DIGITAL TRUST FOR SAFE, SECURE AND PROSPEROUS SOCIETIES

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Business Finland
FINLAND DEFINING THE FUTURE
Our strategy for 2025

--- PURPOSE ---
We generate prosperity for Finland by accelerating our customers’ sustainable growth globally.

--- VISION ---
We excel at developing and refining the best of Finnish potential and matching it with global opportunities. We create world-class success stories.

--- STRATEGIC PRIORITIES ---
- Economic Growth
- Sustainability
- Competitiveness

--- CUSTOMER ---
- Globally thriving companies
- Developers of new sustainable solutions and operations
- Bold reformers of business

--- SOCIETY ---
- Productive economy
- Superpower in sustainable development
- Attractive and resilient business landscape

Values

- With passion
- All together
- Think big
- With sisu
FINNISH PUBLIC ACTORS PROVIDING INNOVATION FUNDING & SERVICES FOR COMPANIES

- MINISTRY OF EDUCATION
  - ACADEMY OF FINLAND

- MINISTRY OF ECONOMIC AFFAIRS AND EMPLOYMENT
  - TESI
    - Industry Investment

- BUSINESS FINLAND
  - FUNDING
  - INTERNATIONAL GROWTH
  - PROGRAMS
  - ECOSYSTEMS

- FINNVERA

BASIC RESEARCH
APPLIED RESEARCH
BUSINESS R&D
BUSINESS DEVELOPMENT MARKETING INTERNATIONALIZATION
Earlier 2020, Business Finland launched a competition where it challenged leading companies with international operations to resolve significant future challenges and increase their research, development and innovation investments in Finland.

FINNISH APPROACH TO THE FUTURE SOCIETY

We make the world **safe**, **connected**, **intelligent** and **convenient** with new digital solutions, business models and ways of working. We have the abilities to transform industries to be **competitive** in the global markets and the society to be **sustainable** as well as **functional** for its citizens.

We strive for a **smart**, **safe** and **sustainable** society.
DIGITAL SERVICES

MOBILITY

BUILT ENVIRONMENT

ENERGY WITH WATER & WASTE

DIGITAL INFRASTRUCTURE & OPEN PLATFORMS ECONOMY

EDUCATION

HEALTH

TRAVEL

PORT

MANUFACTURING

BUILDING BLOCKS OF THE FINNISH APPROACH
EVERYTHING IS CONNECTED IN FINLAND

From traffic lights to the electricity grid, connected infrastructure supports innovative digital solutions across all main sectors of the economy.
WHEN EVERYTHING IS CONNECTED...

Safety and security is more important than ever. That’s why it needs to be built into the design of products, services, processes and systems from the beginning.
WHY FINLAND?

FINLAND IS A SAFE, SECURE AND TRANSPARENT SOCIETY. WE ARE ALSO ONE OF THE GLOBAL LEADERS IN CYBERSECURITY.

WORKING TOGETHER
A flourishing company ecosystem, combined with a stable and ICT-oriented society, supportive legislation and strong support for data privacy, makes Finland the ideal country for cyber and information security businesses. In all, the country offers reliable and transparent ways of working.

USING THE LATEST TECHNOLOGY
Finland is one of the leading countries in data privacy and threat prevention solutions and identity management. We are known for many fundamental cybersecurity technologies essential to cyber and information security.

LEADING BY EXAMPLE
Finland’s strong tech expertise, high education level and vibrant startup scene contribute to an attitude of innovation, putting us at the forefront of digitalization, communication technologies and smart & clean technologies. The Finnish cybersecurity scene is outlined by the National Cybersecurity Strategy.

IN AVAILABILITY OF LATEST TECHNOLOGIES
WORLD ECONOMIC FORUM GLOBAL COMPETITIVE INDEX 2017-2018

IN DIGITAL COMPETITIVENESS IN THE EU
DIGITAL ECONOMY AND SOCIETY INDEX 2019

THE MOST STABLE COUNTRY IN THE WORLD FOR THE 14TH YEAR IN A ROW
BY THE FUND FOR PEACE, FRAGILE STATES INDEX 2019

IN BEST BUSINESS ENVIRONMENTS IN THE WORLD
GLOBAL INNOVATION INDEX 2019

IN MOST INNOVATIVE COUNTRIES IN THE WORLD
BLOOMBERG INNOVATION INDEX 2019
DIGITAL TRUST VISION 2025

Digital Trust Finland will enable multi-billion business through development of safe and cybersecure solutions

- Allow nation states to achieve digitally trustworthy societies
- Create new industry driven ecosystems and global multi-billion business boosted by research

5 years during 2019-2024
100 MEUR public funding
INCREASE AWARENESS - MARKETING

DIGITAL TRUST CHALLENGE

Themes

- Industrial cybersecurity
- Critical Infrastructure
- Critical communication (e.g. AI)
- Technology development of cybersecurity
- Quantum computing and cybersecurity

Goals: Accelerate new ideas that lead to co-innovation projects, inputs to EU calls e.g. Horizon Europe.

New, more innovative and competitive ecosystems

May-June: 50 idea papers, 20 online workshops
Now: Several new consortia on the way
The focus areas of the project are:
- Application of commercial 5G technology for public authorities’ communication needs
  - Hybrid commercial/dedicated solutions
  - Special requirements on availability, reliability, quality, security
- Research the applicability of authorities’ solutions for business use

The expected outcomes are:
- New and evolved ecosystems in the area of critical communication (Public Safety)
- Technical solutions to be further developed into products
- Resulting in growing international business for the participants
- The next capability level in public authorities’ critical communication
CO-INNOVATION – POST QUANTUM CRYPTO

PROJECT TARGETS

- Gain understanding how Finland can prepare for Quantum era
- Develop Finnish cryptography knowhow and skills further
- Strengthen national cybersecurity networks and forums in cryptology and in quantum technology
- Prepare interfaces (API) for Quantum Safe algorithms
- Create criteria and practices for certification of post-quantum products and services
- Improve Finnish technology sector vendors in export struggles
- Improving international cooperation also outside of academia
OPEN PLATFORMS ECONOMY, DISTRIBUTED SET OF MICRO SERVICES AND TRUST

- Shared data can create much new value - "One man’s trash is another one’s treasure"
- When there is a wide set of co-operating partners with shared services (Uber, AirBnB, …) and data, there will be also new kind of error possibilities
- Can one trust others ie. potential partners in the service network?
- Who has the data, who can use it and how? What is the newest, the current data?
- GDPR and MyData. Can you trust the government and authorities?
- What is the service level (SL) of the system if the system uses 50 services with SL 99%? \( \rightarrow 0.99^{50} = 0.605 \)
- How about 3rd party services and regulated software e.g. in healthcare?
BUILDING BLOCKS OF DIGITAL TRUST

Legislation, regulation and principles
- Open Data principles
- Registry legislation
- MyData
- Ethical AI principles
- Taxation and anti-corruption regulation
- Healthcare & patient data regulation
- Learning system
- Master data management

Digital services & data repositories for the digital society
- Open data
- National registries
- Digital authorizations & mandates
- AI
- Taxation & Realtime Economy
- Digital healthcare services
- Digital learning
- Public and private sector services

Cybersecurity & Privacy

MyData
Organizational data

Consent

Authentication (with multiple levels of assurance)

Digital Identities
- Person
- Organizations
- Things & Assets

BUSINESS FINLAND
Picture source: Findy.org
We must make this Europe's Digital Decade

- We need a common plan for digital Europe with clearly defined goals for 2030, such as for connectivity, skills and digital public services. And we need to follow clear principles: the right to **privacy and connectivity**, freedom of speech, **free flow of data and cybersecurity**.
- But **Europe must now lead the way on digital** – or it will have to follow the way of others, who are setting these standards for us. This is why we must move fast.

There are three areas on which we need to focus

- **First, data.** We will build a **European cloud** as part of NextGenerationEU - based on GaiaX.
- The second area we need to focus on is **technology** - and in particular **artificial intelligence**. That is why the Commission will soon propose a secure European **e-identity**.
- The third point is the **infrastructure**. “In this spirit, I am pleased to announce an investment of 8 billion euros in the next generation of **supercomputers** - cutting-edge technology made in Europe. And we want the European industry to develop our own **next-generation microprocessor** that will allow us to use the increasing **data volumes energy-efficient and securely.**”
INFRASTRUCTURE FOR EUROPEAN DATA SPACE

- European data strategy in February 2020
- GAIA-X is an initiative started a year ago in cooperation by France and Germany to give birth to European data sharing infrastructure
- European trusted and federated cloud solution
- Uses existing solutions as much as possible
- Initiative has gathered in fast speed around 300+ companies and other players
- Industrial ministries of Germany and France are ‘patrons’ of the effort
- GAIA-X foundation established as an AISBL in Belgium on 15.9.
THANK YOU!

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www.businessfinland.fi
Digital Trust Finland Program and Business Finland
https://www.businessfinland.fi/en/for-finnish-customers/home/

E-Books of Finnish Cyber Security and Public Safety
https://www.magnetcloud1.eu/b/businessfinland/PublicSafetyFromFinland_ebook/

GaiaX
www.gaiax.fi and www.data-infrastructure.eu/