What Industry Expected from University Graduates : Future Trend

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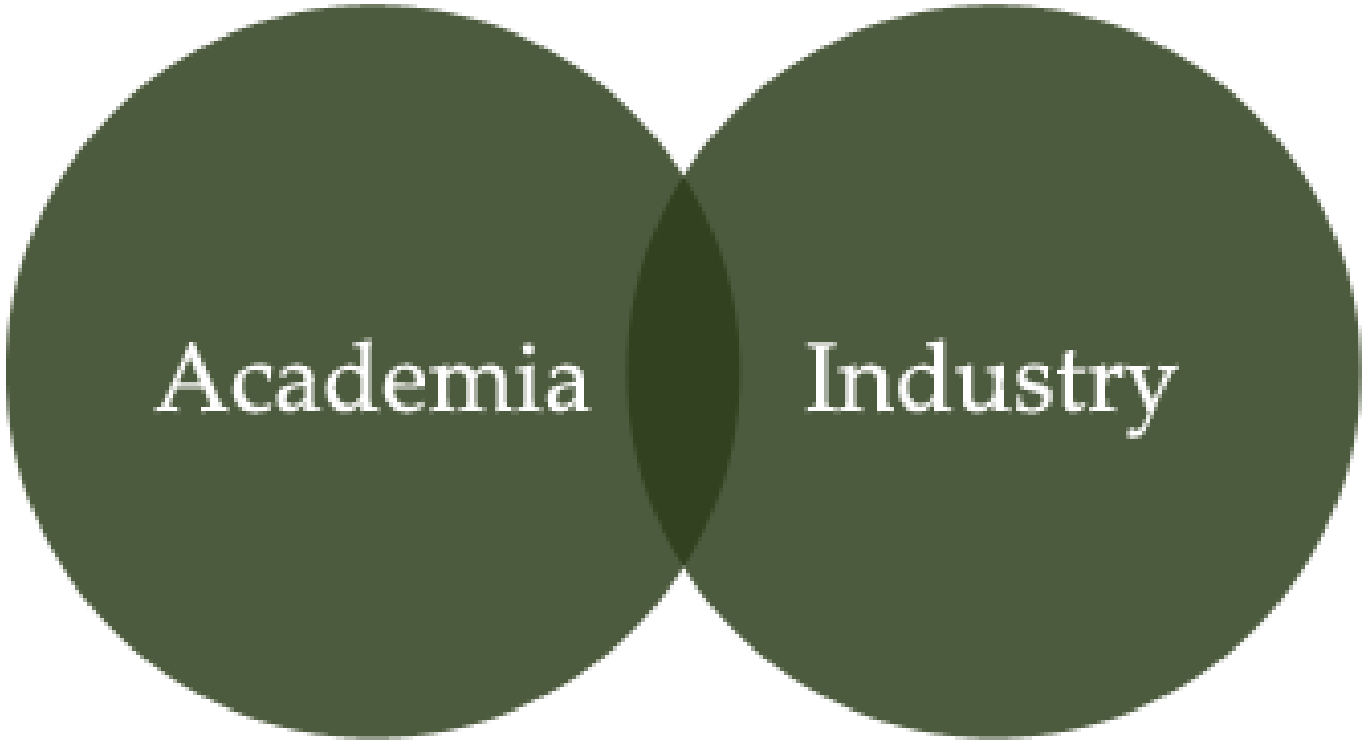
What Industry should work with university for future trend ?



i 4.0
CONNECTED
INDUSTRY

- 5-15% PRODUCTIVITY INCREASE
- 30-40% STOCK REDUCTION

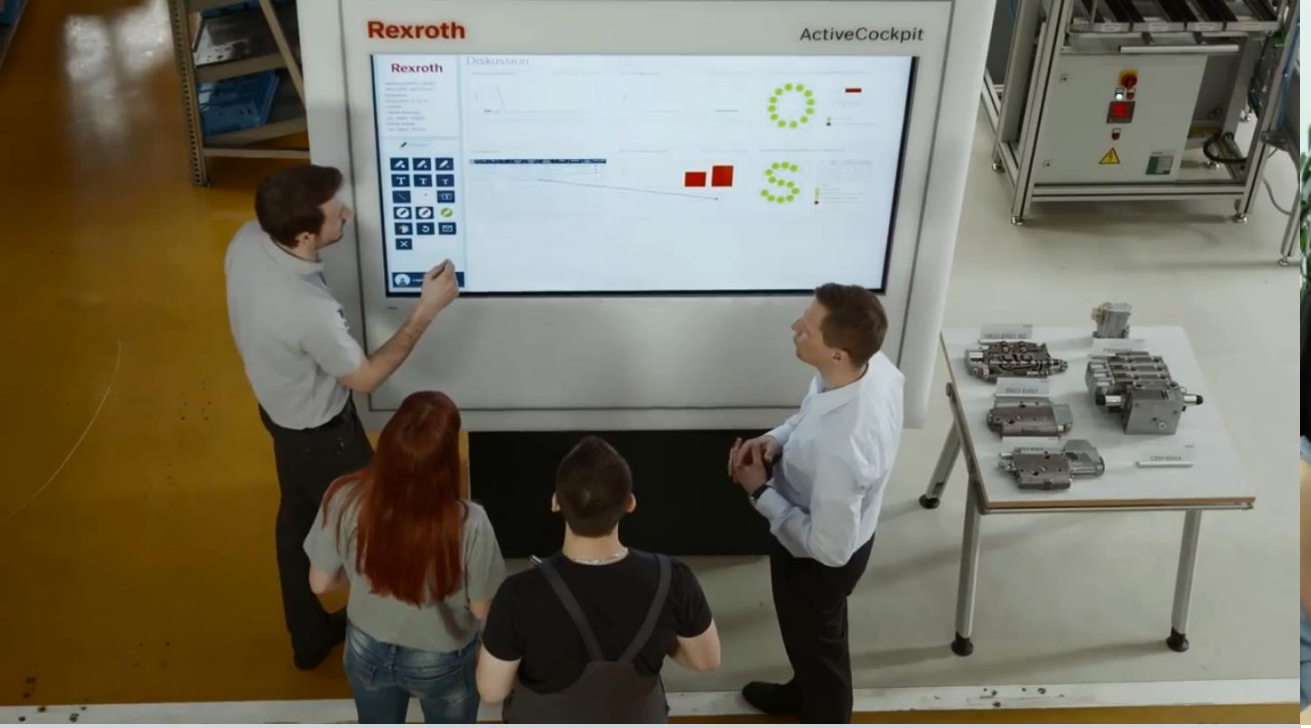
- 30% STOCK REDUCTION, NO SETUP
- 10% OUTPUT INCREASE

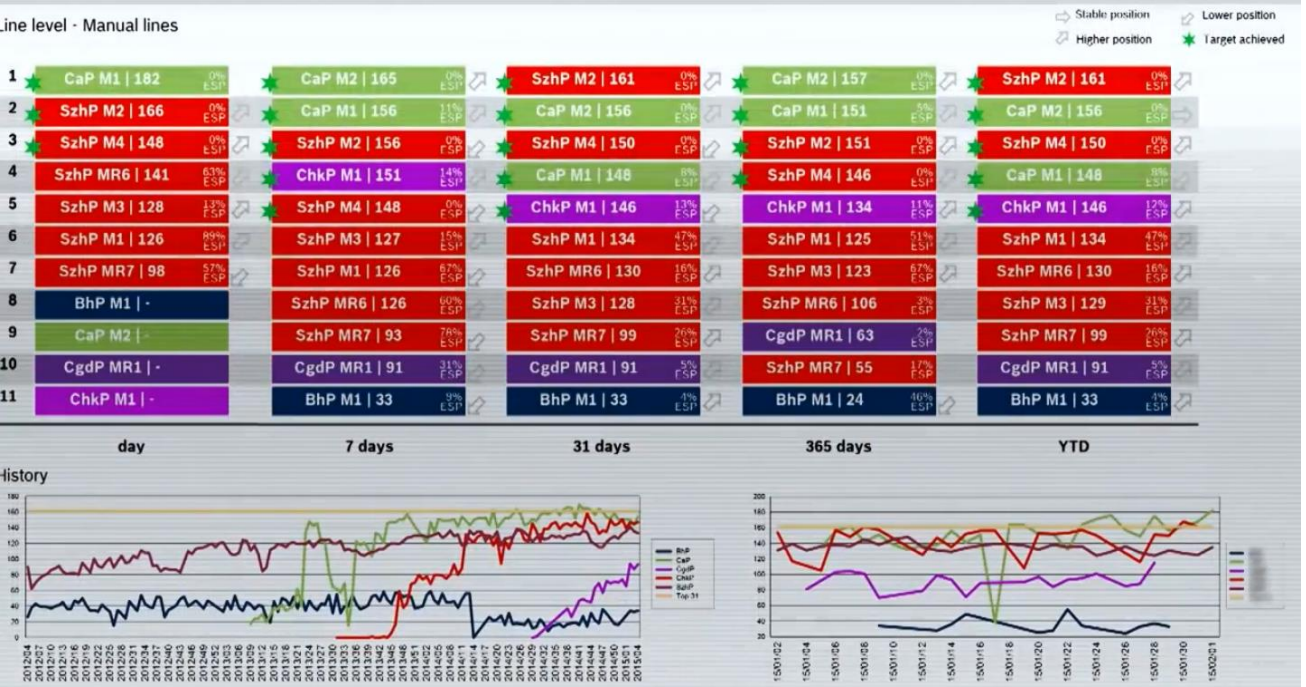
- 11 PLANTS
- > 5000 MACHINES
- UP TO 25% PRODUCTIVITY INCREASE

Autonomous Robots

Cloud Computing

Internet of Things





Big Data & Analytics

Simulation

Augmented Reality

Internet of Things

People as key players
are the focus of all our endeavours.

Industry 4.0

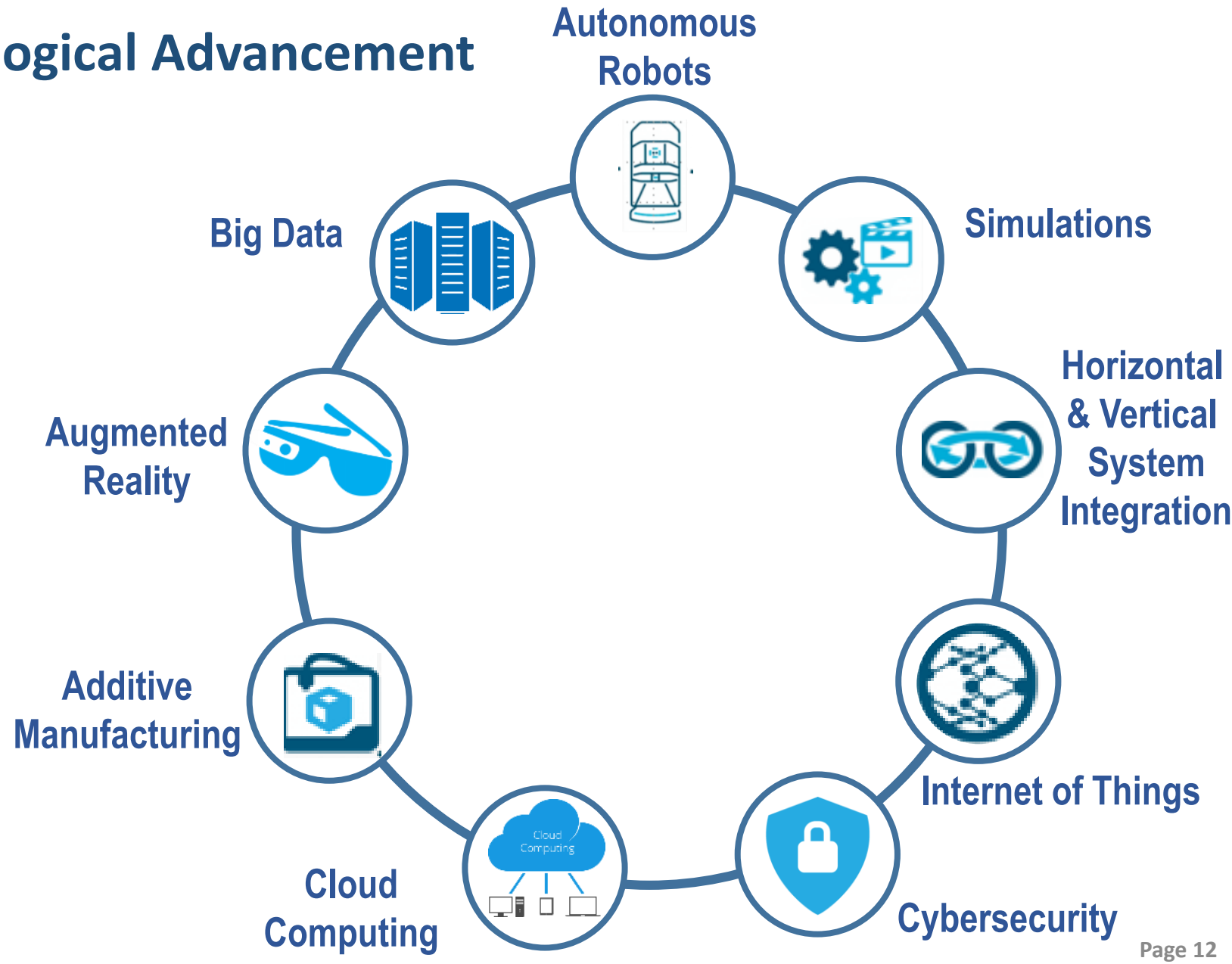
INDUSTRY
Manufacturing
Supply chain
Product
Cargo
Customer
Delivery
Inventory
Management
Freight

Industry 4.0

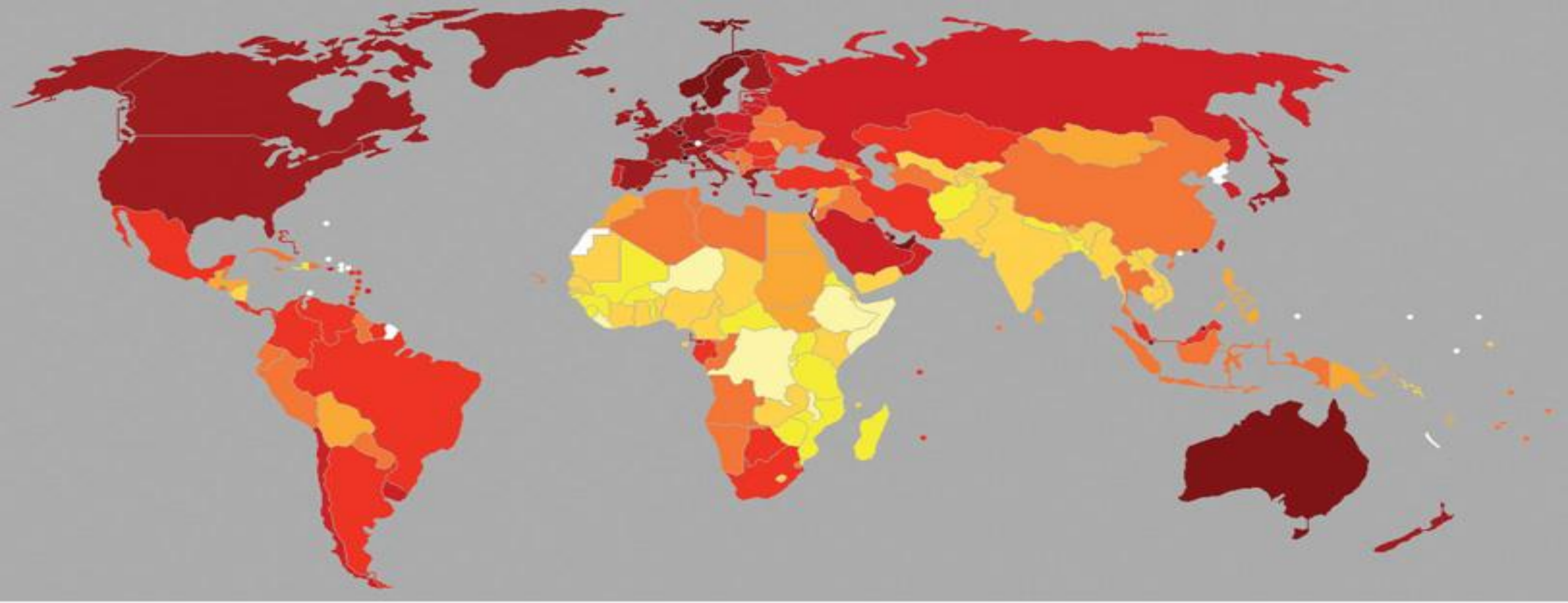
The Nine Pillars of Technological Advancement

Technological advances have driven dramatic increases in industrial productivity since the dawn of the Industrial Revolution.

Now, though, we are in the midst of a fourth wave of technological advancement: the rise of new digital industrial technology known as Industry 4.0



GDP



รายได้ต่อประชากร

SENIOR
CITIZENS
CITY OF CHICAGO

1950
11.75 working people to 1 aged 65+
2011
8.5 working people to 1 aged 65+
2050
3.9 working people to 1 aged 65+

สังคมผู้สูงอายุ

การเสื่อมโทรมของสิ่งแวดล้อม

Thailand's Problems

- Middle Income trap
- Inequality trap
- Imbalance trap

Min wage from TB300 to TB670 or more ???

Equality vs. Equity

EQUALITY=*SAMENESS*

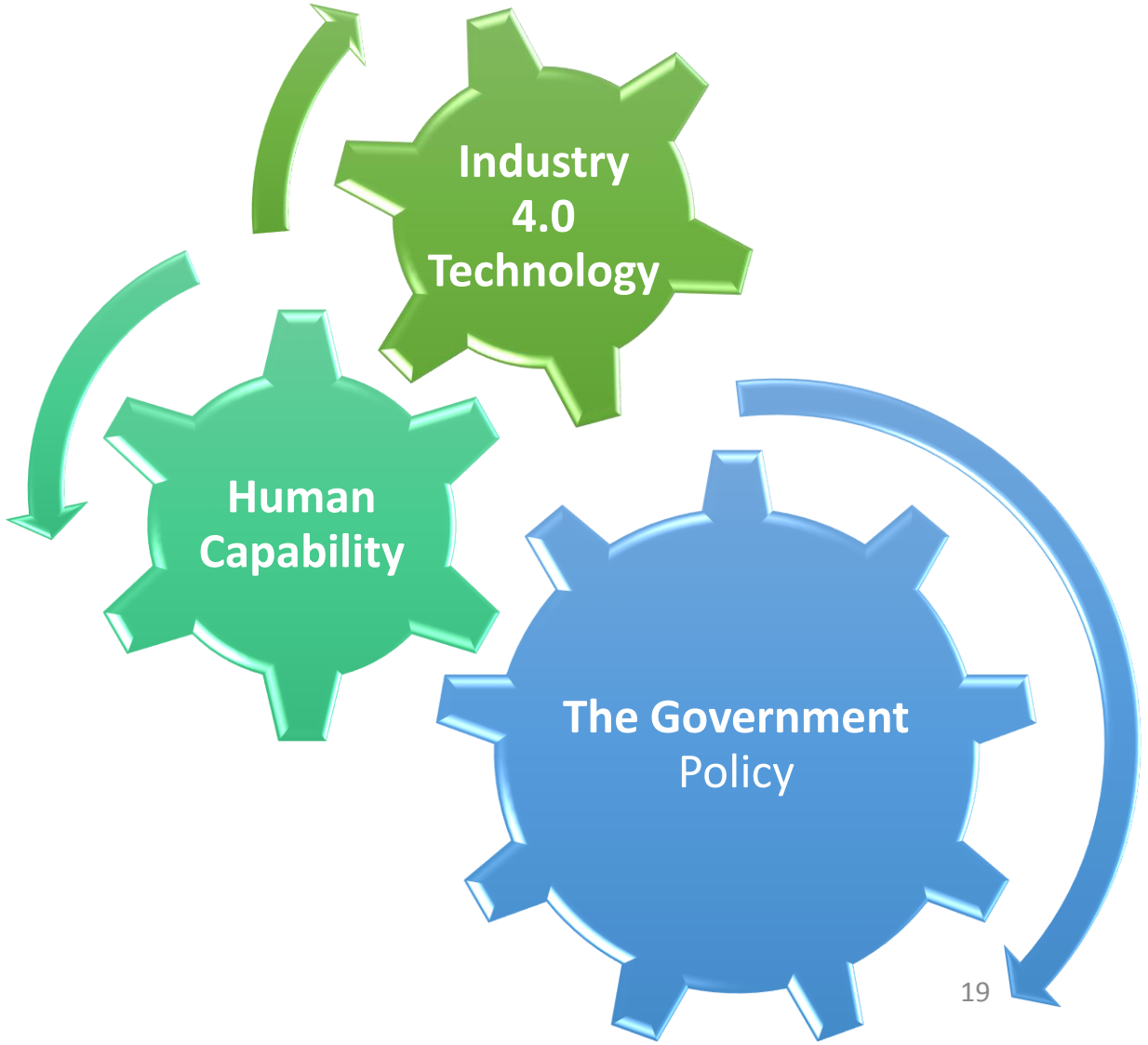
GIVING EVERYONE THE SAME THING → It only works if everyone starts from the same place

EQUITY=*FAIRNESS*

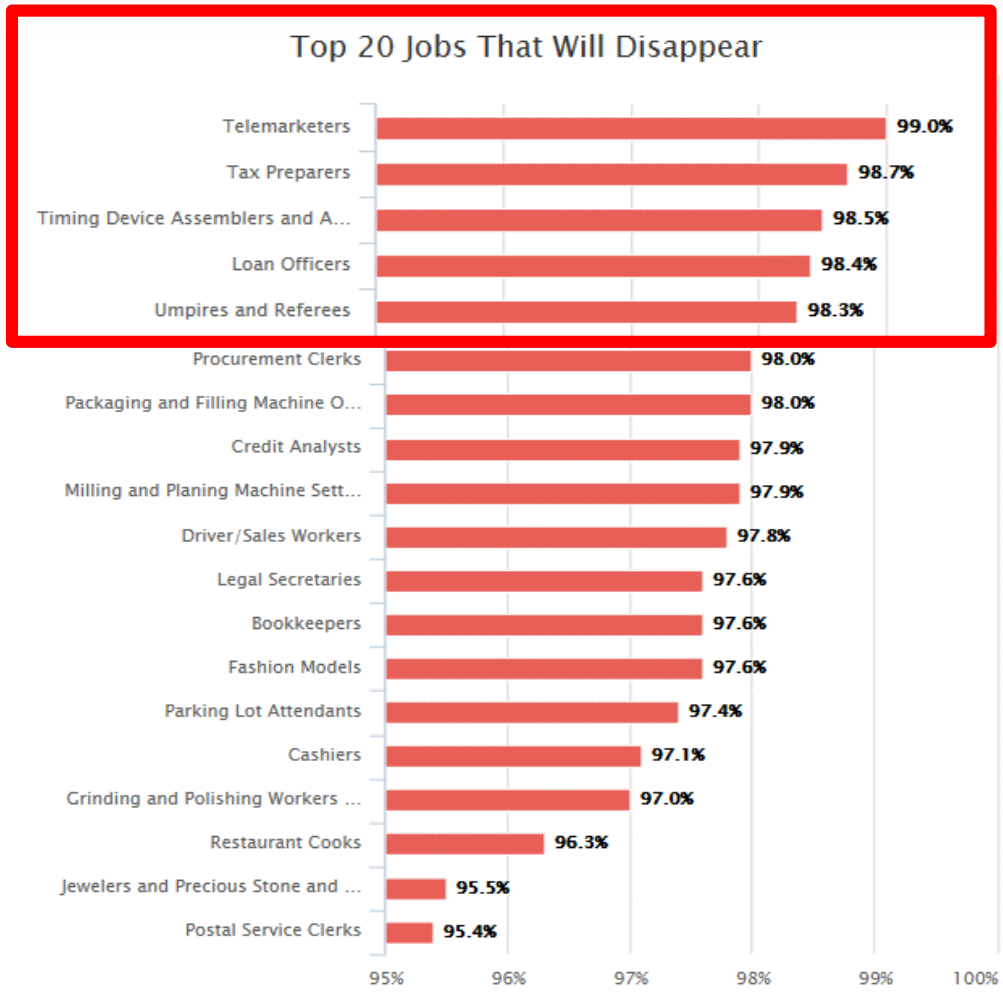
ACCESS to SAME OPPORTUNITIES → We must first ensure equity before we can enjoy equality

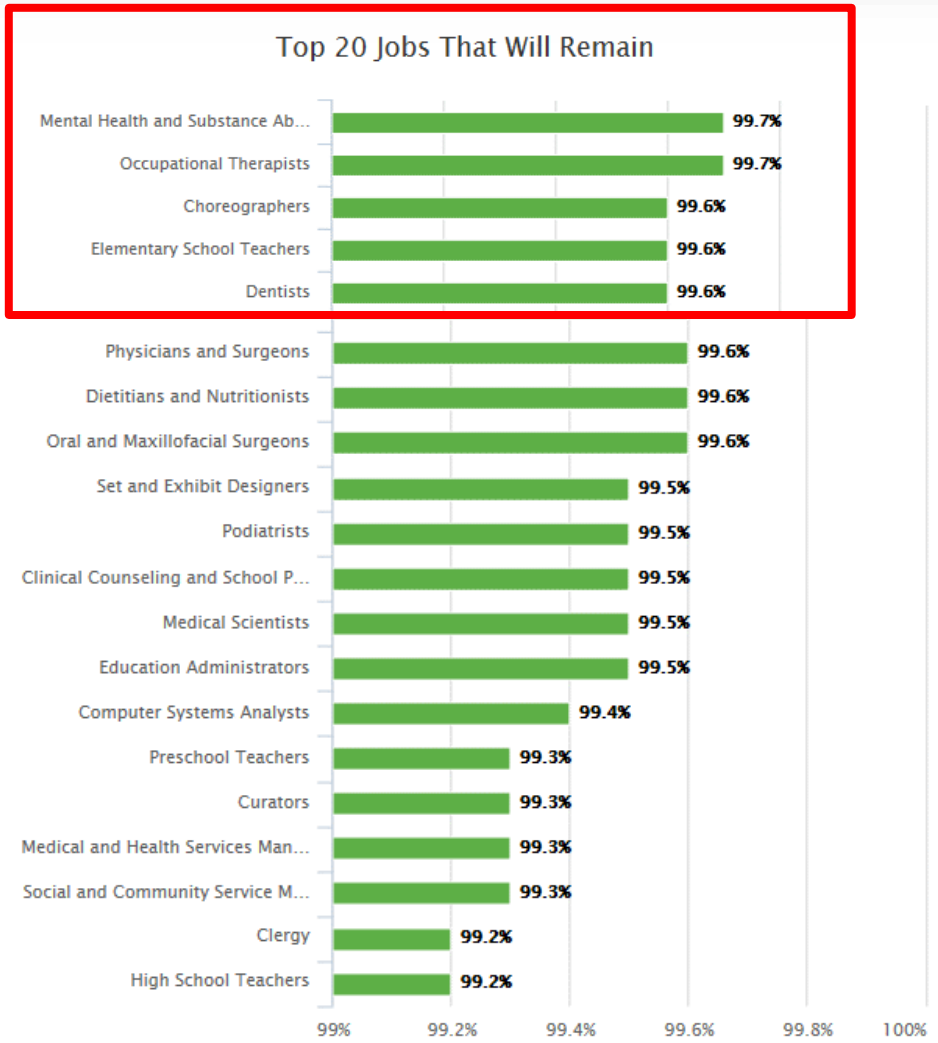
SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS
Developed in collaboration wi
Goals@trollback.com | +1.212.529.1010
For queries on usage, contact: dpicampaigns@un.org

Thailand 4.0 Transformation



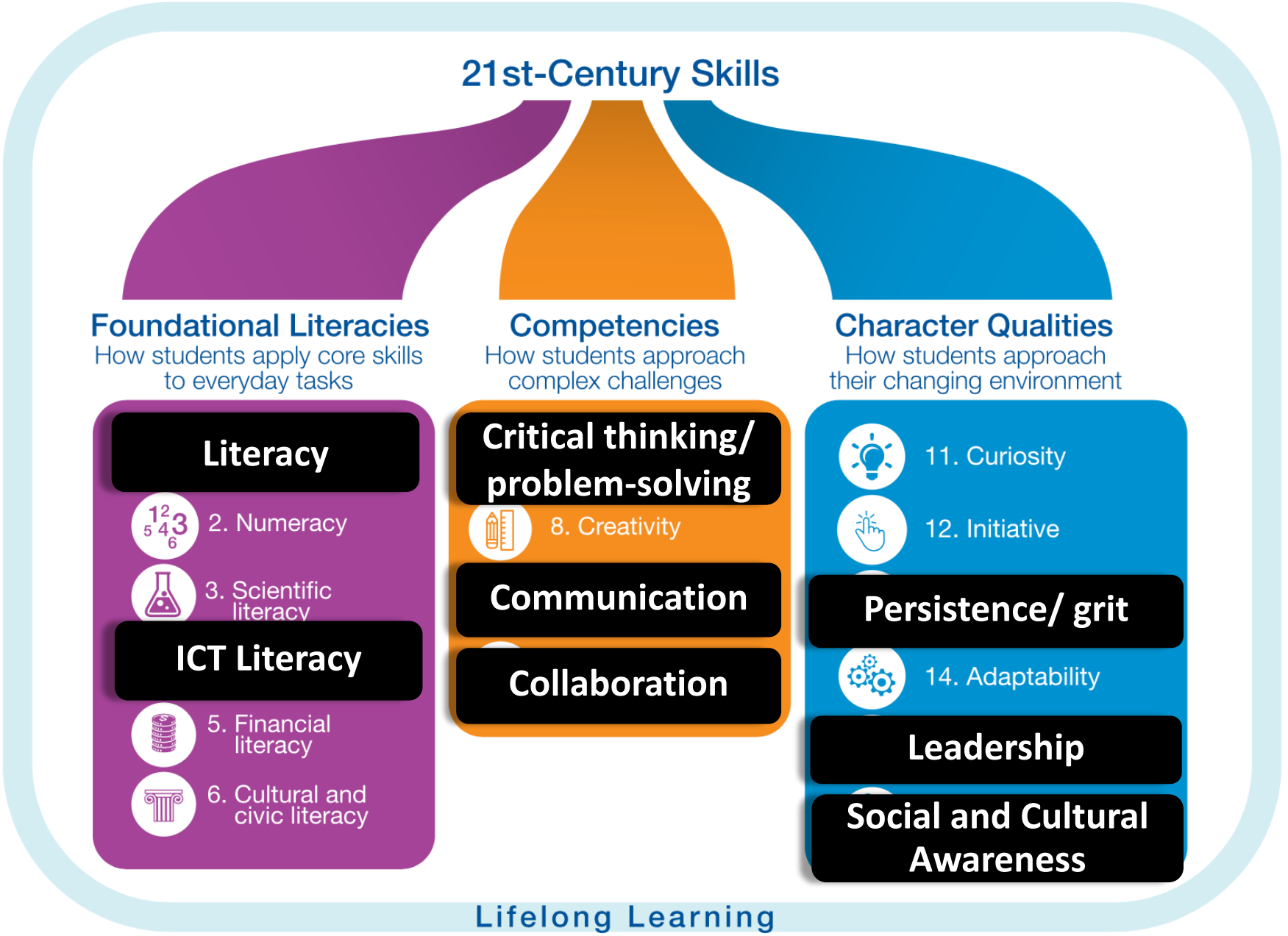
MANPOWER DEMAND SHIFT





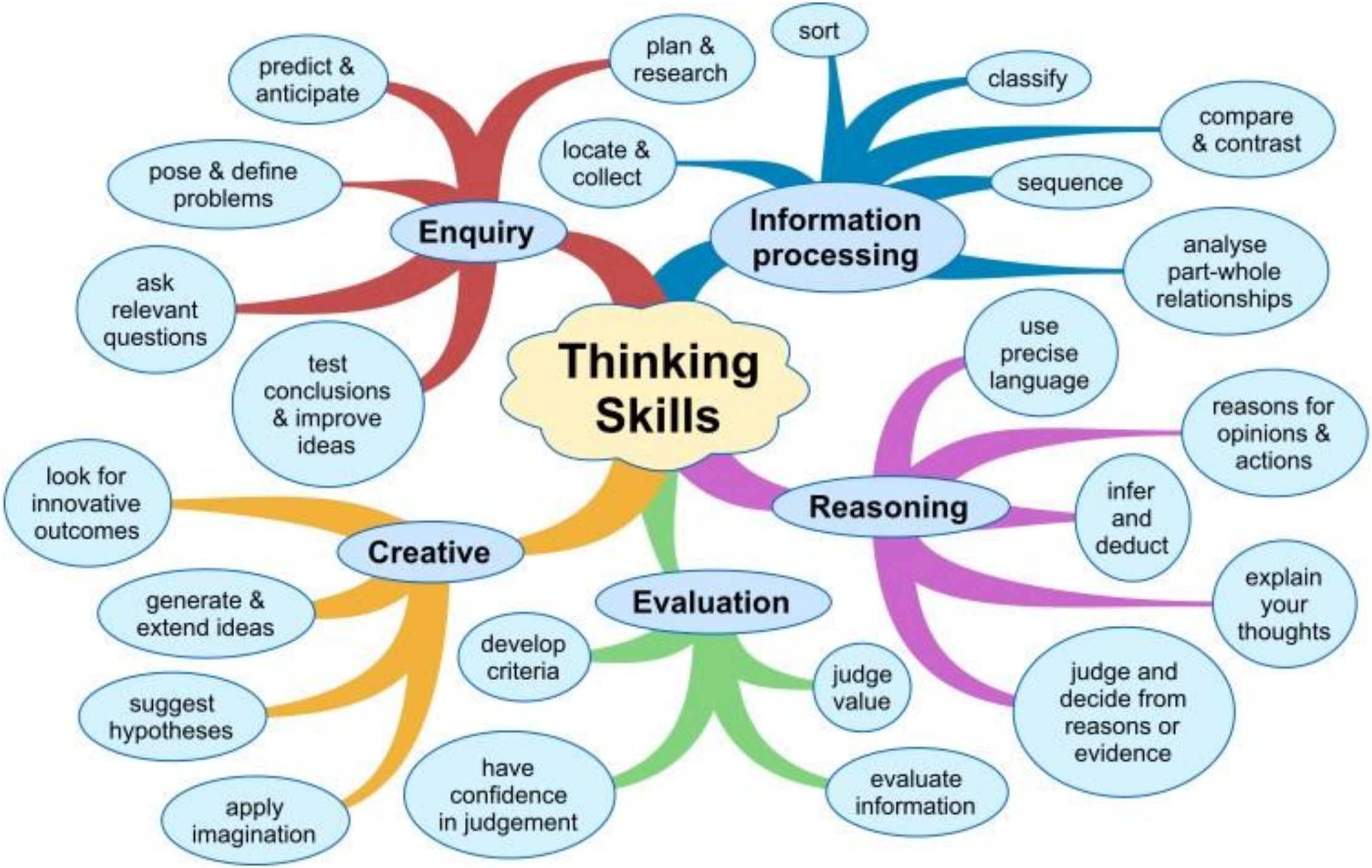
Sources: NPR and The Future of Employment: How Susceptible Are Jobs to Computerization?

Future Skills: Davos 2016 WEF



WORLD ECONOMIC FORUM

TEAM SPIRIT
SOFT SKILLS
COMMUNICATION
TRUSTWORTHINESS
EMPATHY
SELF-CONFIDENCE
ASSERTIVENESS
INQUISITIVENESS + CREATIVITY


Thinking Skills
Enquiry
predict & anticipate
plan & research
pose & define problems
ask relevant questions
test conclusions & improve ideas
Information processing
sort
classify
compare & contrast
locate & collect
sequence
analyse part-whole relationships
Reasoning
use precise language
reasons for opinions & actions
infer and deduct
explain your thoughts
judge and decide from reasons or evidence
Creative
look for innovative outcomes
generate & extend ideas
suggest hypotheses
apply imagination
Evaluation
develop criteria
judge value
have confidence in judgement
evaluate information

Associating & Networking

FUTURE >>

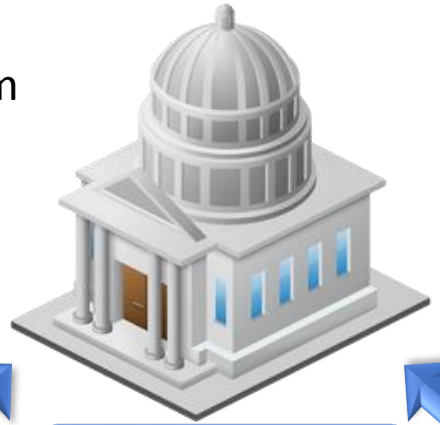
Look for future trend and opportunities

Proactive Investment Pull

Infrastructure readiness

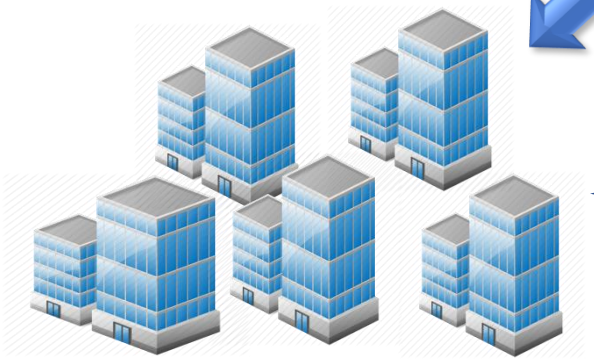
Supporting Government System

Investment Policy

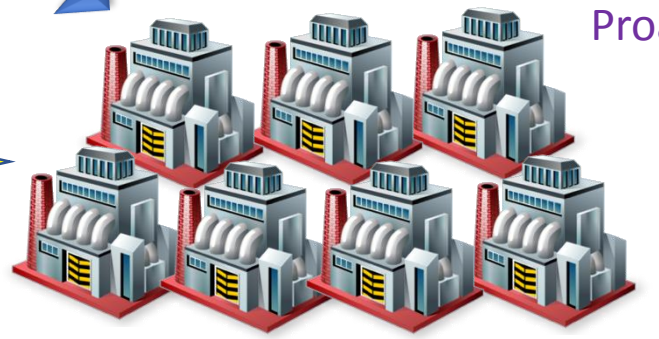


Government

Look for opportunities and new market



Connecting & Collaborating



Proactive Investment Pull

Technology Leader

R&D

Education

Businesses

Work-base Education

Work close with Industry

Cooperative Education

Students will demonstrate significant skill growth

Most of Students completed their internship experience and know what knowledge needed

Be able to articulate career goals and be ready for work

Successfully graduate and be demanded by real sector

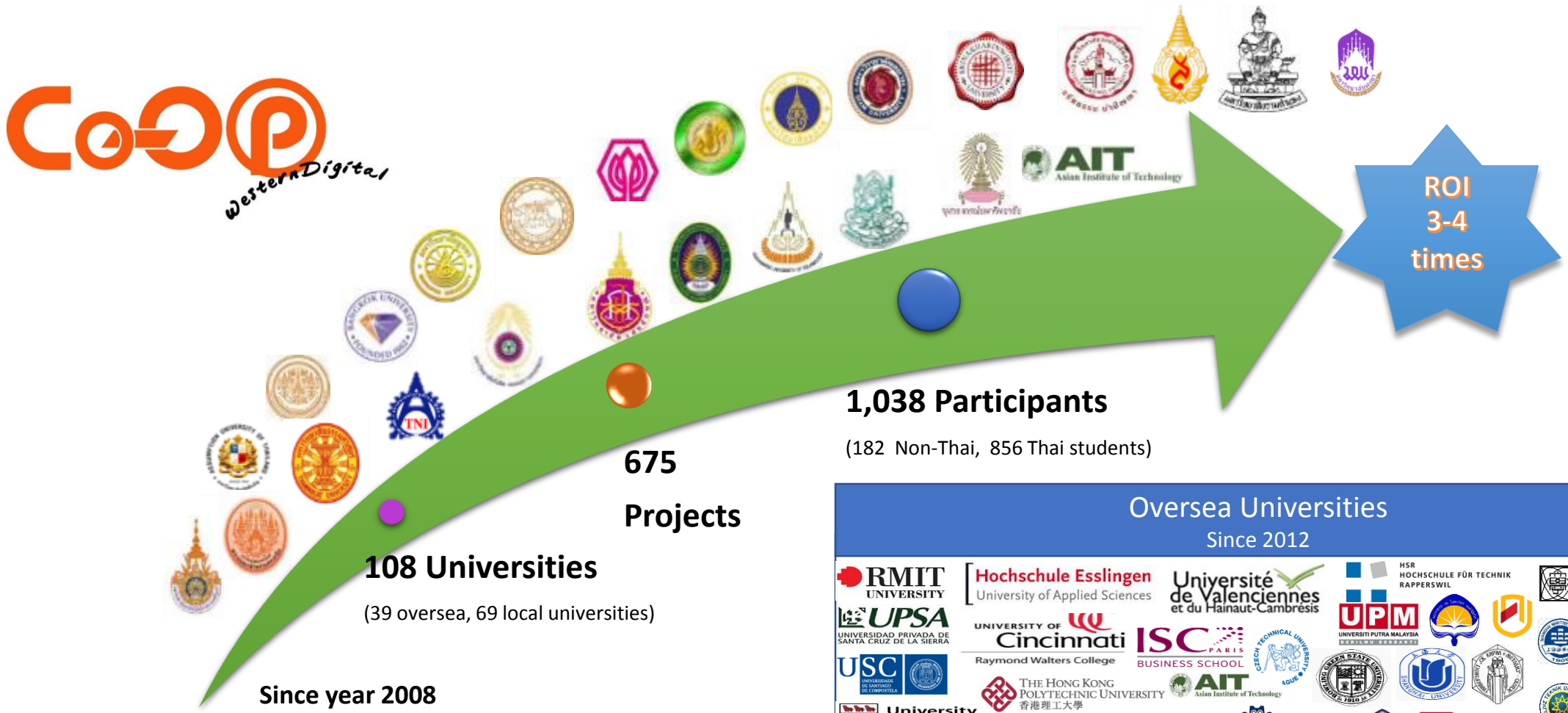
Real sector is Technology application leaders

Real sector needs fundamental and manpower support from academic sector

International Coop stimulate cross-border skill exchange

Coop build significant soft skills

International Coop Growth



108 Universities

(39 oversea, 69 local universities)

675

Projects

1,038 Participants

(182 Non-Thai, 856 Thai students)

Since year 2008

Inter Co-op joined in year 2012

Oversea Universities

Since 2012

RMIT UNIVERSITY
Hochschule Esslingen
University of Applied Sciences
Université de Valenciennes et du Hainaut-Cambrésis
HSR HOCHSCHULE FÜR TECHNIK RAPPERSWIL
UPSA
UNIVERSIDAD PRIVADA DE SANTA CRUZ DE LA SIERRA
UPM
UNIVERSITI PUTRA MALAYSIA
STU
SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA
USC
UNIVERSIDADE DE SANTIAGO DE COMPOSTELA
UNIVERSITY OF Cincinnati
Raymond Walters College
ISC PARIS BUSINESS SCHOOL
CZECH TECHNICAL UNIVERSITY IN PRAGUE
KIT
THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學
AIT Asian Institute of Technology
University of Victoria
Hochschule Bochum
Bochum University of Applied Sciences
BO
SAARLAND UNIVERSITY
RWTH AACHEN UNIVERSITY
DUT DURBAN UNIVERSITY OF TECHNOLOGY
ASU ARIZONA STATE UNIVERSITY
Hochschule Ravensburg-Weingarten
Technik | Wirtschaft | Sozialwesen
Nagaoka University of Technology
Manipal INSPIRED BY LIFE
UNIVERSITY OF SHARJAH
UPV

International Coop Growth

Country	Completed	On-Going	Awaiting
Australia	12		
Bolivia	3		
Cambodia	5		
Canada	23+1(PRB)	3	4+2 (PRB)
China	2+1(PRB)		
Czech Republic	1		
France	3		
Germany	40+1(PRB)	1	1+1(PRB)
Hong Kong	1		
India	1	2	
Indonesia	24+1(PRB)		3
Japan	2+1 (PRB)		
Kazakhstan	1		
Macedonia	1		
Malaysia	3		
Namibia	2		
Nepal	1		
Pakistan		1	
Serbia	2		
Slovakia	1 (PRB)		
South Africa	11+1(PRB)	1	1
Spain	1+1(PRB)		
Sri Lanka	19		
Switzerland	1		
Tunisia	2		
Turkey	2		
Uganda	1		
USA	5		
UAE	1 (PRB)		
Philippines	1		

Cooperative Education Program
@Western Digital

Talent Mobility

Dec 17'14

Ministry of Science and Technology (Dr. Pichet Durongkaveroj) visited WD Automation Lines: HGA, HSA and HDA

Feb 18'15

Government unlocked regulations to universities and institutions

July 6'15

The 1st TM project:

HSA/HDD Fault Detection Project with Dr. Prakarnkiat (KMUTT)

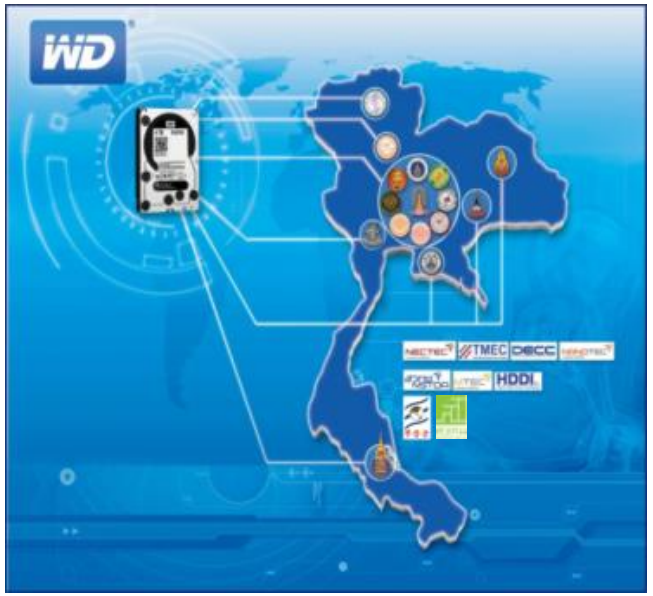
Jan 4'16

The 2nd TM project:

SF Thin Film Project with Dr. Chaiya (KU)

- Count time with industry toward year of experience to propose for Career Path, Salary Adjustment and defray the Scholarship
- Work results with industry accepted as paper publication
- Industry top up income on researchers salary

Talent Mobility



400%

- 9 Government Institutes
- 18 Universities
- 275 Researchers
- 203 Research Topics

2017

2007: Focus on

- Solutions Based Know-How
- Quick Fix

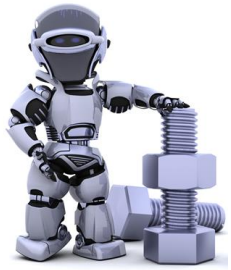
2012 Onwards: Focus on

- Fundamental Science to Create Know-Why
- Researchers and Research Assistants (B.S., M.S., and Ph.D. Students)

Talent Mobility

Project-base Learning

For our activity….
We began our first day by brainstorming what can be the solution for the national park. Apparently, the topic is quite broad since the theme “Internet of Things” consists of many technologies. We chose “bicycle tracking system” as our main concern and expanded from that. Though the bicycle thing was the first to come up in the meeting, it took us almost the entire first day to finalize the idea as there were always questions arisen here and there.
In short, our group decided to make a project plan for bicycle tracking system to be used in the Lake District National Park. The rental bikes in the area will be installed with our location detection chips. We will also make hotels in the area propose the option of installing the chips in visitors’ own bikes for safety reason where no phone signal is available in some parts of the park and the help is needed in such situation, so that the rescue team knows where to go.
Moreover, the data collected from the location detection from the chips can also be analyzed to be sold to insurance companies and sport gear manufacturers as well.
The business idea caught the attention of the judges and our team won the prize of £50 Amazon Gift Cards for each of the team member.
This is my first ever participation in a hackathon event. Even though the scene does not authentically look like the hackathon as this event relies heavily on how we present the business model to the judges in order to convince them to “buy” our project, the experience gained from the 2 days activity is priceless.



Thank You

PRESENTED BY

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