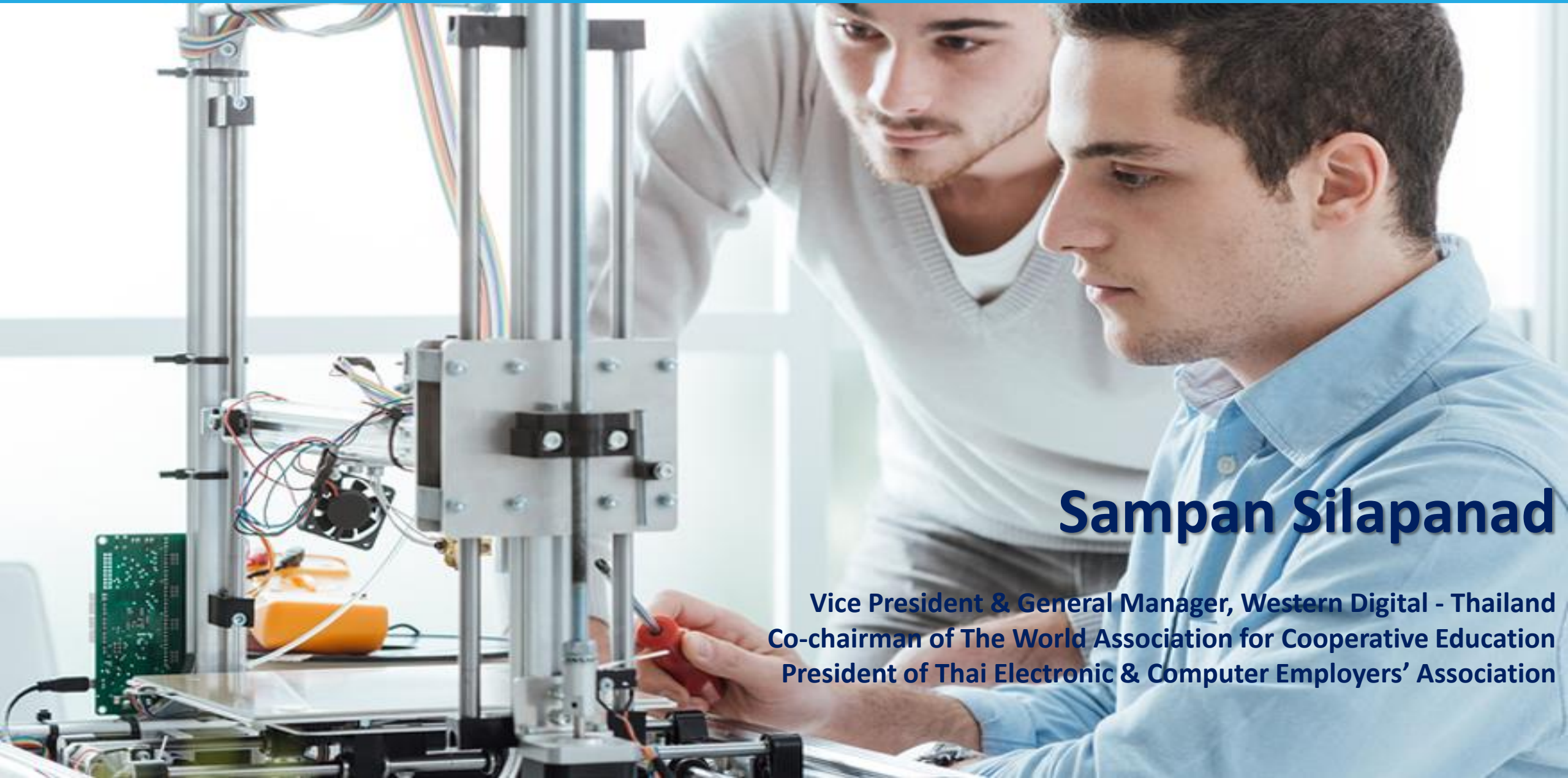


Integration of Co-op program to Thailand 4.0



Sampan Silapanad

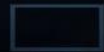
**Vice President & General Manager, Western Digital - Thailand
Co-chairman of The World Association for Cooperative Education
President of Thai Electronic & Computer Employers' Association**

Industry 4.0



INDUSTRY

Manufacturing
Supply chain
Product
Cargo
Customer
Delivery
Inventory
Management
Freight



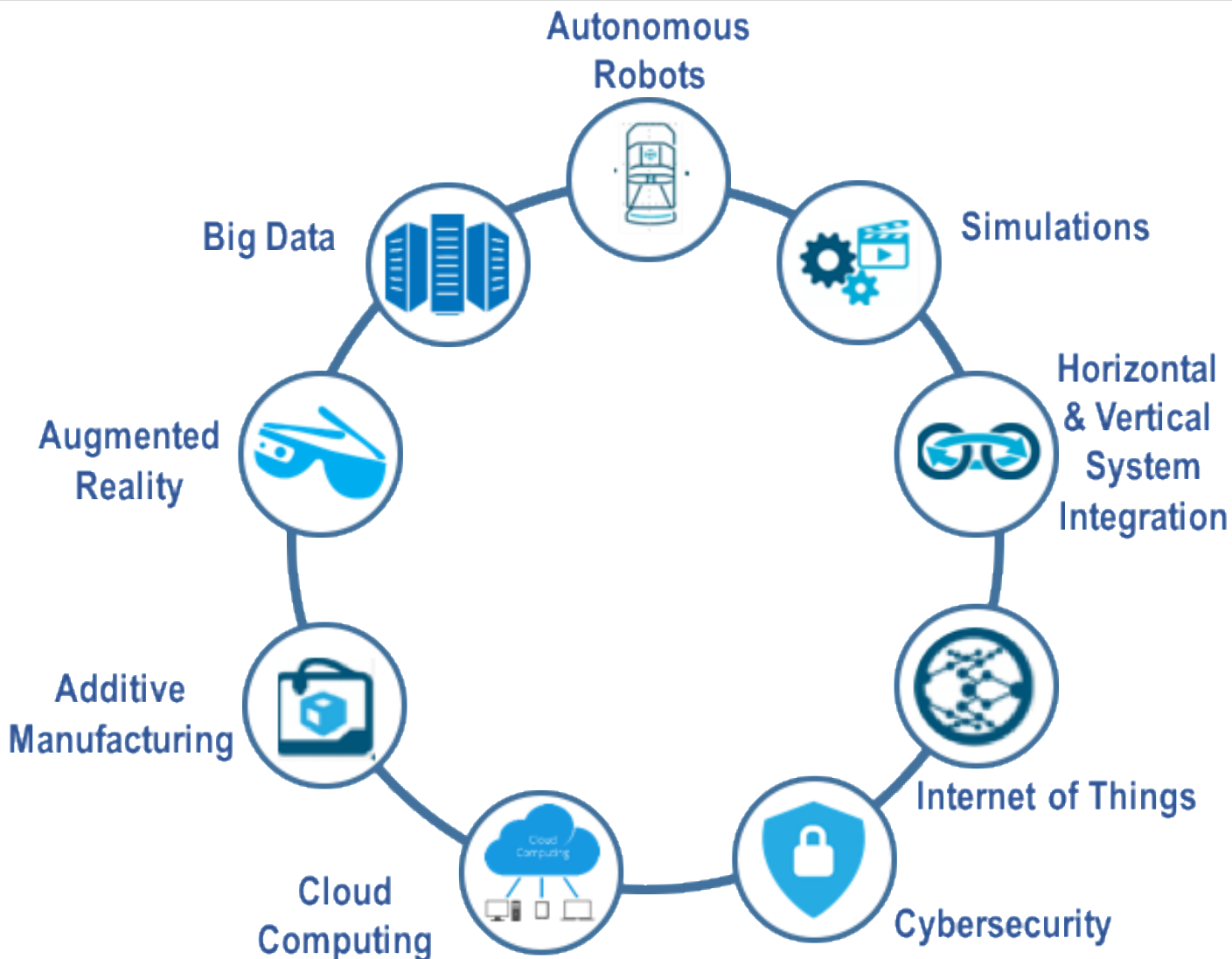


Industry 4.0

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



The background of the image is a blurred industrial scene, likely a factory floor, with various mechanical parts and structures visible in shades of grey and blue. A semi-transparent blue rectangular box with rounded corners is centered in the foreground, containing white text.

i 4.0

**CONNECTED
INDUSTRY**

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

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

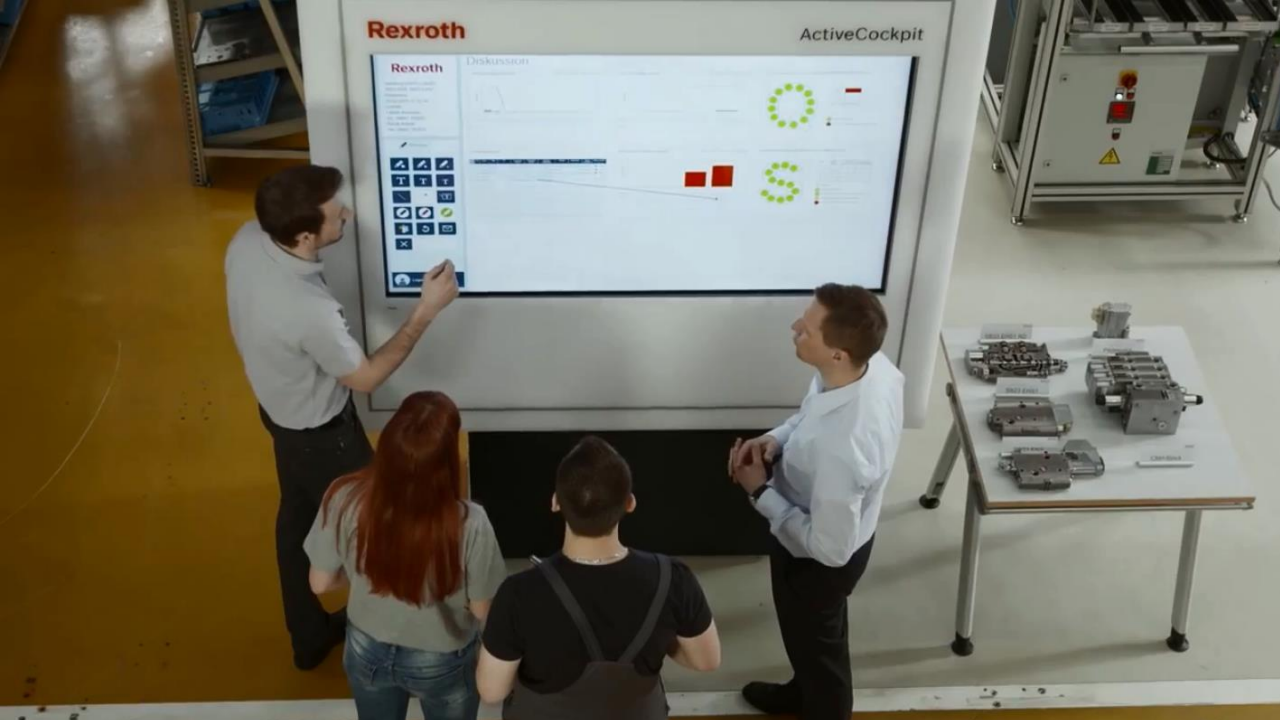
- 
- **11 PLANTS**
 - **> 5000 MACHINES**
 - **UP TO 25% PRODUCTIVITY INCREASE**



Autonomous Robots

Cloud Computing

Internet of Things

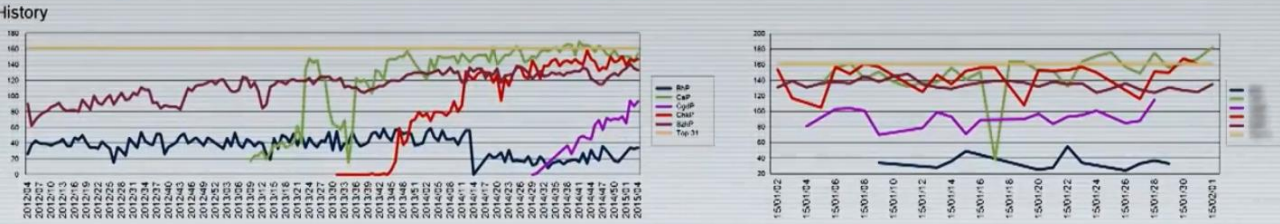


Line level - Manual lines

↗ Stable position ↘ Lower position
 ↖ Higher position ★ Target achieved

1	★ CaP M1 182	0% ESP	★ CaP M2 165	0% ESP	↗	★ SzhP M2 161	0% ESP	↗	★ CaP M2 157	0% ESP	↗	★ SzhP M2 161	0% ESP	↗
2	★ SzhP M2 166	0% ESP	★ CaP M1 156	11% ESP	↗	★ CaP M2 156	0% ESP	↗	★ CaP M1 151	54% ESP	↗	★ CaP M2 156	0% ESP	↗
3	★ SzhP M4 148	0% ESP	★ SzhP M2 156	0% ESP	↗	★ SzhP M4 150	0% ESP	↗	★ SzhP M2 151	0% ESP	↗	★ SzhP M4 150	0% ESP	↗
4	★ SzhP MR6 141	63% ESP	★ ChkP M1 151	14% ESP	↗	★ CaP M1 148	8% ESP	↗	★ SzhP M4 146	0% ESP	↗	★ CaP M1 148	0% ESP	↗
5	★ SzhP M3 128	13% ESP	★ SzhP M4 148	0% ESP	↗	★ ChkP M1 146	13% ESP	↗	★ ChkP M1 134	11% ESP	↗	★ ChkP M1 146	12% ESP	↗
6	★ SzhP M1 126	89% ESP	★ SzhP M3 127	15% ESP	↗	★ SzhP M1 134	47% ESP	↗	★ SzhP M1 125	51% ESP	↗	★ SzhP M1 134	47% ESP	↗
7	★ SzhP MR7 98	57% ESP	★ SzhP M1 126	67% ESP	↗	★ SzhP MR6 130	16% ESP	↗	★ SzhP M3 123	67% ESP	↗	★ SzhP MR6 130	16% ESP	↗
8	★ BhP M1 -	-	★ SzhP MR6 126	60% ESP	↗	★ SzhP M3 128	31% ESP	↗	★ SzhP MR6 106	3% ESP	↗	★ SzhP M3 129	31% ESP	↗
9	★ CaP M2 -	-	★ SzhP MR7 93	76% ESP	↗	★ SzhP MR7 99	26% ESP	↗	★ CgdP MR1 63	24% ESP	↗	★ SzhP MR7 99	26% ESP	↗
10	★ CgdP MR1 -	-	★ CgdP MR1 91	31% ESP	↗	★ CgdP MR1 91	5% ESP	↗	★ SzhP MR7 55	17% ESP	↗	★ CgdP MR1 91	5% ESP	↗
11	★ ChkP M1 -	-	★ BhP M1 33	8% ESP	↗	★ BhP M1 33	1% ESP	↗	★ BhP M1 24	10% ESP	↗	★ BhP M1 33	8% ESP	↗

day 7 days 31 days 365 days YTD



Big Data & Analytics



Simulation

Augmented Reality

Internet of Things



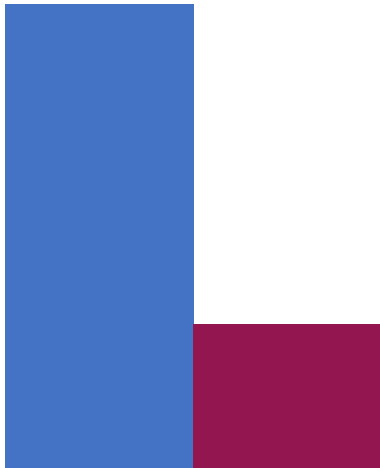
**People as key players
are the focus of all our endeavours.**



PROJECT MANUAL TO AUTOMATION



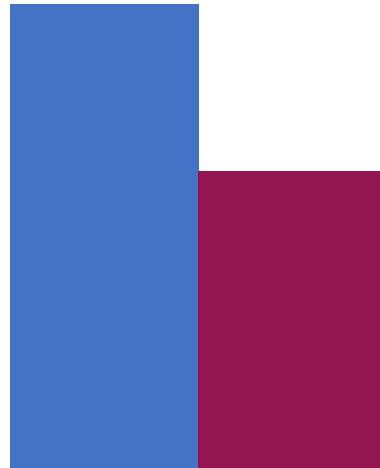
Cost



- 70%



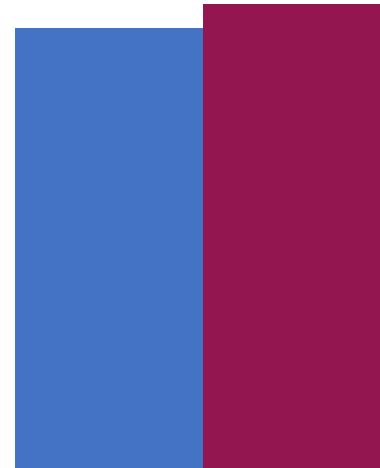
Cycle Time



- 35%



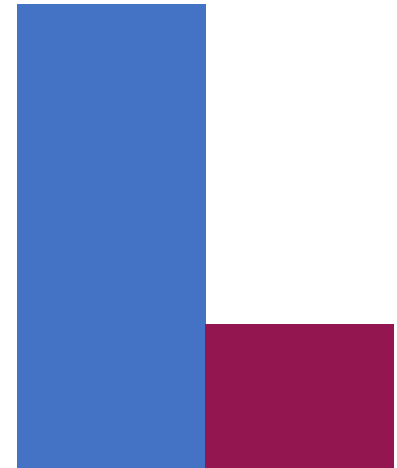
Yield



+ 4%



Headcount

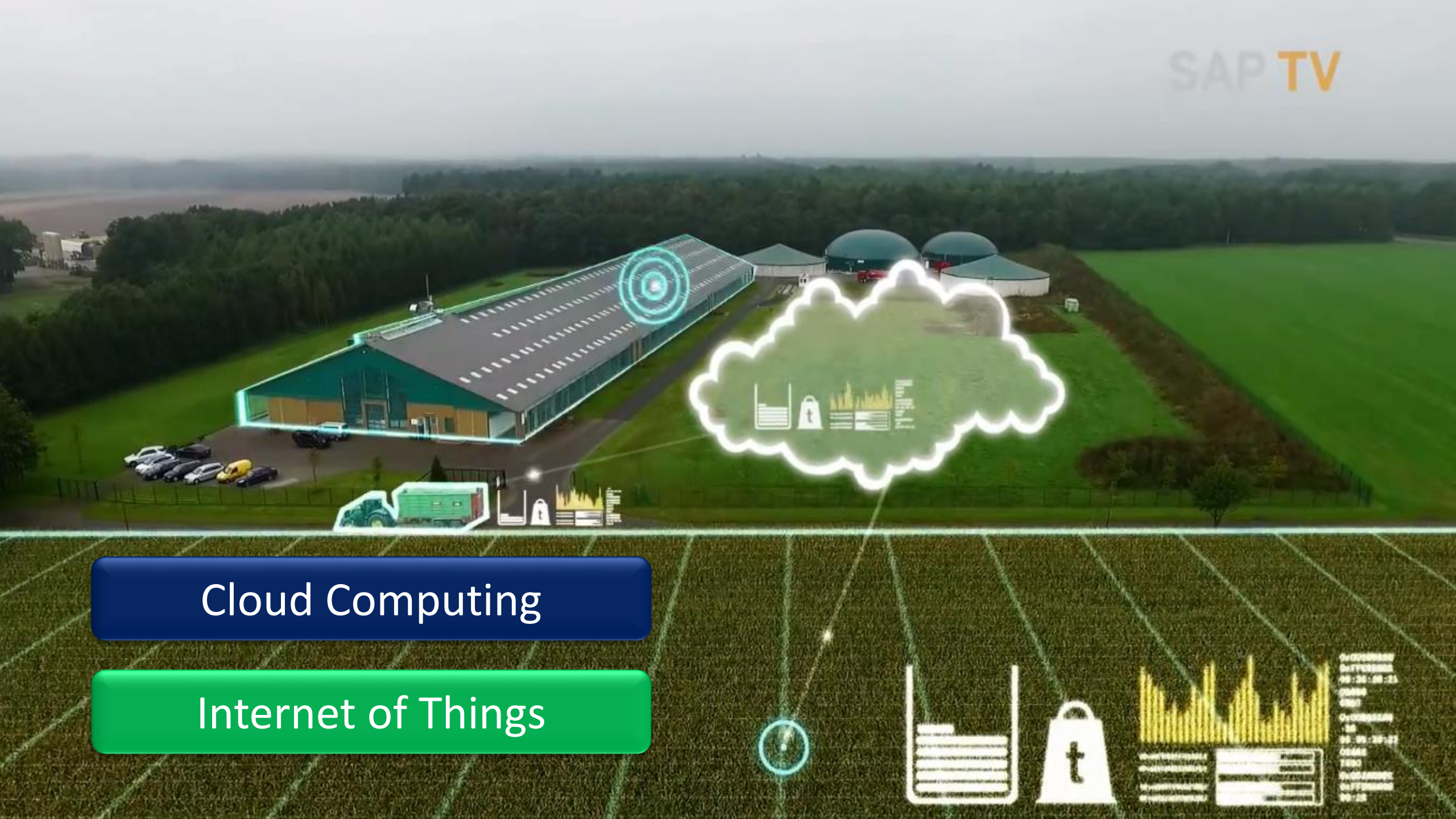


- 70%

Manual Automation

SAP TV





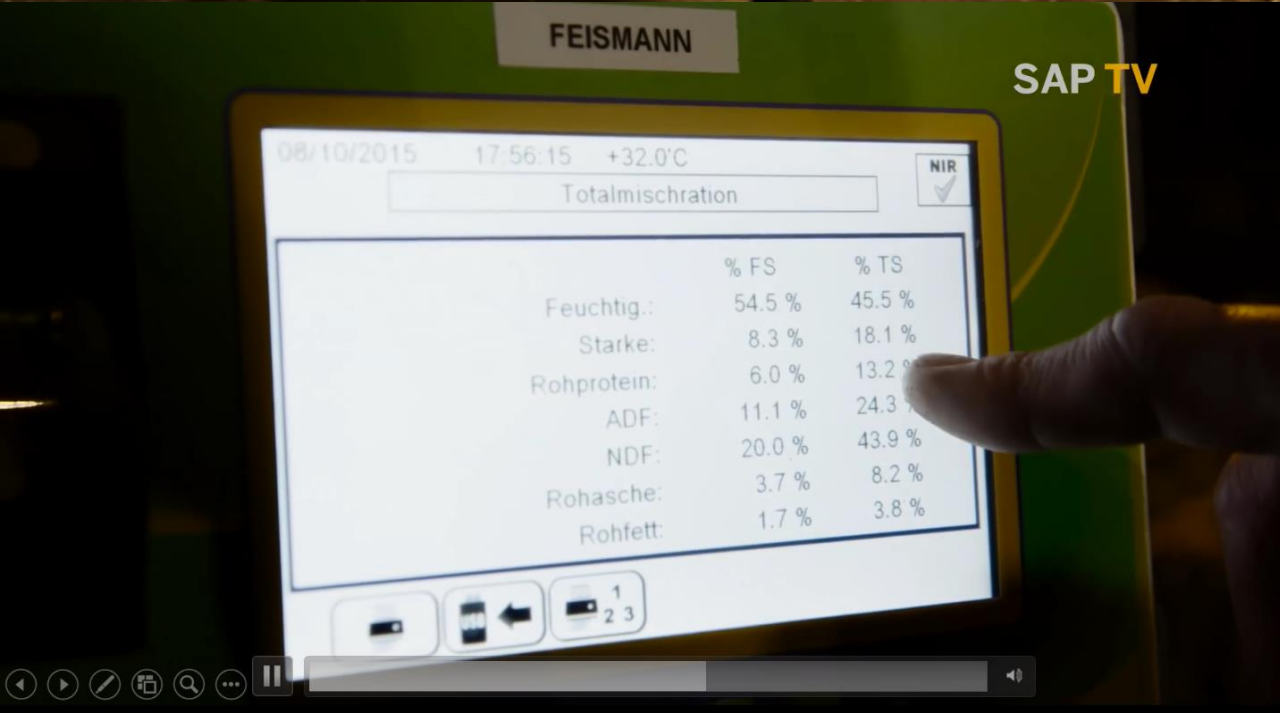
Cloud Computing

Internet of Things

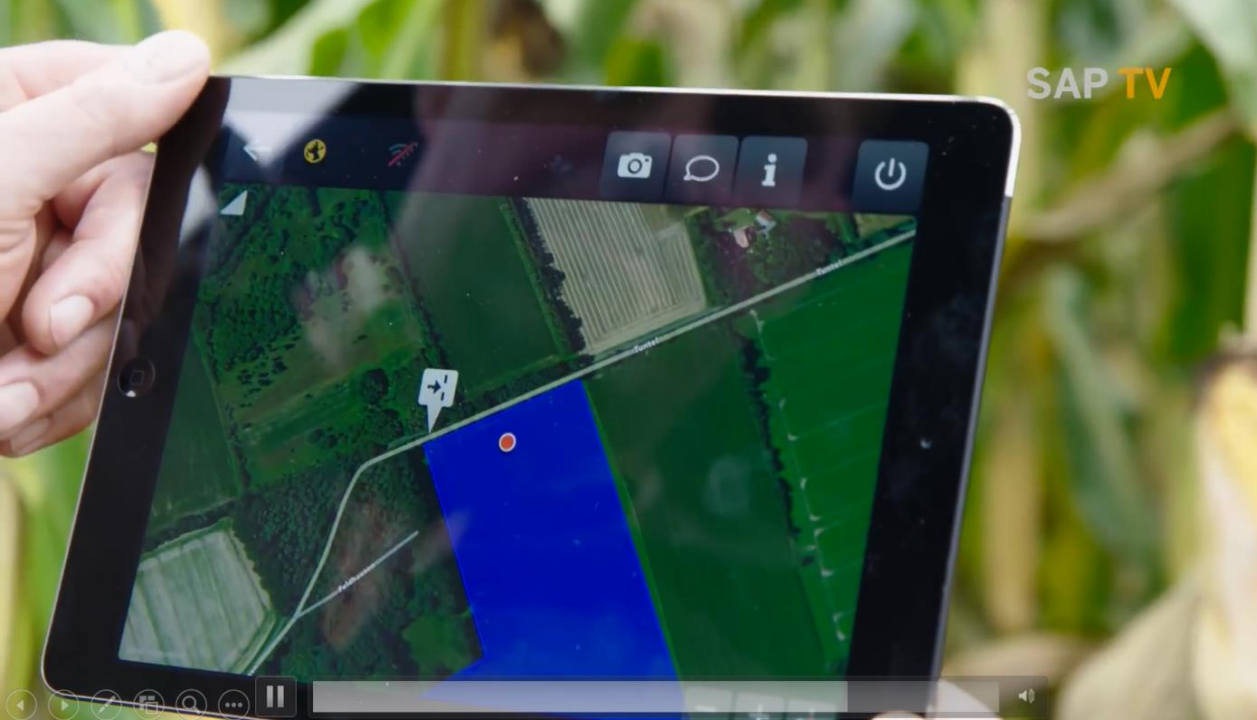




Big Data & Analytics



Big Data & Analytics



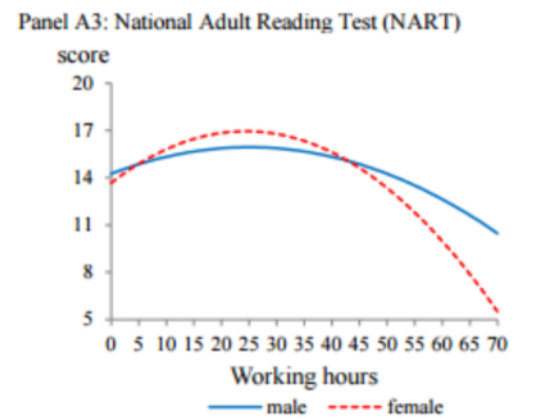
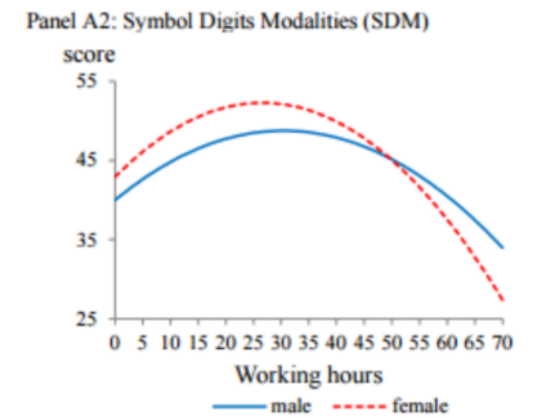
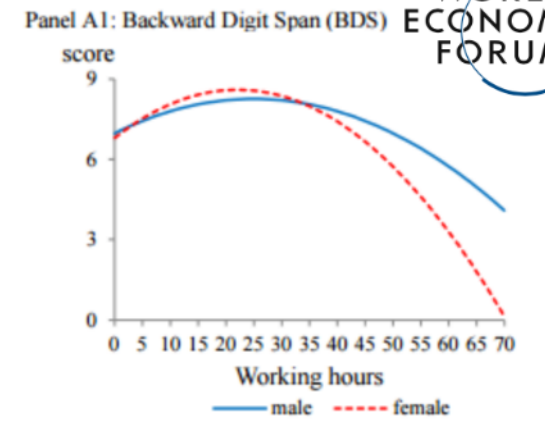
Big Data & Analytics

Augmented Reality

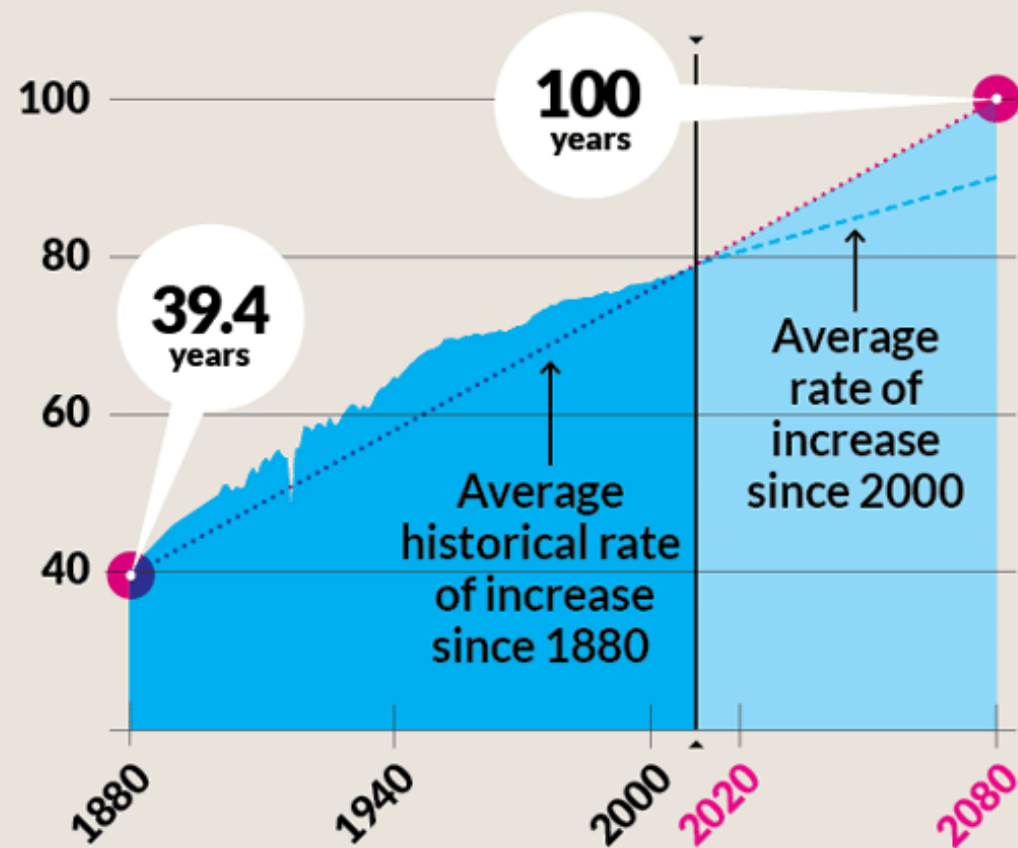


Big Data & Analytics

25
hours a week



RISE OF THE CENTENARIANS?

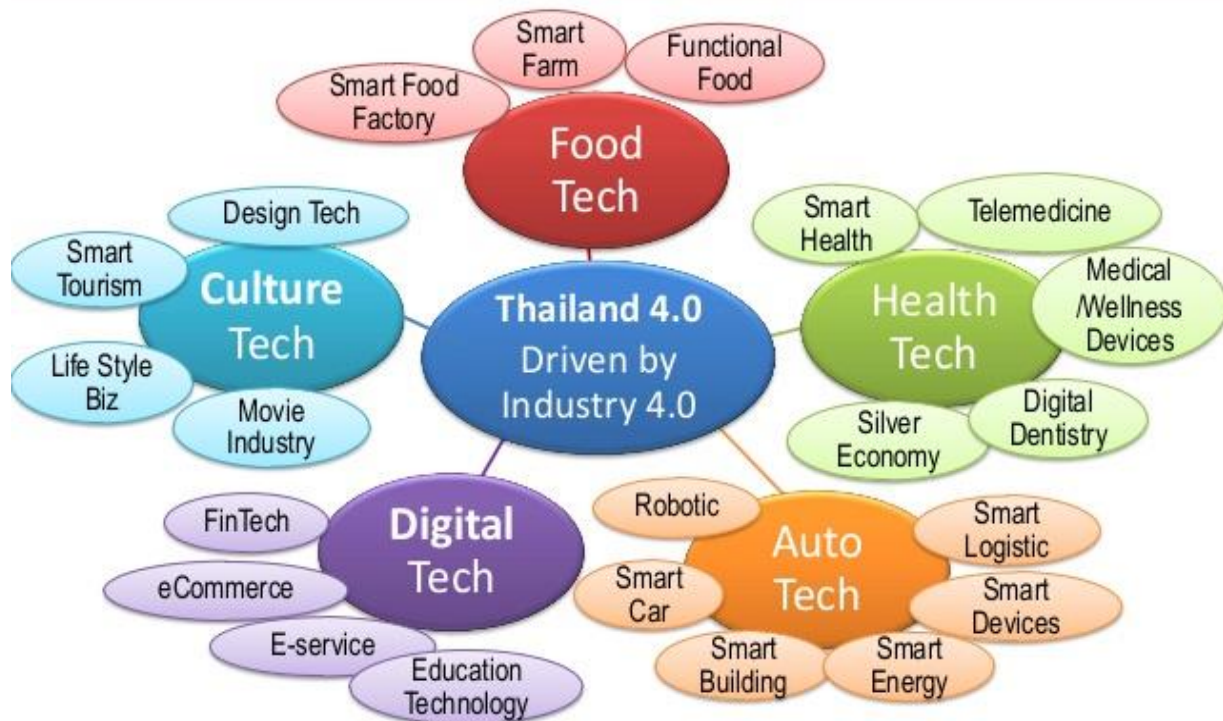


Finland is **paying people** a guaranteed income - and they **don't have to work**



นำร่องโดย 5 อุตสาหกรรม ที่จะต้องสร้าง **Key competency**

Thailand 4.0 : New Growth Industry



Source : NSTDA

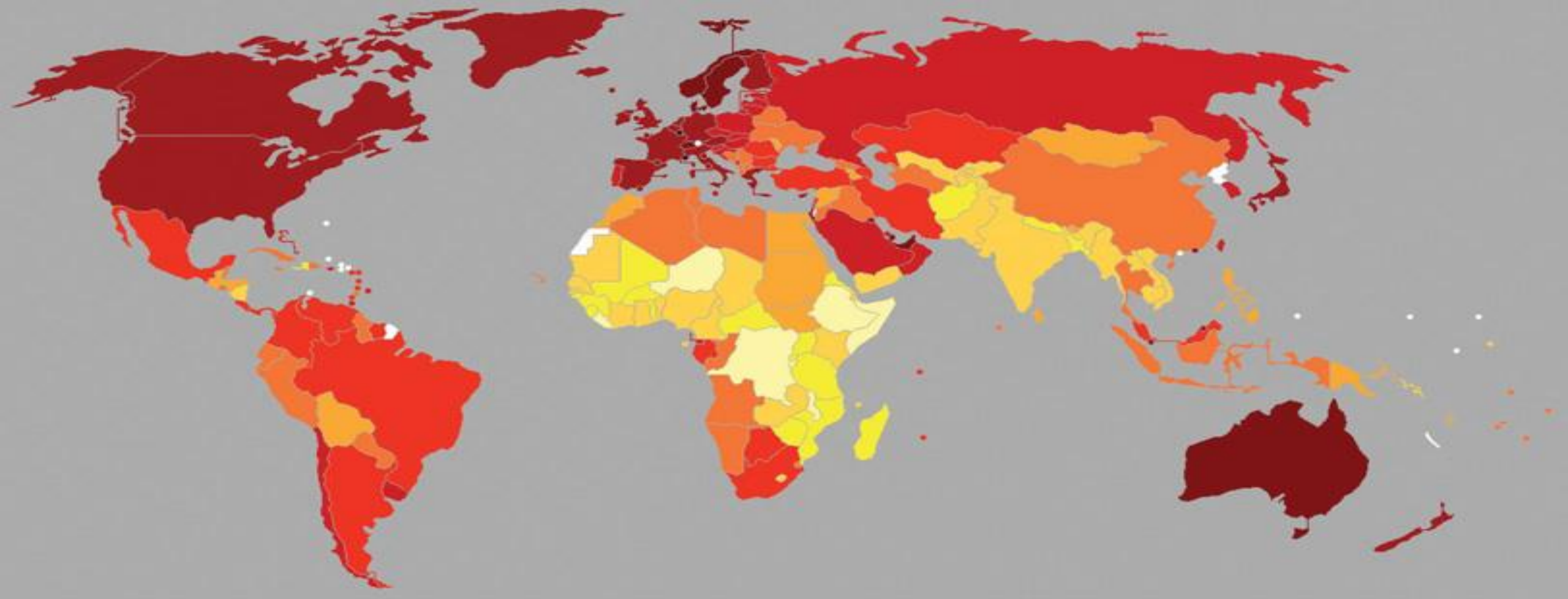
10

กลไกขับเคลื่อนไทยแลนด์ 4.0



GDP





รายได้ต่อประชากร



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

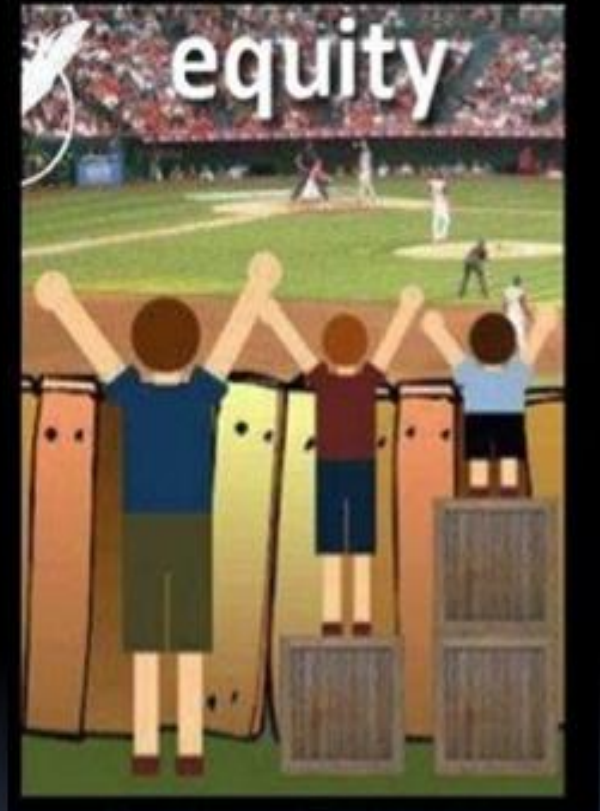
Min wage
from TB300
to TB670 or
more ???

Equality vs. Equity



EQUALITY=**SAMENESS**

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



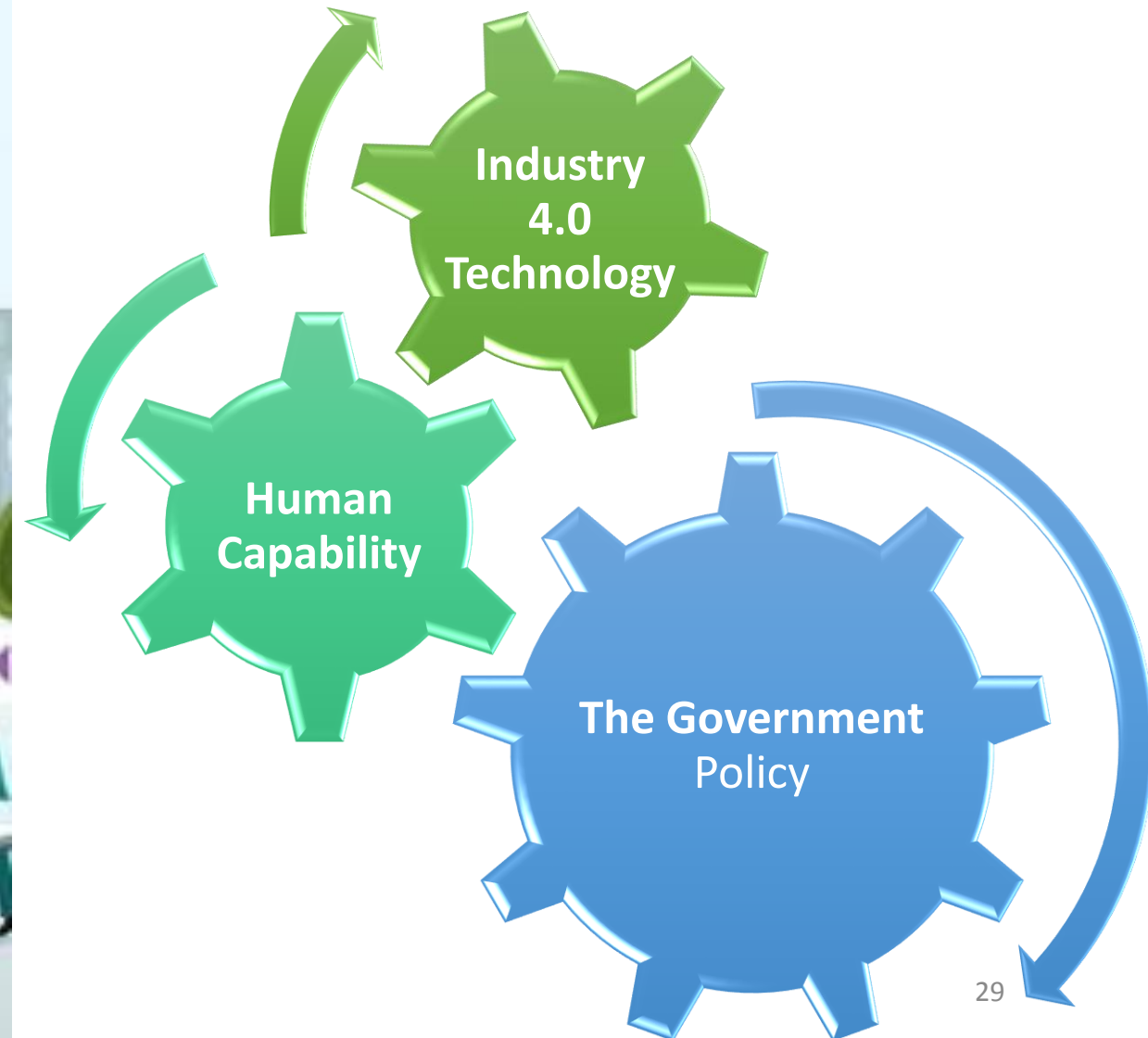
EQUITY=**FAIRNESS**

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





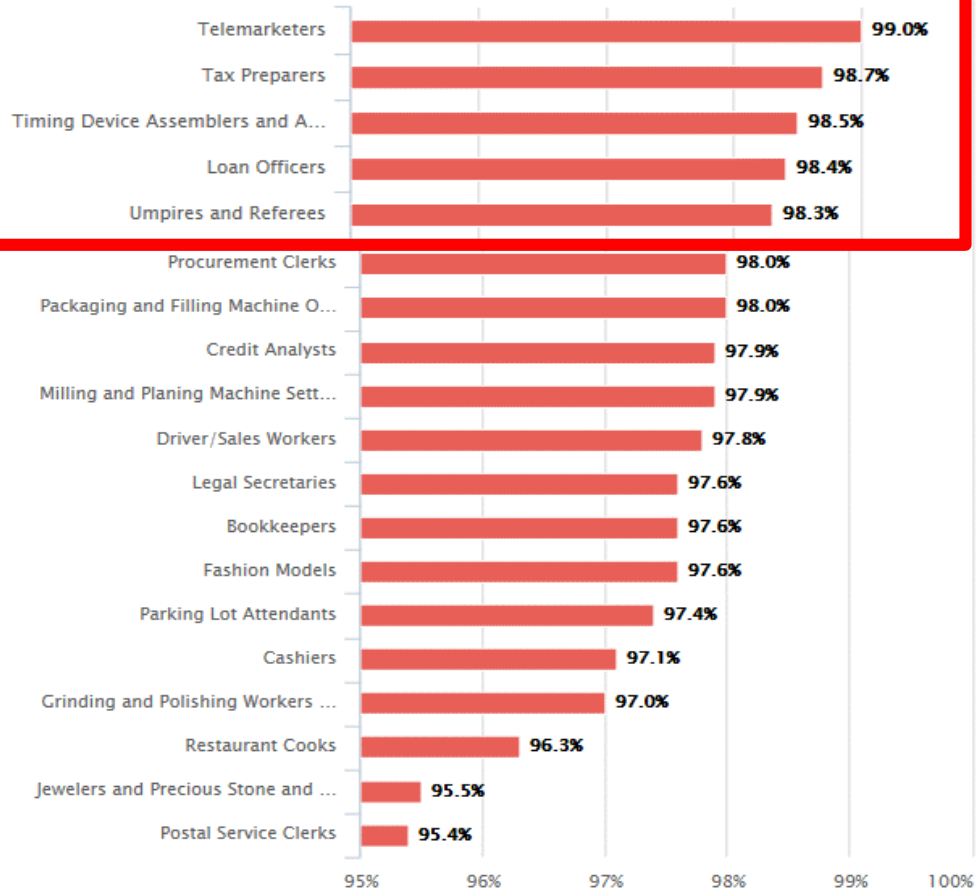
Thailand 4.0 Transformation



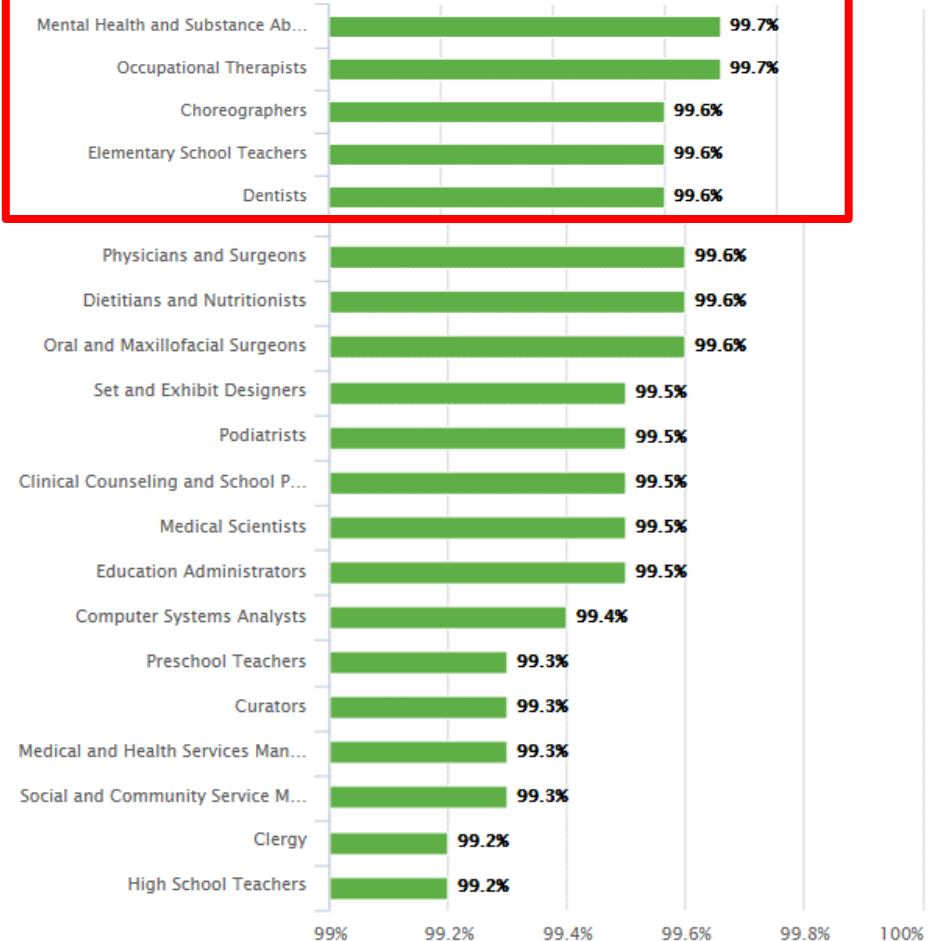


MANPOWER DEMAND SHIFT

Top 20 Jobs That Will Disappear



Top 20 Jobs That Will Remain



Future Skills: Davos 2016 WEF



21st-Century Skills

Foundational Literacies

How students apply core skills to everyday tasks

ความรู้ความเข้าใจเชิง
วิชาการ

1²
5 4 3
6 2. Numeracy

3. Scientific literacy

ความสามารถด้าน
เทคโนโลยีและ IT

5. Financial literacy

6. Cultural and civic literacy

Competencies

How students approach complex challenges

ความสามารถในการคิด
วิเคราะห์ และแก้ปัญหา

8. Creativity

การสื่อสาร

การสร้างเครือข่าย
ความร่วมมือ

Character Qualities

How students approach their changing environment

11. Curiosity

12. Initiative

ความอดทน มุ่งมั่น

14. Adaptability

ภาวะผู้นำ

การรับรู้ เป็นส่วนหนึ่งใน
สังคมและวัฒนธรรม

Lifelong Learning



SOFT SKILLS



COMMUNICATION



TRUSTWORTHINESS

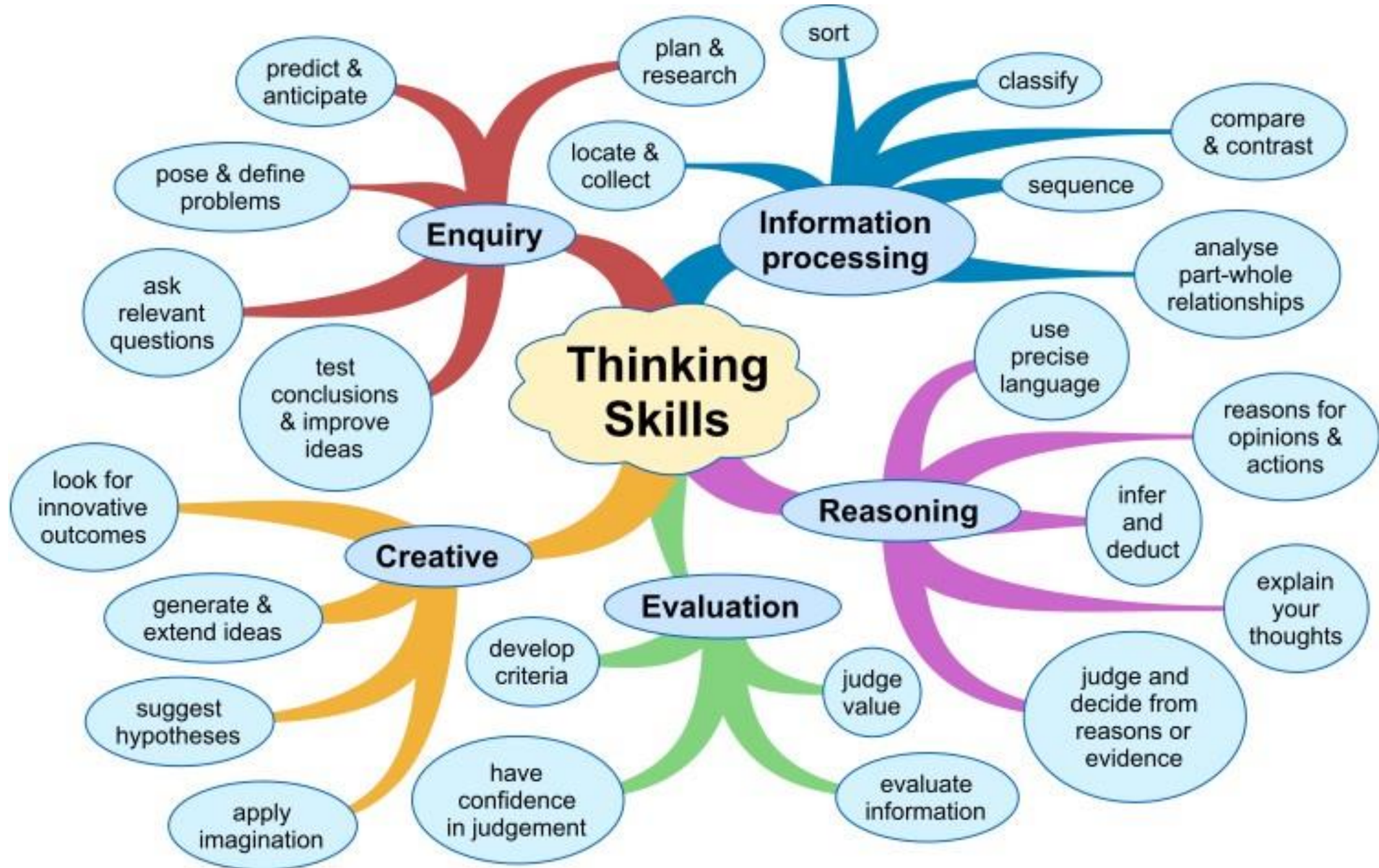
EMPATHY



ASSERTIVENESS

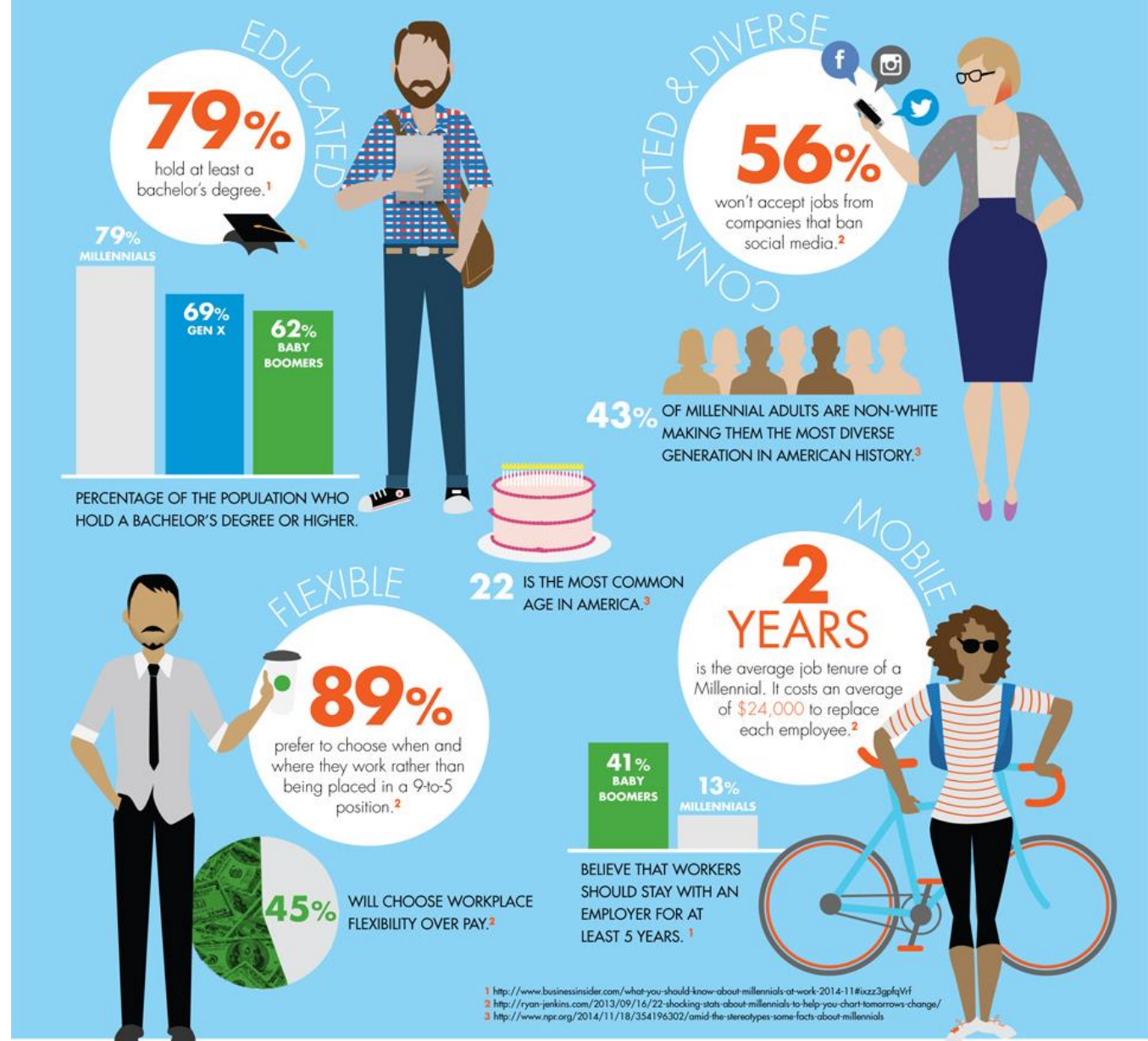


INQUISITIVENESS +
CREATIVITY



The Millennial Movement

The generation born between 1980 and 2000 will make up 75% of the workforce by year 2030 and they are already changing the way we work.



Onward Search is a talent recruitment agency that provides flexible career choices for the millennial employee. If you're looking for work in the digital, creative, or marketing space, please contact a member of our team to learn about the opportunities available.

800.829.0072 info@onwardsearch.com onwardsearch.com @onwardsearch //blog.onwardsearch.com/

ONWARD > SEARCH

Millennials and the workplace in 2015

Millennials will be the largest generation in the workforce in 2015...

—Bureau of Labor Statistics

53%

of HR managers say it's difficult to find & retain Millennials.
(Only 14% say easy, 33% say neither)

58%

of Millennials expect to leave their jobs in 3 years or less.

55%

of HR managers prioritize hard skills over personality when hiring.
(Only 21% say personality, 24% say neither)

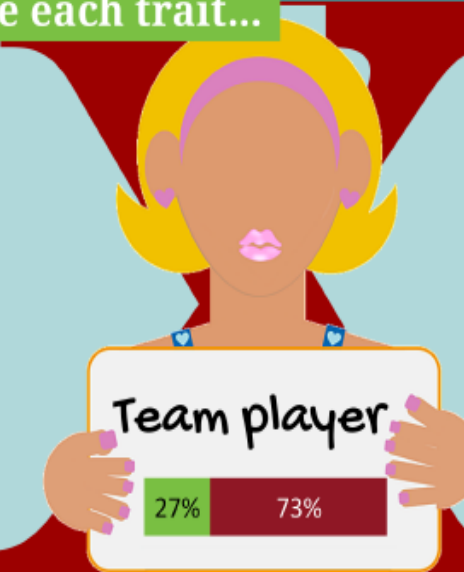
Elance | oDesk

The 2015 Millennial Majority Workforce Study," commissioned by Millennial Branding and Elance-oDesk. For more information, see www.elance-odesk.com/millennial-majority-workforce. Audience: Millennial Graduates; HR Managers.



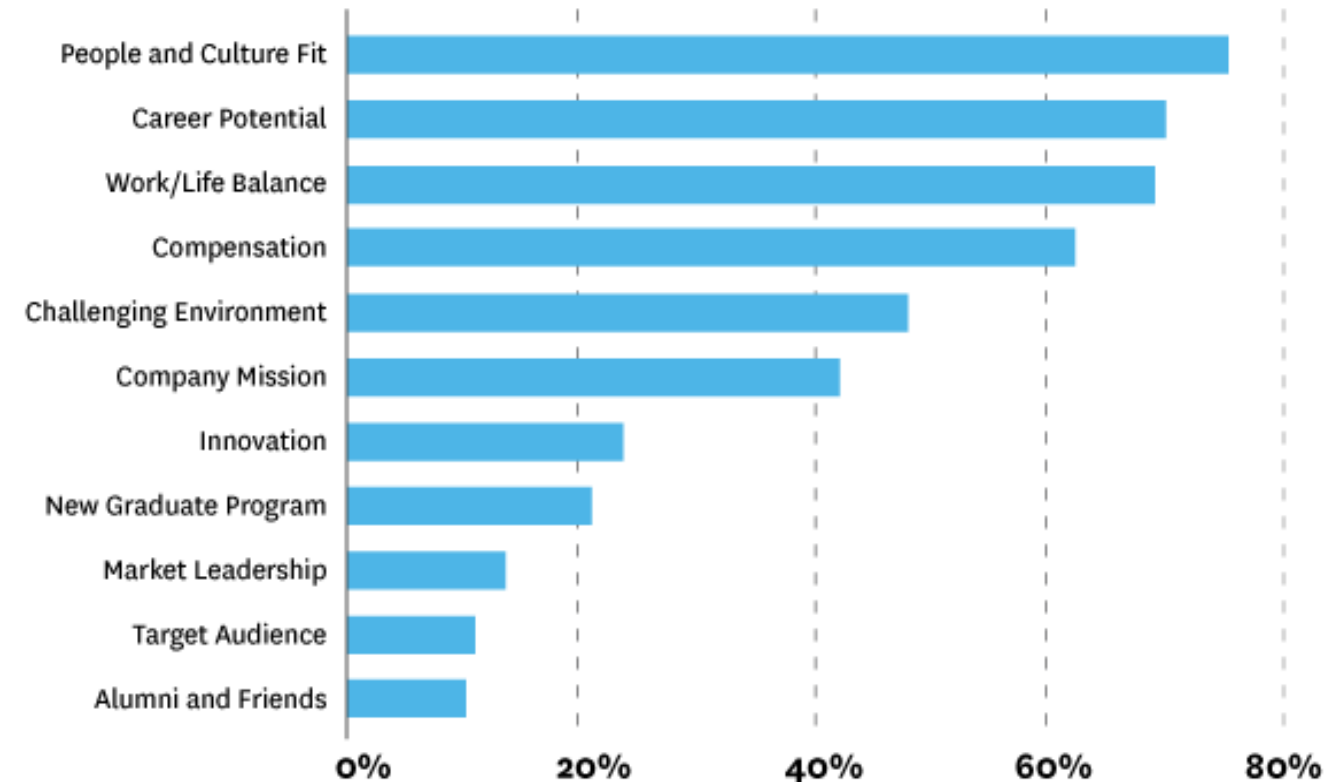
Millennials vs. Generation X

Which generation is more likely to have each trait...



Millennial's perspective

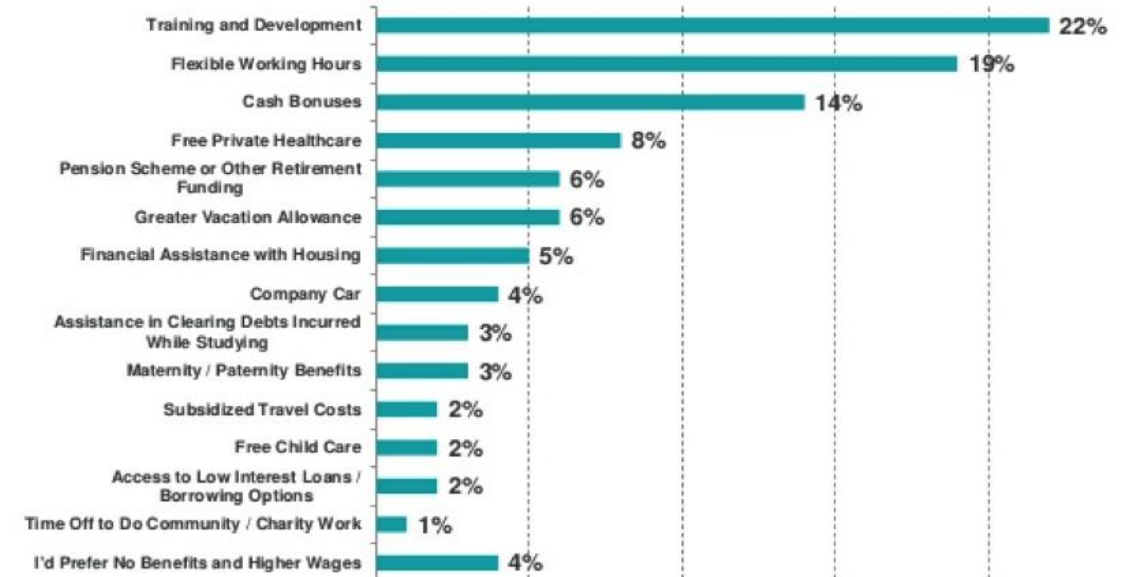
WHAT MILLENNIALS LOOK FOR IN EMPLOYERS



SOURCE COLLEGEFEED

Millennials' Most Valued Work Benefits =
1) Training & Development 2) Flexible Hours 3) Cash Bonuses

Which Three Benefits Would You Most Value From an Employer? % Ranking Each 1st Place, Global



KPCB Source: "Millennials at Work: Reshaping the Workplace," by PWC, 2011, Global. Survey of 4,364 graduates across 75 countries. All respondents were aged 31 or under and had graduated between 2008 and 2011. Millennials defined as those born between 1980 and 2000. In 2015, they are ages 15-35.

HBR.ORG

Future Learning



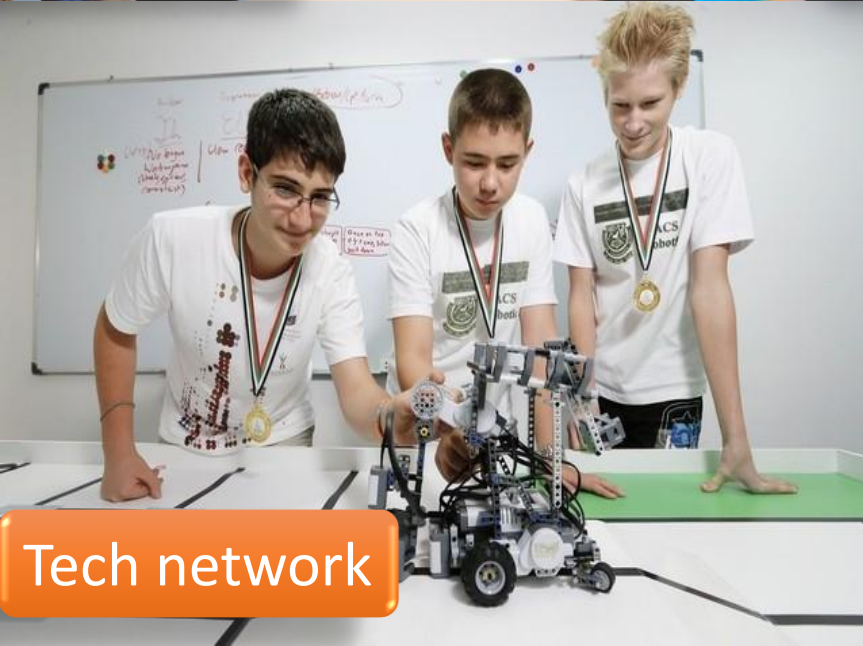
Technology



Cross-national



Work-base



Tech network



Innovative



Globalization

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

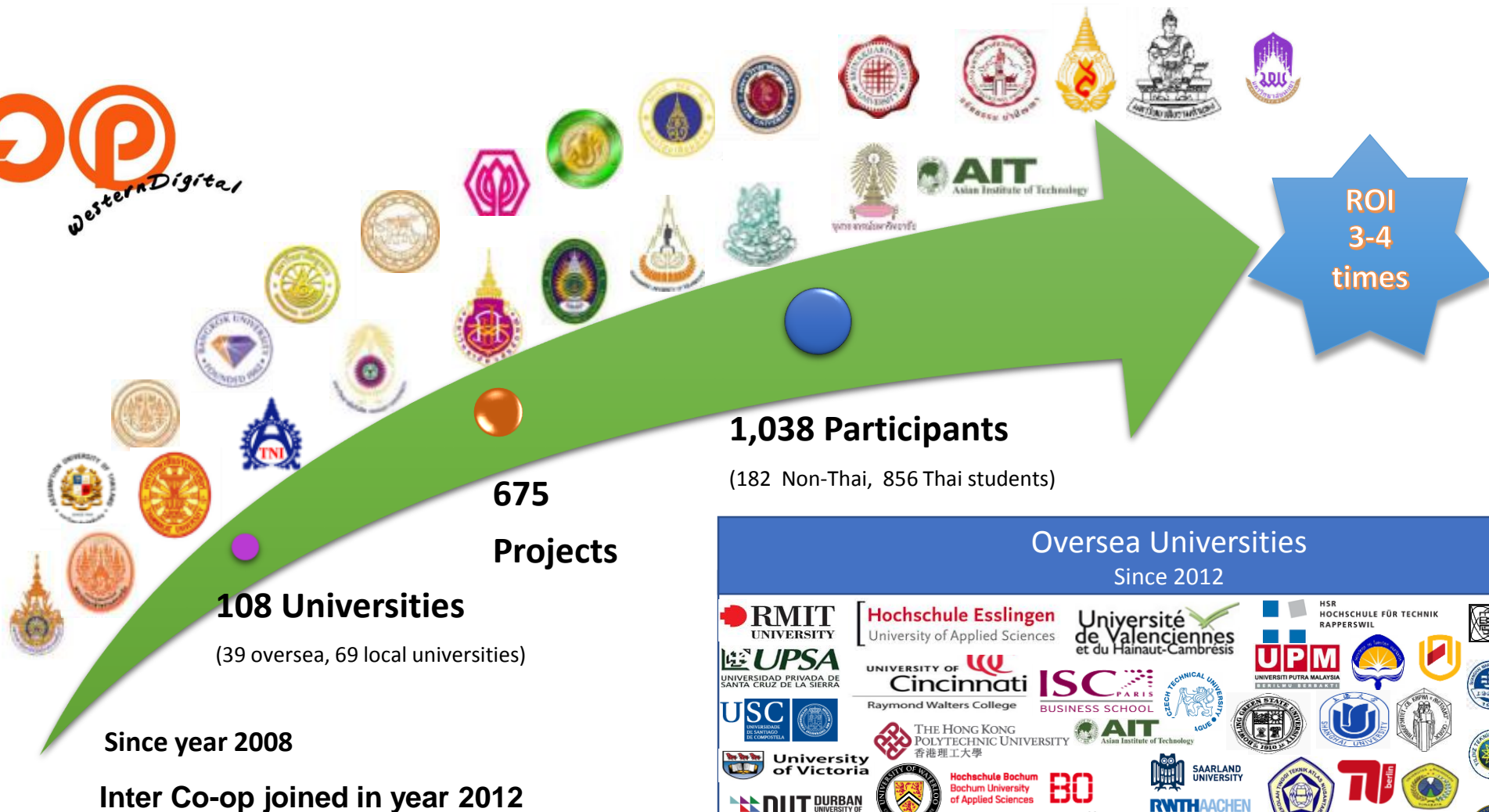
Real sector is Technology application leaders

International Coop stimulate cross-border skill exchange

Real sector needs fundamental and manpower support from academic sector

Coop build significant soft skills

International Coop Growth



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		

From Thailand to Australia

Monrada Sukprachai (Mix) reflects on her International Co-op Experience working as a Project Assistant, at RMIT University in Melbourne.





Cultural Exchange

Coop Social Work

University of Victoria
Faculty of Social Science
2016 Fall Co-op Work Report

Change the World
By Change our mind



Coop Social Work





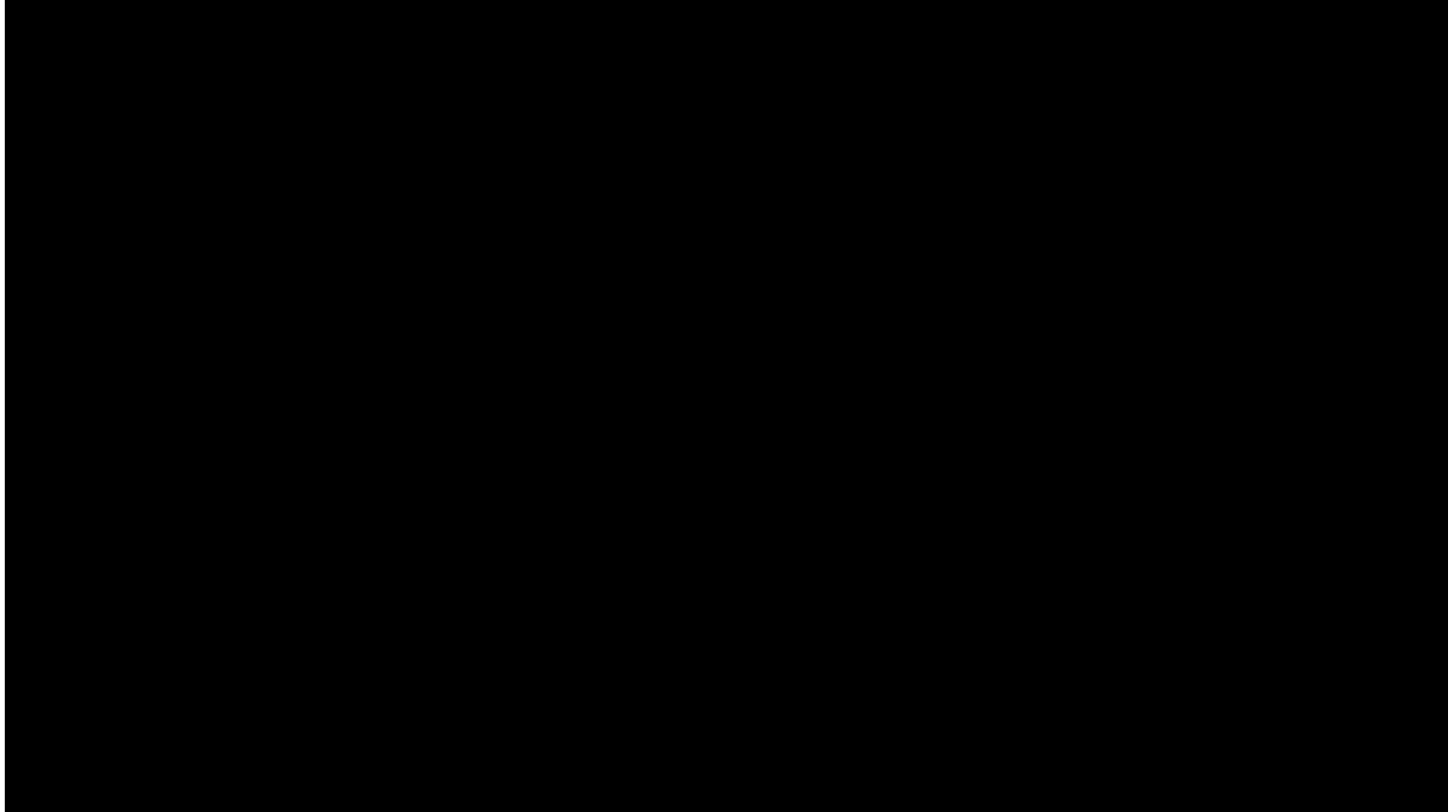
COOP PENETRATION

WD-THAILAND TO WD-Malaysia



Malay-Thai Vocational Program

Malay-Thai Vocational Program



Ayutthaya 4.0 : Early recruitment



To create Early Recruit program among companies and Technicians in Ayutthaya

Companies to participate in curriculum development

Work-base learning

Guarantee for basic salary and hiring opportunity

Goals

- For sustainable hiring by involvement of local companies, school and students
- Create high performance technicians

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



9

Government Institutes

18

Universities

275

Researchers

203

Research Topics

2017

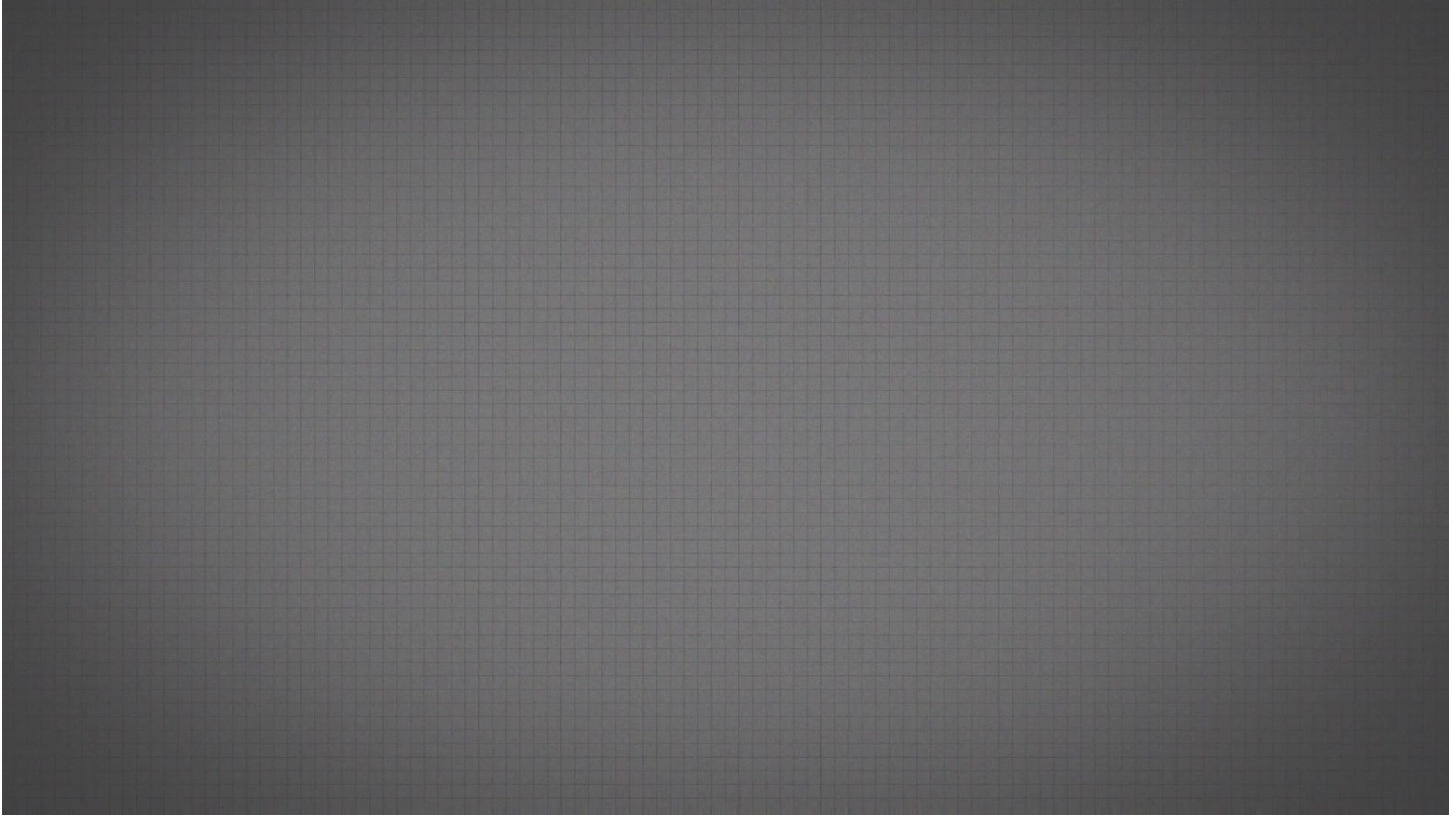
2012 Onwards: Focus on

2007: Focus on

- ❑ Solutions Based Know-How
- ❑ Quick Fix

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

Talent Mobility



Project-base Learning

HILARIOUS HACKATHON

[HOME & POSTS](#) [ABOUT](#) [CONT](#)



MARCH 5, 2017 | HILARIOUSHACKATHON

Our Team Won the First Hackathon We Participated at Lancaster University!



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

SAMPAN SILAPANAD

Vice President & General Manager, Western Digital - Thailand
Co-chairman of The World Association for Cooperative Education
President of Thai Electronic & Computer Employers' Association