

ITRI

Industrial Technology
Research Institute

the Present and the Future of TW-EU Cooperation

Cleo Hsueh/ Industry, Science and Technology
International Strategy Center, ITRI

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Outline

- Taiwan and ITRI
- Cooperation Results Overview
- TW-EU Cooperation Mechanisms

- Taiwan and ITRI
- TW-EU Cooperation Results Overview (the Present)
Cooperation

Taiwan - A Small, Agile and Resilient Island

P'eng-chia Yü



- Land Area : 36,197 km²
- Population : 23.3 million
- Density : 644 Persons / km²

South China Sea

Source: Ministry of the Interior, Taiwan 2022/02

Taiwan's Global Competitiveness Rankings (WEF)

Global Competitiveness Index 4.0 GCI, WEF (141 economies, 2019)		
1 st		Singapore
2 nd		USA
3 rd		Hong Kong
4 th		Netherlands
5 th		Switzerland
6 th		Japan
11 th		Finland
12th		Taiwan
13 th		South Korea
32 th		Czech
39 th		Lithuania
42 th		Slovak

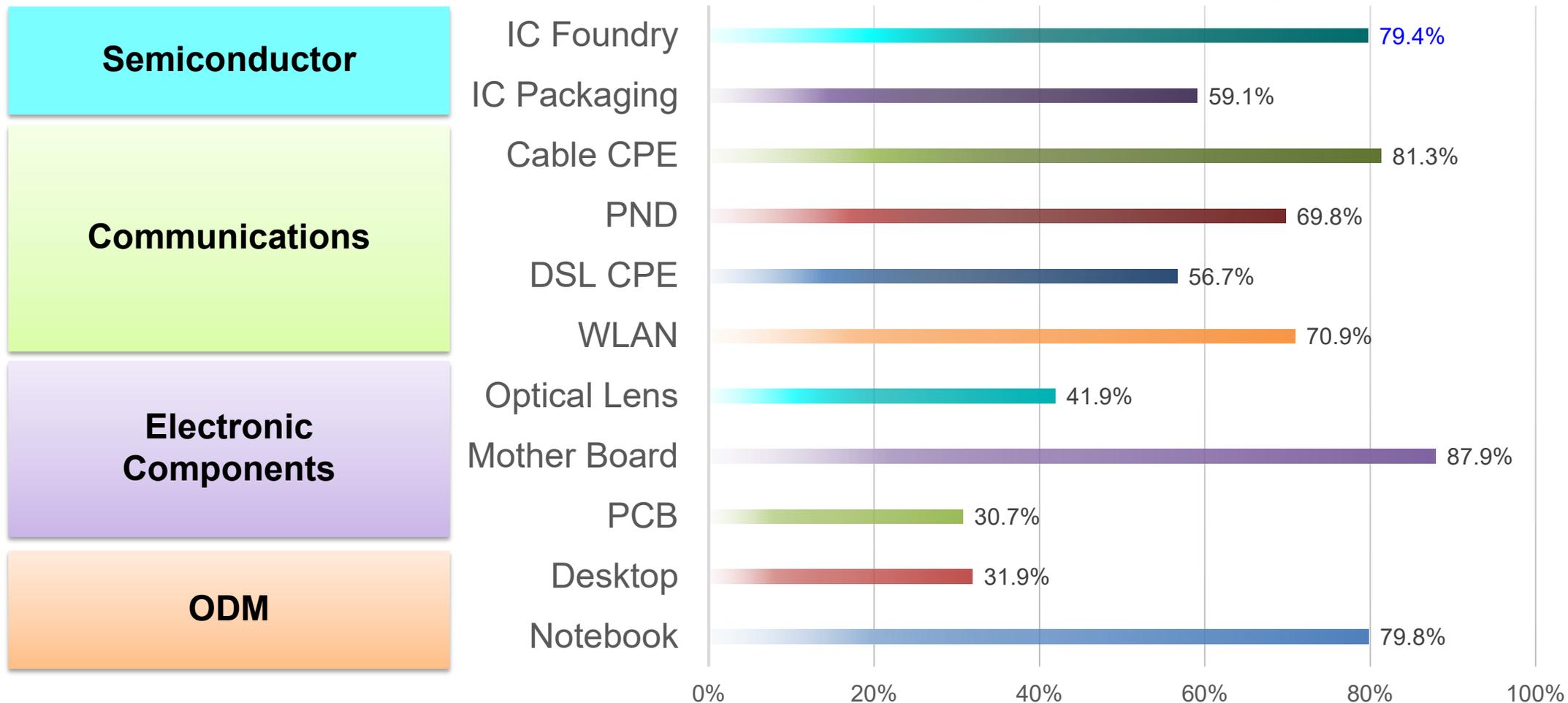
Innovation Capability – Innovation Ecosystem WEF (141 economies, 2019)		
1 st		Germany
2 nd		USA
3 rd		Switzerland
4th		Taiwan
5 th		Sweden
6 th		South Korea
7 th		Japan
12 th		Finland
13 th		Singapore
29 th		Czech
42 th		Lithuania
44 th		Slovak

- Diversity and Collaboration
- Research and Development
- Commercialization

Sources:
World Competitiveness Yearbook 2021 (IMD), May, 2021.
Global Competitiveness Report 2019 (WEF), Sep., 2020.

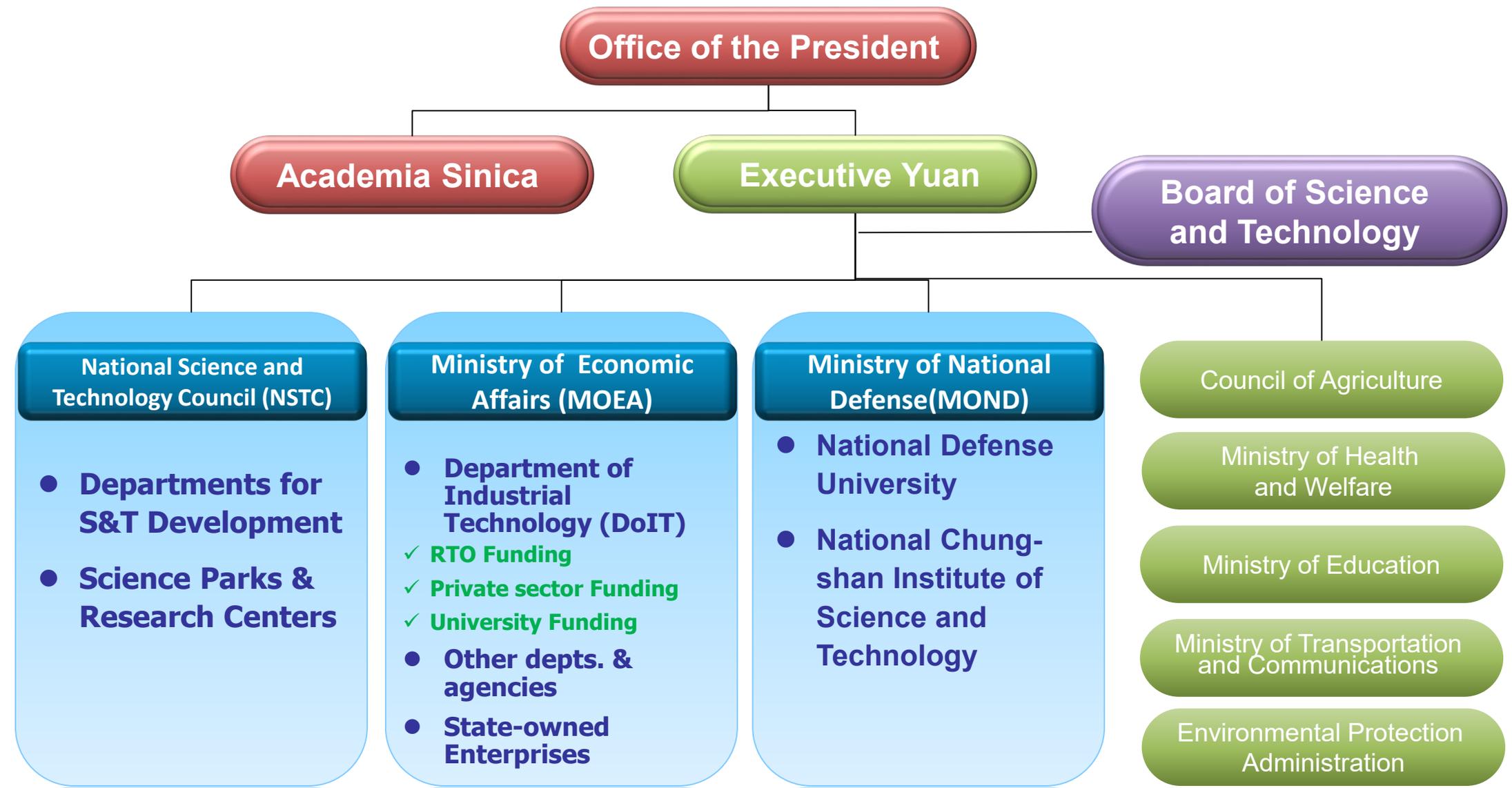
Product/Technology Leadership in Taiwan Industries

2021 Global Market Share of Key Sectors
(overseas production included)



Source: ITRI/ISTI Research (2022/02)

Taiwan S&T Innovation System in Government



Industrial Technology Research Institute, ITRI

Founded in 1973, Taiwan's Largest and One of the World's
Leading High-Tech Applied Research Institute



Total Staff: 6,044 (~2022/02)

Ph.D: 1,315
Master: 3,699
Bachelor: 1,030
Alumni: 26,697



Total Patents (~2022/02)

30,958

**Startups &
New Business Units** (~2021/Q4)

153



Industry Services (2021)

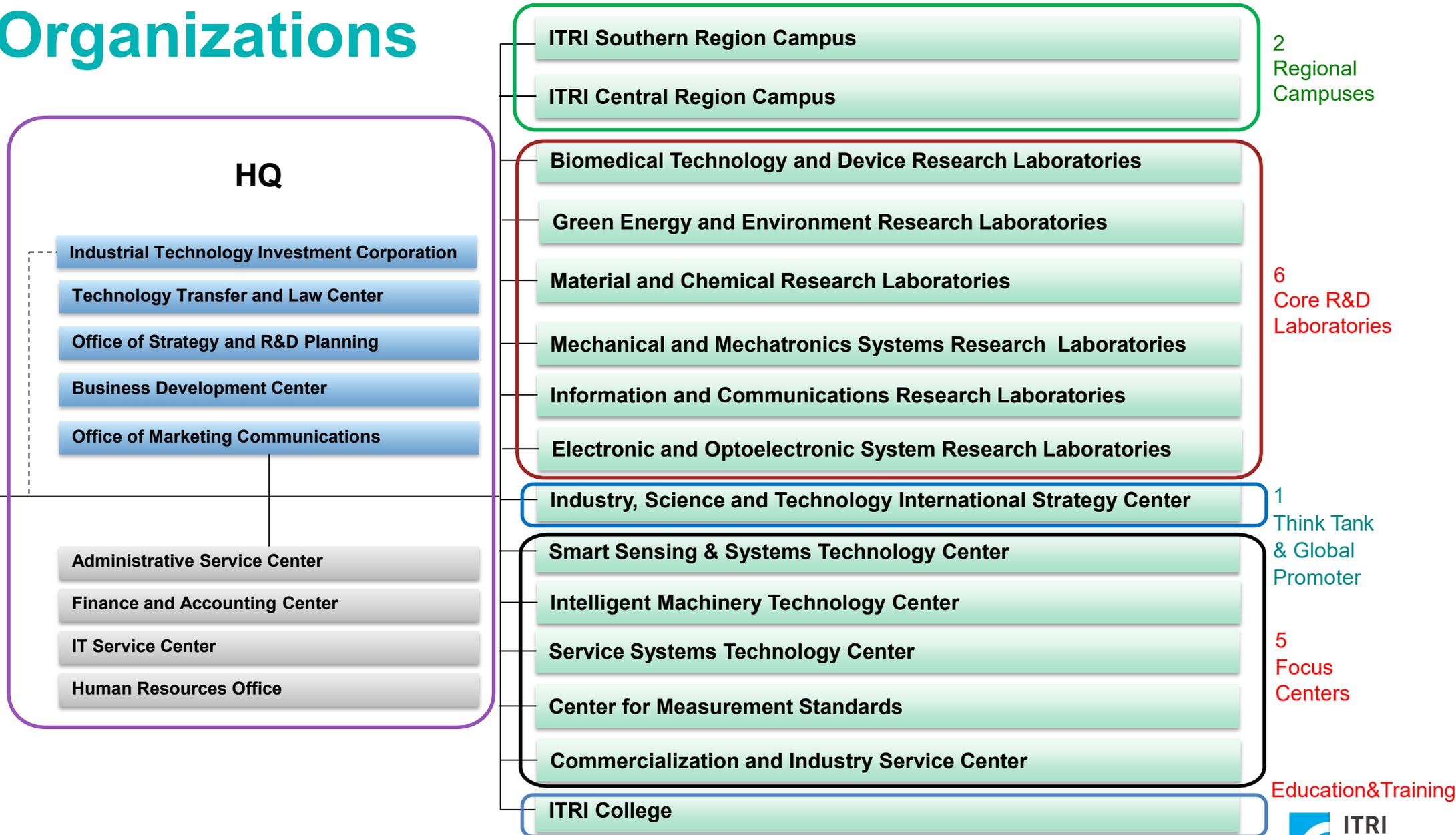
Provided Services: **18,392**
Transferred Technologies: **669**

Incubatees (~2021/Q4)

181

Total Revenue : €781 Millions (2021)

ITRI Organizations



Connecting Global Networks to Boost Industry Development

ITRI – The Hub of Innovation in Taiwan
Partnering for collaboration and co-creation

- ITRI has **130+** partners across Asia, North America, Europe, and Oceania.



Global Partners

USA - Corning Glass, Underwriters Laboratories, Applied Materials

Japan - Asahi Kasei, Nidec, and AIST

Germany - Evonik, Heraeus, and Fraunhofer

France – CEA

UK – Innovate UK

ISTI Netherlands – TNO

Finland – VTT

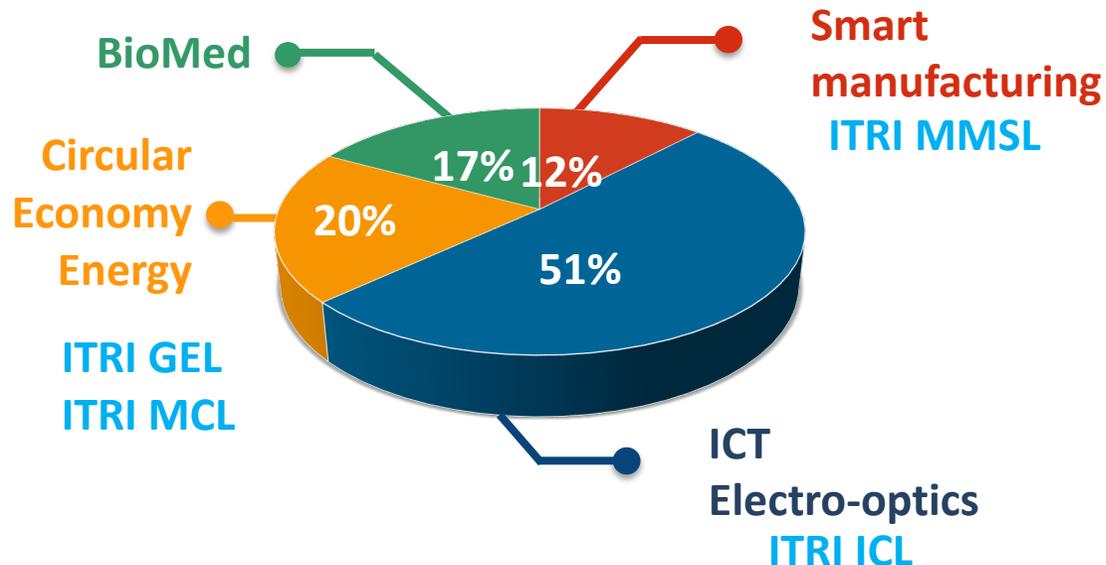
Sweden – Ericsson

Canada - NRC

ITRI's Role in TW-EU Cooperation

ITRI's Participation

Since 2008, Taiwanese organizations have participated in 58 EU projects, and among them, ITRI has played a role in 20 projects.



What ITRI Dose

- Bringing associations and private sectors from Taiwan and the EU together.
- Providing a cooperation platform to facilitate bilateral/multilateral collaborations with the EU.
- Forming long-term partnerships with leading EU research institutes to identify demands and tackle global challenges.



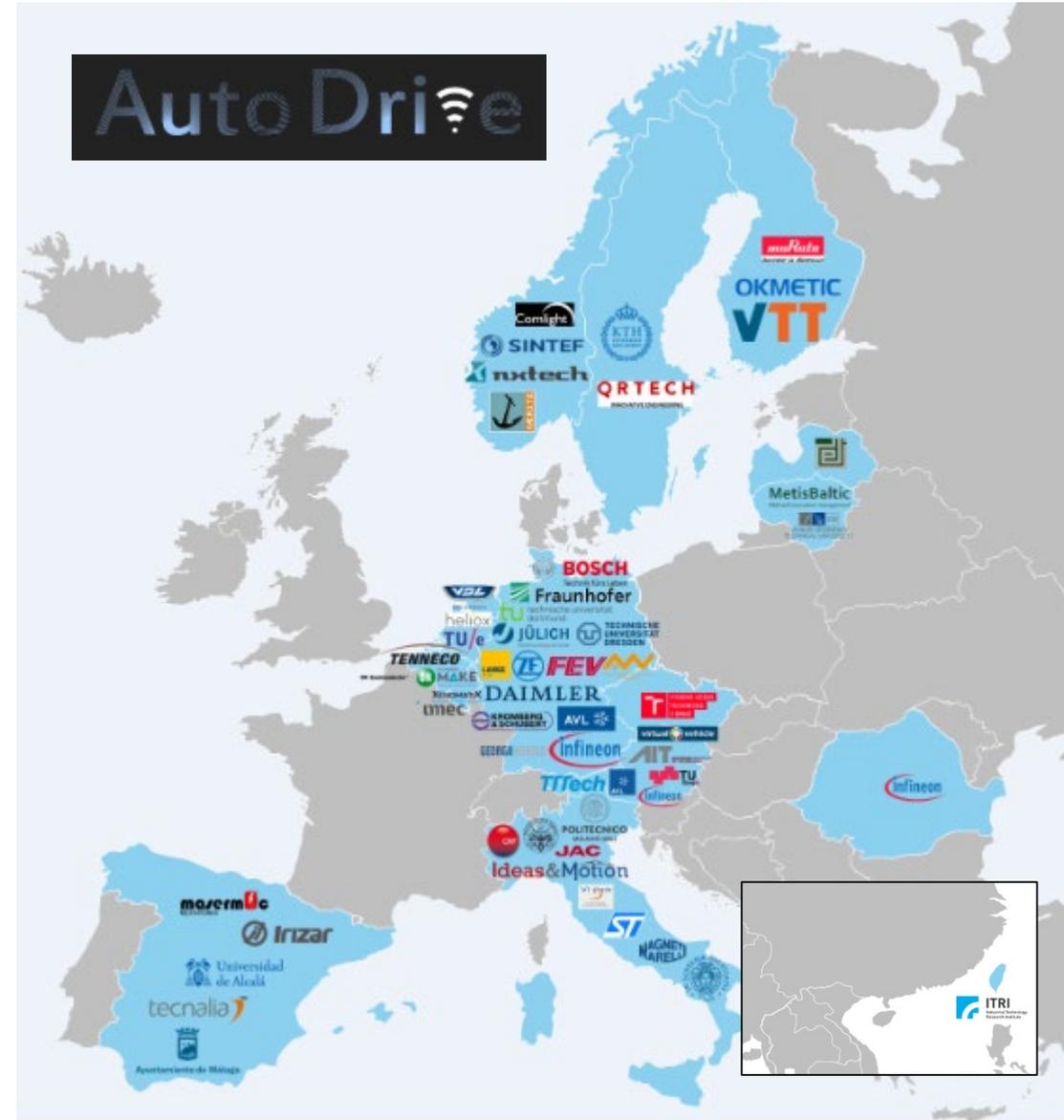
- TW-EU Cooperation Mechanisms
- **TW-EU Cooperation Results Overview (the Present)**

Cooperation

Cooperation results (ICL, ITRI)

- The Information and Communications Research Laboratories (ICL, ITRI) with the core technology **RAIBAI**, uses AI to control electric discharge load of battery modules and integrate the storage system of new and old modules to extend battery life.
- AutoDrive is coordinated by INFINEON (Germany)

3Ccar	AutoDrive	AI4DI
2015-2018	2017-2020	2019-2022
47 partners including the ICL (ITRI)	60 partners including the ICL (ITRI)	41 partners including the ICL (ITRI)



TW-EU 5G-TOC

5G-CORAL	Clear5G	5G-Dive	5G-CONNI
24 months	30 months	24 months	36 months
11 partners	11 partners	10 partners	9 partners
including the ICL (ITRI), National Chiao Tung University, ADLINK TECHNOLOGY IN, , Institute for Information Industry, Ericsson...	Including National Taiwan University, ADLINK TECHNOLOGY IN, Institute for Information Industry...	including the ICL (ITRI), Far EastOne Telecommunications, National Chiao Tung University, Institute for Information Industry, Ericsson, Telefonica...	including the ICL (ITRI), Chunghwa Telecom, Askey computer corp, CEA, BOSCH, Fraunhofer...

1

2014-2015

Participate in the research project

2

WP 2016~2017 (Call 1)

- 5G-CORAL and Clear5G
- Euro 5m funding from both the EU and TW.
- Starting from Sep. 2017

3

WP2018~2020 (call 2)

- 5G-DIVE and 5G-CONNI
- Euro 4m funding from both the EU and TW
- Starting from Oct. 2019

PULSE (ASUS Cloud)

The EU is focused on environmental monitoring including the co-relation between diseases and the environment (in this project, [asthma](#) and [diabetes](#))

PULSE
Participatory Urban Living for Sustainable Environments



Harvesting Big Data from multiple sources



Tracking and modeling air quality



Improving predictive analytics for diseases



Modelling behavioral, environmental and clinical risk factors



Visualizing geo-located population-based data



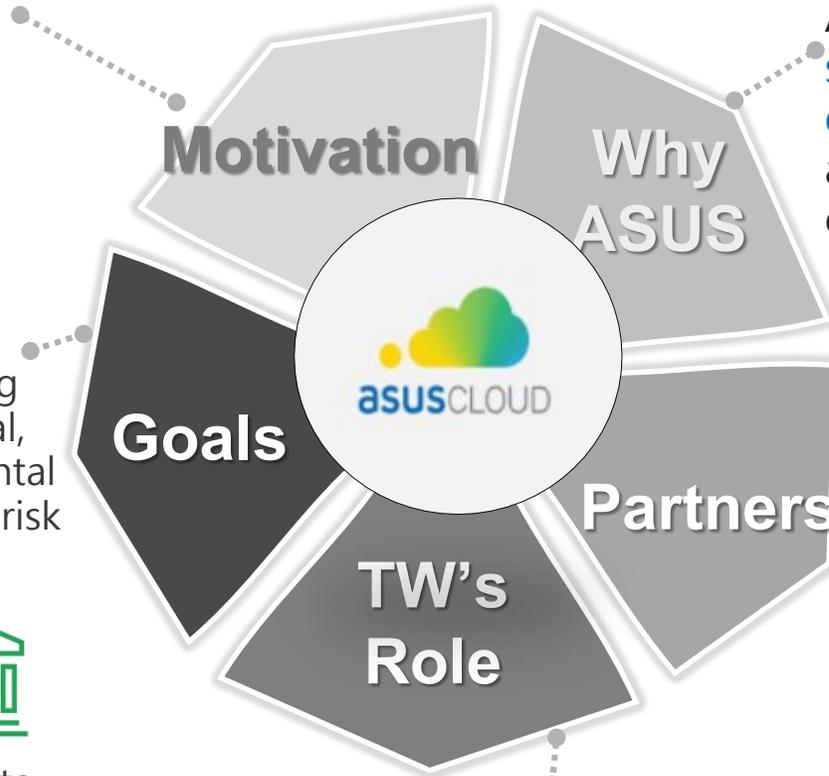
Promoting healthy lifestyles and wellbeing



Building public health observatories



Promote Health in All Policies



ASUS Cloud specialising in [soft/hardware integration and data collection/ analysis](#) plays a vital role in this project collecting data from Taiwan.

12 partners from 8 countries including ASUS Cloud.

One of the 6 testbeds is in Taiwan. Data from city governments, health systems, and citizens have been collected to form an air quality-respiratory illnesses model

EUREKA Globalstars on Photonics (2018)

CONDENSE

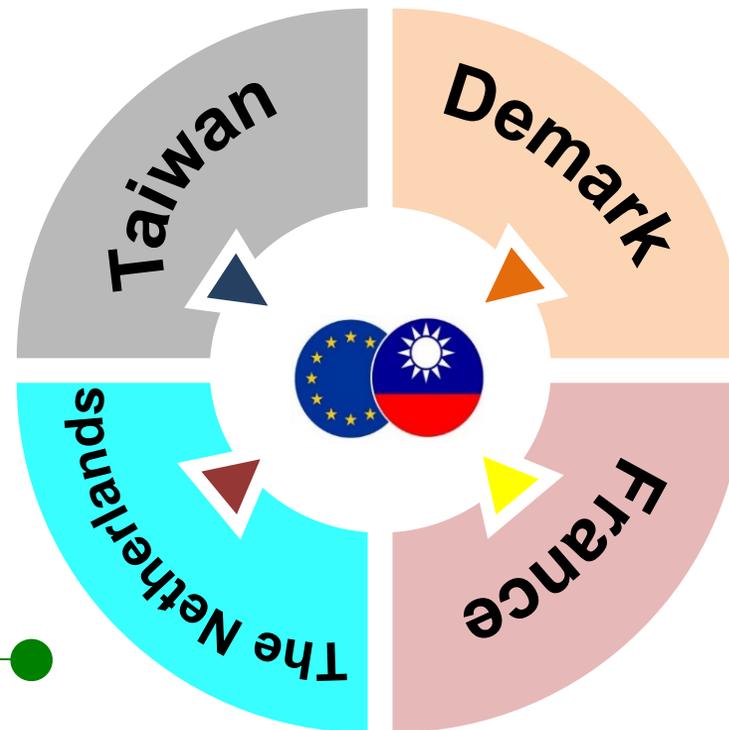
1. IC Design
2. Jasper Display Corp. x SMART Photonics x TU/e
3. TW x NL

MIRDIAL

1. Outdoor Gas Monitoring
2. HC Photonics x DFM x NLIR x Cimel Electronique
3. TW x DK x FR

BEEPH

1. Packaging
2. SPEEDFAM Inc.x DoMicro
3. TW x NL



Photonics Ecosystem
Total Budget €6.7M

FBGFLA

1. Civil Structural Monitoring
2. CITPO TECHNOLOGIES CO., LTD. x Somni x TNO
3. TW x NL

SmartFTMS

1. Track Bed Monitoring
2. SEN YEH CONSTRUCTION CO., LTD. x Optics11 x TNO
3. TW x NL

FOS-MTM

1. Machine Tool Monitoring
2. HANRETEC ENTERPRISE CO., LTD. x Optics11
3. TW x NL

EUREKA Taiwan Call 2021

The United Kingdom

PRIME-3D

MTC+ Q5D+ADVANCED WIRELESS &
ANTENNA+ITRI
Smart Manufacturing

Digital ARC

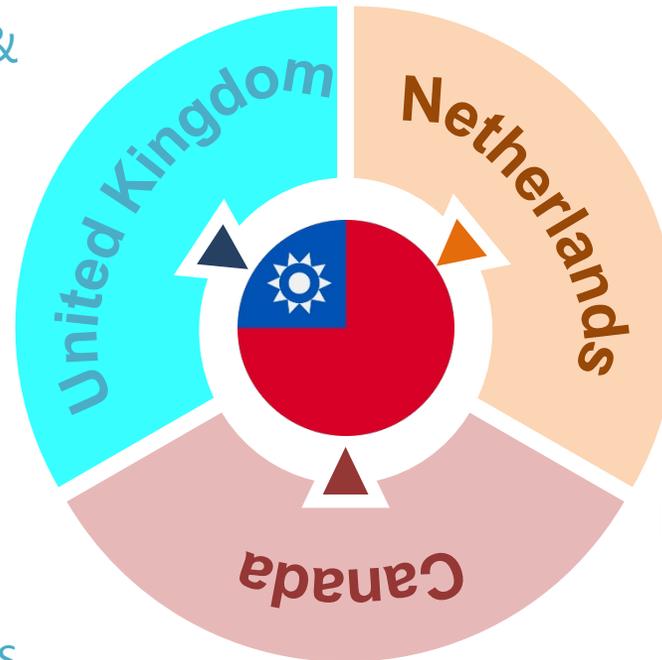
MTK Research UK+ Maxeda
Semiconductor

intelligent CHO
cell bioproduction

GENENET+CPI+Instant NanoBiosensors
Smart Manufacturing



Total Budget € 10.65M
2022-2024



Canada

SEi ULH Turbine

Swiderski+Taiwan DIGI
Smart Manufacturing

The Netherlands

AIMS

Altum RF+ TMYTEK +ITRI
Semiconductor

SUNSPOT

Somni+THU+ System Access
photonics

One Planet

LifeSense Group+Megabona+ HWA LIN
Circular Economy

GMB

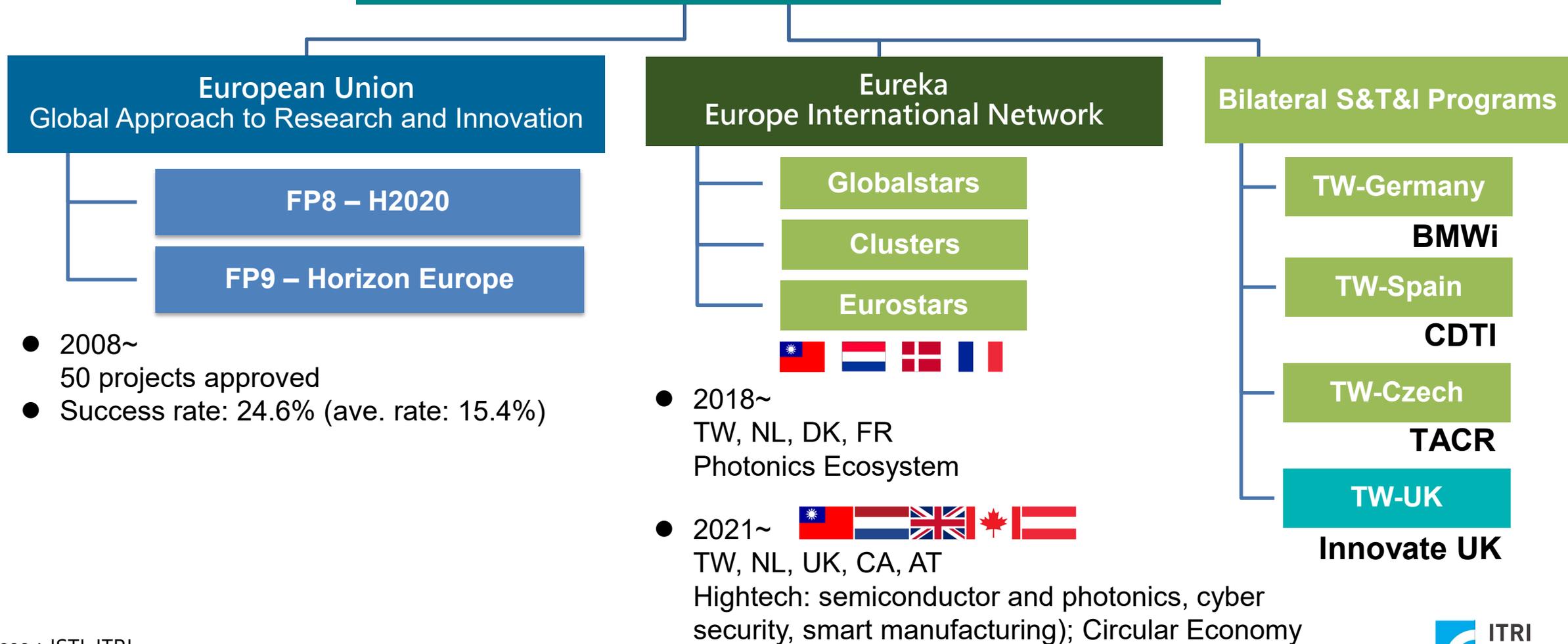
Optics11+TNO+Somni
+PhotonFirst+ HarveTech +NCREE
photonics

- TW-EU Cooperation Mechanisms (the Future)

TW-EU S&T&I Collaborations

bilateral and multilateral programs

R&D & Innovation Programs in Europe



A+ R&D Programs in Taiwan

Supported by
Department of Industrial
Technology (DoIT)

A+ Industrial Innovation R&D Programs



Industrial Technology
Foresight Research Program

Global R&D Innovation
Partner Program

Industrial Technology
Innovation Center Program

Special Programs

Taiwanese companies who have become
EU project participants are eligible for
applying for the subsidy provided by
DoIT, and the subsidy can be up to 50%
of the project' s budget.



International Innovation and
R&D Collaboration Program



International Linkage

Resilient for Co-Innovation Sustainable for Co-Prosperity



2021 IEKTopics



IEKNet

THANK YOU

Cleo Hsueh / Account Manager

cleo.hsueh@itri.org.tw

+886 3 591 4911

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