

Digitalization – the Way to Survive for Energy Sector

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- Established in 1939
- 5800 employees
- 25 subsidiaries and related companies
- 2.500 mln EUR investments during the last 10 years
- Group's net profit in 2016: 171 mln EUR
- Sales revenues of the group in 2016: 742 mln EUR

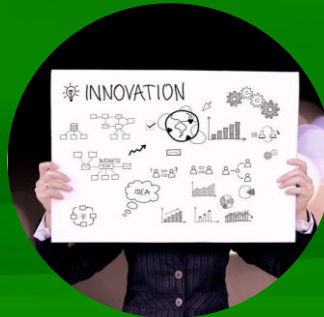
Large Scale Energy Production



Renewable Energy



R&D



Network Services



Customer Services



Megatrends What are Changing the Energy Industry

Environment

Increasing legislative pressure on non-renewable energy

Challenging emission targets

Increasing production cost

Cleaner energy production

Technology

(Industrial) Internet of Things

Smart Grids and Smart Metering

Micro- and local energy generation

Innovations in renewable tech

Big data & analytics

Cloud & block-chain

Artificial intelligence

Markets

Order based merit markets

Is online, mobile, connected, values freedom of choice

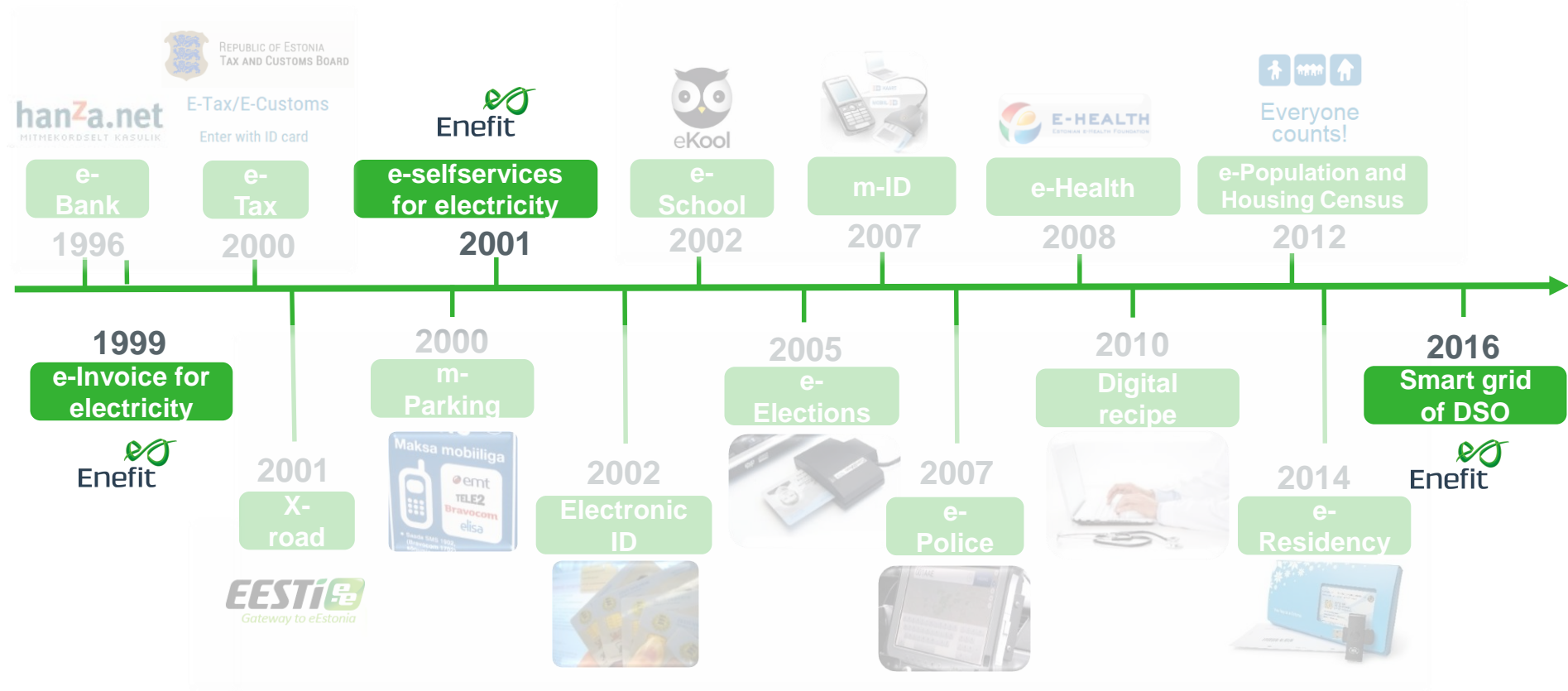
Expects customized/personalized service

Consumers -> Prosumers

Expects synergies between different products

Urbanization

e-Estonia: 20 years of experience





Energy world is changing – digital solutions are part of everyday business

e-Energy: digitalization in Enefit

Production optimization



Industry 3.5
program

Smart Grid Smart Metering



Analytic Grid
monitoring,
DSO digital
product portfolio

Sales & Service



Foreign Markets
program,
New Services for
Prosumers

Data driven
management

OT/infrastructure
improvement

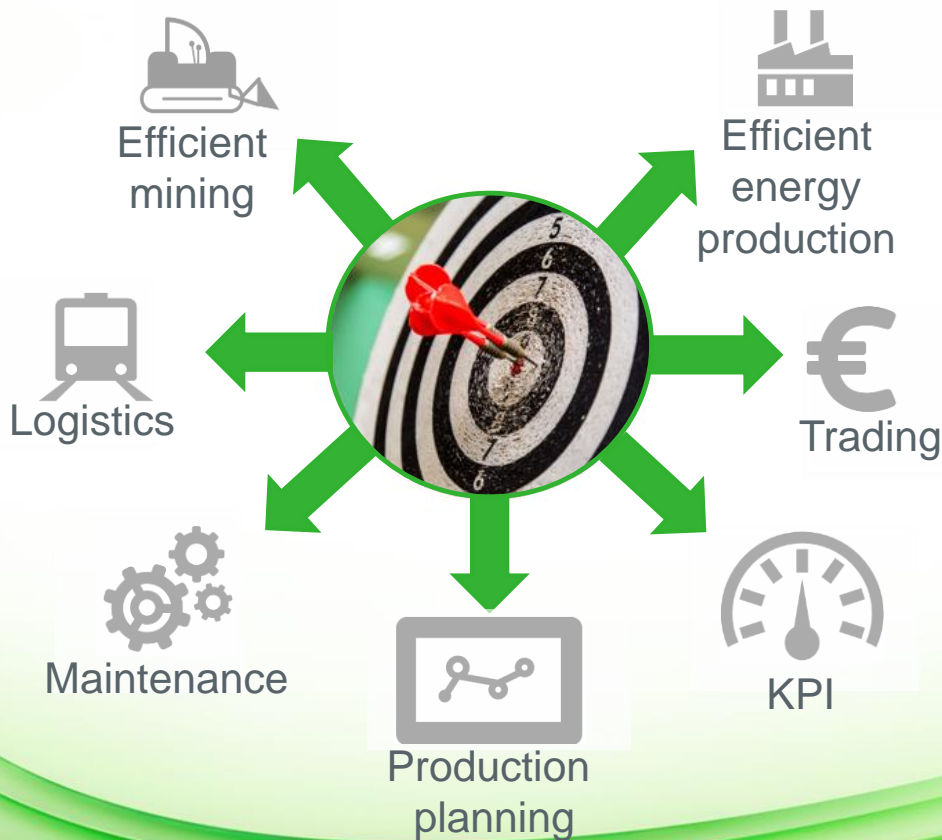
Cyber- and
information
security

Program Industry 3.5

Production
optimization

Smart
grid

Sales &
Service



Every invested
euro earns
3 euros
in 5 years

AF's Balance+ in Enefit's Power Plants Self-learning Adaptive Unit Control Concept

BENEFITS

- ✓ More accurate temperature, pressure and load control with less oscillation
- ✓ Less temperature corrosion
- ✓ Efficiency gains due to higher temperature and lower excess O₂ content of the flue gas

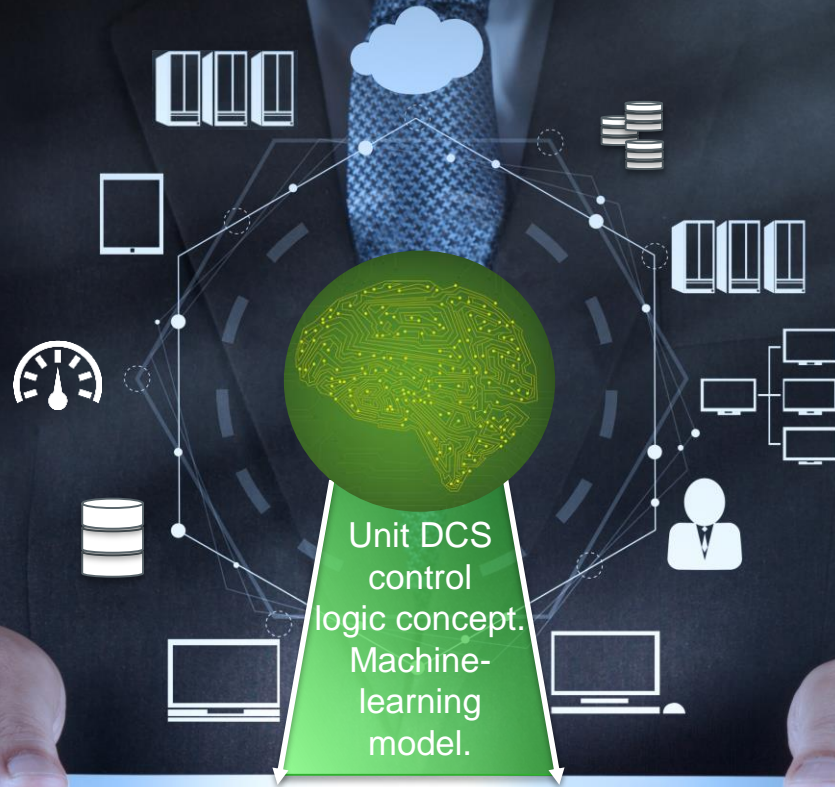
EXPECTED OUTCOME

- ✓ Increase of the energy block efficiency 0.25 - 0.5%
- ✓ Decrease of unit auxiliary power consumption 0.75-1.5 MWe

Production
optimization

Smart
grid

Sales &
Service



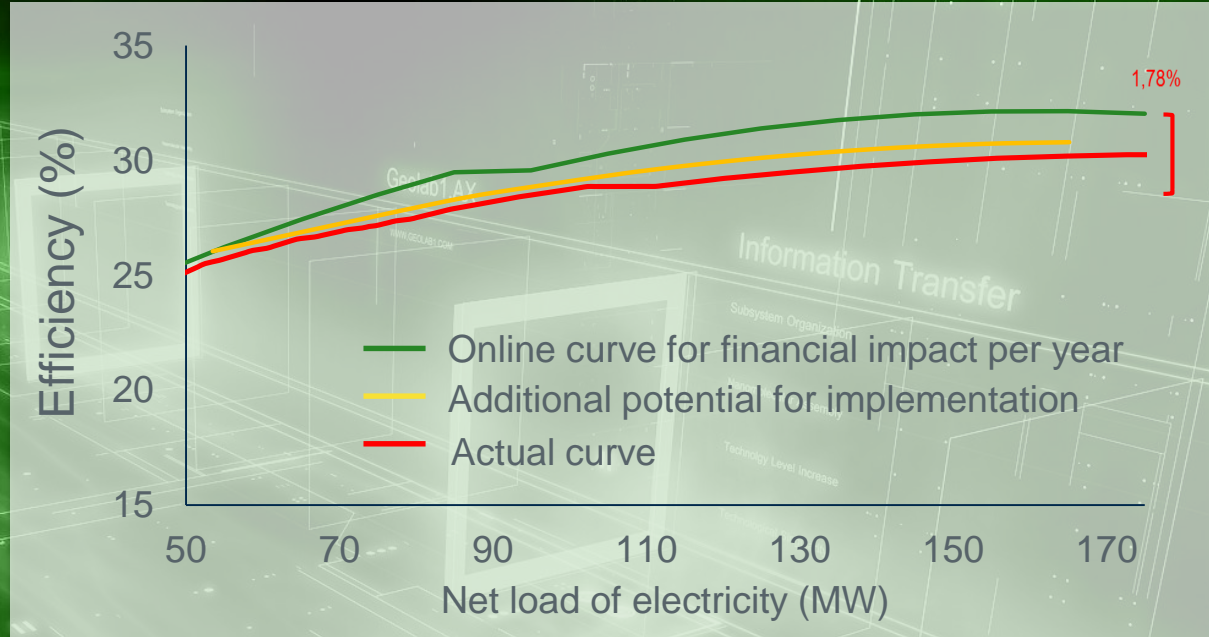
Balance & Efficiency

Strategic management

Data acquisition

Operational
management

Data sheet
production devices



Production
optimization

Smart
grid

Sales &
Service



>100%

- Smart meters + smart metering
- Reduced Network losses
5.7% -> 4.1%
- Client satisfaction has doubled
- Improved grid planning
& investments
- Potential big data opportunities

Production
optimization

Smart
grid

Sales &
Service

Production
optimization

Smart
grid

Sales &
Service



>94%

of our clients are served online
e-service, mobile app, smart metering



>90%

of all electricity contracts are
signed or prolonged digitally
online self-service; e-mail



>90%

of all invoices are
sent/received digitally
e-mail; sms; online self-service



>50 000

downloads of mobile app; 50% increase
of active mobile app users in 2017

House
of digitalization

Online client services

Smart grid

Big data

Data HUB

Smart meters

Regulations



What are the
next steps?

We have the base structure
(first floors)

The foundation
(regulations)

Production
optimization

Smart
grid

Sales &
Service

Estonia is like a test lab

- 100% smart grid and smart meters
- Data HUB
- Online client services
- Digitalization of production processes



Digitalization Partnership

Contribution of Enefit

- ✓ Industry competence
- ✓ Existing Smart Metering with central data hub
- ✓ Smart and connected customers
- ✓ Active energy market
- ✓ Available technical and OT/IT know-how
- ✓ Real distribution network test-lab
- ✓ Government-level strong digital ID system
- ✓ Open mind to changes, ambition to be leader in energy industry

Expectations to Partner

- ✓ Global sales & marketing capabilities
- ✓ Market presence
- ✓ Know-how how to commercialize developed innovations
- ✓ Connectivity & IoT security
- ✓ Data Analytics including modeling practical know-how
- ✓ Will to share IPR
- ✓ Open co-operation

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