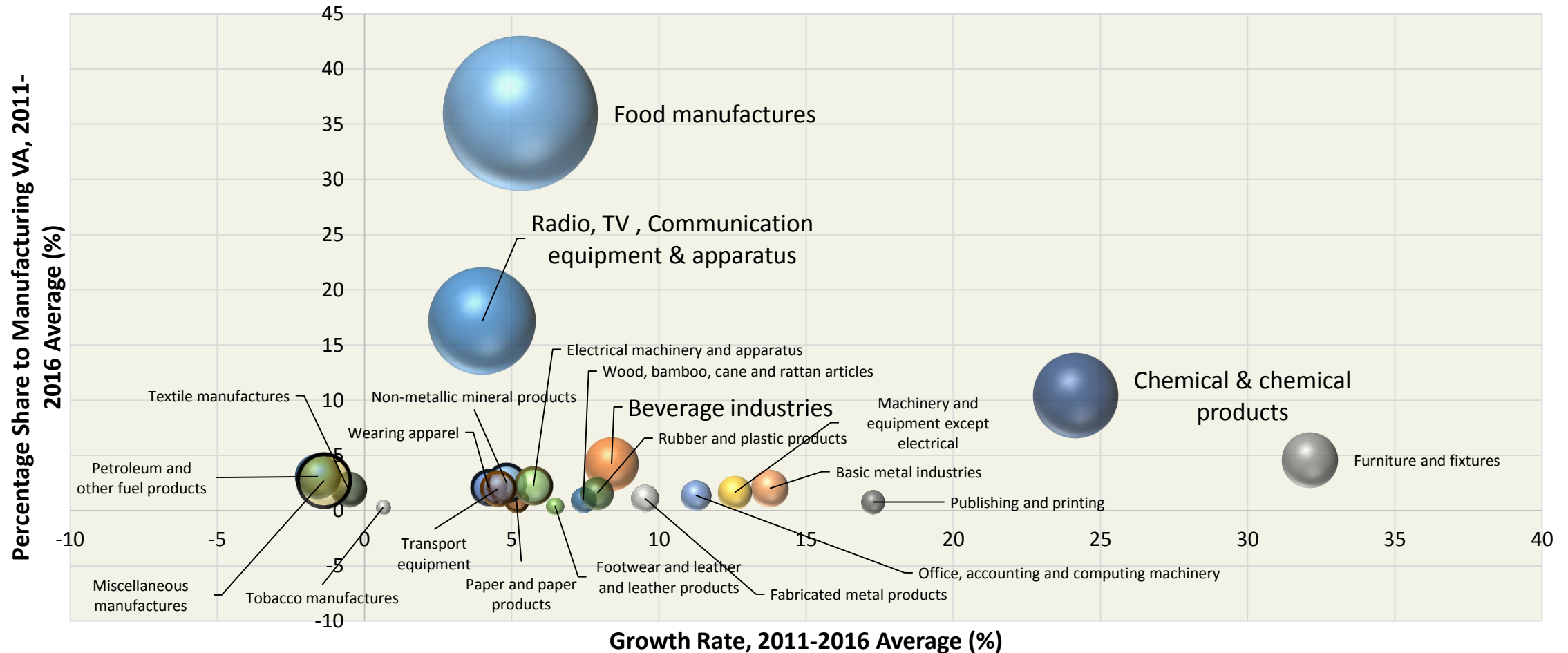
- In 2013 and 2014, PH posted the highest industry growth
- PH industry growth H1 2017: 6.8%, driven by strong manufacturing growth
- Conditions that converged for manufacturing growth: rising costs in China; growing domestic market of 100 million people, growing middle class, good macro performance; stable business & consumer confidence; young, English speaking workforce; moderate wage increases

PH experiencing a manufacturing resurgence



- Average manufacturing growth: 7.5% from 2010 to 2016; 7.7% for H1 2017
 - Average growth 2000-2009: 3.2%
- Employment generation increased by 5% to 3.384M workers in 2016 from 3.231M in 2015

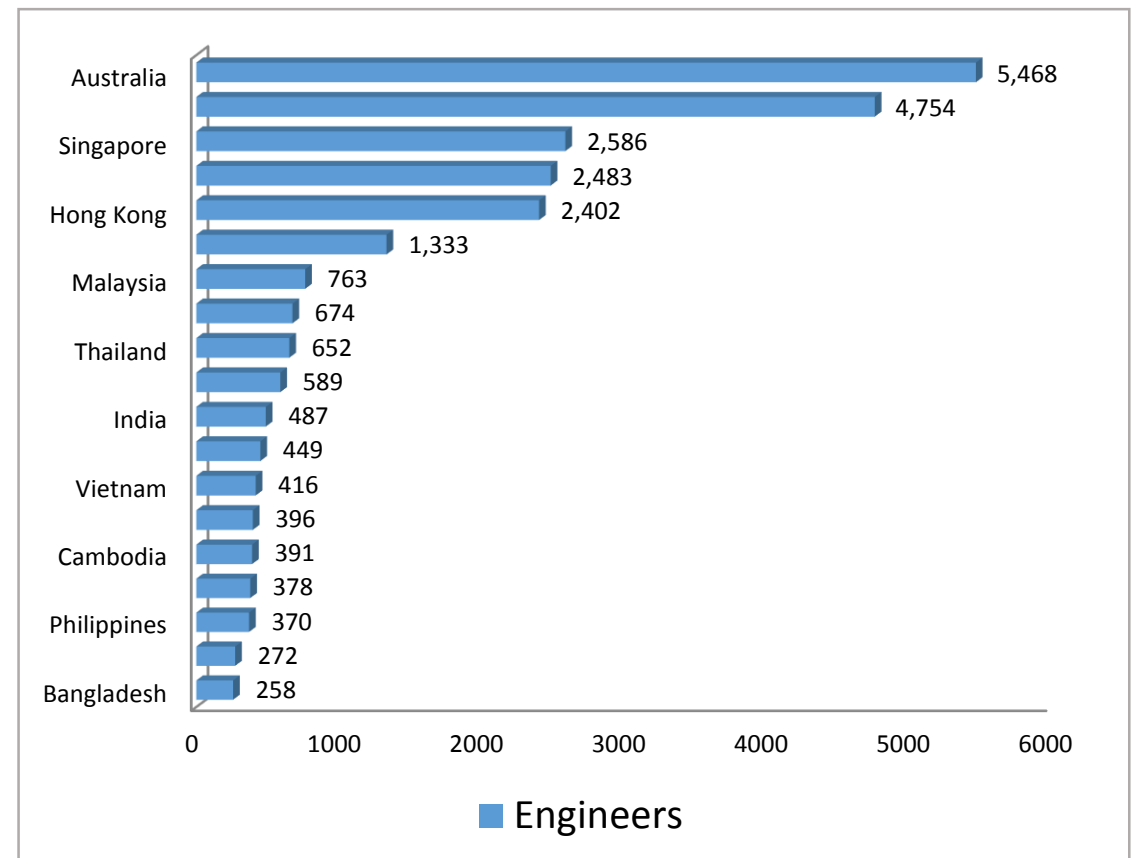
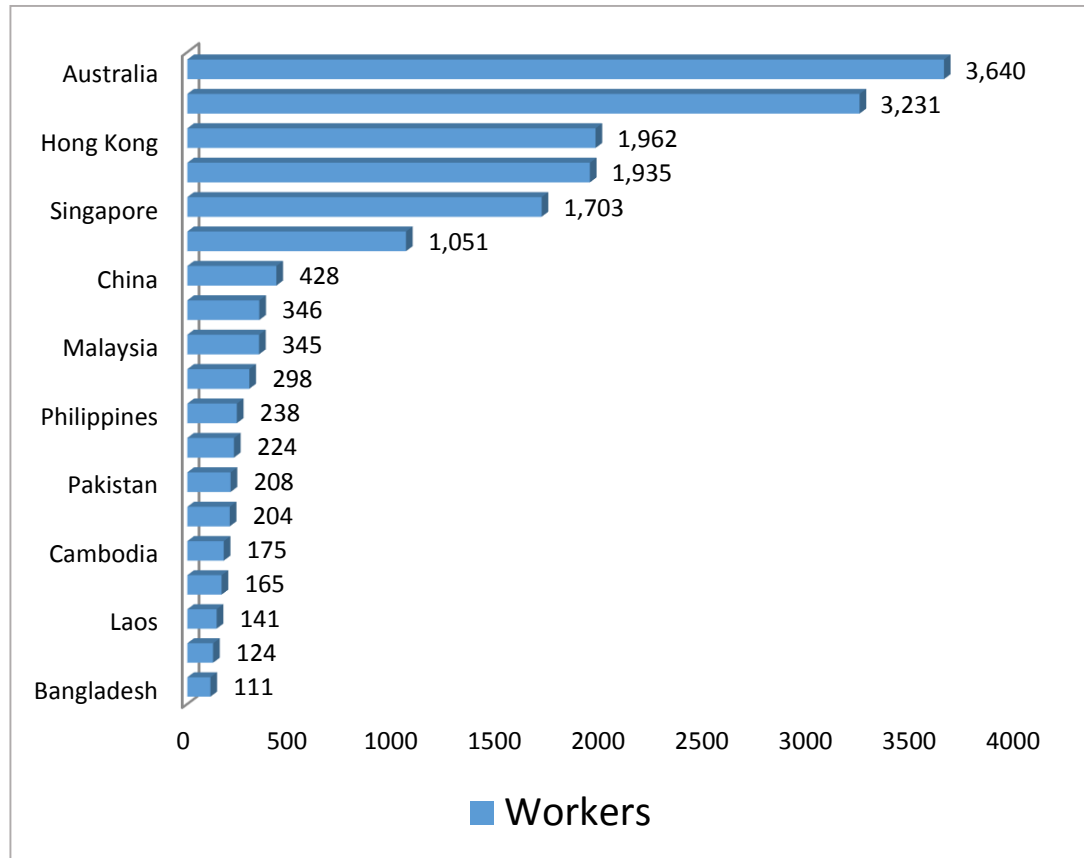
Leading sectors: food manufacturing, electronics, chemicals



- Manufacturing has been largely dominated by food processing; radio, TV, communication equipment; chemical & chemical products; beverage; furniture
- Most sectors registered average growth from 5 to 10% during the last 6 years

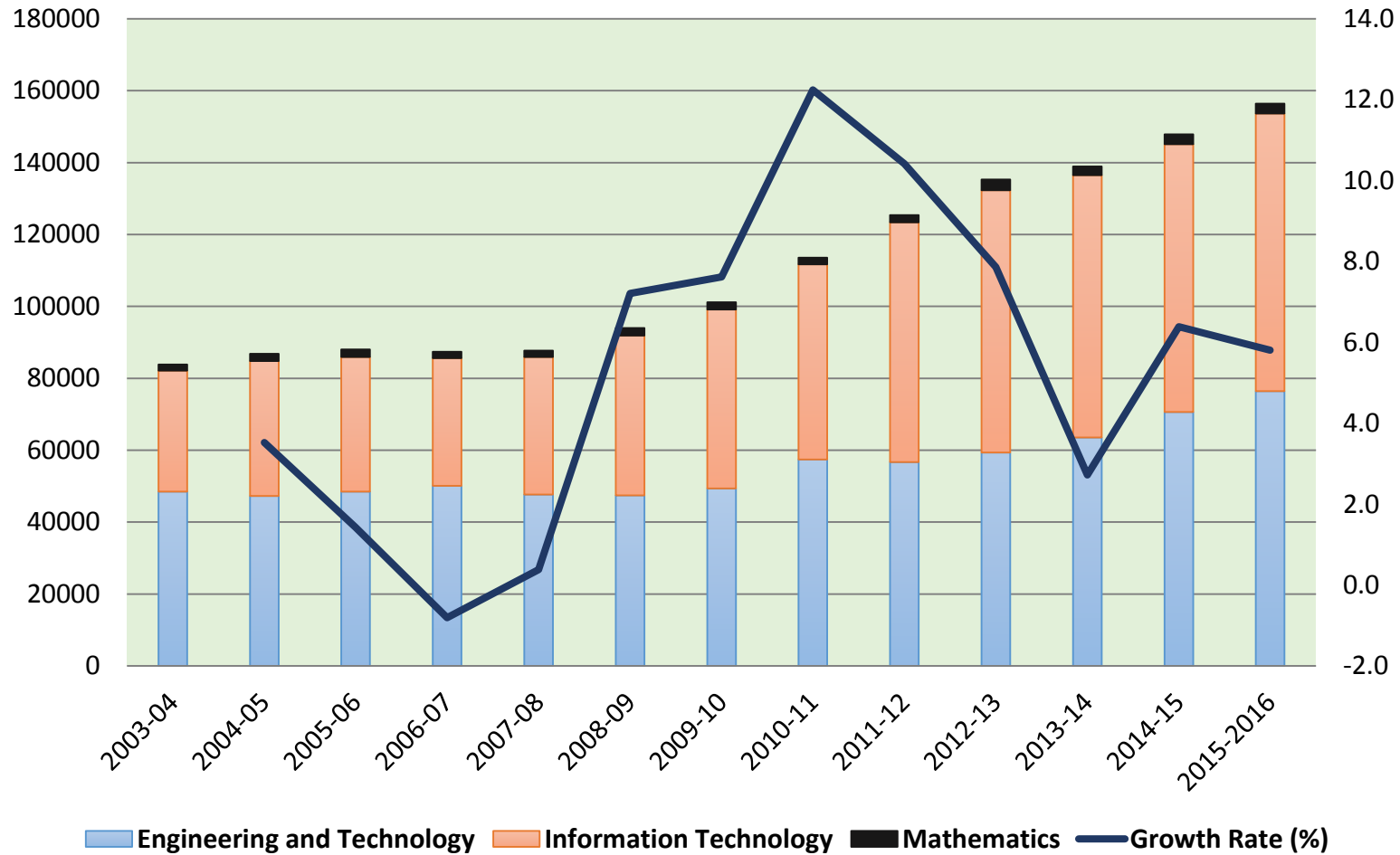
Comparison of Wage Rates

- PH wages for workers & engineers are relatively lower than China, Malaysia, & Thailand (monthly rates in US\$)



Source: Japan External Trade Organization (JETRO). Survey on Business Conditions of Japanese Companies in Asia and Oceania (2016)

Higher Education Graduates of Engineering-related Disciplines



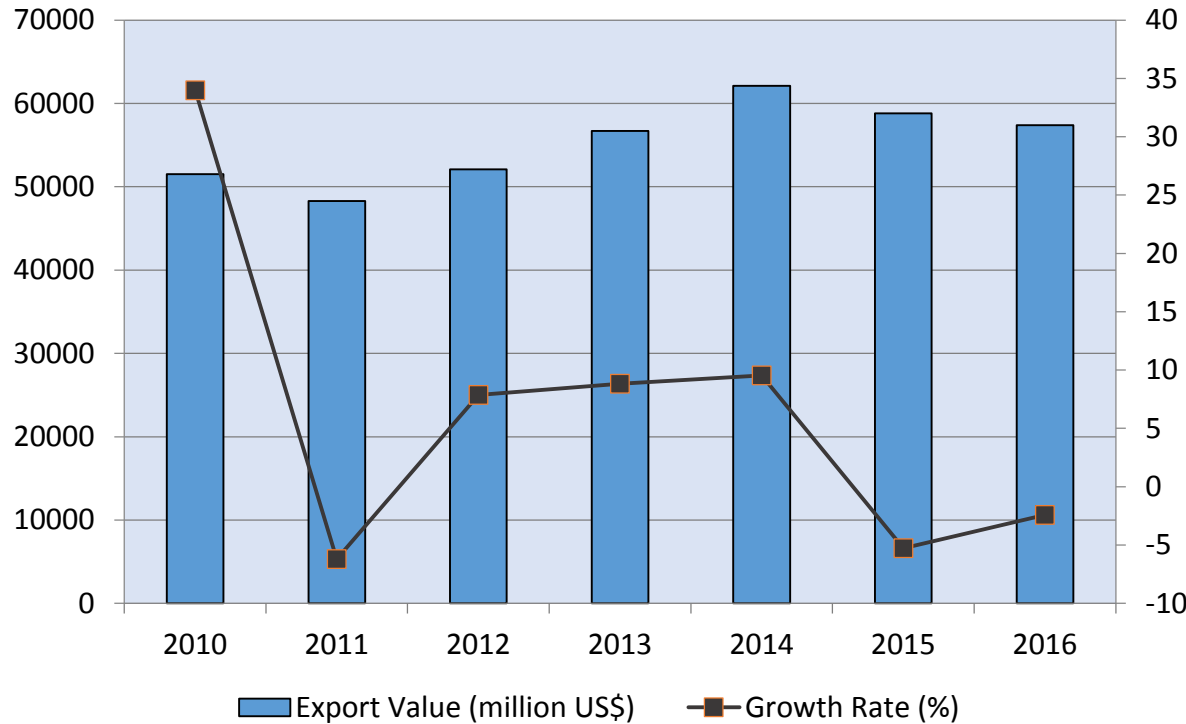
Source: Commission on Higher Education



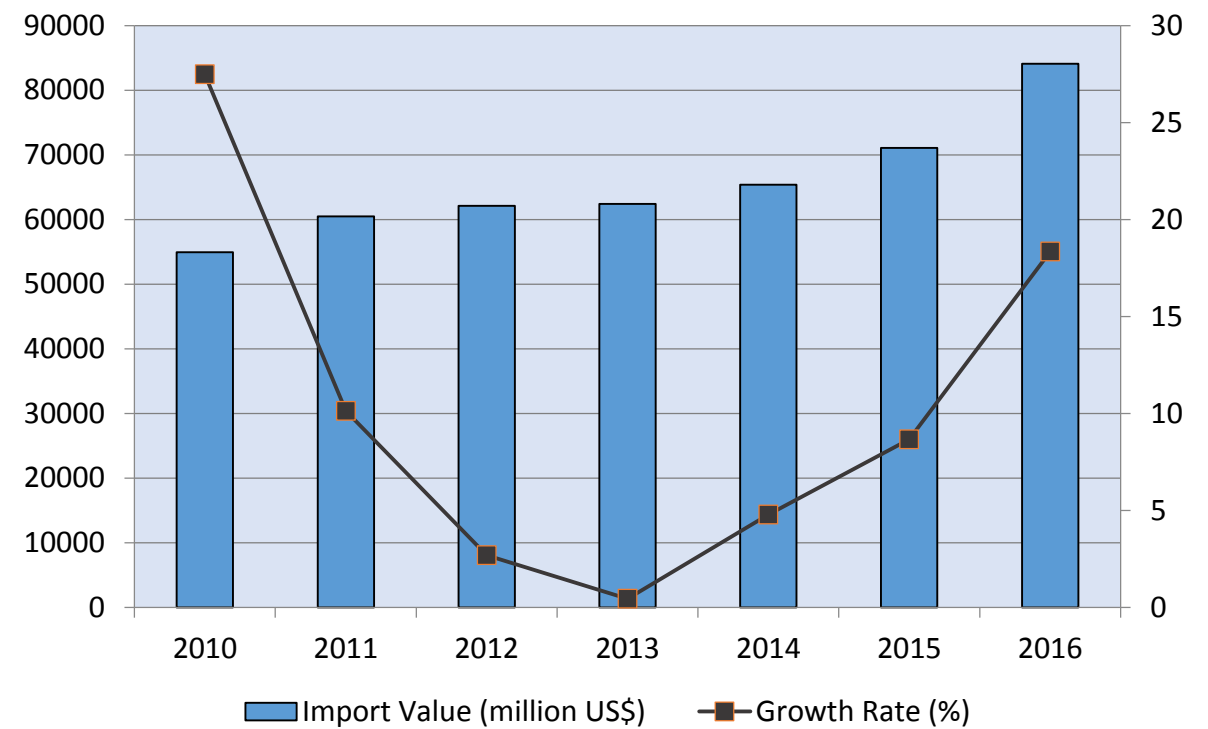
- In 2016, total graduates of engineering & technology, IT, & mathematics totaled 156,409
- There are 500,000 registered Filipino engineers(150K civil engineers)

Philippine Trade Performance

Philippine Merchandise Exports



Philippine Merchandise Imports



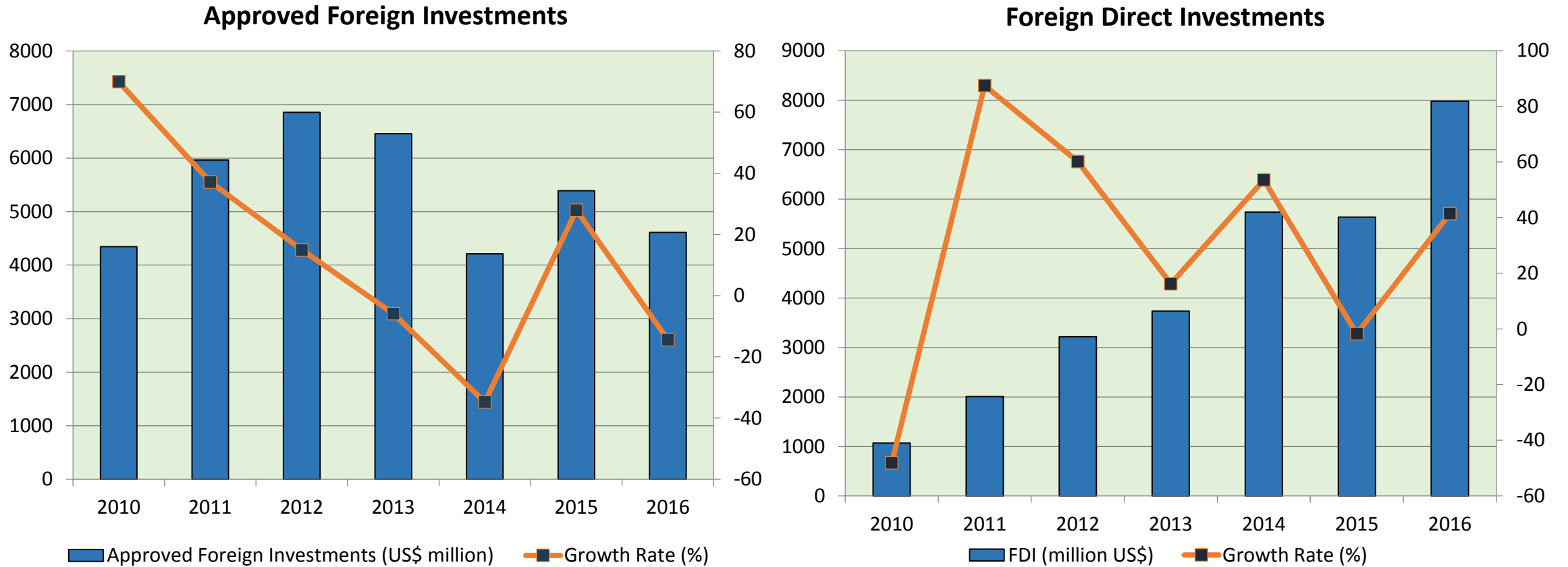
Top Exports (2016)

- Electronic Products (51.24%)
- Other Manufactured Goods (6.74%)
- Machinery and Transport Equipment (5.37%)
- Woodcrafts and Furniture (5.19%)
- Ignition Wiring Set and Other Wiring Sets (3.48%)

Top Imports (2016)

- Electronic Products (26.51%)
- Transport Equipment (11.24%)
- Mineral Fuels, Lubricants, Related Materials (9.47%)
- Industrial Machinery and Equipment (7.16%)
- Iron and Steel (3.95%)

Philippine Investments Performance

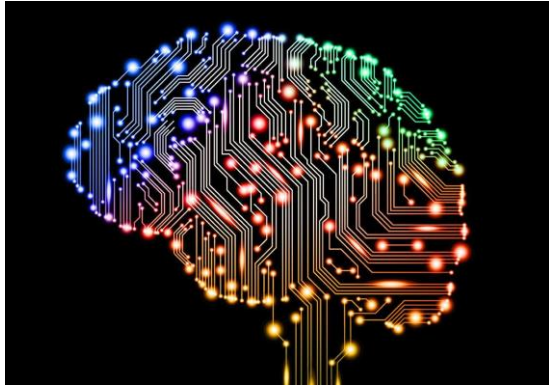


- Total approved investments exhibiting a generally declining growth
- Philippine FDI growth has been generally positive but fluctuating

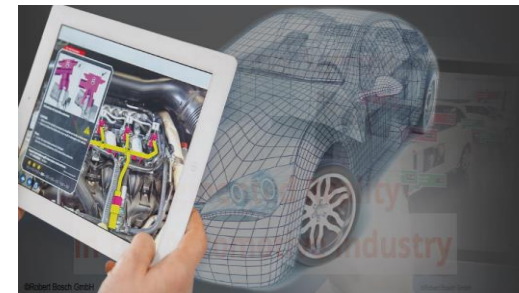
Source: Bangko Sentral ng Pilipinas, Philippine Statistics Authority

Note: Total approved investments are converted from pesos using annual average exchange rates between PH peso and US dollar.

Part 2: Industry 4.0: driving force is technology, disrupting business models at an accelerated pace



INDUSTRY 4.0



- Impact on PH industries
- Opportunities & challenges
- Future skills needed: human capital development critical Science, Technology, Engineering Mathematics
- Innovation-led technologies to improve productivity, transform PH economy

Inclusive, innovation-led Industrial Strategy

Integrating PH industries, Closing value/supply chain gaps



- **Global Value Chain-focused**
- **INNOVATION & ENTREPRENEURSHIP-centered**
- **Industry cluster-based**

Overall Goal: globally competitive & innovative industries

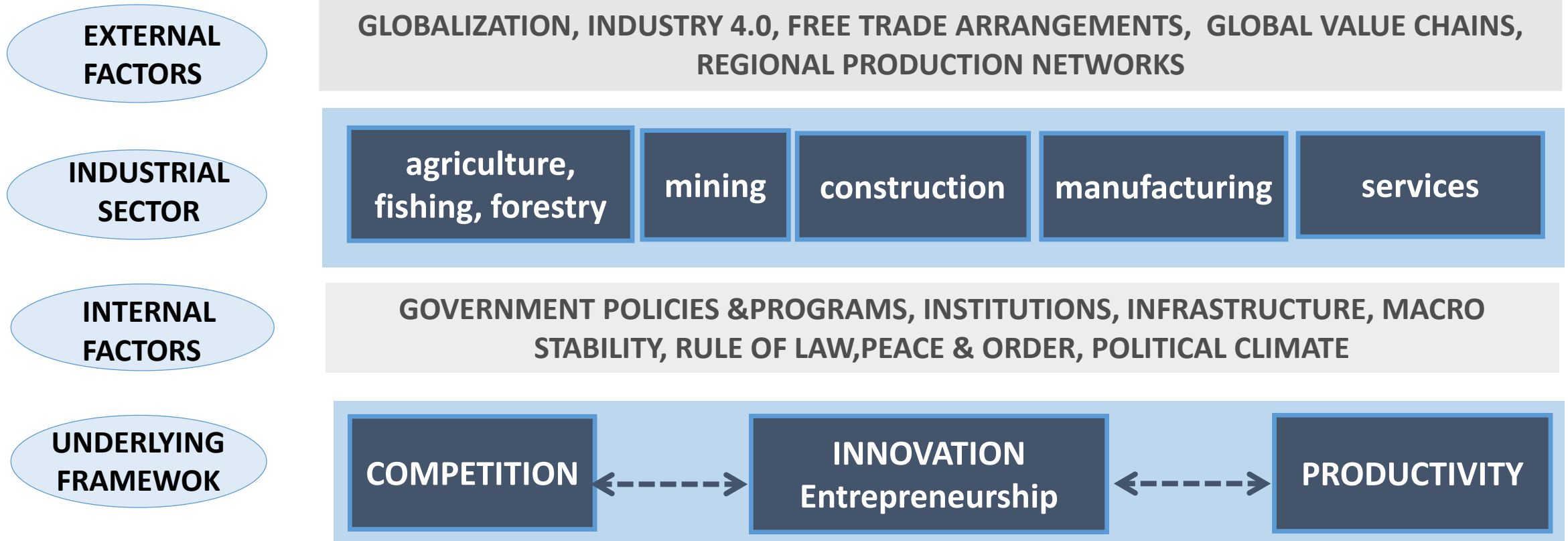
- Growth oriented action to upgrade industries
- Remove obstacles to growth → attract investments
- Build inclusive innovation ecosystem
- Strengthen domestic supply chains
- Deepen participation in global value chains

Role of Government: Enabler & facilitator

- Address coordination & market failures -- the most binding constraints preventing industries from growing
- Create proper environment for private sector development

Underlying Framework of PH industrial strategy

COMPETITION- INNOVATION-PRODUCTIVITY



- **Innovation is at the heart of the PH Industrial Strategy**

- Innovation is an important ingredient for long-run growth
- As we enter Industry 4.0, competition increases, role of innovation is crucial

PH Inclusive Innovation-led Industrial Strategy: Top 12 Priorities

Opportunities

- New high level growth trajectory
- Growing market, middle class
- Political stability
- Young, English speaking workforce
- Stable business confidence
- AEC & FTAs



Aerospace Parts



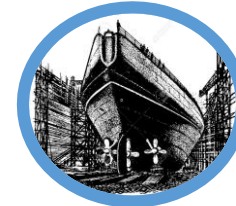
Electrical & Electronics



Auto & Auto Parts



Chemicals



Shipbuilding RORO



Furniture, Garments, Creative



Tool & Die



Agri-business



IT Business Process Management, E-Commerce



Construction



Tourism



Transport & Logistics



- Complex regulations
- High cost of power
- Lack of ports, airports, roads
- SME access to finance
- Supply chain gaps

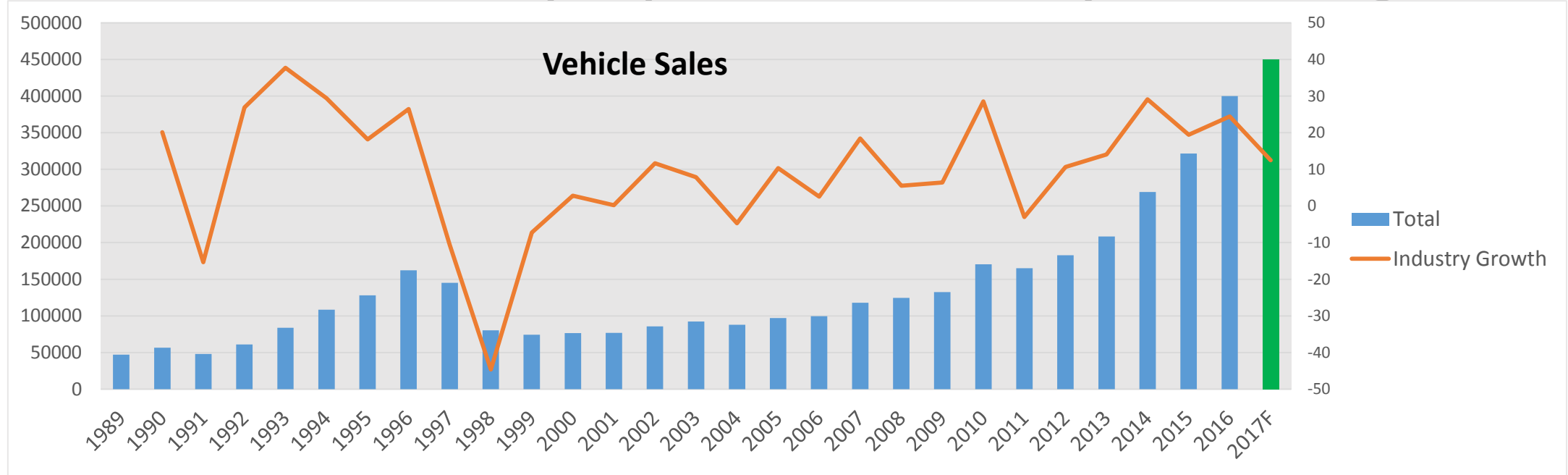
Challenges

**NEW INDUSTRIAL POLICY
BOLDER TRADE POLICY
INTENSE INVESTMENT PROMOTION**

**SKILLS TRAINING, HRD,
INNOVATION, R&D, GREEN GROWTH,
SME DEVELOPMENT**

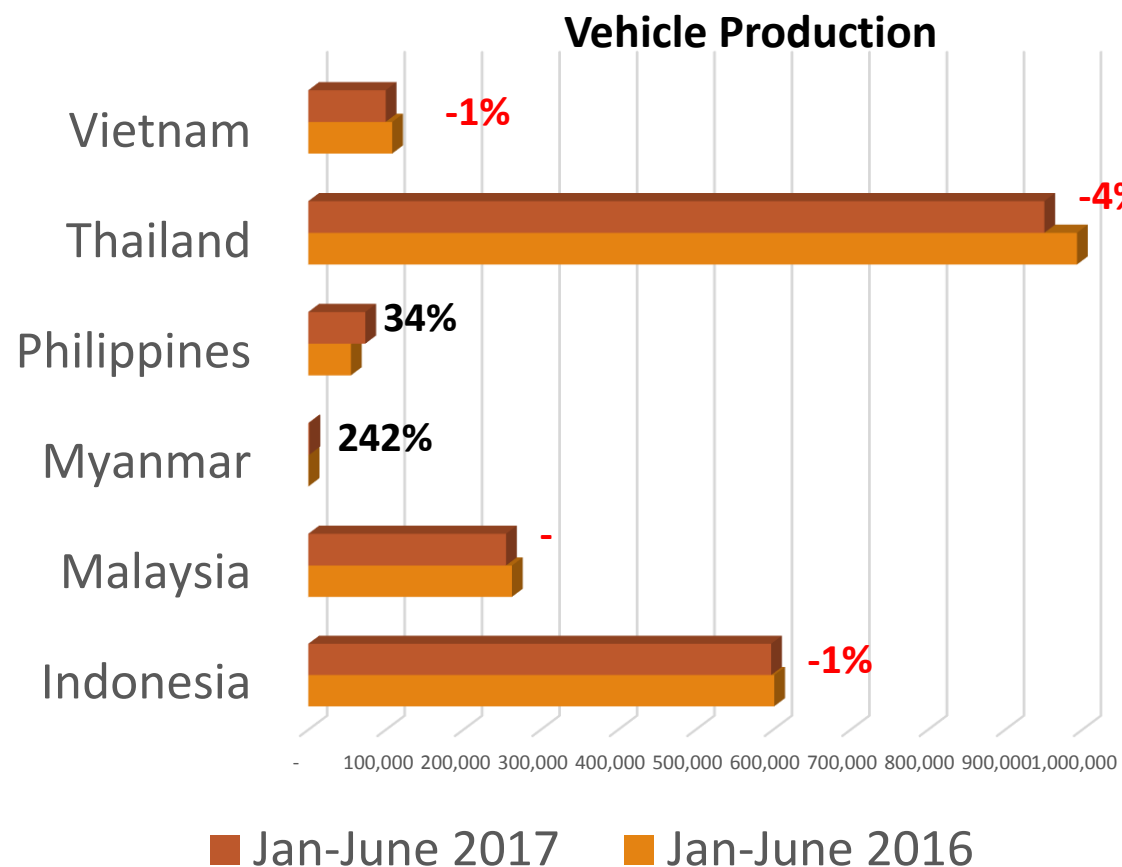
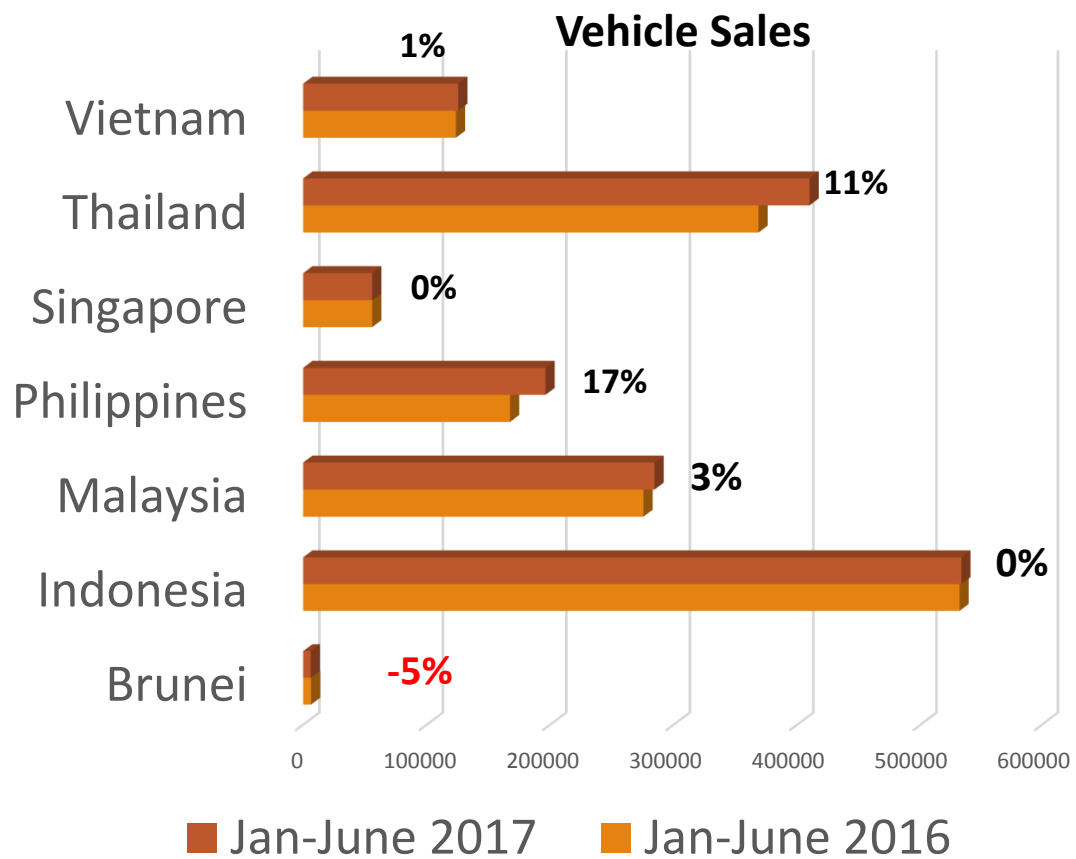
Part 3: Connecting Industries

AUTO: The future prospects of the industry remains bright



- Sales reached 400K units in 2016 (4x the sales a decade ago) and grew by 24%
- 3rd wave of motorization already taking place
 - PH: high population with low vehicle ownership, motorization rate in PH: 35; VN:20; INDO:73; THA:200; MAL: 395
 - Significant market potential as the share of households who can afford to buy vehicles increased from 26% to 36%
- Rising trend is expected to continue as the country's high growth trajectory is sustained

Vehicle Sales & Production from January to June 2017



source: ASEAN Automotive Federation

Comprehensive Automotive Resurgence Strategy or CARS Program

- Revive auto manufacturing, generate employment, attract investments, build domestic scale, PH to become a regional auto manufacturing hub

Goals



- Vehicle Production
- Parts Manufacturing: body shell/large plastic assemblies, common & strategic parts not produced in PH, shared testing facilities

Coverage



- Time-bound; performance-based
- Fiscal support of PhP27B over 6 years
- 3 models @ 200K units each
- US\$1K support/unit
- Fixed Investment Support (40%): parts
- Production Volume Incentive (60%)

Fiscal Incentives



Development of Common & Strategic Parts

Auto grade fabric
Engines, engine parts & assembly
Engine mounts
Transmissions/transaxle parts & assembly, Constant velocity joints
Axles, Grill, Lamps
Shock absorber, struts
Suspension members
Wiper motor mechanism, blade
Steering wheel

Electric power steering system
Window regulators
Combination meter/Instrument cluster
Chassis & sub-frame, Interior finishing
Electric Relays, switches
Alternator, starter motors
Seat mechanism/Seat recliner & sliders
Retractable seat belts
Aluminum radiators, evaporators, condensers & oil, Coolers

Plastic fuel tanks
Fuel pumps
Brake system & components
Aircon compressor & parts
Air bag systems
Auto glass
Door & rear view mirrors
Tie rods
Clutch disk, Clutch cover
Locks, Motors

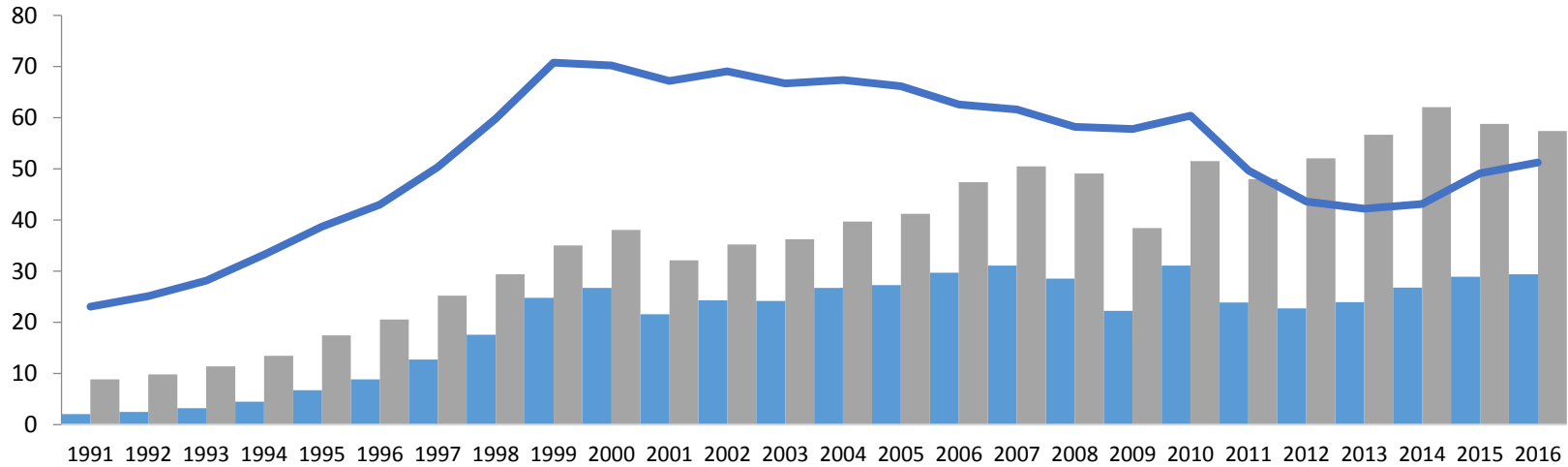


Mitsubishi Motors PH Corporation: Mirage G4
Toyota Motors PH Corporation: Vios
Third slot: Public Utility Vehicle

- Mitsubishi committed to invest P4.3B, produce 200K units over 6 years
- Issued 29 certificates to partsmakers: battery, glass, tire, wheel assembly, meter comb, radiator, HVAC assembly, RR wiper assembly, steering wheel, seat assembly, brake tubes & fuel pipes, electronic power steering, windshield washer system, door trim/instrument panel/CTR console, etc.

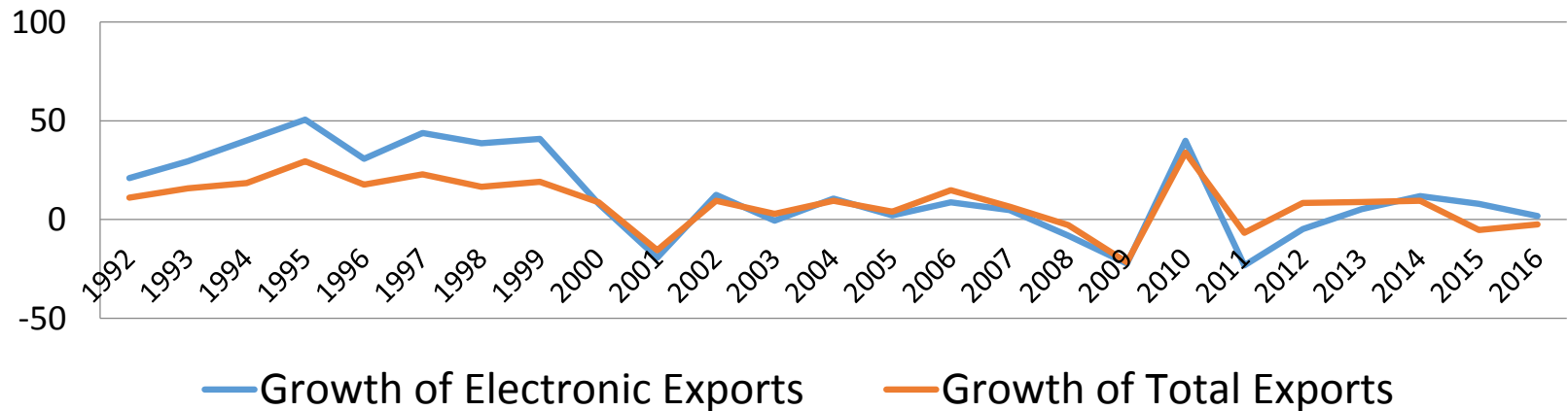
Electronics: PH largest source of exports

Electronics Exports vs. Total Exports 1991-2017(Jan-June)



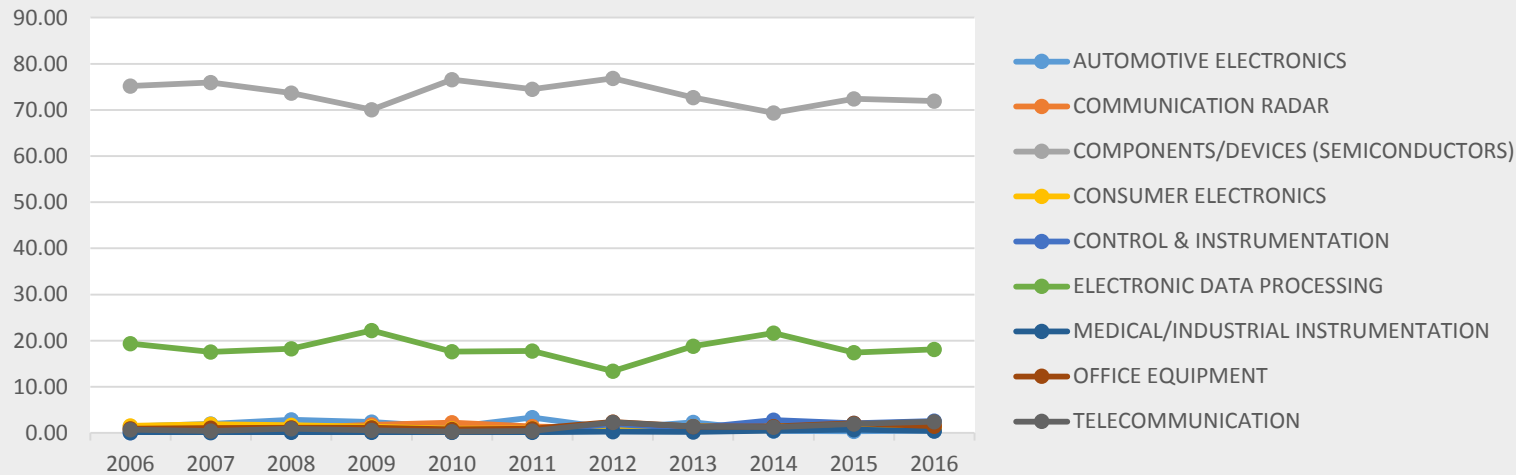
- Electronics: 51% of total exports in 2016 (\$29B)
- 50% of total exports in the first half of 2017 (\$15B)
- Average export growth in the 1990s: 37%
- Average growth in the 2000s: 2%

Growth of Electronics Exports vs. Growth of Total Exports



Electronics Structure & Growth

STRUCTURE OF ELECTRONIC COMPONENTS: % Share



Semiconductor components/devices comprise the bulk of electronics exports

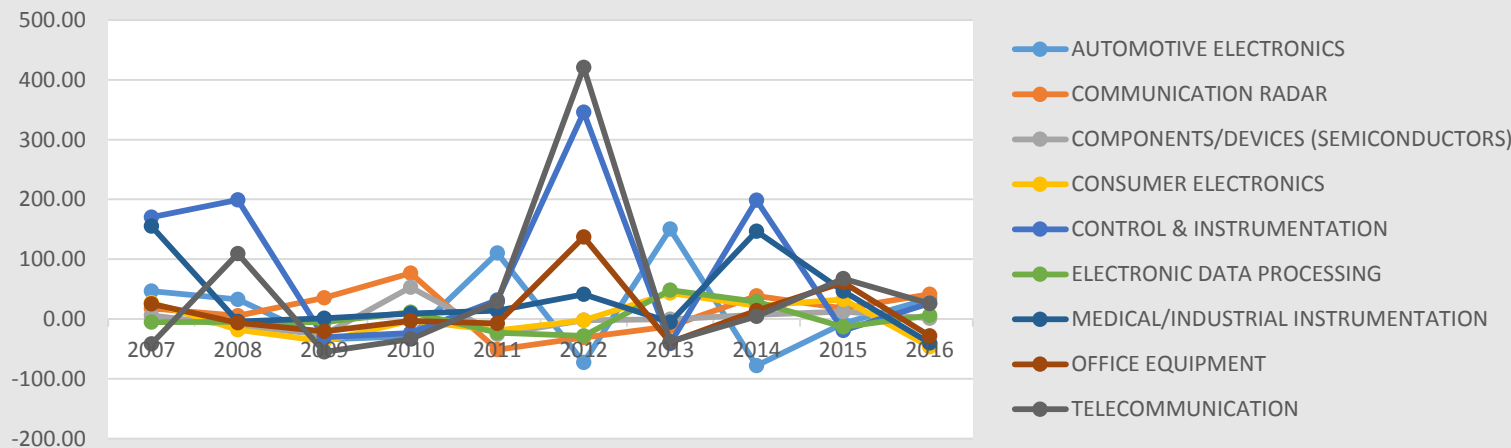
- 2015-2016: 72% share
- Jan-June 2017: 71.53 growth

Electronic Data Processing is next

- 2015-2016: 18% share
- Jan-June 2017: 18.38 growth

Growing sectors

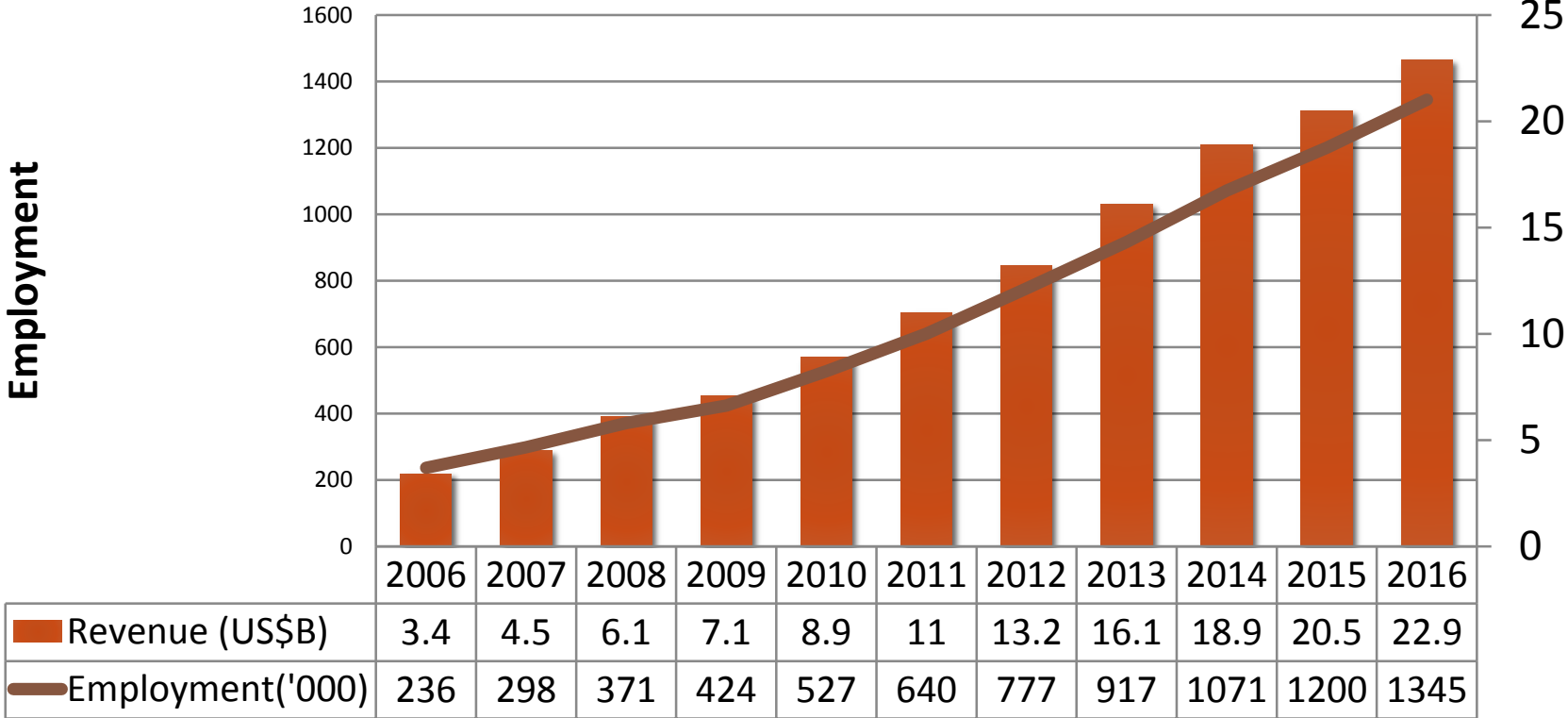
GROWTH RATES OF SELECTED ELECTRONICS EXPORT 2006-2016



Average Growth (%)	10-13	14-16
Control/instrumentation	78	69
Telecoms	95	33
Medical/industrial equipment	15	51
Office equipment	22	16
Auto electronics	40	-17

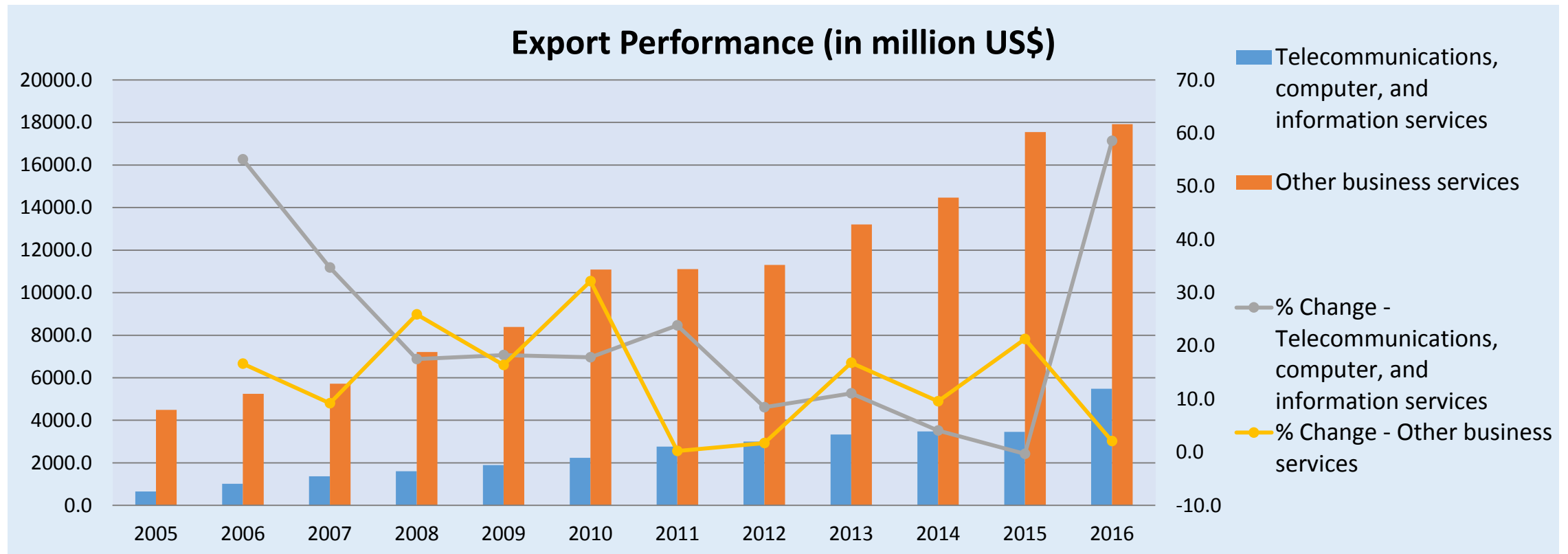
IT-Business Process Management: Current State & Key trends

Revenue & Employment Performance



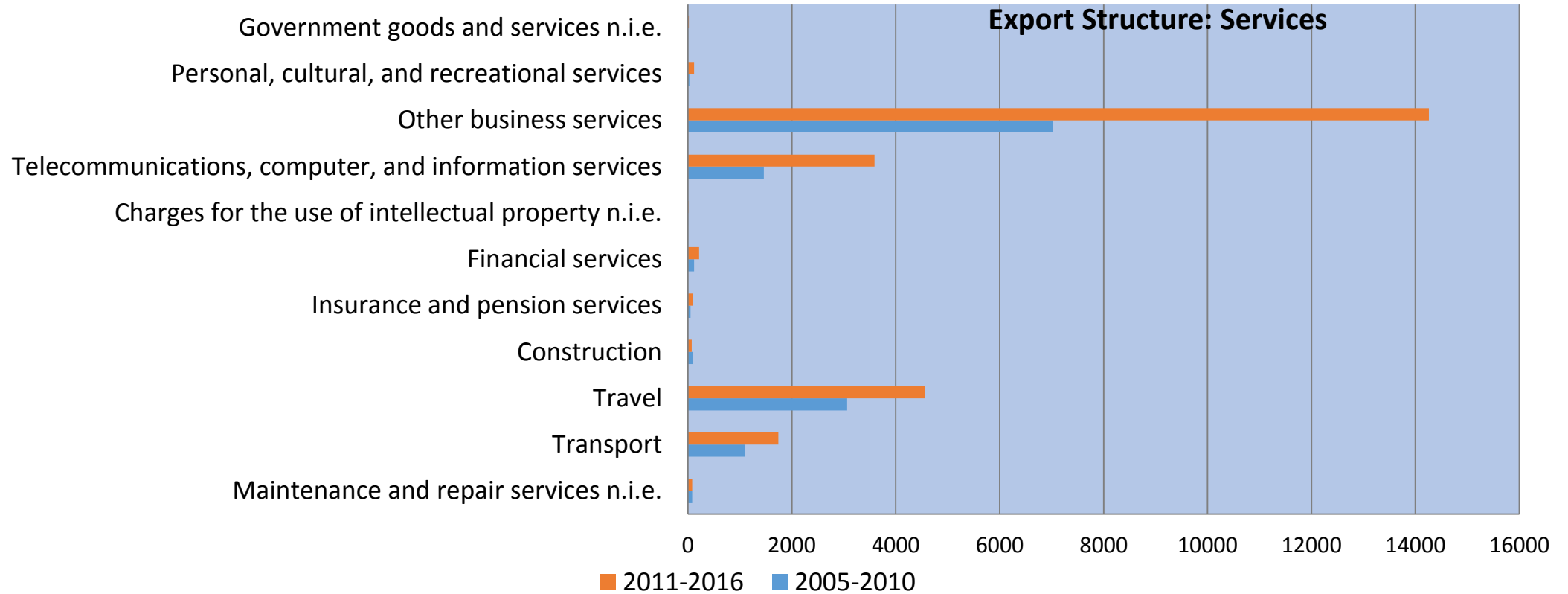
- In the past 10 years, PH has become a strong participant in the IT-BPM GVC
- In voice BPM, PH is #1 destination for voice related services
- PH is rapidly growing its capability for non-voice IT-BPM services
- In 2016, IT-BPM generated revenues of US\$22.9B & employment for 1.345M workers

IT-BPM current state & key trends



- Export growth slowed down from 29% in 2006-2010 to 18% in 2011-2016 for telecommunications, computer & information services
- For other business services, from 20% to 9% during the same period

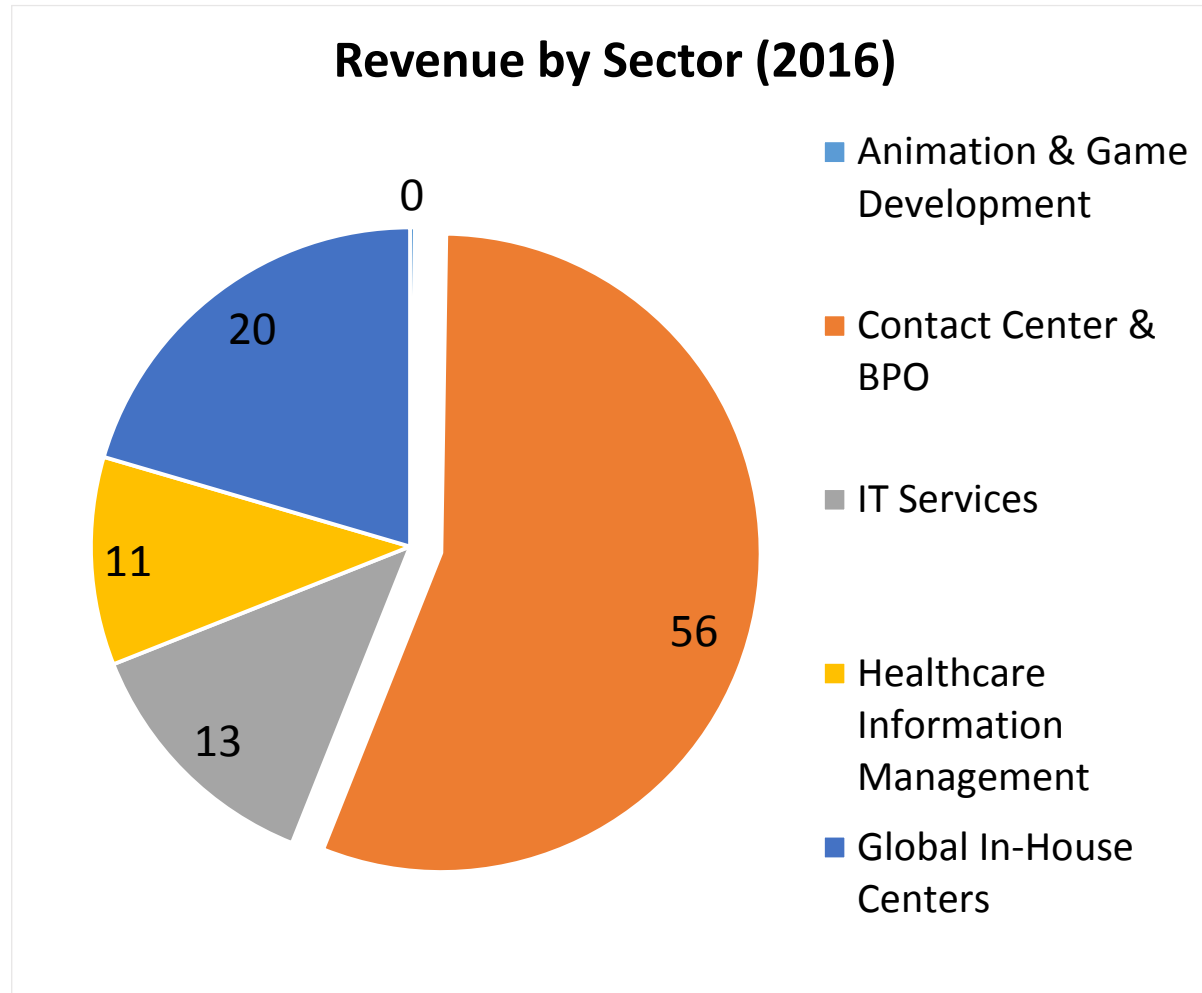
IT-BPM contribution to total services exports



- Other business services accounted for the bulk of PH services exports rising steadily from 52% in 2000 to 57% in 2016
- Telecommunications, computer, & information services exports share increased from 7.5% in 2000 to 14.7% in 2012, and 17.5% in 2016

IT-BPM Current Structure & Outlook

PH IT-BPM Roadmap 2016-2022



- Industry revenue forecast for 2022: annual growth of 9.2% to reach US\$38.9B in 2022
- Employment: from 1.15M in 2016 to 1.8M in 2022 (more technology-enabled high value jobs)
- Global IT-BPM sector revenue growth: 5.6% from 2016-2022
- PH share expected to increase from 12.7% in 2016 to 15.5% by 2022
- Slower growth: maturing sector & anticipated impact of technology

IT-BPM Roadmap: Priority Sectors

- PH IT-BPM's growth will be driven by high-value services in the next 6 years

Contact Center & Business Process Outsourcing

- **Engineering Services Outsourcing (ESO)**
- Data Analytics
- Performance Management
- Legal Process Outsourcing (LPO)

IT Services

- Application Development Management (ADM)
- System Integration
- Automation Enablement
- IoT-enablement Languages (Python programming)

Health Information Management

- Preventive Health
- Remote Healthcare Management
- Provider Services

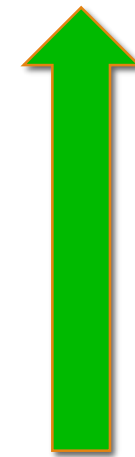
Animation & Game Development

- 3D Animation
- Augmented & Virtual Reality (AR/VR)
- Gamification

Global-in-House

- Industry specific services for telecom, healthcare, insurance, pharmaceutical

IMPACT OF AUTOMATION

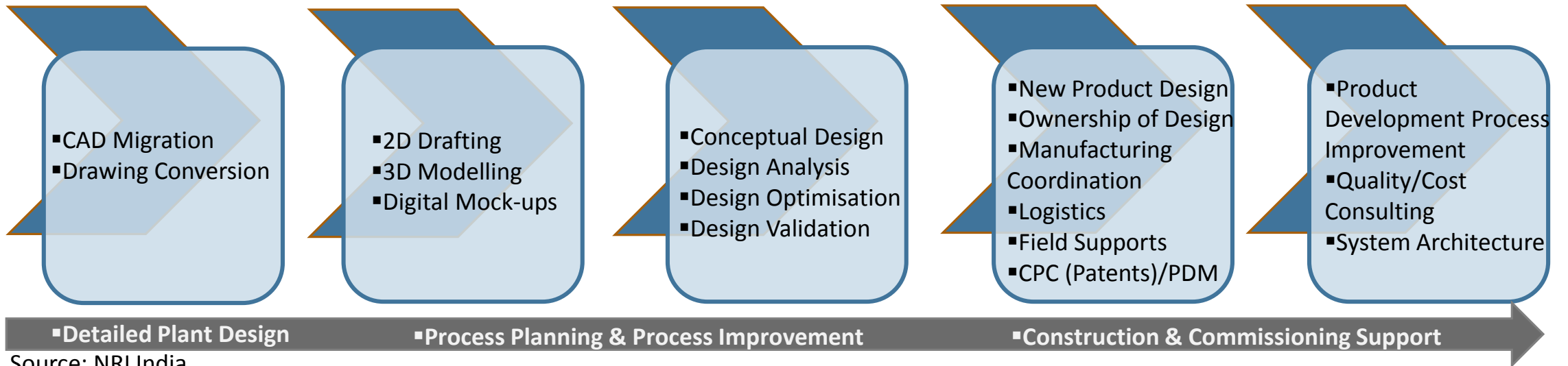


- Analytics & optimization engines
- Automation enablement
- Clinical data analytics
- Remote health management
- VR/AR enabled animation
- Supply chain optimization



- Medical transcription
- Simple contact center services
- Basic 2D animation services
- Parts of IT technical support
- Transactional mid & back-office transactions

Engineering Services Outsourcing (ESO)

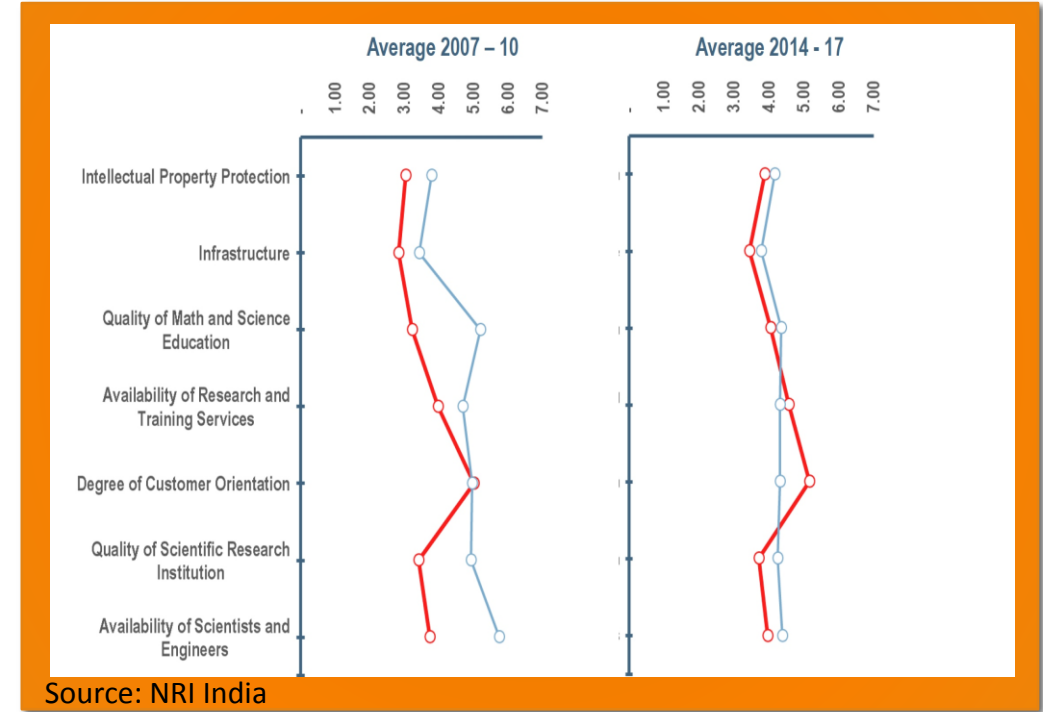


- Industries outsourcing engineering tasks: **aerospace, auto, construction**, consumer electronics, **semiconductors**, pharmaceuticals, telecoms
- Global spend on Engineering R&D: US\$1.5T
- New wave of ESO: integration of IT, engineering, & manufacturing
- Majority of ESO vendors are business units of large IT services organizations: Wipro, Infosys and Tech Mahindra, HCL Technologies Ltd, Tata

PH Engineering Services Outsourcing (ESO): Current State



Source: ESCA



Source: NRI India

- **PH has closed the gap relative to India: intellectual property protection, infrastructure, Math & Science education, scientists & engineers (NRI India)**
- 9 PH cities listed in Tholons '16 Top 100 Outsourcing Destinations : 2 in Mla, 7 in Cebu
- PH emerging ESO destination: engineering design, architectural drawings, electronics components, CAD, AutoCAD, CAM services, printed circuit design
- 62 ESO firms: Cloudstaff, Flour Daniel, Fujitsu 10, Furukawa, Hitachi, Ionics, Kyocera, Lexmark, Temic, Tsukiden, Tsuneishi, Wipro BPO, etc

as we enter the 4th Industrial Revolution, PH industries being positioned by connecting auto, electronics, IT-BPM



ESO

- Denso PH (DNPH) Corporation: meter cluster, air-con, compressor, smart key, sonar sensor
- Denso Techno Philippines (DTPH): software development for auto products like instrument clusters
- PH is one of the **design centers of Denso** providing global engineering capacity
- DNPH & DTPH cooperate in designing electronics products

Advance Driver Assistance Systems (ADAS)



ADAS & Electric Powertrains

- PH has capabilities (**auto/electronics/IT, skilled workforce**) to take advantage of opportunities from new technologies through systems/components related to ADAS & electric motor powertrains like battery for E-vehicles, E-jEEPneys, E-buses, E-trikes
- Filipino multinational IMI is manufacturing complex safety & control systems (auto camera modules) for ADAS applications

Inclusive Innovation & Entrepreneurship Roadmap

Design innovation policies, explore how innovation will create new opportunities to sustain growth & uplift our quality of life

Where are we

- Strengths, weaknesses, opportunities & threats from emerging trends in advanced technologies, innovation ecosystem

Where do we want to go

- Formulate vision, goals, targets
- Realizing emerging trends in advanced technologies & manufacturing, where we want to go, where are the sweet spots

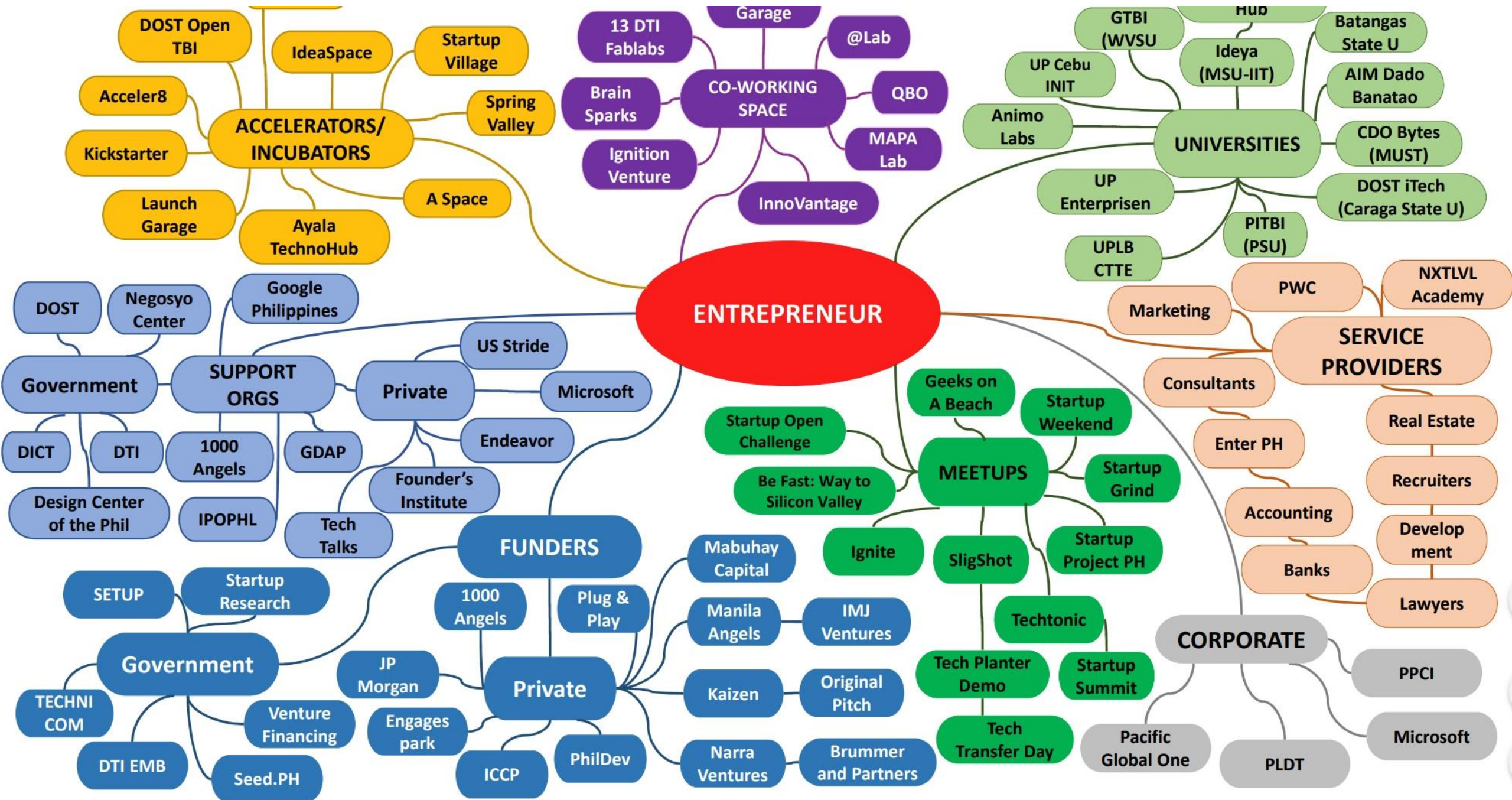
How to get there

- How can domestic firms participate in innovative process & capture sweet spots, greatest value from globally integrated process
- Strategic policies & programs: start-ups, MSMEs, large; sectors, activities & locations
- Hard & soft Infrastructure
- Role of stakeholders, coordination mechanism & budget



31 May - 01 June 2017 | The Peninsula Manila





SOURCE: DOST

STARTUP INNOVATION ECOSYSTEM

The Philippines is now one of Asia's brightest spots & an excellent place to invest.

Guided by the manufacturing industry roadmap's vision to transform the economy & uplift the lives of Filipinos, the Philippines is focused on creating globally competitive & innovative industries.

With innovation at the core of its new industrial policy, Philippine industries will be in a better position to leapfrog to Industry 4.0.

Thank You!

