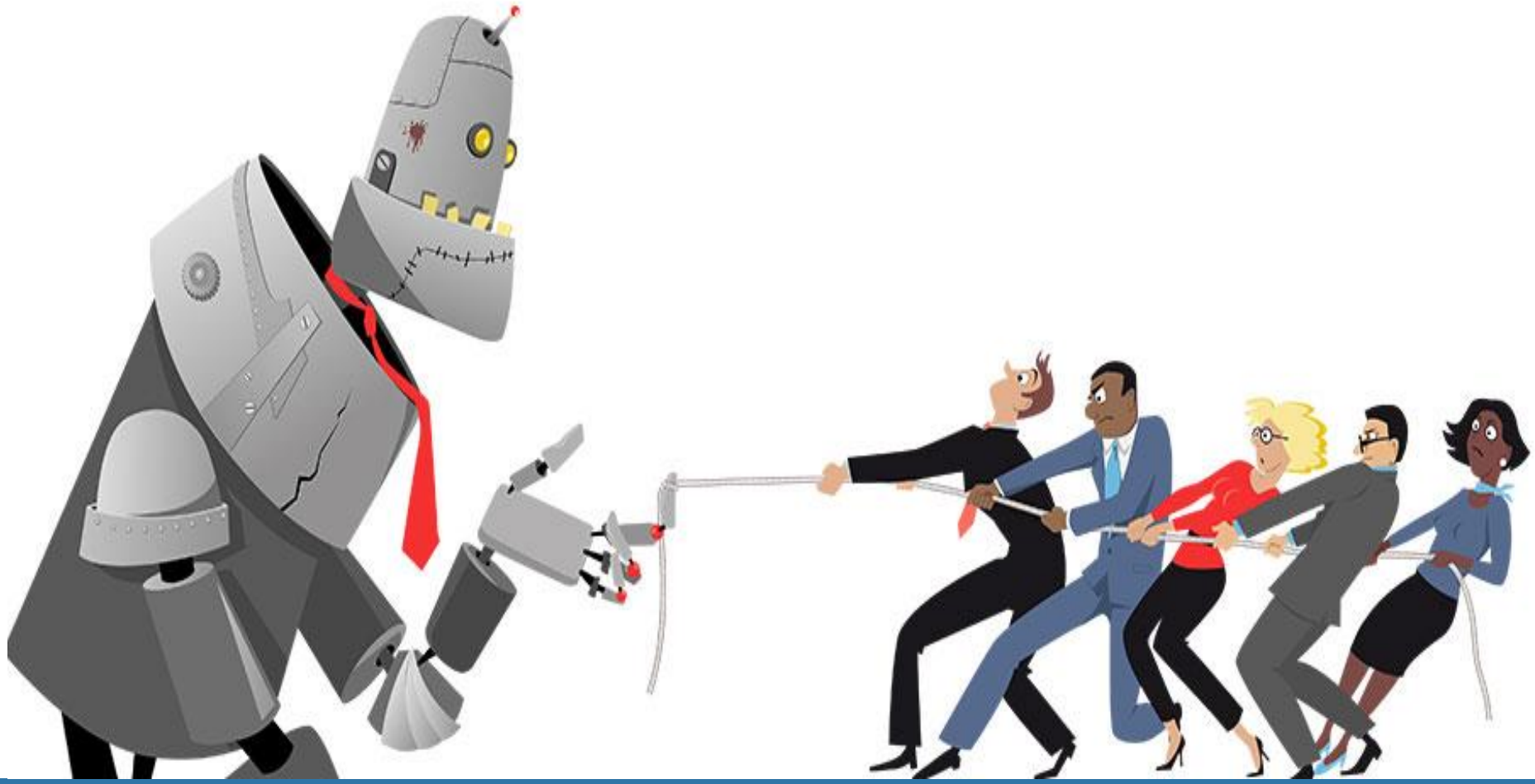
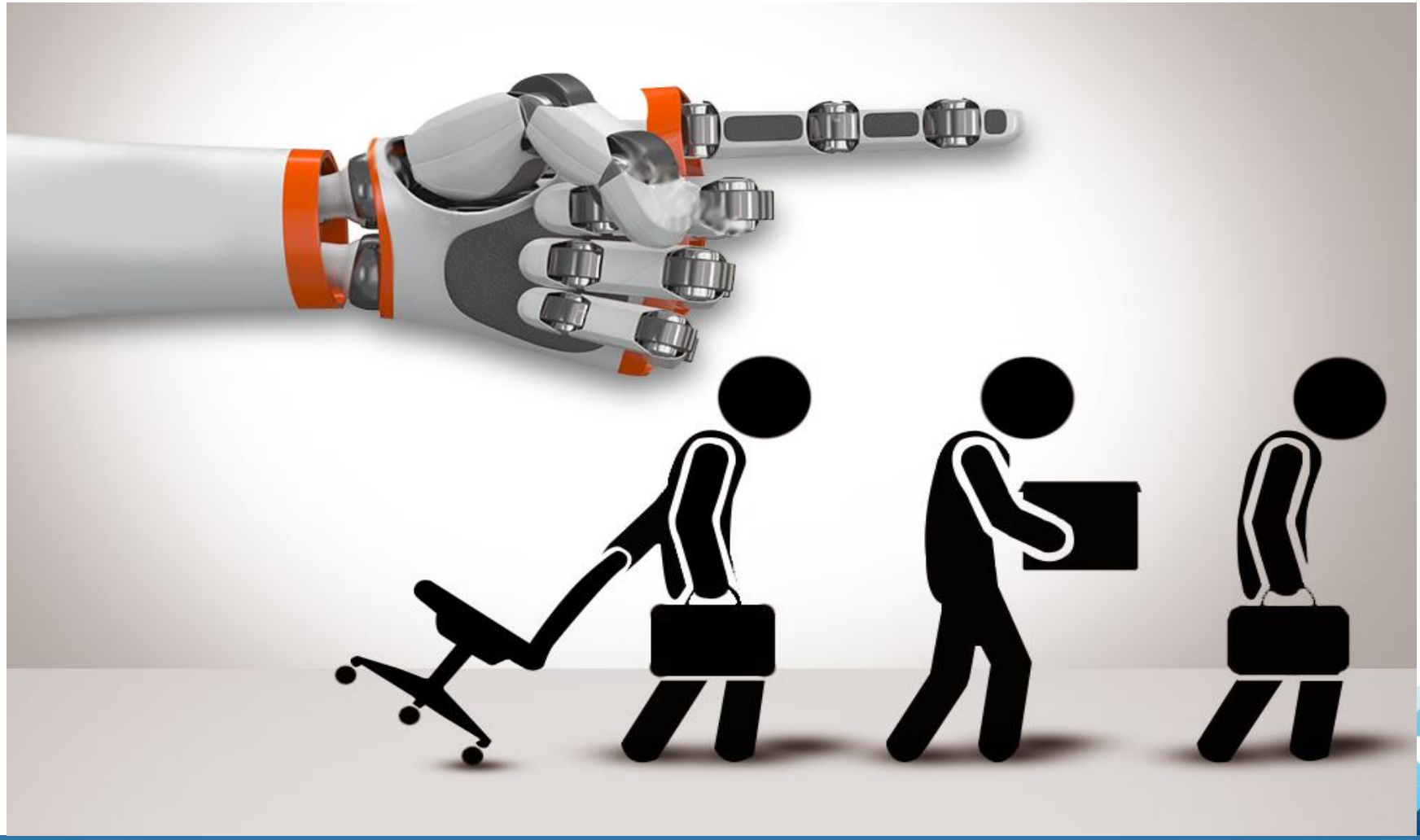
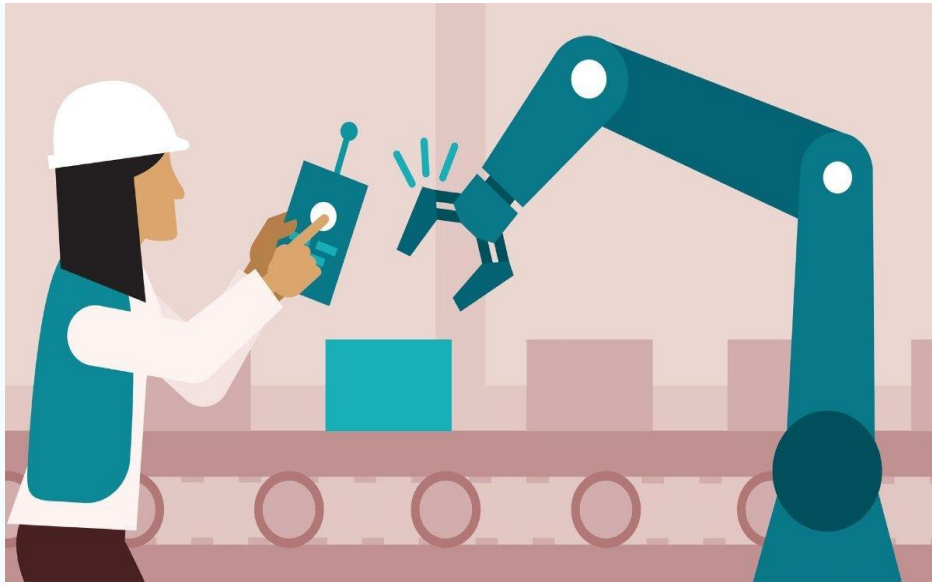
DUAL SYSTEM & COMPETENCY BASED TRAINING (CBT)

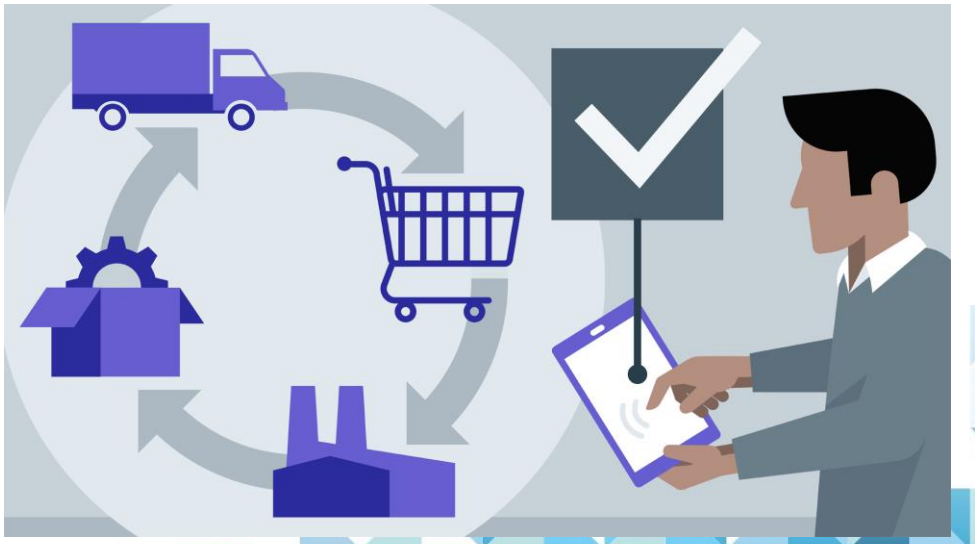
Rethinking of the implementation of vocational qualification approaches to prepare future skilled workforce in ASEAN


JOB
INTERVIEW
THIS WAY







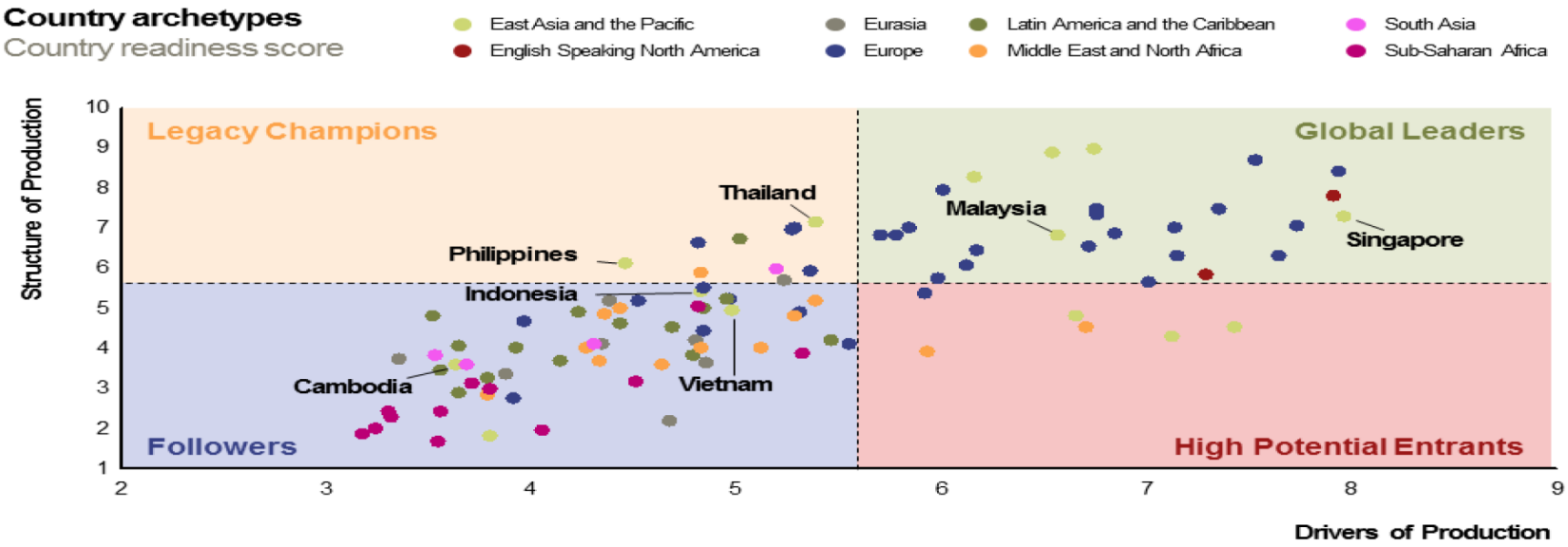


ASEAN Preparedness for Industry 4.0

ATKearney

ASEAN countries are at varying degree of readiness for the Future of Production and lagging behind in Human capital areas

Country readiness assessment for ASEAN in FOP

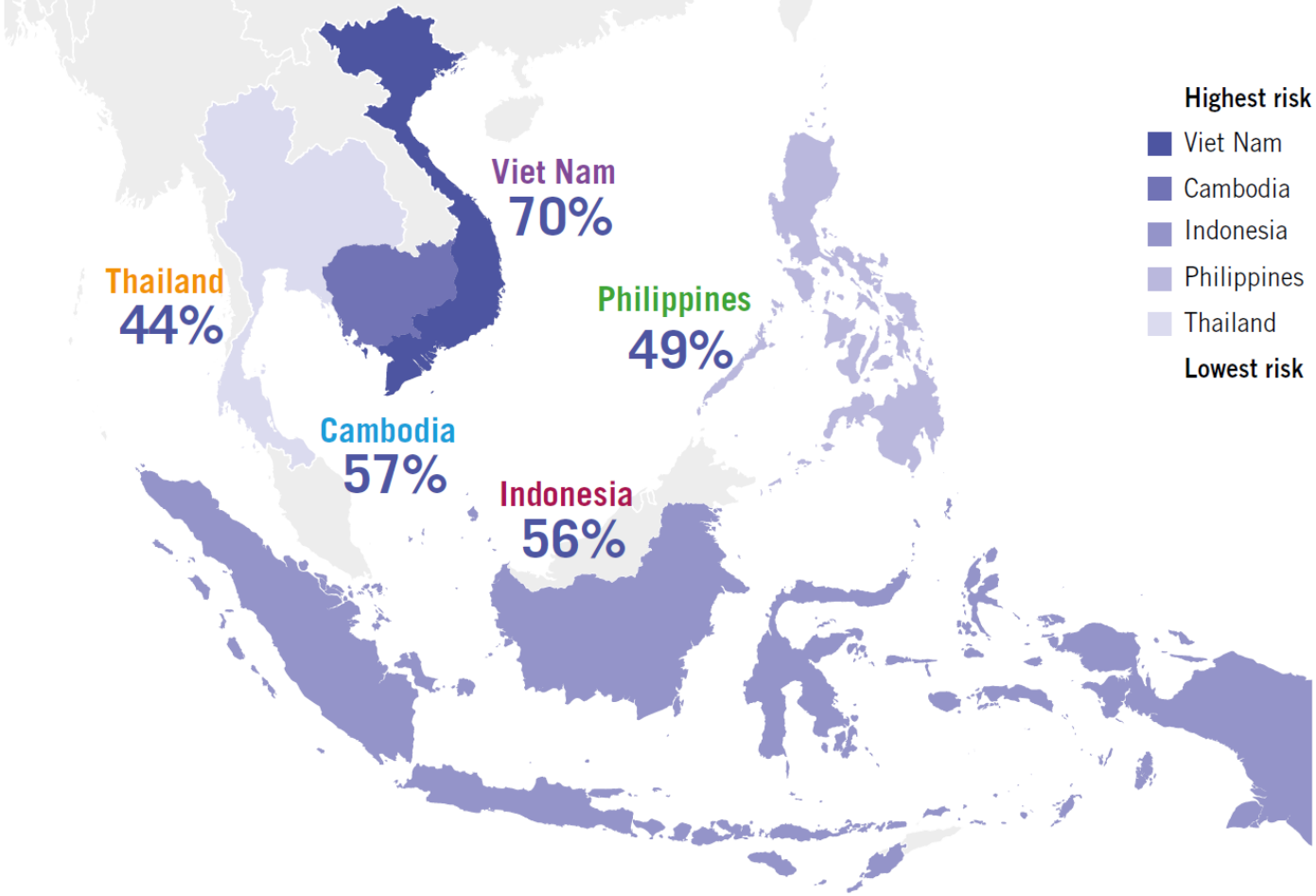


- The Human capital indicators include manufacturing employment, mean years of schooling, quality of universities, knowledge intensive employment

Source: A.T. Kearney and WEF Report

ASEAN Preparedness for Industry 4.0

Workers at high risk of digital automation



Source: *ASEAN in transformation: Future of jobs at risk of automation (ILO, 2016)*

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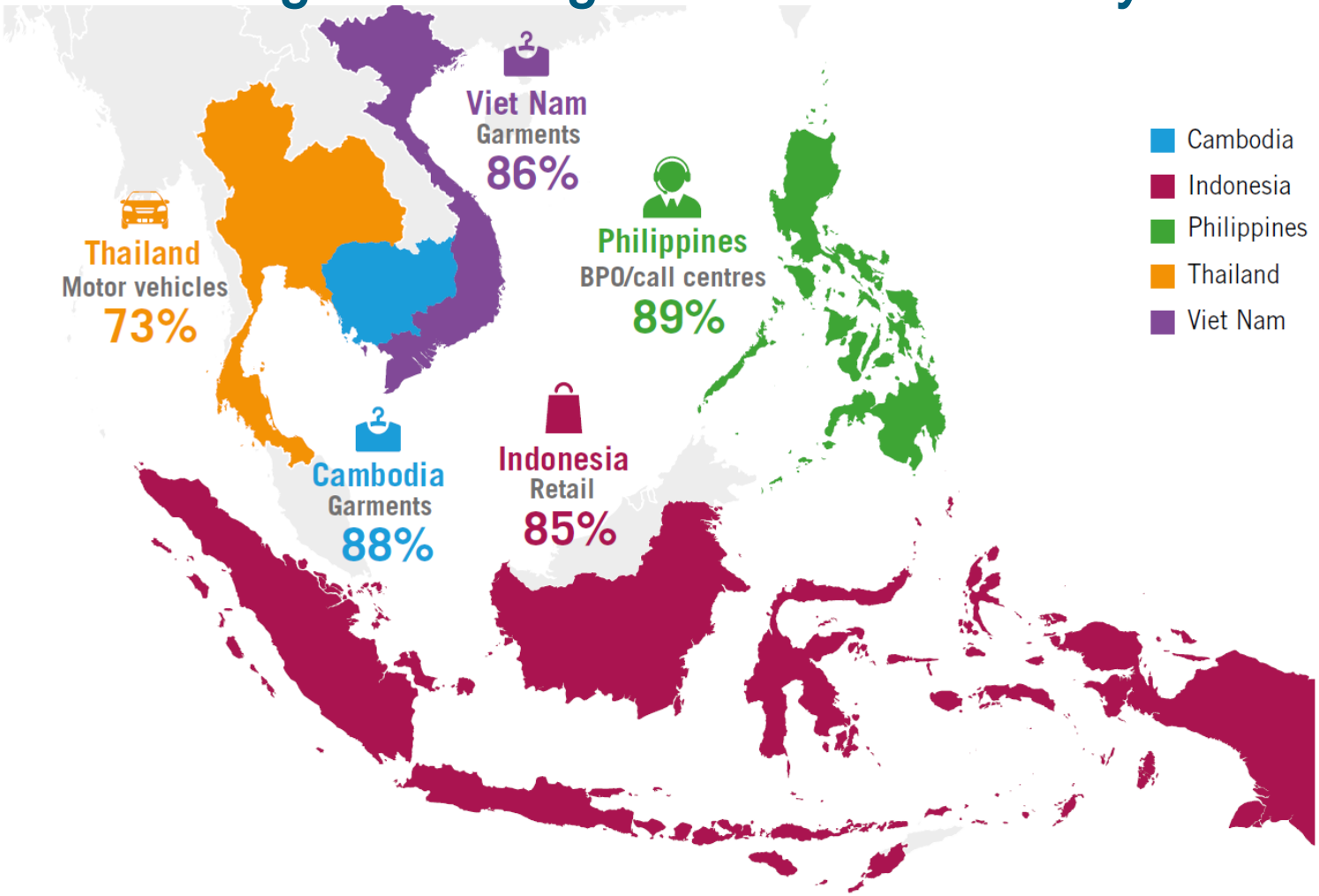
Workers at high risk of digital automation in key sectors



Source: *ASEAN in transformation: Future of jobs at risk of automation (ILO, 2016)*

ASEAN Preparedness for Industry 4.0

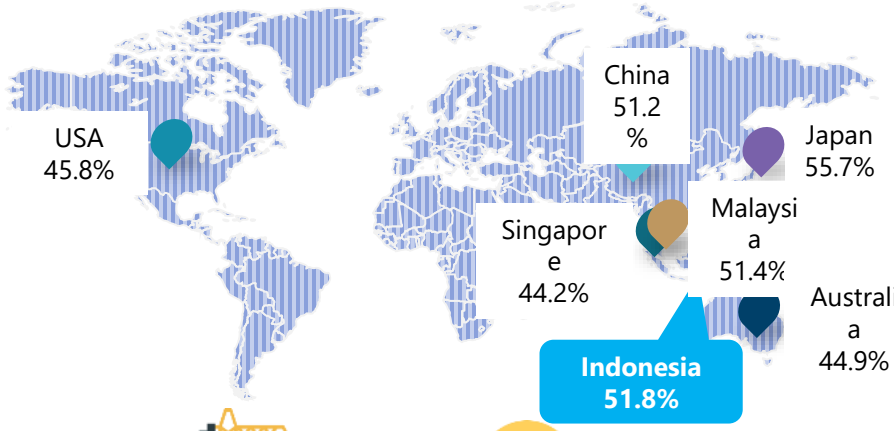
Potential automation by sector and occupation

52.6 million (51.8%)

Potential Job Loss

Job Loss ≠ Unemployment

Technology encourages the creation of new types of work that are more productive and larger in number.



49% AGRICULTURE

65% MANUFACTURE

53% RETAIL TRADE

45% CONSTRUCTION

64% TRANSPORTATION AND WAREHOUSING

Potential automation by sector

Potential automation based on occupation

LABOR, FISHERMAN, CRAFTER WORKER

SEWING, MACHINE OPERATOR, WELDER AND SOLDERER

SALESMEN, RETAIL TRADER, CASHIER, TICKET OFFICER

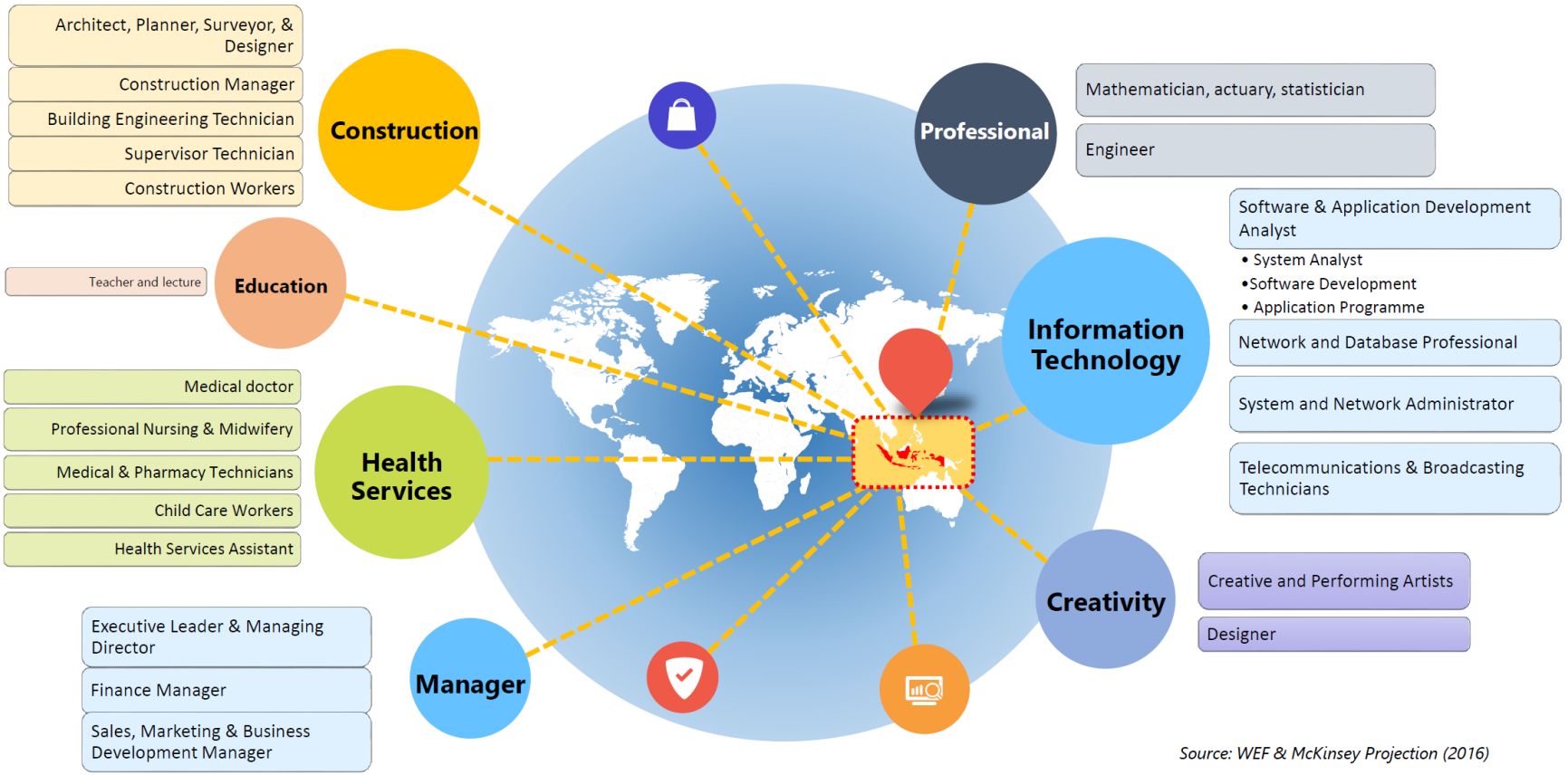
CONSTRUCTION WORKER AND BLACKSMITH

ADMINISTRATIVE EMPLOYEES, WAREHOUSE OFFICERS, OTHERS

Source: *EMSI; Oxford Economic Forecasting; US Bureau of Labor Statistics; McKinsey analysis*

ASEAN Preparedness for Industry 4.0

Creation of future jobs



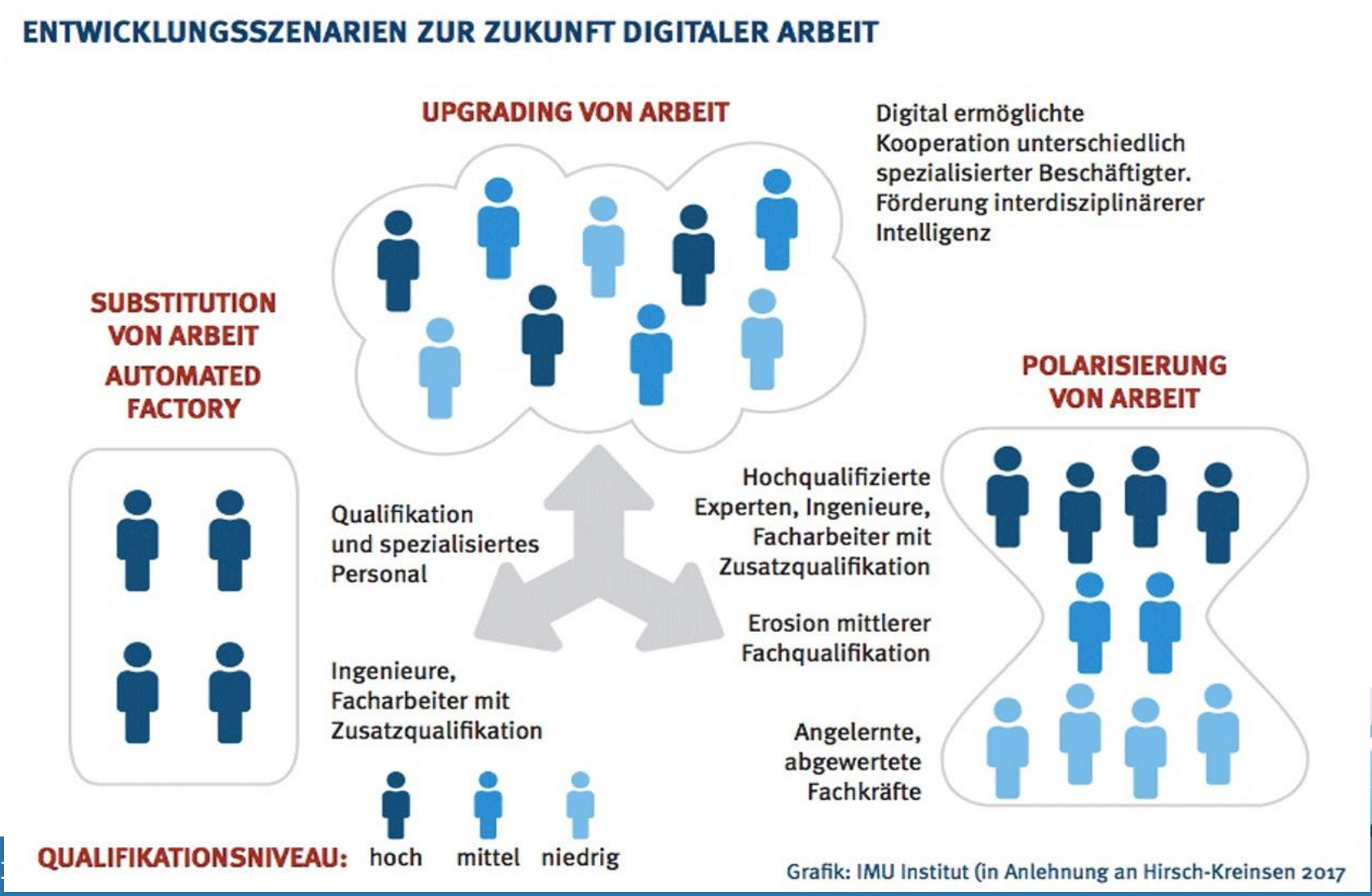
Source: WEF & McKinsey Projection (2016)

Widening skill gaps and high risks of job displacement

- 35% of skills demanded for jobs across industry will change by 2020
- 52% of experts believe technology will not displace more jobs than it creates in the next 10 years, but other half it will
- Education is not adequately preparing the young for the workforce
- 65% of children entering primary school today will have a job that do not exist

Scenarios of work and qualification in IR 4.0

(Hirsch-Kreinsen, Ittermann, 2017)



Rethinking of the implementation/adoption of Dual System and/or CBT

Dual System Vs. CBT
COMPETENCE CONCEPT

DUAL SYSTEM

- Handlungskompetenz: „the ability and willingness to **act** in a problem oriented, professionally and sohpisticated way, with **individual** and **social responsibility**" (own translation from Bader, 1991, S. 443).
- Explaining the concept of action capability encompassing **professional, methodic, personal and social disposition**

Resource: Helwig, 2007

CBT MODEL

- „Competency is the specification of **knowledge and skill** and the application of that knowledge and skill to the **standard of performance** expected in the workplace" (ANTA, 1998, S. 10).
- Modular; comprising **skills, knowledge and attitude**

Dual System Vs. CBT

Target value

DUAL SYSTEM

- Acquisition of competence in the context of occupational action **competence** that is derived from the occupation (**Beruf**) concept

CBT MODEL

- Acquisition of competence in term of set **competencies** that are derived from a **national standard**

Resource: Helwig, 2007

Dual System Vs. CBT

Curriculum

DUAL SYSTEM

- Consecutive-integrated structure
- National curriculum framework and training regulation with **standardized and mandatory guidance**
- Oriented on occupation (Beruf) concept

CBT MODEL

- Limited consecutive-modular structure
- Standardized framework with **variability of time and content**
- Oriented on competency standard
- Consists of **training packages**

Resource: Helwig, 2007

Dual System Vs. CBT

Learning pathways

DUAL SYSTEM

- school-industry learning programme

CBT MODEL

- Apprenticeship, school based training, on-the-job-training, off-the-job training

Resource: Helwig, 2007

Dual System Vs. CBT
Curriculum

DUAL SYSTEM

- Enterprise (70%) and school (30%)
- **School-industry cooperation** is mandatory
- External and inter-company training institution

CBT MODEL

- Training institutes, vocational colleges, private provider, enterprises **(RTO)**
- Flexible organization of learning venues→ open training market

Resource: Helwig, 2007

Dual System Vs. CBT
Typical characteristic

DUAL SYSTEM

- Highly regulated and formalized,
- **input and process oriented**
- Initial qualification

CBT MODEL

- flexibility, **outcome oriented**, individual customized
- Life long learning

Resource: Helwig, 2007

Questions for discussion:

How to implement/modify the mainstream approaches of dual system CBT so that it adequately supports the developing countries in their efforts to produce skilled workers in response to the disruptive era of industry 4.0?

Thank you for your attention!