Łukasiewicz
Research Network

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Foresight and Internationalisation as Key Drivers of Science and Innovation: The Case of the Łukasiewicz Research Network in Poland

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- PROFESSIONAL TIMELINE
- SCIENCE & INNOVATION POLICY
- FORESIGHT & INTERNATIONALISATION
- ŁUKASIEWICZ RESEARCH NETWORK
- WAY FORWARD

PROFESSIONAL TIMELINE

Professional Timeline

Foresight and Internationalisation

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

UNIDO (Austria/Italy)

Research Fellow / Foresight System & Training Manager / UNIDO Technology Foresight Programme for Latin America and the Caribbean (TF LAC) / UNIDO TFP for Central & Eastern Europe / NIS (TF CEE/NIS)

Manchester Institute of Innovation Research (MIOIR) / Alliance Manchester Business School / The University of Manchester (UK)

Researcher in Foresight & Innovation Policy / Director of Executive Education in Foresight / Honorary Senior Lecturer (since 2020)

Futures Diamond (UK)

Innovation Director and CEO / External Director (since 2020) / Chief Scientific Adviser

VTT Technical Research Centre of Finland

Principal Scientist in Foresight-driven Business Strategies

National Research University Higher School of Economics (Russia)

HSE Advisory Board Member

Professor of Foresight & STI Governance

Finland Futures Research Centre (FFRC) / Turku School of Economics (TSE) / University of Turku (Finland)

Guest Lecturer in MSc Teaching (since 2007) / Adjunct Professor in Futures Studies, Foresight and Innovation Management (since August 2021)

Łukasiewicz Research Network (ŁRN)

Scientific and Foresight Advisor

Continuous Renewal

SCIENCE & INNOVATION POLICY

Basic roles of S+T+I policies

Science policy

- **Objectives:** To influence scientific research and advancement of knowledge, including natural sciences, social sciences and humanities, etc.
- **Instruments:** Funding of universities and research organizations as well as research projects and posts, researcher training, centre of excellence policy.

Technology policy

- **Objectives:** To influence the development and update of new technologies, e.g. instruments and knowledge of their production and use (Note: Developments of science and technology are closely integrated, e.g. biotech, ICT, nanotech, etc.)
- **Instruments:** Reducing R&D costs through grants for public and private organizations and programs, R&D subsidies.

Innovation policy

- **Objectives:** To influence the creation, adaptation and adoption of new or improved products, processes or services.
- **Instruments:** Supporting R&D activities in public and private organizations (education, funding, grants, loans, subsidies, loan guarantees), creating information and communication networks, providing consulting services, regulation (e.g. tax allowances, competition legislation), standardization and procurement.

What should we do about STI policy?

Nothing

- **Be inactive**
  - **No** Science policy
  - **No** Technology policy
  - **No** Innovation policy
  - **No** STI governance

Wait

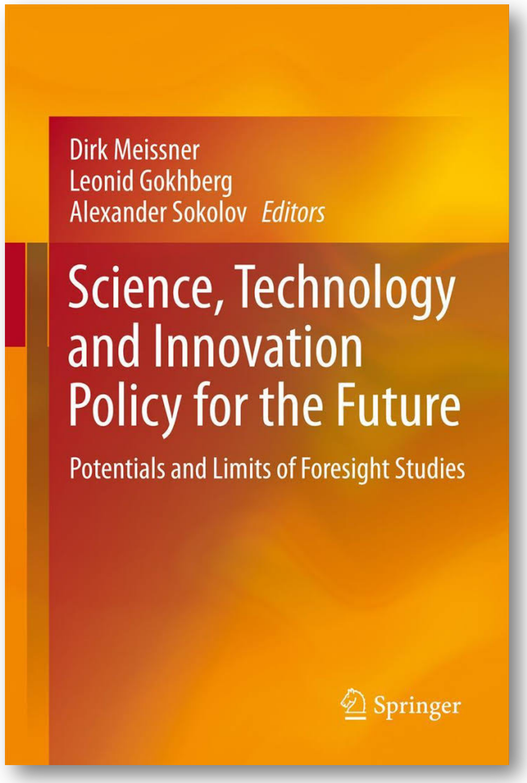
- **Be reactive**
  - **Reactive** Science policy
  - **Reactive** Technology policy
  - **Reactive** Innovation policy
  - **Reactive** STI governance

Act

- **Be both proactive + reactive**
  - Both **Proactive** & **Reactive** Science policy
  - Both **Proactive** & **Reactive** Technology policy
  - Both **Proactive** & **Reactive** Innovation policy
  - Both **Proactive** & **Reactive** STI governance

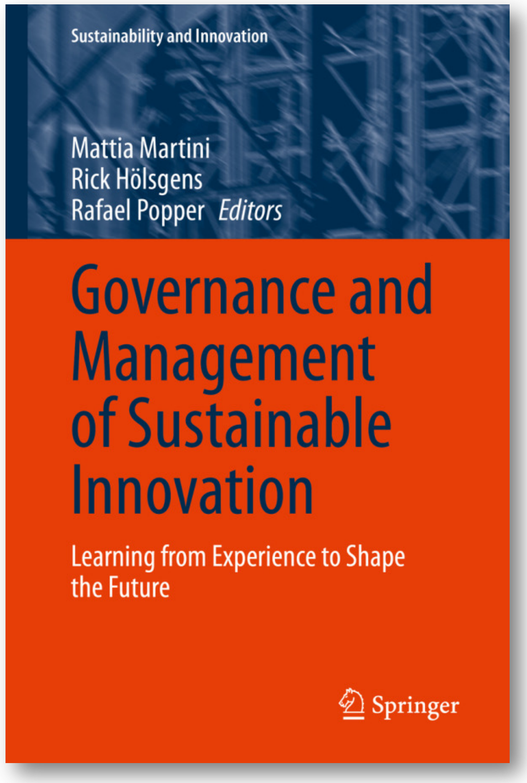
Foresight for Sustainability and Innovation

Foresight and Internationalisation as Key Drivers of Science and Innovation



Meissner, D., Gokhberg, L., Sokolov, A. (2013), **Science, Technology and Innovation Policy for the Future**, Springer.

Miles, I., Saritas, O., Sokolov, A. (2016), **Foresight for Science, Technology and Innovation,** Springer.



Martini, M., Holsgens, R., Popper, R. (2020), **Governance and Management of Sustainable innovation: Learning from Experience to Shape the Future**, Springer.

- ***Selectivity***
  - *Which fields to support and how much to give to priorities?*
- ***Concentration***
  - *Which institutions or research teams to support and how concentrated should funding be on the best performers?*
- ***Sustainability***
  - *Are the basic resources of people, money, infrastructure and institutions renewing themselves?*

Source: Georghiou, L. (2013) Challenges for Science and Innovation Policy

FORESIGHT & INTERNATIONALISATION

Boosting research and innovation synergies

Foresight and Internationalisation as Key Drivers of Science and Innovation

Transforming ‘research policy’ into ‘research & innovation policy’

By identifying key areas for public & joint procurement for innovation.

Implementing more effective innovation funding instruments

By further analysing projects with no clear or immediate economic impact.

Shortening the transition from invention to innovation

By using horizon scanning to identify innovation opportunities for piloting & scaling-up.

Using intellectual property (IP) supporting strategies for innovation

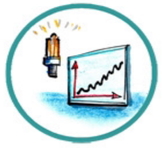
By allowing the public to access the outcomes of publicly funded research.

Boosting industry-academia cooperation in science and innovation

By recommending new knowledge-based products & services.

Embracing open innovation strategies

By promoting ‘outside-in’ and ‘inside-out’ knowledge exploitation.

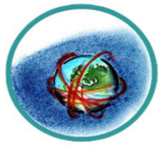


Stimulating entrepreneurship

By identifying new knowledge-based start-ups and spin-offs.

Strengthening the global influence of STI policy

Foresight and Internationalisation as Key Drivers of Science and Innovation



Enhancing STI coordination for global cooperation

By encouraging countries to open national STI programmes to the world.

Intensifying dialogues with emerging and developing economies

By setting up university branches and promote visiting professors/researchers.

Optimising research infrastructures funding and access

By developing easy, transparent, and open procedures to use RIs.

Supporting knowledge co-creation and sharing

Developing a knowledge co-creation ecosystem

By promoting multi-disciplinary and multi-perspective knowledge exchange.

Fostering knowledge sharing and transfer

By creating effective bridges between knowledge producers and potential users.

Adopting broader open access practices and policies

By encouraging responsible access to jointly produced foreground.

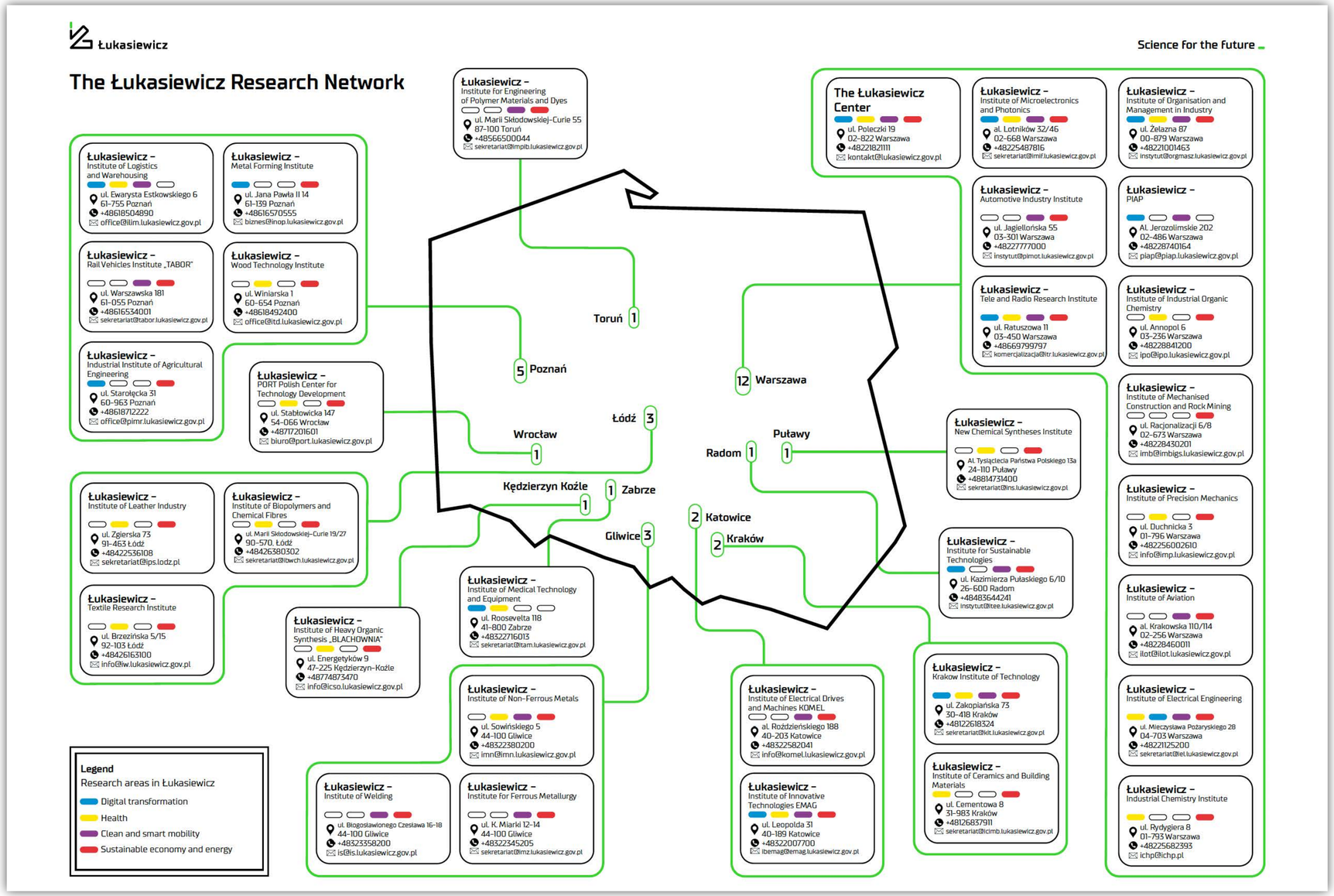
Standardising and utilising digital research platforms

By recognising the potential of digital technologies, skills and contents.

ŁUKASIEWICZ RESEARCH NETWORK

Łukasiewicz Research Network (ŁRN)

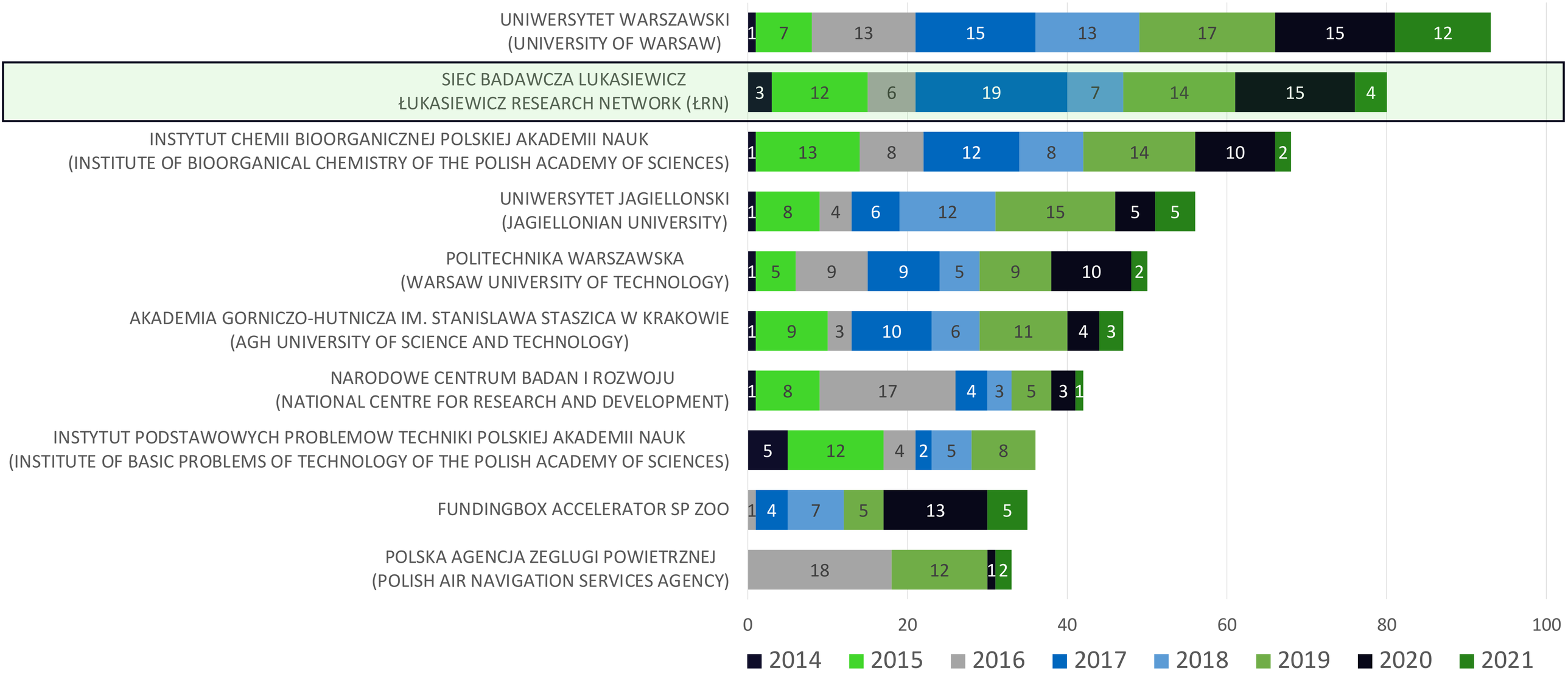
Science for the future



- **Mission**
  - *Creative people who are passionately involved in designing innovative solutions to develop Polish businesses and society*
- **Vision**
  - *Become a dynamic network organization designing innovative solutions used in the key sectors of the economy*
- **Values**
  - *Passion, Creativity, Boldness, Integrity, Solidarity*

Łukasiewicz Research Network (ŁRN)’s EU Portfolio Outlook

Number of participations in EU projects by 19.7.2021



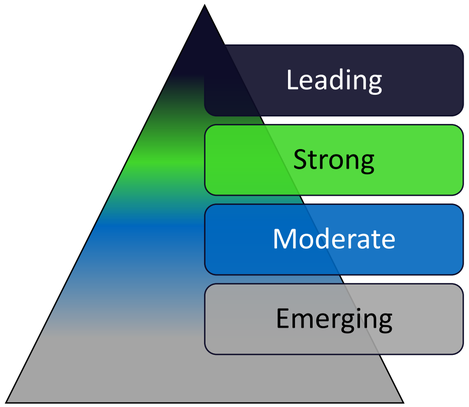
Łukasiewicz Research Network (ŁRN)’s Internationalisation Outlook

Foresight and Internationalisation as Key Drivers of Science and Innovation

Ł-ILOT	Institute of Aviation
Ł-IMN	Institute of Non-Ferrous Metals
Ł-INSC	New Chemical Syntheses Institute
Ł-PIAP	Industrial Research Institute for Automation & Measurements
Ł-IEL	Institute of Electrical Engineering
Ł-TABOR	Rail Vehicles Institute
Ł-ICiMB	Institute of Ceramics and Building Materials
Ł-IMiF	Institute of Microelectronics and Photonics
Ł-IChP	Industrial Chemistry Research Institute
Ł-IW	Textile Research Institute

2020-2021

Internationalisation Outlook



Ł-ITR	Tele and Radio Research Institute
Ł-PORT	PORT Polish Centre for Technology Development
Ł-ILiM	Institute of Logistics and Warehousing
Ł-IPO	Institute of Industrial Organic Chemistry
Ł-IS	Institute of Welding
Ł-ITEE	Institute for Sustainable Technologies
Ł-IMBiGS	Institute of Mechanised Construction & Rock Mining
Ł-PIMOT	Automotive Industry Institute
Ł-KIT	Krakow Institute of Technology
Ł-IMZ	Institute for Ferrous Metallurgy
Ł-IMPiB	Institute for Engineering of Polymer Materials & Dyes

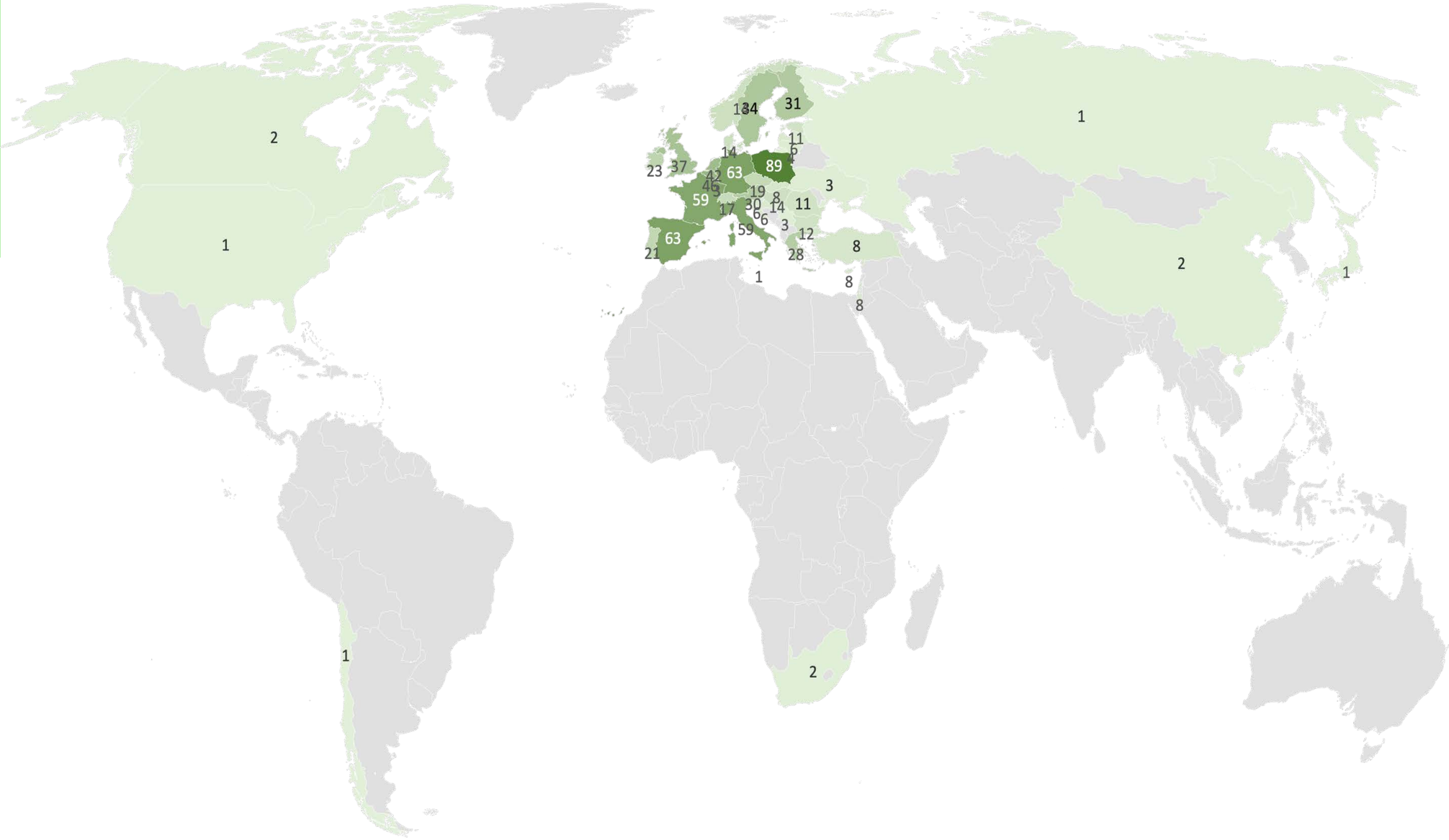
Ł-ICSO	Institute of Heavy Organic Synthesis "Blachownia"
Ł-IBWCh	Institute of Biopolymers and Chemical Fibres
Ł-INOP	Metal Forming Institute
Ł-KOMEL	Institute of Electrical Drives and Machines
Ł-IMP	Institute of Precision Mechanics
Ł-ITAM	Institute of Medical Technology and Equipment
Ł-EMAG	Institute of Innovative Technologies
Ł-ITD	Wood Technology Institute
Ł-PIMR	Industrial Institute of Agricultural Engineering
Ł-IPS	Institute of Leather Industry
Ł-ORGMASZ	Institute of Organization & Management in Industry

Łukasiewicz Research Network (ŁRN)’s International Collaborators

Some 811 collaborators took part in the 80 H2020 projects involving ŁRN by 19.7.2021

COLLABORATORS IN EU FUNDED PROJECTS

Collaborators	
Poland	89
Germany	63
Spain	63
France	59
Italy	59
Belgium	46
Netherlands	42
UK	37
Sweden	34
Finland	31
Austria	30
Greece	28
Ireland	23
Portugal	21
Czech Republic	19
Switzerland	17
Denmark	14
Hungary	14
Norway	14
Bulgaria	12
Estonia	11
Romania	11
Cyprus	8
Israel	8
Slovakia	8
Turkey	8
Croatia	6
Latvia	6
Slovenia	6
Lithuania	4
Luxembourg	3
Serbia	3
Ukraine	3
Canada	2
China	2
South Africa	2
Chile	1
Japan	1
Malta	1
Russia	1
USA	1



WAY FORWARD

ŁRN’s Foresight and Internationalisation Objectives

Foresight and Internationalisation as Key Drivers of Science and Innovation

01 **Connecting people** in science, business and society to explore and exploit research and innovation opportunities and provide sustainable responses to grand challenges in **Poland**, **Europe** and the **World**.

02 **Boosting innovation** by enabling and supporting incremental or radical changes in the social, service, product, governance, organisational, system or marketing landscape that leads to positive environmental, economic and social transformation without compromising the needs, welfare and wellbeing of current and future generations.

03 **Accelerating knowledge valorisation, knowledge co-creation and knowledge sharing** with the help of international partnerships and alliances in the fields of science, technology, innovation, management, sustainability and foresight studies.

Global perspectives for local actions for Poland & the ŁRN

Foresight and Internationalisation as Key Drivers of Science and Innovation

01

Poland, Europe and the World

Helping the ŁRN to become a globally recognised partner to advance science, technology and innovation.

- Global impact of STI
- Global excellence of STI
- Global outreach of STI

02

Łukasiewicz Research Network

Helping the ŁRN to implement its single knowledge transfer (KT) strategy and develop and cohesive research ecosystem.

- Knowledge valorisation
- Knowledge co-creation
- Knowledge sharing

03

Ł-ORGMASZ/IOT

Positioning Ł-ORGMASZ/IOT as a key player supporting the internationalisation of ŁRN through foresight-driven strategy/agenda-setting

- Foresight
- Internationalisation
- Strategy/Agenda-setting

Embedding Foresight and Internationalisation into the ŁRN

Foresight and Internationalisation as Key Drivers of Science and Innovation

STEP 01
Map ŁRN internationalisation needs.

STEP 02
Mobilise key ŁRN and global players.

STEP 03
Co-create a foresight-driven strategy.

STEP 04
Build a volunteers & supporters army.

STEP 05
Assess critical issues (barriers/gaps).

STEP 06
Generate short-term wins & gains.

STEP 07
Manage ŁRN internationalisation.

STEP 08
Sustain foresight-driven change.


Łukasiewicz Research Network
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Ł-ILOT
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Ł-IW
Ł-ITR
Ł-PORT
Ł-ILiM
Ł-IPO
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Ł-PIMOT
Ł-KIT
Ł-IMZ
Ł-IMPiB
Ł-ICSO
Ł-IBWCh
Ł-INOP
Ł-KOMEL
Ł-IMP
Ł-ITAM
Ł-EMAG
Ł-ITD
Ł-PIMR
Ł-IPS
Ł-ORGMASZ

THANK YOU!