

# Work/Technology 2050 - Scenarios and Actions – Foresight for Futures Resilience

1<sup>st</sup> International Congress of Planning, Foresight and National Development  
Pontifical University of Peru

Professor Sirkka Heinonen

Finland Futures Research Centre (FFRC), Turku University

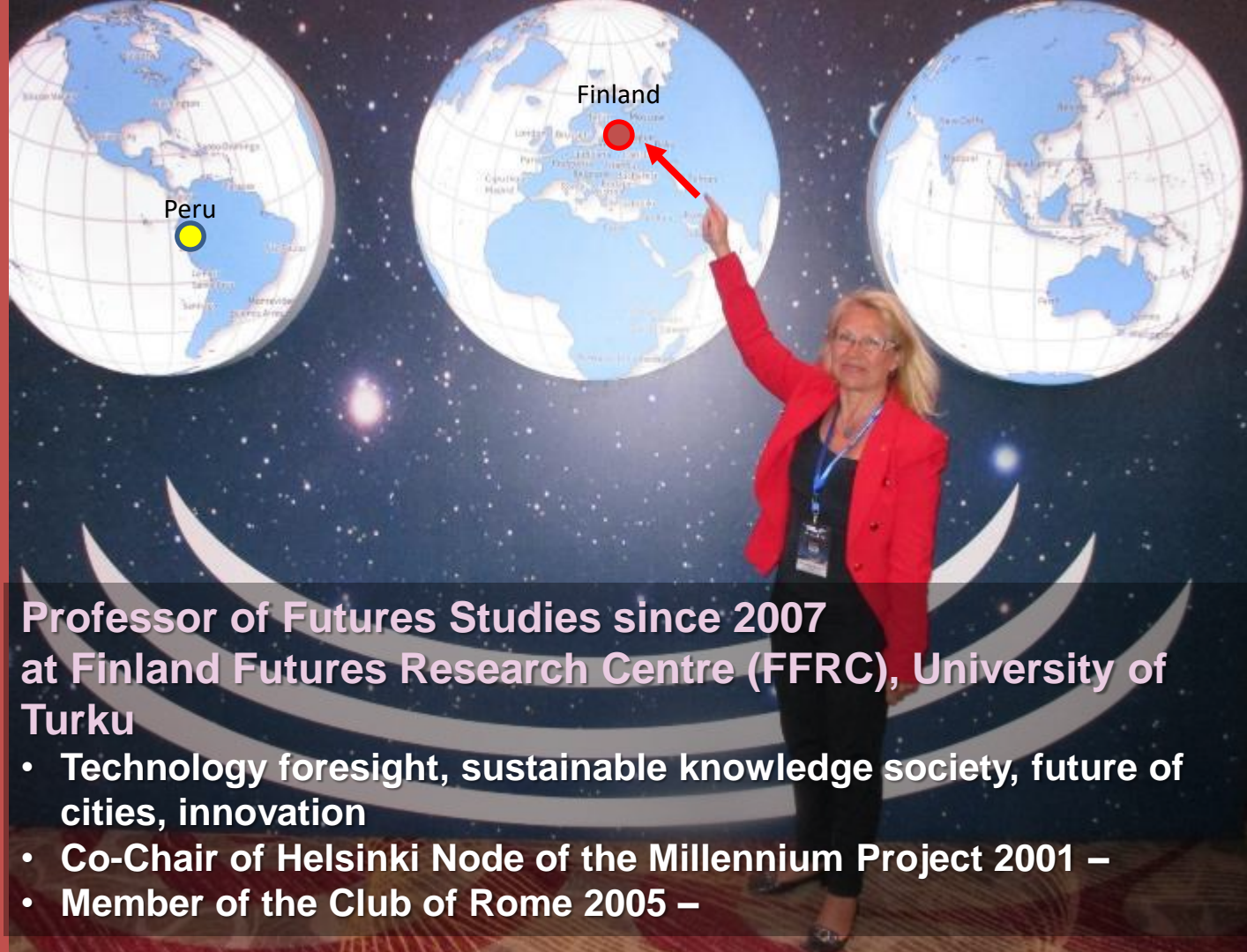


# Contents of My Presentation

1. European Futures Studies  
& International Foresight Community
2. Work/Technology 2050 Scenarios and Actions
3. World Summit of Committees for the Future

**Finland –  
a country in  
Northern  
Europe**

**Peru –  
four times  
larger by  
area and  
six times  
larger by  
population**



**Professor of Futures Studies since 2007  
at Finland Futures Research Centre (FFRC), University of  
Turku**

- **Technology foresight, sustainable knowledge society, future of cities, innovation**
- **Co-Chair of Helsinki Node of the Millennium Project 2001 –**
- **Member of the Club of Rome 2005 –**

# 1. European Futures Studies & International Foresight Community

# Futures Research and Foresight

Finland has both: As Academic Discipline and  
As Government Foresight

Future of Cities 2030?  
Future of Governance 2050?  
Future of Humankind 3000?

Futures Research

Foresight

**Futures research** = systematic, holistic, multidisciplinary, critical long-term analysis of futures topics and alternative developments

**Foresight** = structured participatory debate about the future of complex issues



# International Master's Programme in Futures Studies at School of Economics, University of Turku

- 1) Research
- 2) Education
- 3) Societal responsibility



**+ Doctoral Programme**

# PENTTI MALASKA

A Visionary  
and Forerunner

Edited by Laura Pouru • Markku Wilenius • Karin Holstius • Sirkka Heinonen



- **Life and work** of Professor Pentti Malaska.
- **A key pioneering role** in establishing the academic discipline of futures studies **not only in Finland, but also internationally.**
- **Insight into the futures research ideas, theories and methods developed by Malaska**

**Book:** *Pouru, Laura, Markku Wilenius, Karin Holstius & Sirkka Heinonen (eds.) (2018) Pentti Malaska. A Visionary and Forerunner*

**Futures Series 9, The Finnish Society for Futures Studies. 243 pp.**  
<https://www.utu.fi/en/news/news/pentti-malaska-a-visionary-and-forerunner-intellectual-biography-published-now-also-in>



# FFRC Conference on Empowering Futures

14–16 June 2023 Turku, Finland  
23<sup>rd</sup> FFRC conference

The forthcoming FFRC Futures Conference focuses on the hot topic of **futures of democracy and responsibility**.

To be tackled in an interdisciplinary way, emphasising the perspectives of futures research as well as social and economic development.

DI for abstracts 31 January 2023



<https://futuresconference.fi/2023-empowering-futures/>



# Long Tradition of Futures Studies in Finland

- **Finnish Society for Futures Studies 1980**
- **Finland Futures Research Centre, University of Turku 1992**
- **Committee for the Future in Parliament 1993**
- **Prime Minister's Office, Foresight Team**
- **Helsinki Node of the Millennium Project 2001**  
-> several Nodes in Latin America & RIBER

# EU, OECD and UN become activated in foresight

– anticipation of risks & crises

**EU's Strategic Foresight Report 2022 on  
'Twinning the green and digital transition  
in the new geopolitical context'**

**A forward-looking and comprehensive  
perspective on the interplay between the  
twin transitions towards 2050.**

[https://ec.europa.eu/info/sites/default/files/strategic\\_foresight\\_report\\_2022.pdf](https://ec.europa.eu/info/sites/default/files/strategic_foresight_report_2022.pdf)

[https://ec.europa.eu/info/strategy/strategic-planning/strategic-foresight/2022-strategic-foresight-report\\_en](https://ec.europa.eu/info/strategy/strategic-planning/strategic-foresight/2022-strategic-foresight-report_en)



**OECD** has Government  
Foresight Community

**UNESCO** has Unesco Chairs,  
promoting futures literacy

Now **UN** Secretariat General  
Published a foresight report !

<https://www.un.org/en/common-agenda>



## **2 Work/Technology 2050 - Scenarios and Actions**





The Millennium Project



# The Millennium Project

GLOBAL FUTURES STUDIES & RESEARCH

<https://www.millennium-project.org/>

Info@Millennium-Project.org

# WORK/TECHNOLOGY 2050

## SCENARIOS AND ACTIONS

JEROME C. GLENN, AND THE MILLENNIUM PROJECT TEAM.



The Millennium Project

## Futures Research Methodology

Version 3.0

Editors Jerome C. Glenn and Theodore J. Gordon

With support from the Rockefeller Foundation

- |   |   |   |
|---|---|---|
| 1. Introduction to Futures Research Methodology | 14. Substitution Analysis                     | 27. Using Vision in Futures   |
| 2. Environmental Scanning                       | 15. Statistical Modeling                      | 28. Normative Forecasting   |
| 3. Text Mining for Technology Foresight         | 16. Technology Sequence Analysis              | 29. S&T Road Mapping  |
| 4. The Delphi Method                            | 17. Morphological Analysis                    | 30. Field Anomaly Relaxation  |
| 5. Real-Time Delphi                             | 18. Relevance Trees                           | 31. Agent Modeling  |
| 6. The Futures Wheel                            | 19. Scenarios                                 | 32. Chaos and Non-Linear Dynamics                                       |
| 7. The Futures Polygon                          | 20. A Toolbox for Scenario Planning           | 33. Multiple Perspective Concept  |
| 8. Tread Impact Analysis                        | 21. Interactive Scenarios                     | 34. Heuristics Modeling   |
| 9. Cross-Impact Analysis                        | 22. Robust Decisionmaking                     | 35. Causal Layered Analysis   |
| 10. Wild Cards                                  | 23. Participatory Methods                     | 36. Personal Futures  |
| 11. Structural Analysis                         | 24. Simulation and Games                      | 37. State of the Future Index   |
| 12. The Systems Perspectives                    | 25. Genius Forecasting, Intuition, and Vision | 38. SOFI Software System  |
| 13. Decision Modeling                           | 26. Prediction Markets                        | 39. Integration, Comparisons, and Frontiers of Futures Research Methods |

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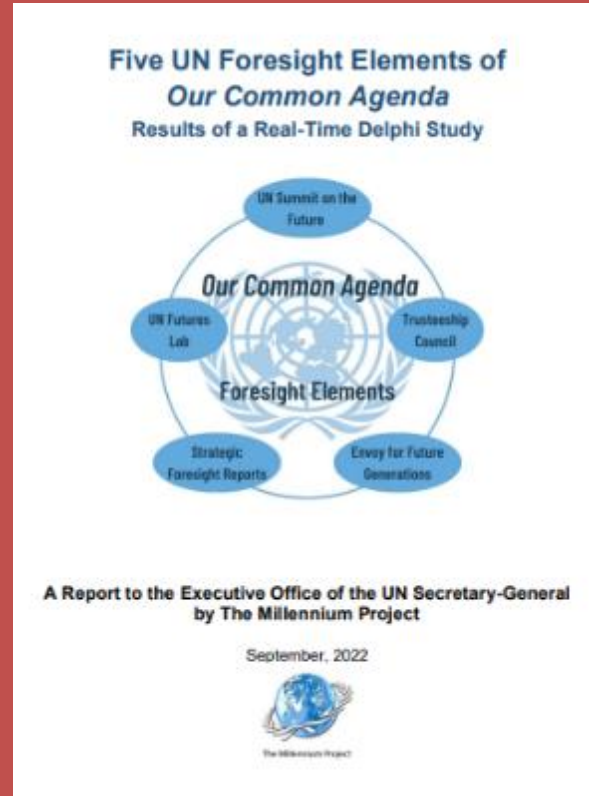


UNIVERSITY  
OF TURKU

**Glenn, Jerome** (ed) (2022). *An International Assessment of the Five UN Foresight Elements in Our Common Agenda by the UN Results of a Real-Time Delphi Study*. <https://www.millennium-project.org/five-un-foresight-elements-of-our-common-agenda/>

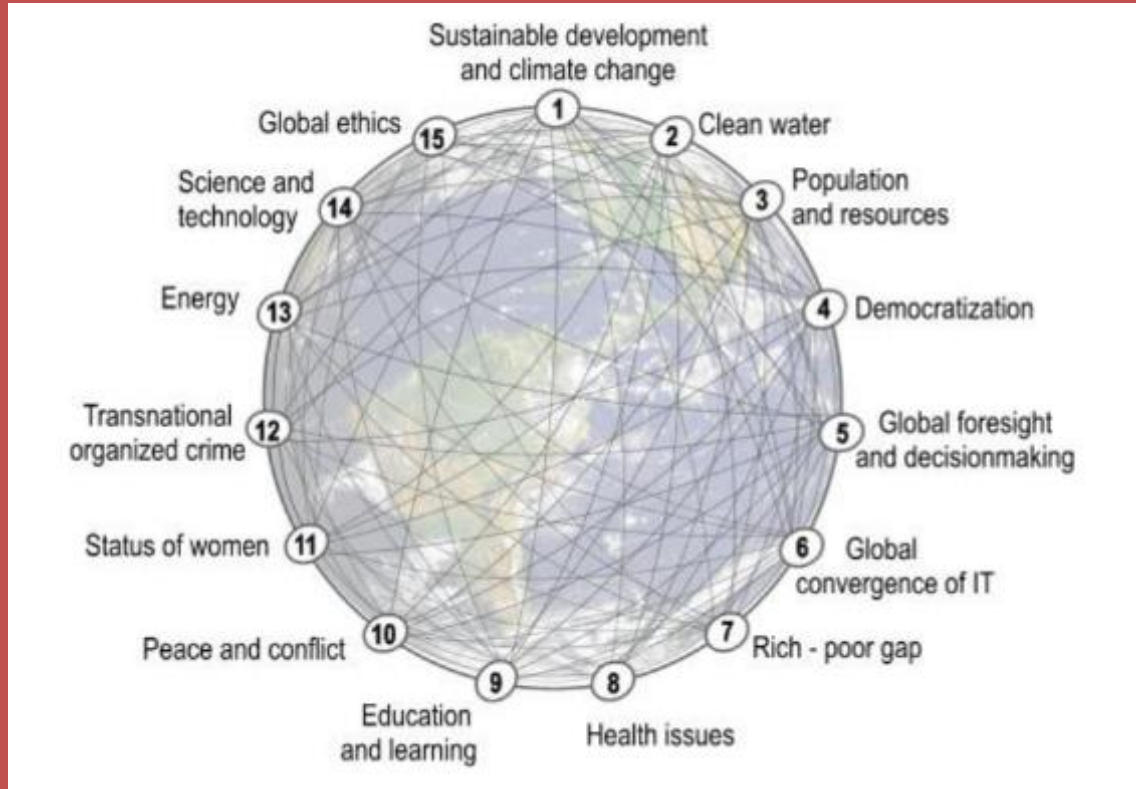


<https://www.millennium-project.org/>



# Methodological Frameworks

## Millennium Project's 15 Global Challenges to Make the World a Better Place



# Methodological Frameworks

## UN Sustainable Development Goals to Make the World a Better Place







The Millennium Project

WORK/TECHNOLOGY

2050

SCENARIOS AND ACTIONS

JEROME C. GLENN AND THE MILLENNIUM PROJECT TEAM

*A Three-Year Global Study*

*on what to do about  
Potential Futures for Work and  
Technology  
in the framework of 15 Global Challenges*

**Re-questioning:**

**Concept of work? Employment?**

**Concept of technology?**

# Why is Tech-Unemployment different this time?

- The **acceleration** of technological change
- The globalization, **interactions, and synergies** among NewTs
- The existence of a **global platform** — the Internet— for simultaneous technology transfer ... with far fewer errors in the transfer than in the past
- Billions of **empowered people** in relatively democratic free markets able to initiate activities
- **Machines can learn** how you do what you do, and then do it better than you.

# Work/Tech

## Global Scenarios 2050

Each scenario is about 10 pages of detailed cause & effect sequences that illustrate decisions

1. **It's Complicated: A Mixed Bag**
2. **Political/Economic Turmoil: Future Despair**
3. **If Humans Were Free: The Self-Actualization Economy**

# Future Work/Tech 2050 Workshops

Initial workshops	Initial workshops	In planning	Exploratory talks
1. Argentina (2 and series)	11. Italy (2, and 3 <sup>rd</sup> in planning)	China	Australia
2. Bolivia (series)	12. The Netherlands (2)	El Salvador	Croatia
3. Brazil (Sao Paolo)	13. Mexico (2)	Peru (2030 study first)	Dubai, UAE
4. Bulgaria	14. Poland	Kenya	Egypt
5. European Foresight Network	15. Spain (3)	Pakistan	Georgia
6. Finland	16. South Africa	Romania	India
7. Germany (series)	17. South Korea (2)	Slovakia	Iran
8. Greece	18. Uruguay (series in progress)	Sri Lanka	Montenegro
9. Hungary	19. Venezuela	Zambia	Slovenia
10. Israel (2)	20. United States (2)		Turkey
			United Kingdom



# Actions to Address issues in the Work/Tech 2050 Global Scenarios

Workshop Discussion Group	Actions Assessed	Additional Suggested Actions
Education and Learning	20	26
Government and Governance	22	26
Business and Labor	19	23
Culture, Arts, and Media	17	18
Science and Technology	15	25
Totals	93	118

# Some examples of 93 actions assessed

- Make **increasing intelligence** an objective of education.
- In parallel to STEM education **create a hybrid system of self-paced inquiry-based learning** for self-actualization, creativity, critical thinking, and human relations using new AI tools.
- **Create international standards** for narrow and general AI with a governance system to enforce them (similar to the Intl Atomic Energy Agency – IAEA).
- Produce **alternative cash flow projections** for universal basic income to see if/when it is financially sustainable.
- Put memes in advertisements to **help the cultural transition** to new forms of economics and work.

**Work** -> employment/source of income

-> new ways of working -> meaningful activity

-> universal basic income UBI?

**Technology** -> converging technologies

-> radical technologies

-> how AI develops?

**Narrow – General – Super**



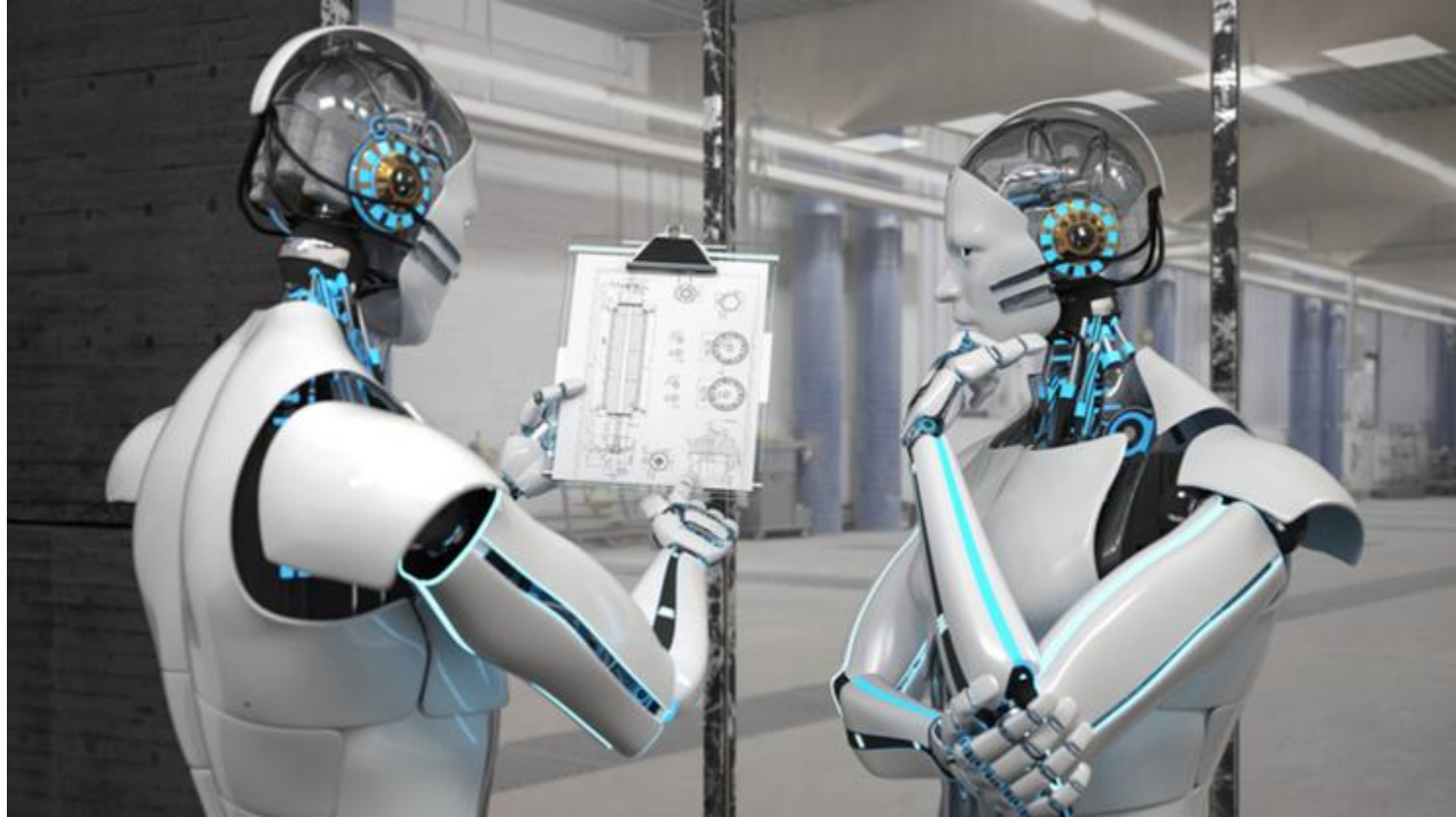
# OPPORTUNITIES: Your Personal AI Avatar searches the web while you sleep...

... then wakes you up in the morning ...with all kinds of interesting things to do, some for income, some because they are just fun, and some that are both all with smart contacts if needed.





THREATS: Artificial Super Intelligence sets its own goals independent of human awareness and understanding



# 3 World Summit of Committees for the Future

# PARLIAMENT OF FINLAND



COMMITTEE FOR THE FUTURE

# NATIONAL FORESIGHT PROCESS IN FINLAND

Foresight coordination (PMO, Sitra)

National Foresight

*Prime Minister's Office (PMO) & Ministries*

Regional Foresight

*19 regions*

Municipal Foresight

*317 municipalities*

National Foresight Network

Research organisations, private & third sector actors, citizen participation

**FORESIGHT WORK**

*e.g. Government Report on the Future, Ministries' sectoral Future Reviews and their horizontal analysis*

Government of Finland

**Parliament of Finland**

*The Committee for the Future*





# THE WORLD SUMMIT OF THE COMMITTEES OF THE FUTURE 2022

12 - 13 OCTOBER | HELSINKI | FINLAND



PARLIAMENT  
OF FINLAND



<https://www.eduskunta.fi/EN/valiokunnat/tulevaisuusvaliokunta/Pages/The-World-Summit-of-the-Committees-of-the-Future.aspx>



# Committees for the Future

- **are a tool for parliaments** and their members to increase future-orientation in decision-making.
- **review phenomena, developments and alternatives** that could be relevant for the future and relate these to decision-making.

# The Finnish Committee for the Future

- **Established** in 1993, benchmarked by other countries
- **Invited** similar committees or units from other countries to Helsinki World Summit in October
- **Started** parliamentary futures committees dialogue and co-operation -> Joint statement
- **Next world summit** in Uruguay in Oct 2023 (backed up by Chile)

## What is Peru's situation?

CEPLAN encouraged to advance stronger futures policy?

Welcome to join this process!

# SURPRISES ARE THE NEW NORMAL

-> Crises Awareness as Part of Futures Learning/Futures Resilience

**Crises** as learning platforms

How can we learn from crises e.g. COVID-19?

How can digitalisation/AI help alleviate/prevent crises?



# FORESIGHT PROMOTING FUTURES RESILIENCE

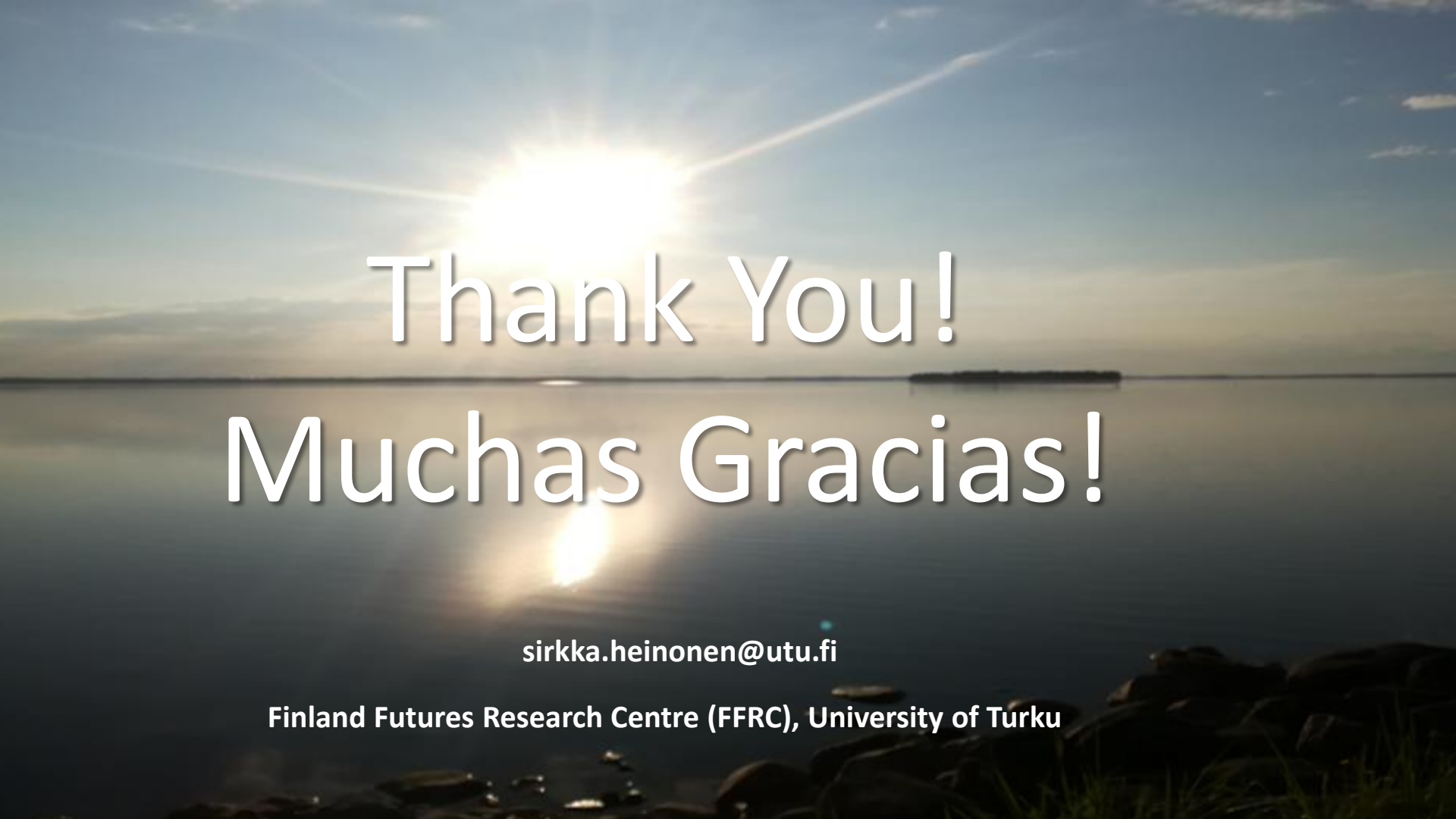
= A capacity to survive in the face of emerging challenges, obstacles and risks, to learn from them, and to renew oneself

RESCUE Project by Academy of Finland

Real Estate in Sustainable Crisis Management in Urban Environment

[www.rescue-finland.com](http://www.rescue-finland.com)

<https://www.utu.fi/en/university/turku-school-of-economics/finland-futures-research-centre/research/rescue>

A serene sunset scene over a body of water. The sun is low on the horizon, creating a bright glow and a reflection on the water. The sky is a mix of blue and orange, with some wispy clouds. In the foreground, there are dark, silhouetted rocks and some green grass.

Thank You!  
Muchas Gracias!

[sirkka.heinonen@utu.fi](mailto:sirkka.heinonen@utu.fi)

Finland Futures Research Centre (FFRC), University of Turku

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<https://journals.sagepub.com/doi/full/10.1177/19467567221101637>

# LA ELECTRIFICACIÓN EN LA SOCIEDAD ENTRE PARES

UNA  
NUEVA NARRATIVA  
PARA  
FUTUROS  
SOSTENIBLES

SIRKKA HEINONEN &  
JONI KARJALAINEN

Centro de Investigación  
en Futuros de Finlandia (FFRC)

Publicaciones FFRC 1/2020



Heinonen, Sirkka & Karjalainen, Joni (2020).  
La Electrificación en la Sociedad Entre Pares – Una Nueva  
Narrativa para Futuros Sostenibles

Un viaje en el tiempo hacia un futuro en el que la energía renovable, la electrificación y un ethos entre pares se encuentran entrelazados. El uso de recursos combustibles fósiles está acabándose.

Una visión libre de emisiones para el 2050 es ilustrada a través de cuatro escenarios transformacionales: Startup radicales, Tecnogigantes (techemoths) orientados al valor, Ingenieros verdes hazlo-tú-mismo y Nueva conciencia. Los escenarios sirven como bancos de pruebas para el tipo de futuros en los que deseamos vivir. Los futuros tienen que ser explorados con una perspectiva de largo plazo, pero las decisiones en cuanto a los futuros que preferimos deben ser tomadas hoy. Todos los principales sectores de la sociedad tienen que ser transformados para mantenernos dentro de los límites de los objetivos climáticos de París.

Este libro destaca los resultados del Proyecto Energía Neo-Carbono, y se dirige a todos los interesados en las visiones del futuro, cambios sociales y avances tecnológicos.

También puede ser usado como material de enseñanza, o como fuente de inspiración para tomar pasos concretos hacia la era pos-fósil y una economía circular neutra en carbono – para los gobiernos, empresas y ciudadanos.

<https://urn.fi/URN:ISBN:978-952-249-550-1>

For printed books, please contact [sirkka.heinonen@utu.fi](mailto:sirkka.heinonen@utu.fi)