

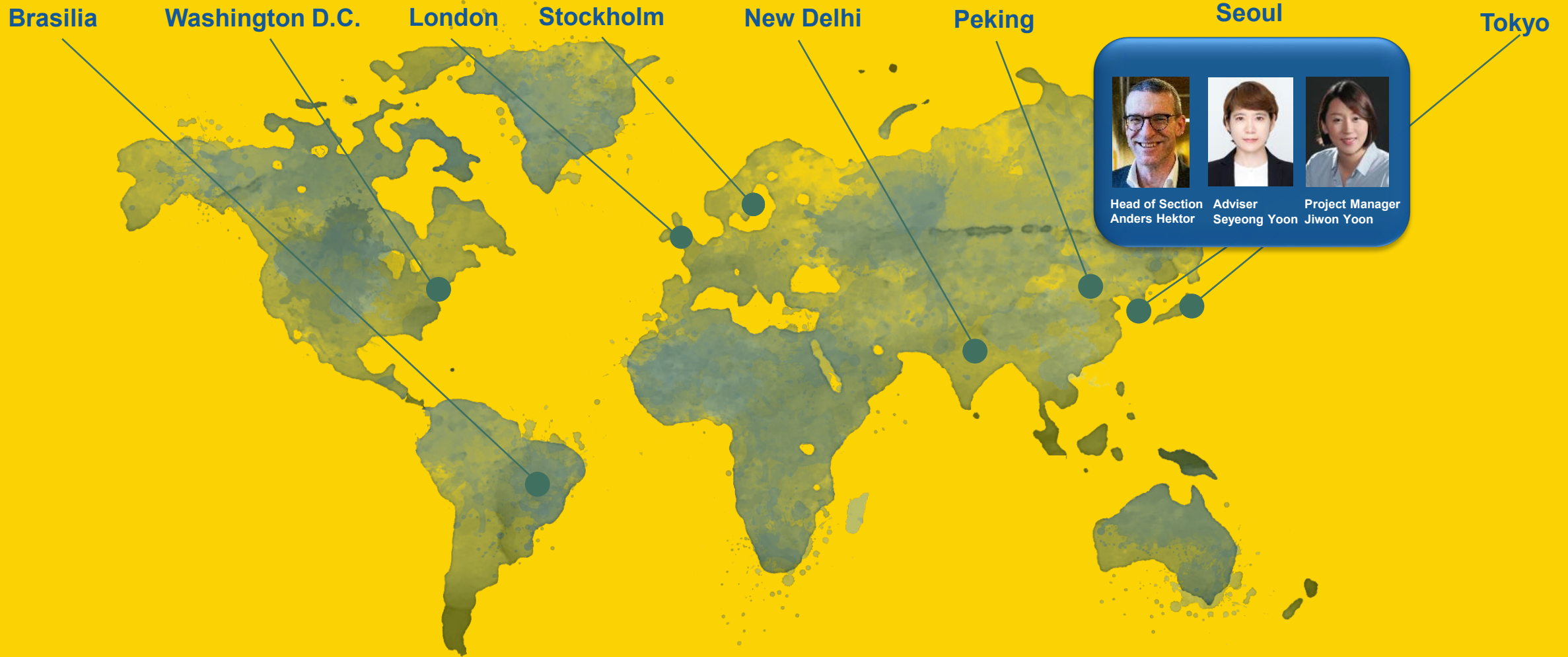
# Internationell utblick - Sydkorea

## Mötesplats Avancerad Digitalisering 2023

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Anders Hektor  
Science and Innovation Counsellor  
Embassy of Sweden in Seoul

# De svenska OSI-kontoren



...strategiska partnerskap... / ...kunskap i Sverige... / ...intresse för Sverige...  
...utländska investeringar... / ...inflöde av humankapital...

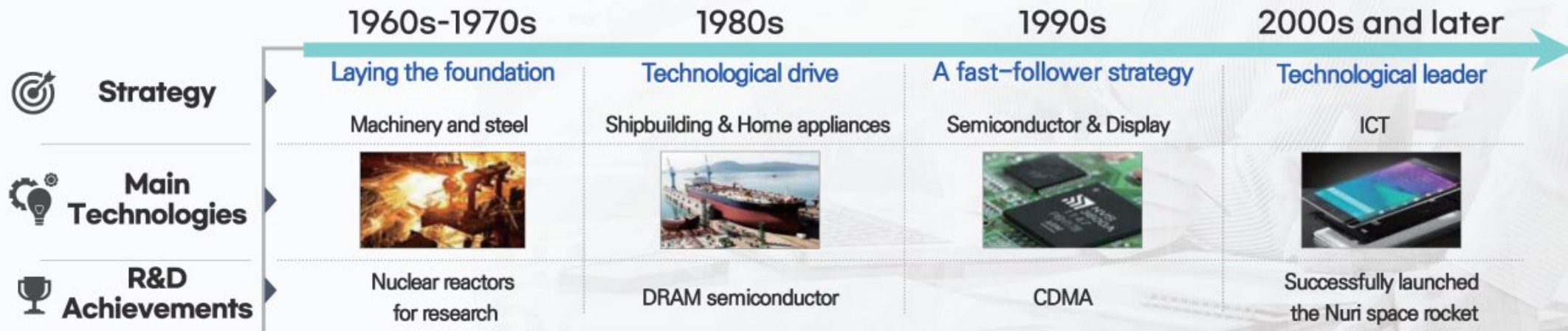
# Sydkorea i världen

Advancement in S&T has been a major drive behind creating the world's 10th largest economy.

\* By GDP, South Korea ranks 10<sup>th</sup> in the world (2021, The World Bank): from \$79 in 1960 to \$31,637 in 2020 (KOSIS).

By using a fast-follower R&D system, Korea has been leading international markets in shipbuilding, semiconductor, and ICT sectors.

- ... #1 market share in semiconductor memory and smartphones
- #10 in the acquisition of FDA approval for new drugs



# Structural Transformation around the World

## Security

competition for  
**technological  
hegemony**



## Economy

Reaching  
the **limits to  
growth**



## Society

Deepening  
**polarization**  
since COVID-19



## Environment

Accelerating  
**climate crisis**



We need to find **innovative solutions** that can turn  
**the current crisis into leapfrogging opportunities**

# S&T Diplomacy & Cooperation Policy

## I. International Landscape: Competition and Cooperation



### Competition: technological supremacy

- ✓ Secure national capacities for critical and emerging technologies
- ✓ Strengthen safeguard mechanisms to protect technologies

### Science & ICT Diplomacy

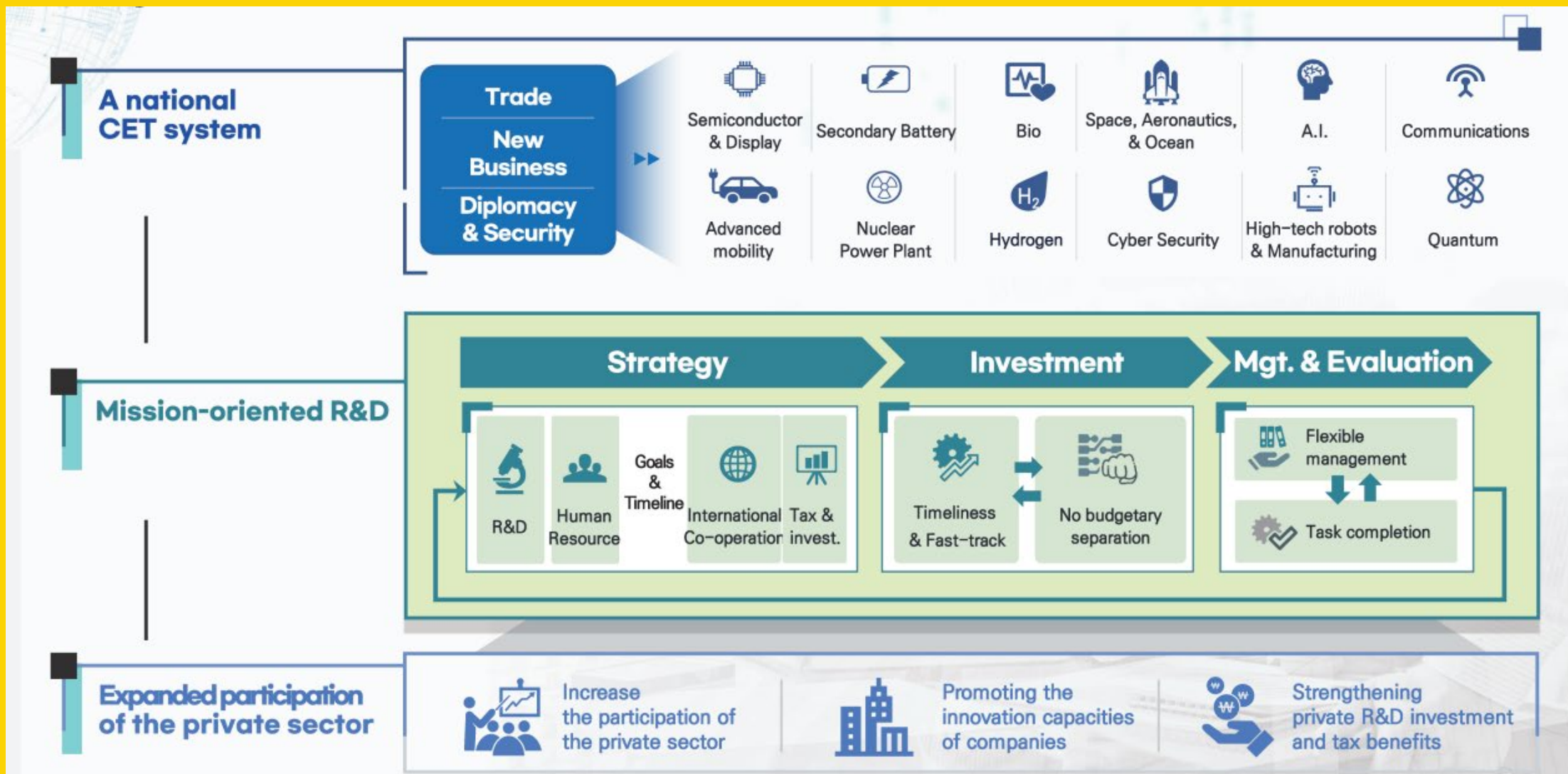


### Cooperation: joint efforts

- ✓ Join forces to address global challenges (e.g. climate change, pandemic)
- ✓ Narrow the digital gap and contributing to digital transformation

**Countries need to compete with one another in good faith and cooperate in global efforts to address shared challenges at the same time.**

# 5<sup>th</sup> Master Plan for S&T 23-27



# Critical and Emerging Technologies

2022: Bred konsultation pekade ut 12 *CET* för särskilda stöd.

2023: 10 ska prioriteras (redan valt Kvant och SMR)

2027: Korea ska vara ledande i 8 områden (dvs 85% av mest avancerade länders kapacitet på området)(redan ledande inom halvledare, skärmar och mobiltelefoner)

Semiconductor & display

Secondary cells

Cutting-edge mobility

Next generation nuclear energy

Cutting-edge bio

Aero-space marine

Hydrogen

Cyber security

AI

Next generation communications

Cutting-edge robotics & manufacture

Quantum

# Development of “National Digital Strategy”

## New York Initiative (21 Sep 2022)

Digital

Realizing the universal values of humanity

Freedom

Human Rights

Solidarity

“In need of a **New Digital Order** to realize the universal values of humanity”

“As a **leading nation in the digital era**, Korea will share its achievements with **citizens of the world**, and particularly with people in developing nations.”



## National Digital Strategy

Vision

“**Digital Korea**” that serves as a **global role model**

Objective

Establish a **resilient and inclusive digital economy and society**

5 Strategies

The best **Digital Capability** in the world

Expanding **Digital Economy**

Inclusive **Digital Society**

**Digital Platform Government**

Innovative **Digital Culture**

Global Solidarity

**Spreading digital value through solidarity**



# 2027 Digital Transformation of Korea

Compared to 2021

## Global Core Index

Digital Competitiveness  
IMD



12<sup>th</sup> → **3<sup>rd</sup>**

Digital Infrastructure  
OECD



★ **Maintaining the world's highest status (1<sup>st</sup>)**

Digital Government Index  
OECD



★ **Maintaining the world's highest status (1<sup>st</sup>)**

Global Innovation Index  
WIPO



5<sup>th</sup> → **1<sup>st</sup>**

## Digital Industry

AI competitiveness



6<sup>th</sup> → **3<sup>rd</sup>**

\* (Ref.) Stanfords AI Index

Data Market



23T → **50T**

SaaS Company



780 (2020) → **2K**

Cybersecurity Revenue



12T → **20T**

Training Digital Talent



**1M**

Platform Industry Top 100 companies



3 → **10**

6 Digital Technology Competency (Compared to the U.S.)



87% (2020) → **93%**

Digital Start-ups Domestic digital Unicorns



23 (2022) → **100**

Metaverse Market Share



12<sup>th</sup> → **5<sup>th</sup>**

Demonstrating the world's best 6G Technology



**2026**

## Digital Government/Society/Culture

Digital Rights Institutional guarantee



Establishing the Bill of **Digital Rights**

Global Business Efficiency



48<sup>th</sup> (2022) → **10<sup>th</sup>**

Regional GRDP Digital Industry Share of digital production



18% (2019) → **25%**

AI-based flood Forecasting System



75 → **218 places** (2022)

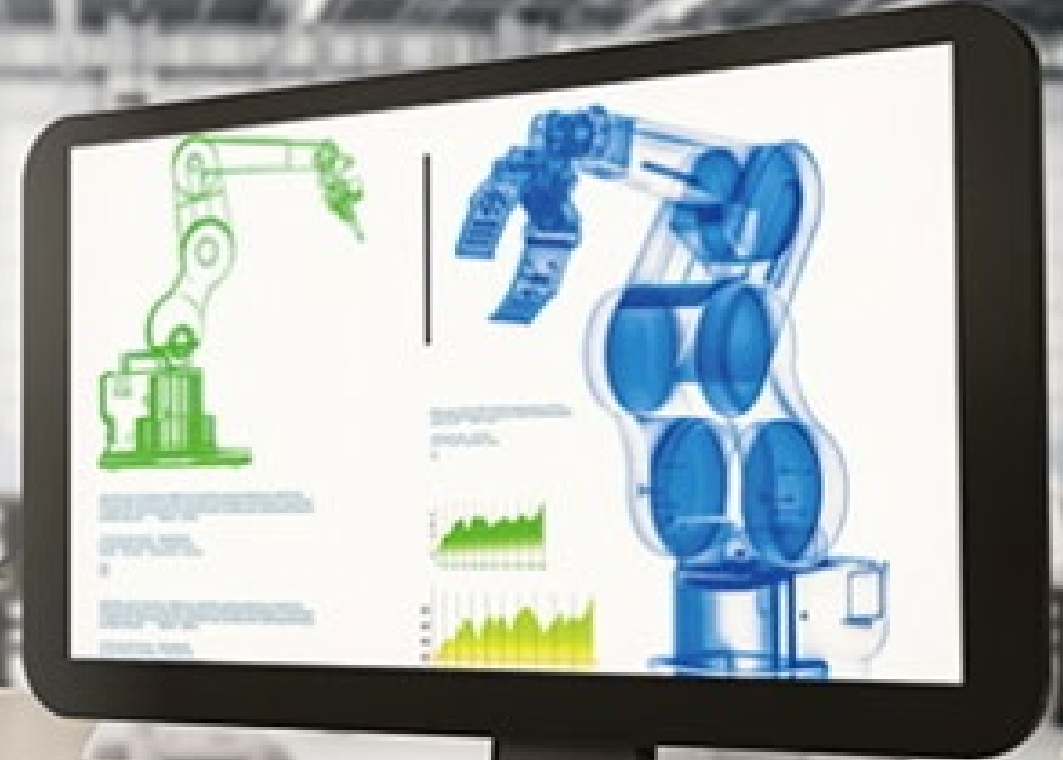
Required ICT Classes Elementary and Middle Schools



51 → **102 hours** (2022)

# Smart Factories

- Begreppet refererar till att fullt ut kunna integrera teknologiska lösningar i hela produktionen
- Tillverkning står för 30% av den koreanska BNP:n → 90% av landets totala export
- 30 000 *smart factories* ska åstadkommas till 2022 (7 500 på högsta nivån)
- 10 stora teknikområden kommer ha 4 500 *smart factories* per område år 2025 (dvs 45 000st)
- 2 000 AI-fabriker planeras vara i bruk år 2030



# Hur smart är smart?

	Level Definition	Standard	IOT Object	Features	Conditions (Level of construction)	Main tools
Advanced	Level5	Autonomous operation	Workers, facilities, materials, operating conditions + environment	Customized	Autonomous progress from monitoring to control and optimization	AR/VR,CPS
Medium 2	Level4	Optimization	Workers, facilities, materials, operating conditions + environment	Optimized	Possible to respond in advance through process operation simulation	Sensor controller optimization tool
Medium 1	Level3	Control	Workers, facilities, materials	Analysed	Control by analyzing collected information	Sensor+ analytical tool
Basic	Level2	Monitoring	Workers, facilities, materials	Measured	Monitoring of production information is possible in real time	Sensor
	Level1	Check	environment	Identified	Partial standardization and data management	Barcode RFID

# Hur ska detta uppnås?

- Special Act to Accelerate Industrial Digital Transformation
- MOTIE: *Industrial Digital Transformation Masterplan / Innovation Strategy for Industrial Technologies*
- MSIT: Infrastruktur för data (först med 5G, först med 6G?)
- MSS: *Smart Meister* kunskapsöverföring till SME
- <https://www.smart-factory.kr/> KOSMO, Korea Smart Manufacturing
  - Material för främjande
  - Konsultstöd och Kurser
  - Guidelines, verifiering av tech
  - Pilot projects
  - Comprehensive solution briefings
  - Techno Park relations
  - Besöksprogram

# Smart Factory besök

- KOSMO erbjuder fabriksbesök för allmänheten hos ett urval av *smart factories* i landet
- Ger allmänheten och utlandsbesökare en större insyn i den koreanska teknikutvecklingen

https://www.smart-factory.kr/Inbns/list/17bbsCICodeSe=00000045

로그인 회원가입 중소기업24 통합로그인

KOSMO 스마트공장 사업관리시스템

사업안내 알림/참여마당 홍보관 사업관리 기관소개

검색어를 입력하세요.

홍보관 > 견학공지

견학공지

검색조건 입력

제목

총 250 건

No.	제목	작성자	첨부	등록일	견학일	상태	기업정보
1	견학관련 문의처		📎	2019-10-11			
2	시범공장 구축기업 현황		📎	2019-10-11			
3	견학 신청 메뉴얼		📎	2019-10-11			
4	[전북] 대우전자부품(주) 시범공장 견학일정 공지('23년 05월 26일 오후)	김재득		2023-05-09	2023-05-26	견학신청	기업정보
5	[전북] 대우전자부품(주) 시범공장 견학일정 공지('23년 05월 26일 오전)	김재득		2023-05-09	2023-05-26	견학신청	기업정보
6	[경기] ㈜삼보맥 스마트공장 시범공장 견학일정 공지('23년 6월 22일 (목) 16시)	서영민		2023-05-09	2023-06-22	견학신청	
7	[경기] (주)유창하이텍화성공장 스마트공장 시범공장 견학일정 공지('23년 6월 9일(금) 15시)	서영민		2023-05-08	2023-06-09	견학신청	
8	[경기] ㈜삼보맥 스마트공장 시범공장 견학일정 공지('23년 6월 8일 (목) 16시)	서영민		2023-05-05	2023-06-08	견학신청	
9	[경기] (주)유창하이텍화성공장 스마트공장 시범공장 견학일정 공지('23년 6월 23일(금) 15시)	서영민		2023-05-05	2023-06-23	견학신청	
10	[경기] (주)유창하이텍화성공장 스마트공장 시범공장 견학일정 공지('23년 6월 16일(금) 15시)	서영민		2023-05-05	2023-06-16	견학신청	
11	[경기] (주)유창하이텍화성공장 스마트공장 시범공장 견학일정 공지('23년 6월 2일(금) 15시)	서영민		2023-05-05	2023-06-02	견학신청	

Välj den fabrik du vill boka ett besök hos

Välj tid och boka

**Public Relations Officer**

Introduction of Smart Factory

Best Practices

PRESS RELEASE

Promotional materials

Inquiry of the pilot factory

**Tour Notice** >

Tour Registration

About the Manufacturing Innovation Center

## Tour Notice

[Home](#) > [Public Relations Officer](#) > [Tour Notice](#)

### [Gyeonggi] Sambo Pack Smart Factory Demonstration Factory Tour Schedule Announcement (Thursday, June 23, '6 at 8 p.m.)

registrant	Seo Young-min	Added	2023-05-05	Field Trip Day	2023-06-08
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Background: Raising awareness and understanding of businessmen, the general public, and students through a tour of the pilot factory

Company Name: Sambo Pack Co., Ltd.

- Address: 746-11, 1-dong-gil, Jungbu-ro, Giheung-gu, Yongin-si, Gyeonggi-do (Sangha-dong)

Main Contents - (Tour Schedule) Thursday, June 23, '6 at 8 p.m.

- (Number of tourists) up to 6 people

- (Program) Introduction of construction companies, introduction of smart factories, on-site tour and Q&A

Inquiries: 031-500-3644 (Gyeonggi Techno Park Demonstration Factory Manager)

# Resultat

30 000 smarta fabriker är uppnått  
med effekten:

29.4%	↑	produktivitet
42.8%	↑	kvalitet
15.9%	↓	kostnader
6.4%	↑	försäljning
1.5%	↑	jobb
4.9%	↓	arbetsplatsolyckor

# Tack!

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Anders Hektor  
Science and Innovation Counsellor  
Embassy of Sweden in Seoul  
[anders.hektor@gov.se](mailto:anders.hektor@gov.se)