

Resilience, Security, and Collaboration in a Changing World

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A SUSTAINABLE
FUTURE THROUGH
DIGITALISATION



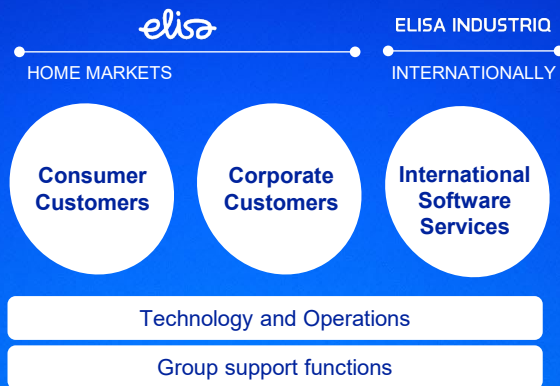
Elisa in brief

2.8M
customers

€2.2BN
revenue 2024



6,700 Elisians in 20+ countries



Market position

#1
in Finland

#2
in Estonia

With over 140 years of experience

For home markets Finland & Estonia

- Telecom
- Entertainment
- IT and cyber services

For international markets

- Telecom software
- Industrial software
- Energy management

New Era: the changing security situation requires stronger attention and preparedness



- **Geopolitical tensions**
War in Ukraine, situation in the Middle East, China-Taiwan tensions, increased confrontations



- **Hybrid attacks in Europe**
Espionage and intelligence, sabotage, attacks on critical infrastructure, influence campaigns



- **Cybercrime on the rise**
The severity and tempo of hostile activity have increased (notably phishing, DDoS, ransomware, and rapid vulnerability exploitation)



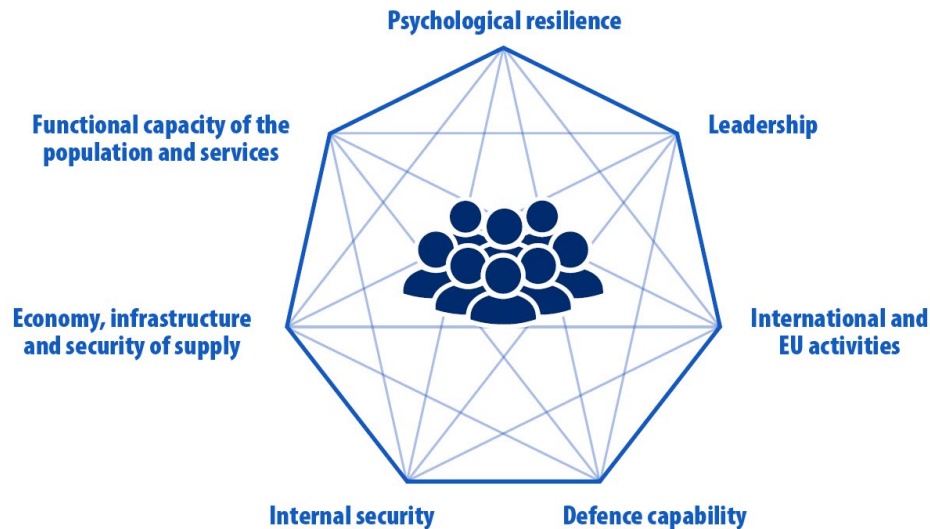
- **Organised crime**
Gangs, drugs, violence and economy related crimes



- **Resilience is crucial**
Preparedness, operational capacity, cooperation and trust are the key for security of societies and businesses.

Comprehensive Security concept of the Finnish society

- Comprehensive security forms the foundation of resilience in Finnish society
- The model is based on co-operation; the vital functions of society are taken care of in collaboration between the authorities, business community, organizations and citizens



Nordic, European and Global dimension of security of supply

In today's context, what defines a resilient society, and how can we guarantee its continued strength?

Increased international collaboration is essential.

Working bilaterally with different countries and partners can enhance the security of national supply.

Nordic collaboration in preparedness is well-established and longstanding, fostering strong civilian-military cooperation that bolsters overall societal security.

Communication networks



Communication networks are critical for functioning society



The availability, security and reliability of communications networks and services must be ensured under all circumstances



Preparedness is implemented by legal obligations for companies through legislation



In addition to mandatory preparedness, continuity is ensured also by other means, including regular collaboration between public and private sector



Submarine cables are critical international network connections – security of the the undersea infrastructure is crucial



Critical infrastructure is largely owned by private companies, which makes cooperation between authorities and business sector extremely important

Examples of Elisa's role in securing the operational reliability of society

Cybersecurity

- Elisa cSOC: 24/7 monitoring, incident management and situation awareness
- Collaboration with authorities and support for the public safety broadband network ("Virve 2.0") to enable secure authority communications
- 309,000+ denial-of-service attacks blocked & rejected in 2024

Privacy

- Over 23 million scam calls blocked since 2021

Resilient Network Architecture

- To ensure sufficient capacity

Electricity backups

- Back-up batteries for base stations working as a virtual power plant
- Commercially available also for other telecom operators, commercial & industrial sector and homes



Multilayer architecture and operations secure resiliency

- **Resilient network architecture** and traffic re-routing backbone networks with sufficient capacity
- Overlaying radio spectrum and networks
- **Power backups** from base stations to datacenters
- **Physically secured** premises based on criticality
- Automated **24/7 cyber and network monitoring** and operations
- Incident detection, response and **crisis management processes**
- **Preparedness and business continuity development**
- **Co-operation with authorities and peers**





Picture credits: Juha Salminen / Helsingin
Sanomat

Submarine cable incident in the Gulf of Finland on 25 Dec 2024

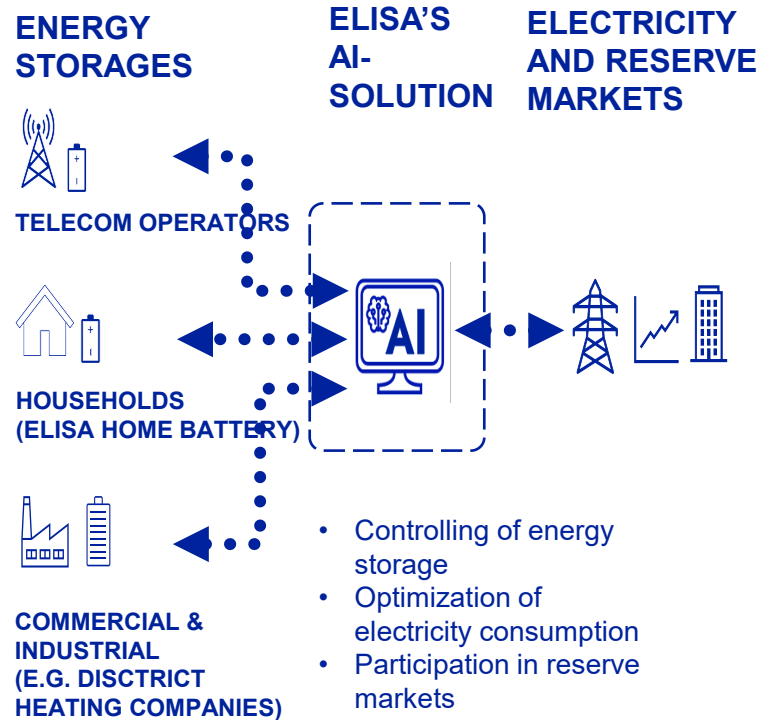
No effect on services, successful recovery

- On 25 Dec 2024, two Elisa's and two other telecom cables and a power transmission cable severed by *Eagle S* tanker
 - Resilient network: no effect on Elisa's services in Finland or Estonia
- Incident management, repairs, risk mitigation, cooperation and coordination with FI and EE authorities began in the evening of 25 Dec
- **Determined FI government action and cooperation with EE and other allies.**
- Repairs completed 6 Jan at 9:46 am
- Arrest of Eagle-S –vessel for investigations
- Court proceedings against ship's officers started in Helsinki District Court on Monday 25 Aug 25, now proceeding in the Helsinki Court of Appeal



Gridle: Optimizing energy storage flexibility

- An AI-powered solution optimizing energy storage flexibility and electricity use, enabling electricity and reserve market participation.
- Initially developed to manage thousands of backup batteries across Elisa's base stations, forming one of Europe's largest virtual power plants.
- Now commercially available to other European telecom operators.
- Also available for energy storage management in commercial and industrial sectors.
- Elisa's Home Battery service offers households a complete solution, saving 33–49% in electricity bills and generating revenue through reserve market participation.



Elisa constantly exercises for testing, learning and collaboration

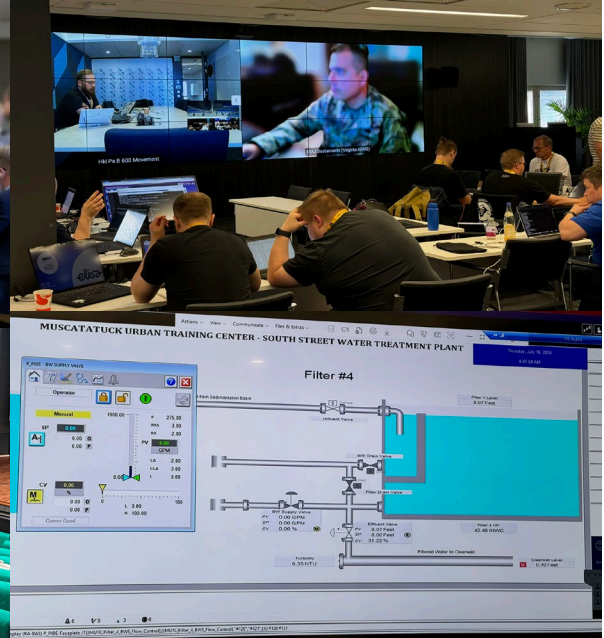
Own



National



International



War in Ukraine: learnings for all of us

- **Russian attacks target military and civilian infrastructure**, highlighting the need for comprehensive physical and cyber protection
- **Electricity and Information** networks are crucial for national resilience
- **Focus on people and communication** to secure operations
- Essential **business-based** services in continue to operate commercially, importance of **functional markets**
- **Enemy develops its tactics**, preparedness must be dynamic, involving agility and continuous learning
- **Public-private partnerships** are essential for effective crisis management
- **Preparing for worst-case scenarios** on a long term is crucial before threats become immediate





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Thank you!