

NST 101: Korean RTO Perspective

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Chair
National Research Council of Science & Technology



Contents

1. NST, who we are.

2. NST, why we are here.

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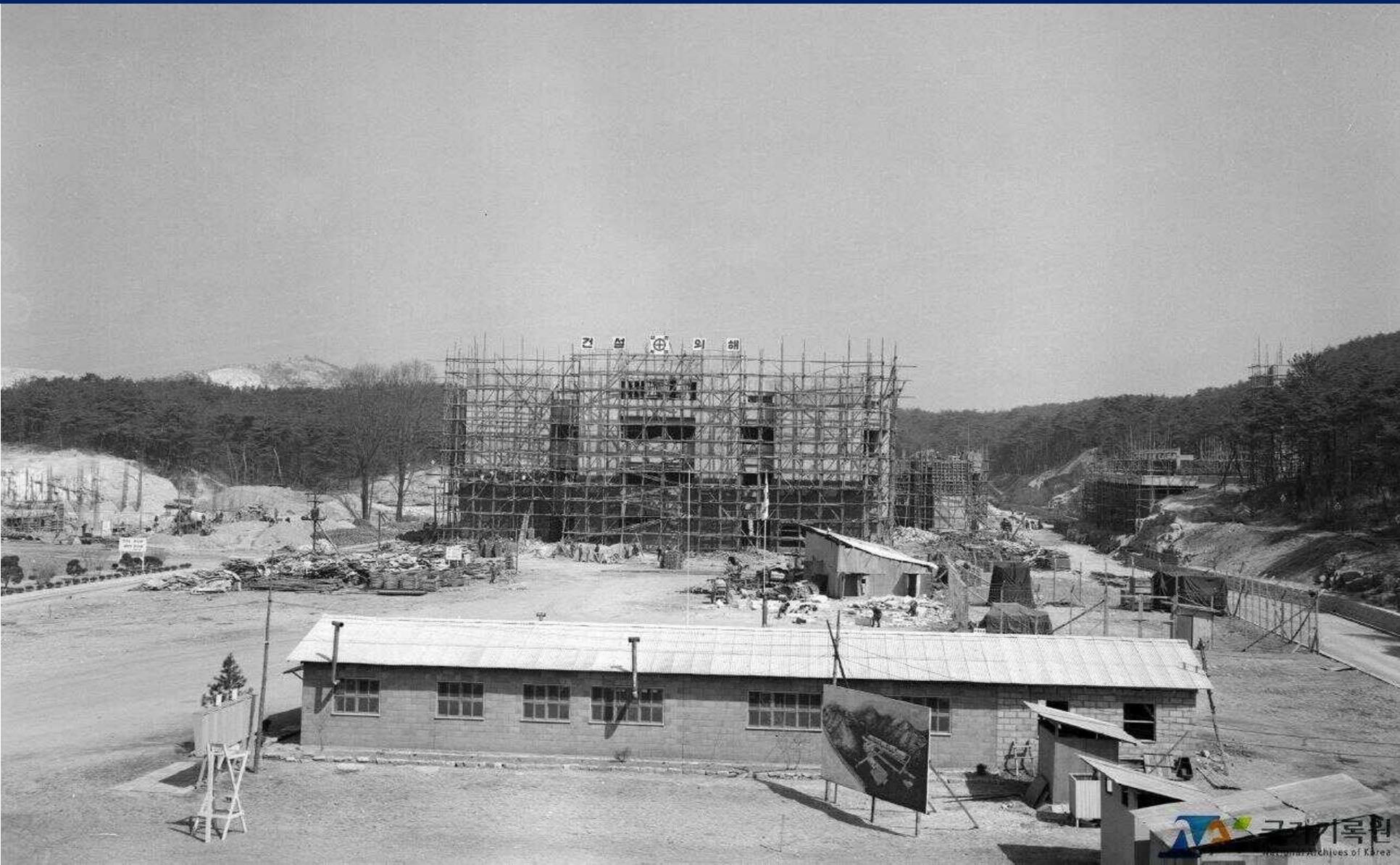
60 years ago ... in 1959, Korea Atomic Energy Research Inst.



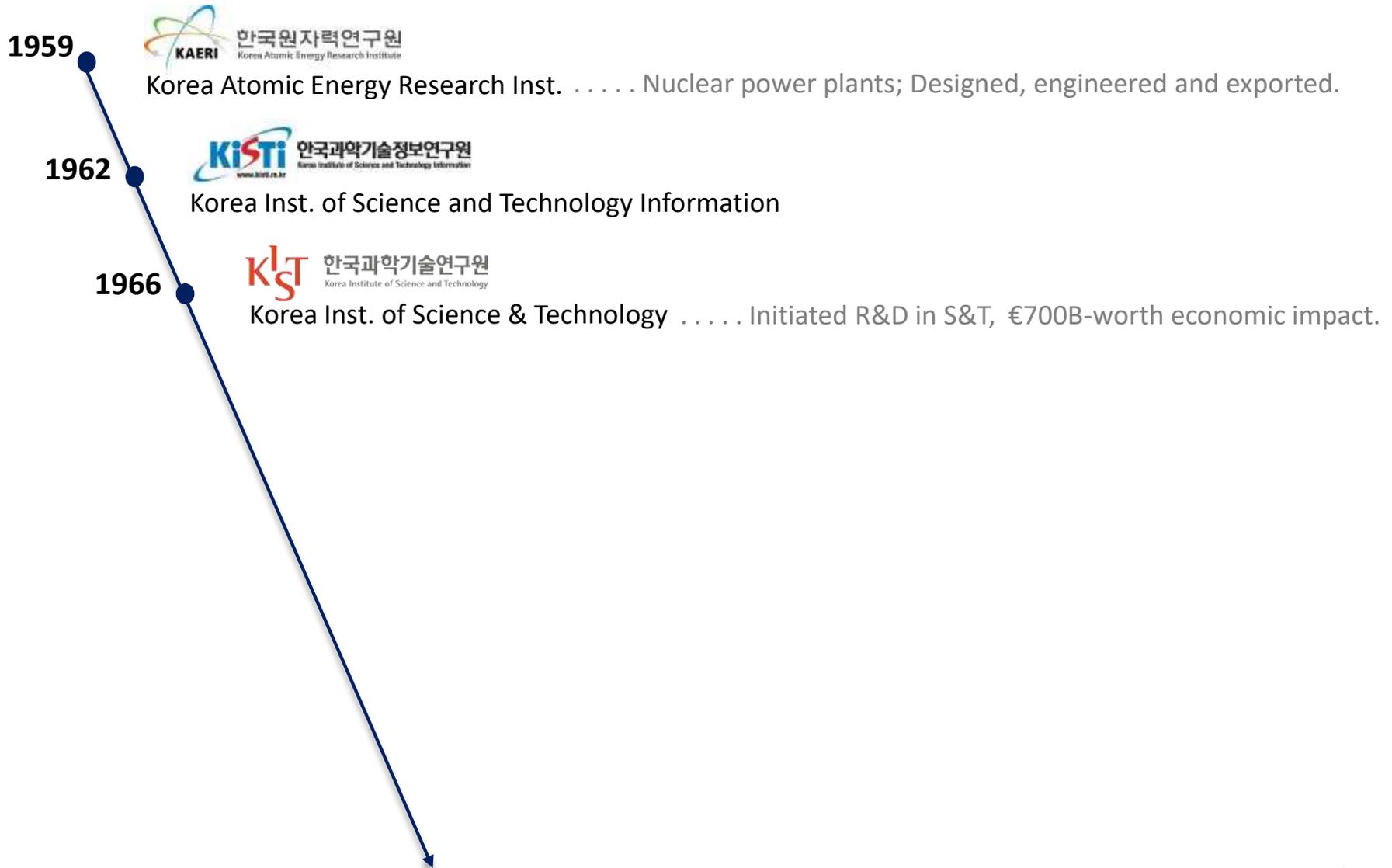
60 years ago ... downtown in Seoul



7 years later in 1966, Korea Institute of S&T (KIST)



Many other research institutes followed ...



Many other research institutes followed ...



XL, L, M, S, P



2,500

ETRI
Electronics and Telecommunications
Research Institute

80

**GREEN
TECHNOLOGY
CENTER**



Practical vs. Fundamental



Aim High vs. Aim Low



So far, 25 GRIs are up and running ...

-  Korea Institute of Science and Technology
-  Green Technology Center
-  Korea Basic Science Institute
-  National Fusion Research Institute
-  Korea Astronomy and Space Science Institute
-  Korea Institute of Bio-Science & Bio-Technology
-  Korea Institute of Science and Technology Information
-  Korea Institute of Oriental Medicine
-  Korea Research Institute of Standards and Science
-  Korea Aerospace Research Institute
-  Korea Atomic Energy Research Institute

-  Korea Institute of Industrial Technology
-  Electronics and Telecommunications Research Institute
-  National Security Research Institute
-  Korea Institute of Civil Engineering and Building Technology
-  Korea Railroad Research Institute
-  Korea Food Research Institute
-  World Institute of Kimchi
-  Korea Institute of Geoscience and Mineral resources
-  Korea Institute of Machinery and Materials
-  Korea Institute of Materials Science
-  Korea Institute of Energy Research
-  Korea Institute of Industrial Technology
-  Korea Research Institute of Chemical Technology
-  Korea Institute of Toxicology

Fundamental S&T (11 GRIs)

Applied S&T (14 GRIs)

25 GRIs combined ...

as of December 2017

Human Resources: ~15,000

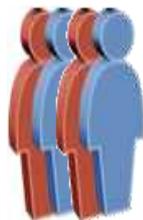
Budget: €4.5B

10,233 (83%)



Research Scientists

2,124 (17%)



Administrators

€ 2B (41%)



Basic Funding (Grant)

€ 2.5B (59%)



Competitive Project-Based

Needs for supporting, coordinating, evaluating ...

NST

National Research Council of Science & Technology



25 Government-Funded Research Institutions

Vision, Mission, Roles, and Functions of NST

Vision

Open-Collaboration Ecosystem for GRIs

Mission

Contribution to national R&D policy and knowledge industry development through support and fostering of the GRIs

Roles

- Establishment of support and fostering system for GRIs
- Facilitating connections between the GRIs' R&D achievements and market

Functions

- Coordinate the functions of the GRIs, including integration & dissolution
- Plan for its responsible S&T fields and for its GRIs' management direction
- Assess research performances and management of the GRIs
- Support collaborative research among the GRIs
- Support for high research performances and their diffusion in its GRIs
- Implement other projects necessary to achieve the objectives of Council
- Recommend policies for innovation and competitiveness in S&T fields

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Challenges

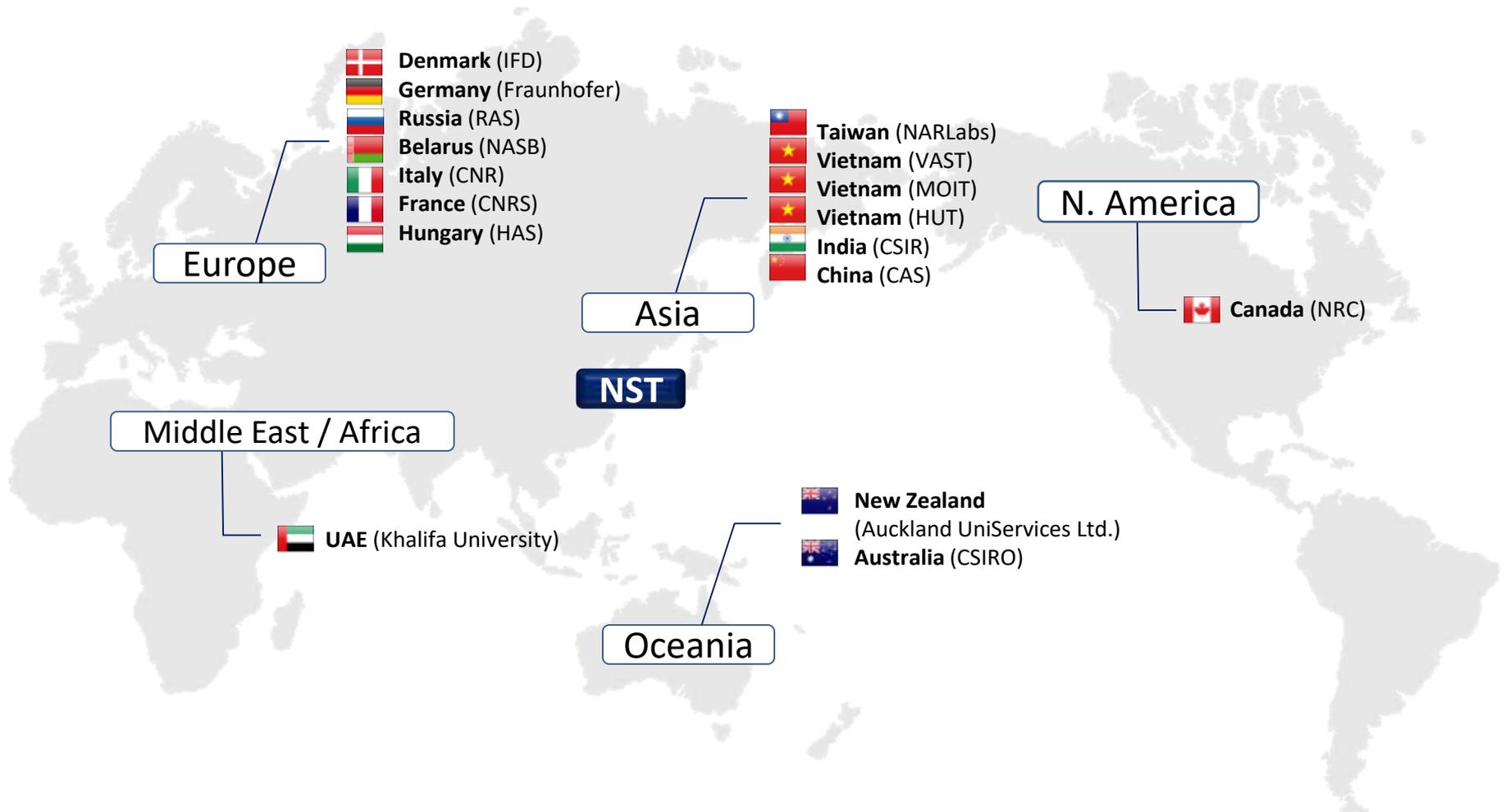
- The walls
- Autonomy
- The budget
- Homogeneity
- The leadership
- Potential vs. Reality
- Capitalism vs. Socialism
- Individualism vs. Totalitarianism
- ...

Connected Innovations

Facilitating an autonomous network structure.

- Thematic Connected Innovation
- Regional Connected Innovation
- Global Connected Innovation

NST Global Network



Global Network of KIST



Reason 1. Foreign Institutes as Catalyst

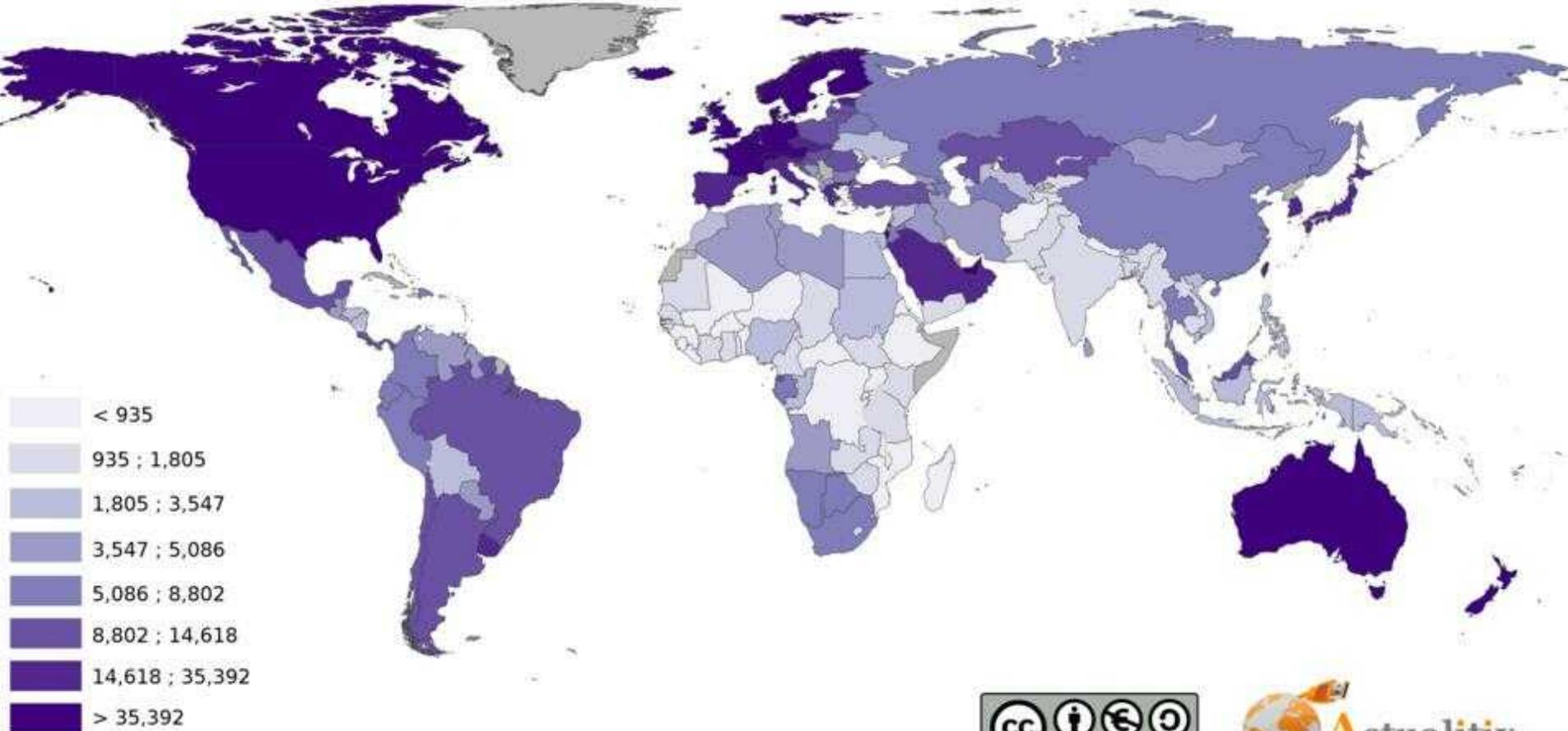


ACCIÓ



Reason 2. Catching up the Front-Runners

Gross domestic product per capita (Dollars)

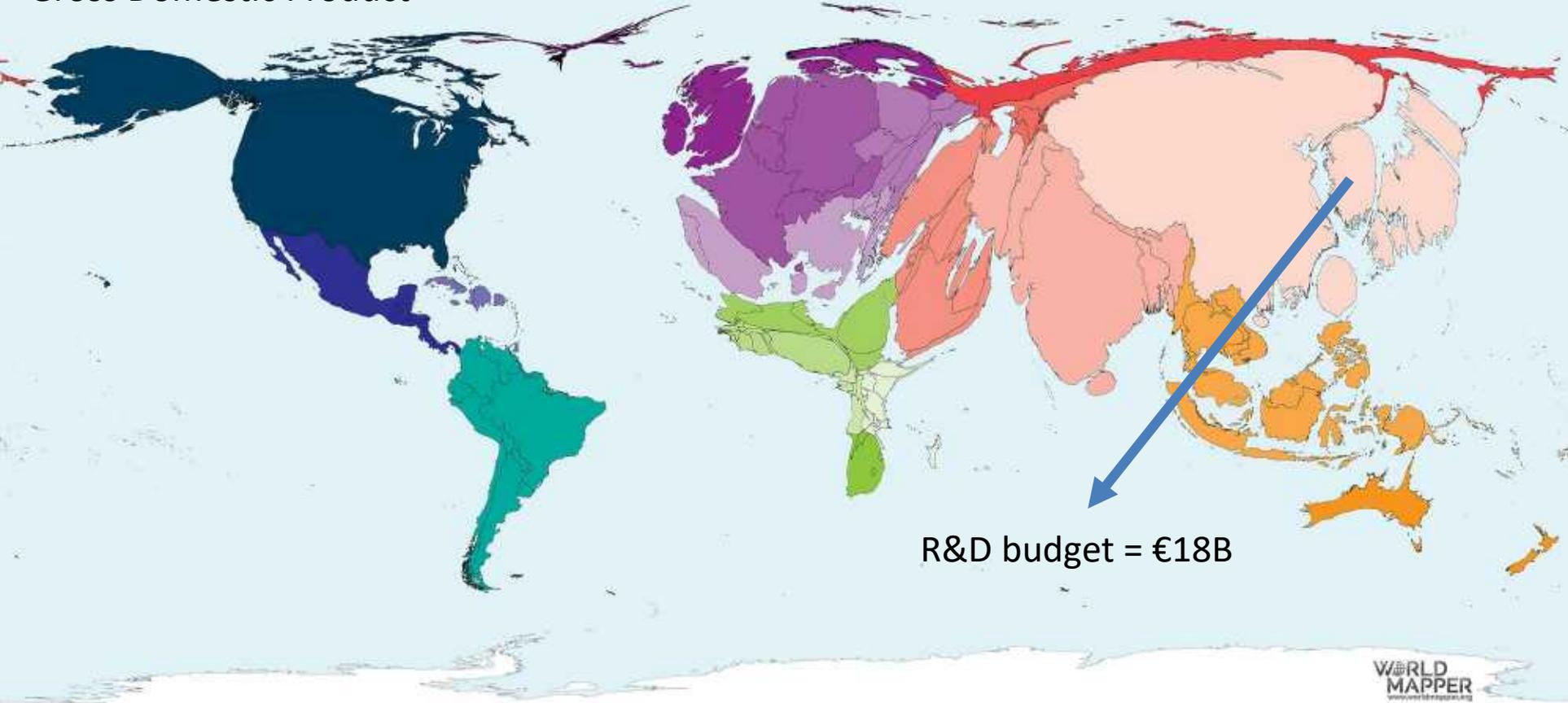


Source : IMF - 2015
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Reason 2. Catching up the Front-Runners

Gross Domestic Product



Annual Budgets: NASA = Korea's R&D

AI Experts: China = ~100 x Korea

Reason 3. Global problems require global approaches.

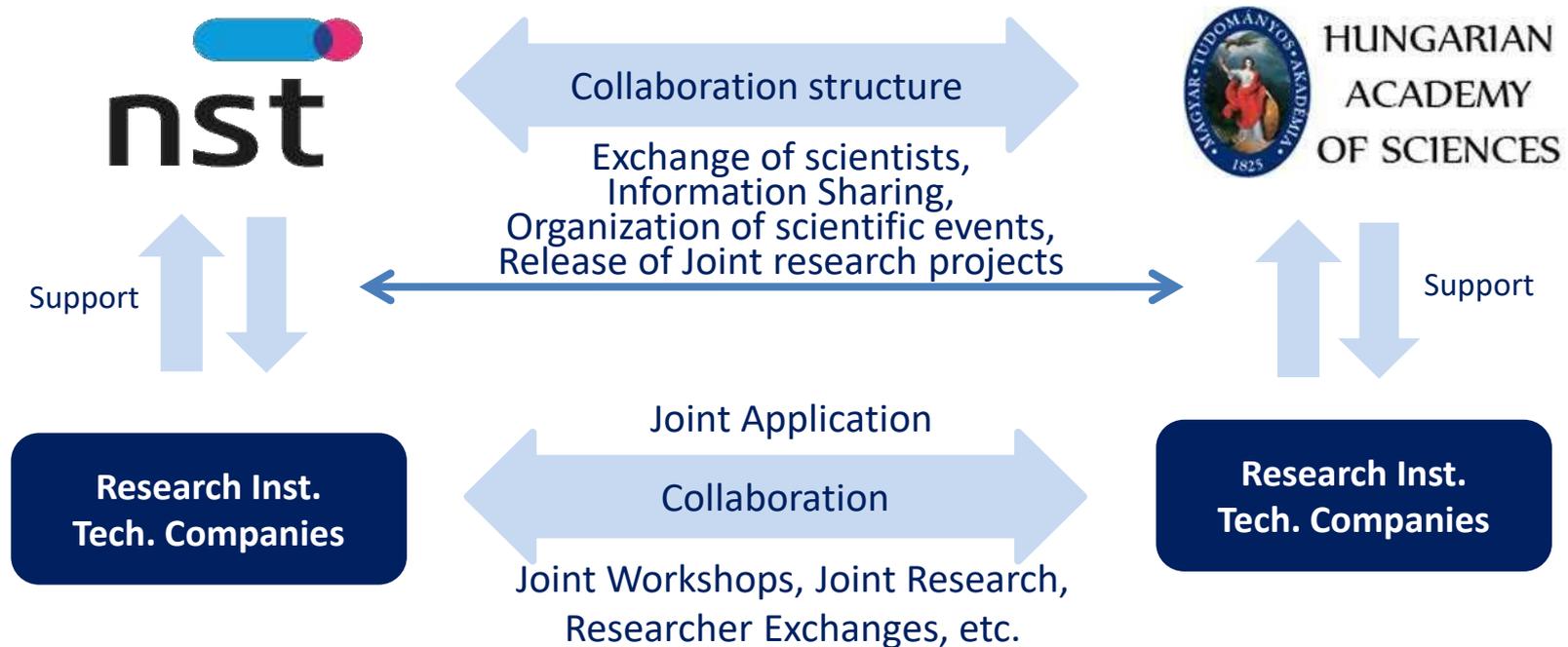


Prospective Scheme of Collaboration

Objective

- Promote bilateral joint research activities
- Utilize our respective existing supplemental funding schemes and realize effective research collaborations in a very efficient way

Scheme



Thank you for Listening.

