NOKIA

Mobile network infrastructure software and services
Nokia Networks ›

Mapping navigation and location intelligence
HERE ›

Advanced technology development and licensing
Nokia Technologies ›

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There's no time like the present to shape the future ›

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Company profile, news center, investor relations, sustainability and careers ›
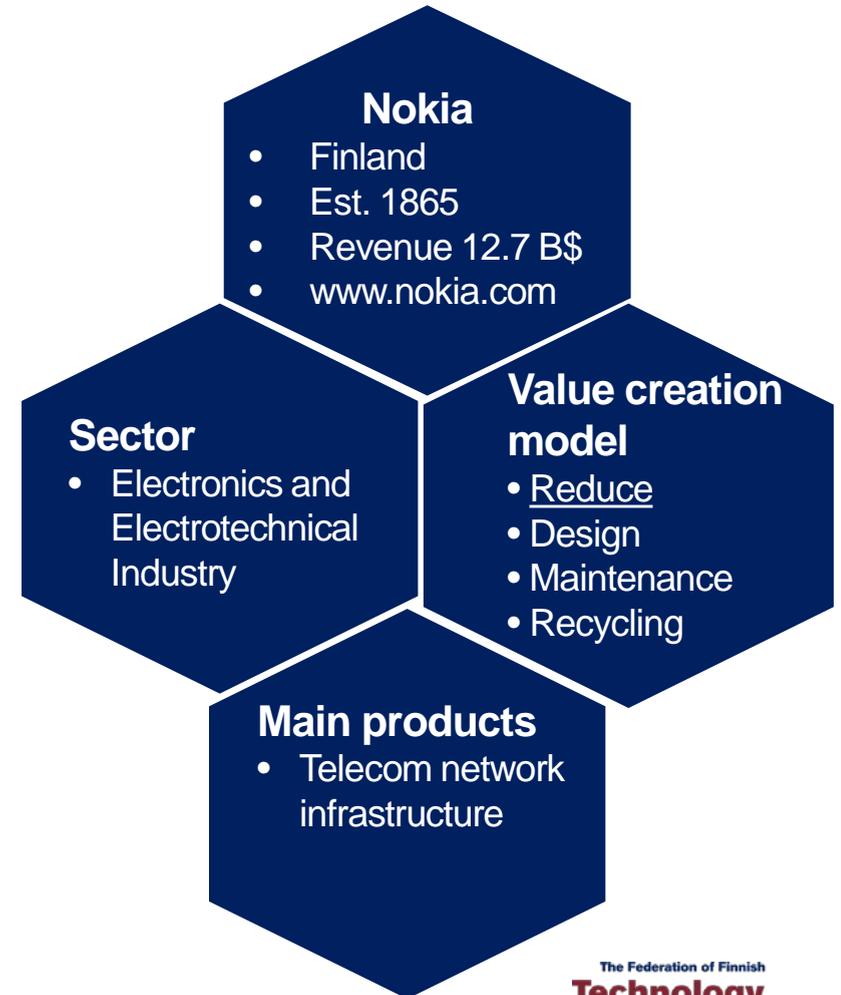
Nokia N1
Thinking ahead ›

Nokia Networks
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Nokia
- Finland
- Est. 1865
- Revenue 12.7 B$
- www.nokia.com

Value creation model
- Reduce
- Design
- Maintenance
- Recycling

Sector
- Electronics and Electrotechnical Industry

Main products
- Telecom network infrastructure

The Federation of Finnish
Technology Industries

The Company

- *Nokia* is a *global leader in the technologies that connect people and things*.

- Powered by the pioneering work of *Bell Labs* and *Nokia Technologies*, the company is at the forefront of creating and licensing the technologies that are increasingly at the heart of our connected lives.

- Nokia combines global leadership in *mobile and fixed network infrastructure*, with the software, services, and advanced technologies to transform how smart devices and sensors tap the power of connectivity.

- With state-of-the-art software, hardware and services for any type of network, Nokia is uniquely positioned to help communication service providers, governments, and large enterprises deliver on the promise of *5G, the Cloud and the Internet of Thing*s.

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Industries 2

The Challenge / Opportunity: Reducing material consumption

NOKIA

- Telecom network infrastructure business is going through major changes as the key technologies evolve. *Modularity* increases, and each module contains more and more functionality in a smaller and smaller space.

- The *physical size of network elements* is important for the telecom operators, as they have to pay rent for the device space (e.g. base stations). Smaller physical size means naturally also *smaller consumption of materials*.

- Another key trend is the *increasing importance of software* in the systems, which also has an impact on the hardware requirements. In general, software upgrades play a big role in Nokia's business. Approximately half of the company's revenue comes from services.

- Another important driver helping to reduce material consumption is the current trend towards *cloud computin*g. As bigger and bigger part of processing takes place in the cloud, i.e. in centralised computer centers, devices at the edge of the network do not need as much capacity and intelligence as in the past.

- However, this evolution has raised another question: how *energy efficient* are the computer centers powering the cloud computing solutions? Interestingly, the global energy consumption of the ICT industry is estimated to be almost as big as that of airline traffic.

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**Technology
Industries** 3

The Challenge / Opportunity:
Nokia saves your energy

NOKIA

- When looking at telecom infrastructure from *total cost of ownership (TCO)* point of view, the importance of *energy consumption* becomes evident: Up to 80 percent of energy comsumption of telecom network infrastructure products is generated during the use of the devices.

- The majority of energy consumption in Nokia's products is related to the various radio technologies. Albeit energy consumption in the *middle-of-life* phase is not directly a cost element for Nokia itself, it is something that is essential for Nokia's customers and therefore also a high priority for Nokia, too.

- The Finnish telecommunications giant is actively looking for novel ways to *reduce energy consumption during the usage*, for instance in joint-research projects with universities.

- In the future, the importance of reducing energy consumption becomes even more important, as the data volumes are estimated to become approximately thousand times bigger than today.

- **The goal is to offer this increase in network performance without increasing the energy consumption.**

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Industries 4