NORTHERN DATA AG

Oppenheimer's Blockchain & Digital Assets Summit: Web 3.0 and the Creator Economy

17. November 2022

NORTHERN DATA AG

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Agenda

Company Overview

Northern Data at a glance

Company Description

- We design, build and operate **next generation data center HPC infrastructure** based on GPU- and ASIC-Hardware
- We assure **efficient operation** due to a high degree of automation
- Our Data center portfolio is **multinational in Europe and Northern America**
- We have a focus on sustainable use of energy and achieved **carbon neutrality in 2021**

Vision and Mission

Vision

Become the leading Value Generator for HPC infrastructure solutions

Mission

Developing vertically integrated Data Center Acceleration infrastructure we create value today and provide tomorrow's foundation for accelerating the future.

Business Segments

- Data Center Infrastructure
- Mining
- Cloud Computing

USPs

- Cost-Advantage
- Flexibilty & Speed
- Future-Driven
- Scalability
- Sustainability

Numbers FY2021

€ 190 m
Revenue

€ 90 m
adj. EBITDA

€ 16
EPS (incl. one-offs)

Market Outline

Market opportunities

We are positioned in a highly-attractive, booming markets

$832 Bn

"**Cloud Computing Industry** to grow to $832 Billion by 2025"[1]

1000x

"**Increase** in power is needed over our current collective **computing capacity**" – Intel, Raja Koduri[2]

$49.9 Bn

Global HPC market is projected to reach $ 49.9 Billion by 2027[3]

1 https://www.marketsandmarkets.com/Market-Reports/Quantum-High-Performance-Computing-Market-631.html?gclid=EAIaIQobChMIz9bTnpCG-gIVic13Ch1PQgzvEAAYASAAEgJ6KPD_BwE
2 Raja Koduri, SVP and head of Intel's Accelerated Computing Systems and Graphics Group (Dec '21)
3 www.datacenterdynamics.com

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We produce compute power essential to technical progress

DC Infrastructure

Building High-Performance Data Center

Crypto Mining

Securing Blockchain and Cash Generation

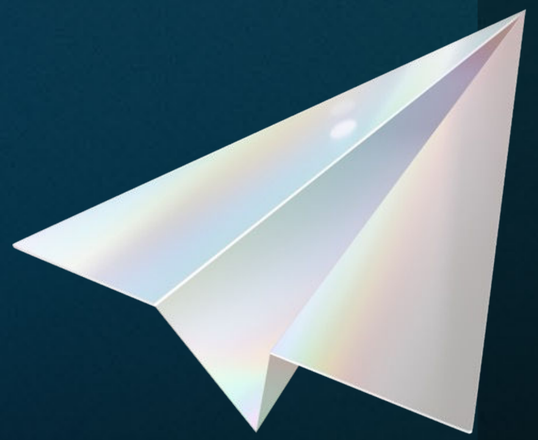
Cloud Computing

Covering needs and innovating (GPU-based vs. CPU-based)

FY 2021 Highlights

Highlights 2021

Record Results for Northern Data



Revenue **€ 189.9 m**

Guidance ‘21 € 180–220 m

EBITDA (reported) **€ 320.1 m**

EBITDA (adjusted) **€ 89.6 m**

Guidance ‘21 € 100–125 m

Cash Position **€ 221.6 m**

31st December 2021

€ 58 m

31st October 2022

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Strategy

We focus on three sectors, pursuing our vision:

Becoming the leading value generator of HPC infrastructure

Data Center Infrastructure Solutions

Cloud Computing

Crypto Mining

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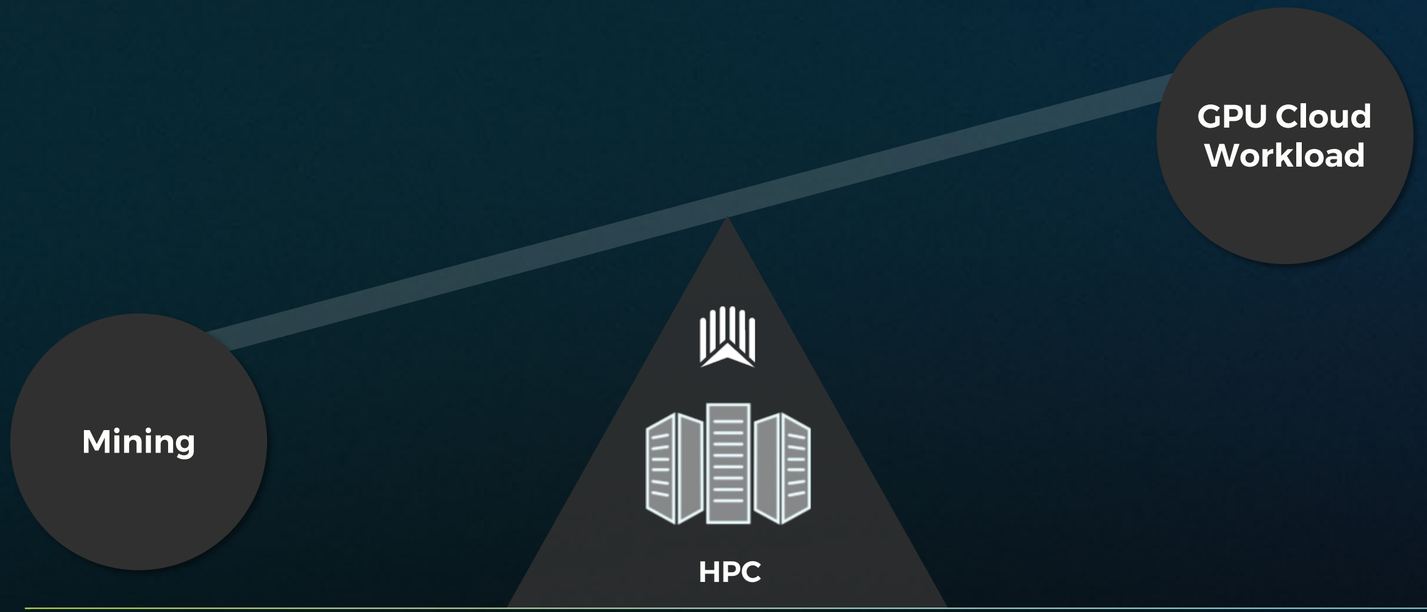
Versatile Use of our Hardware

- Use of GPU-Hardware is strategically shifted from Altcoin Mining to Cloud Operations

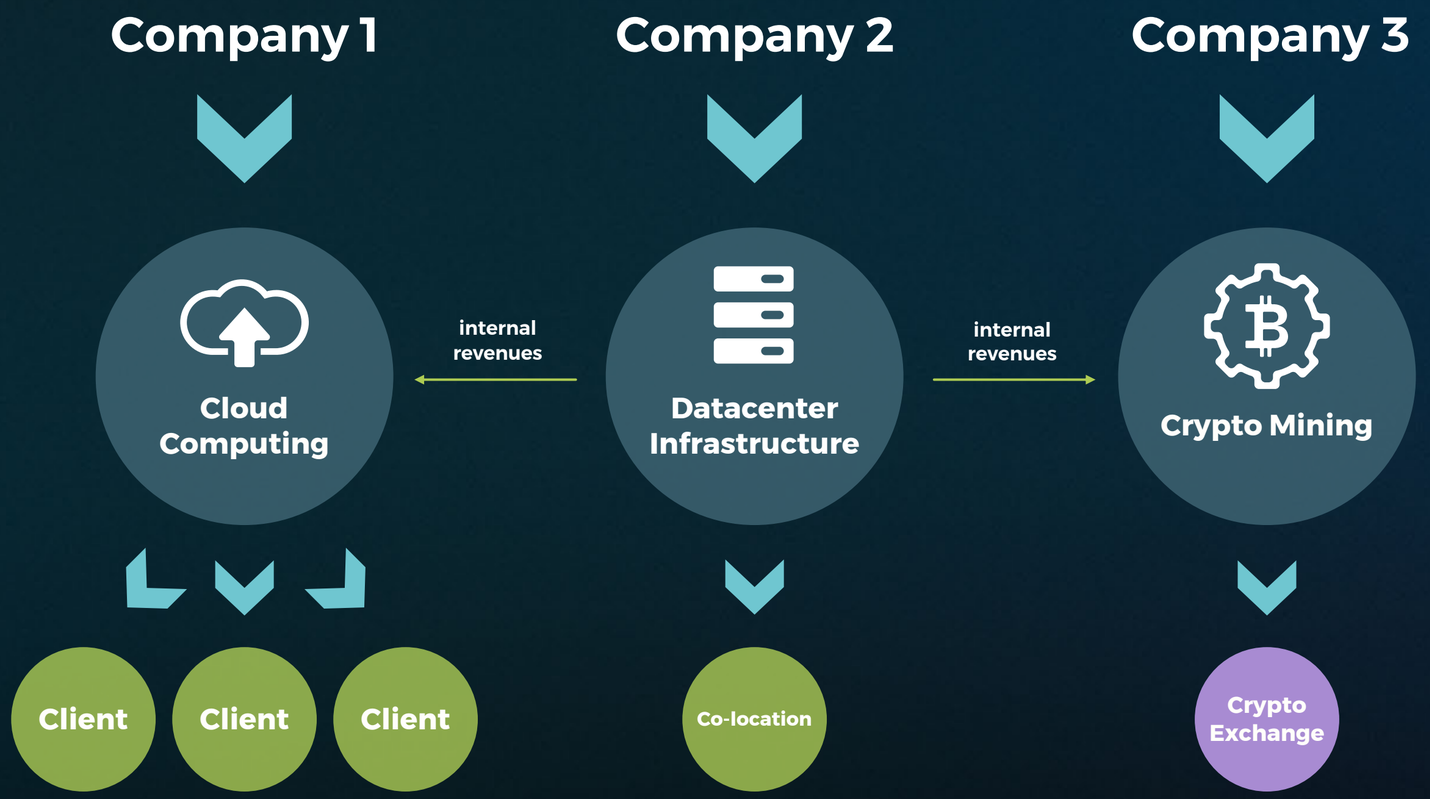
...shift towards GPU Cloud in the future...

Target Use Case Cloud Computing



Northern Data

Northern Data comprises three companies



Strategic Case

→ **Building and Operating a Global HPC-Infrastructure**

1 Global Data Center Portfolio

Due to our global cluster of data centers, we diversify our risk regarding energy supply,
regulatory framework, and data sovereignity

2 Highest Efficiency Standards

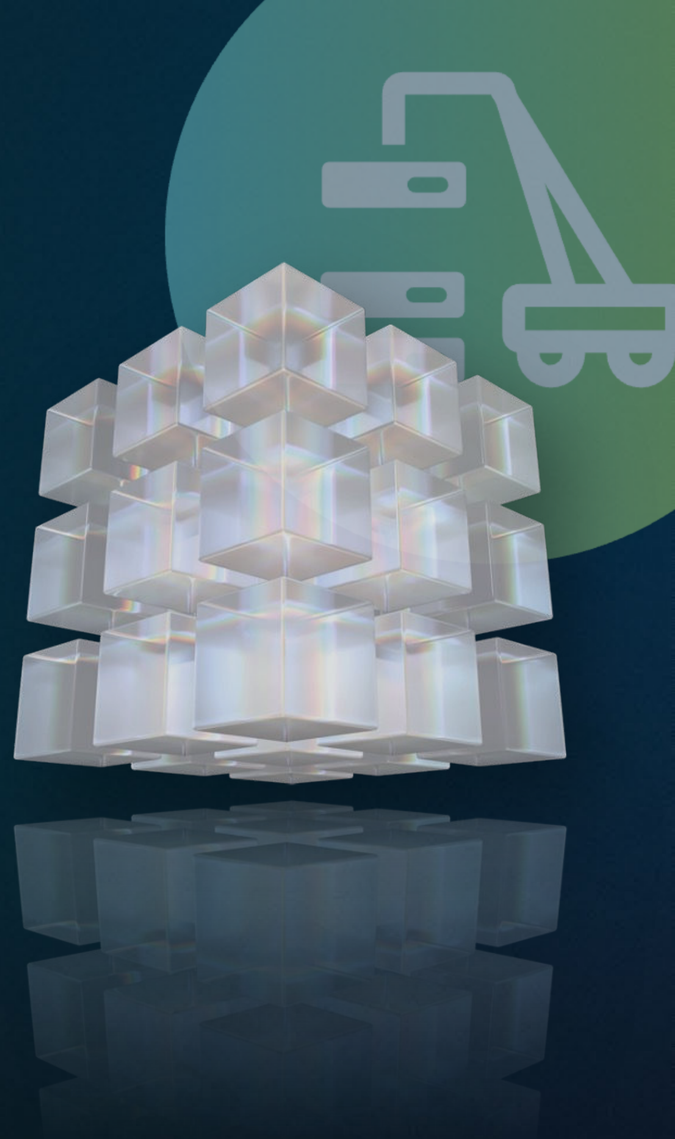
We build and operate next-generation data centers without costly redundancy due to a vertically integrated infrastructure, proprietary data center management software, latest hardware, and efficient cooling solutions

3 High Scalability

We are ready to handle large increases in workload without undue strain as we have prepared ourselves early

4 Sustainable Focus

In our data centers, we use energy efficiently and prefer the utililization of renewables to ensure carbon neutrality (achieved in FY2021)



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Data Center Portfolio

PORTFOLIO CARBON NEUTRAL* in FY2021

Developing our data center infrastructure globally

- Buffalo (ext.), NY, USA (2022)
- Maysville, GA, USA (2022)
- Grand Forks, ND, USA (2022)
- North Tonawanda (ext.), NY, USA (2022)
- Oklahoma, OK, USA (2024e)
- Les Escoumins, QC, Canada (2022)

- **North America: Focus on ASIC-operations**

- Boden, Sweden (2021)
- Lefdal, Norway (2018)
- Notodden, Norway (2021)
- Norway III (2021)
- Eygelshoven, Netherlands (2019)
- Frankfurt, Germany (2019)

- **Europe: Focus on GPU-operations**

Sweden

40 MW completed In 2022; further expansion planned

Georgia

20 MW in 2022
120 MW in 2023

Les Escoumins

10 MW in 2022

Oklahoma

Construction planned for 2023

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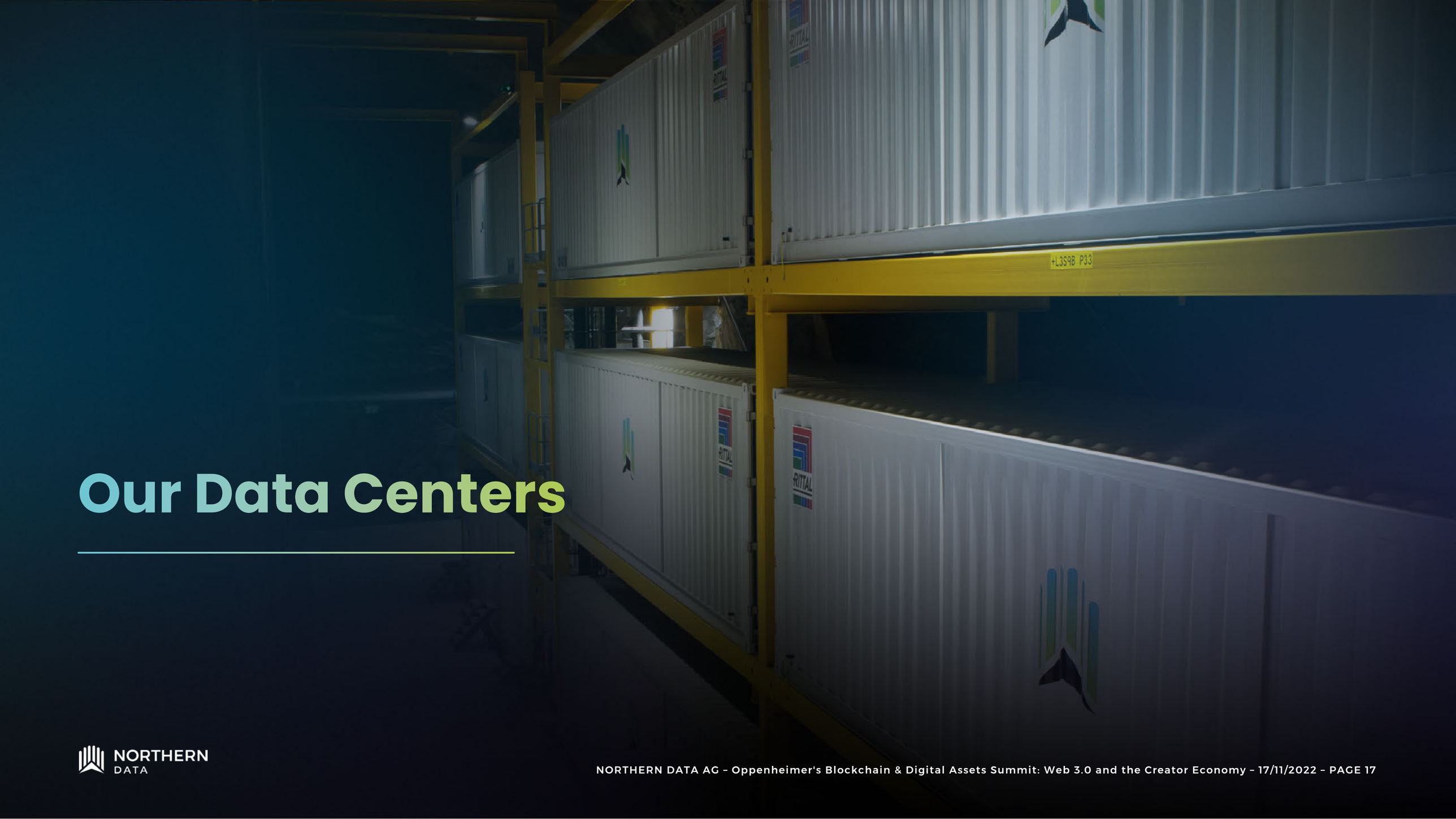
Our Data Centers



NORWAY

Lefdal Mine

SWEDEN

Boden

GERMANY

Frankfurt

NETHERLANDS

Eygelshoven

USA

North Dakota

USA

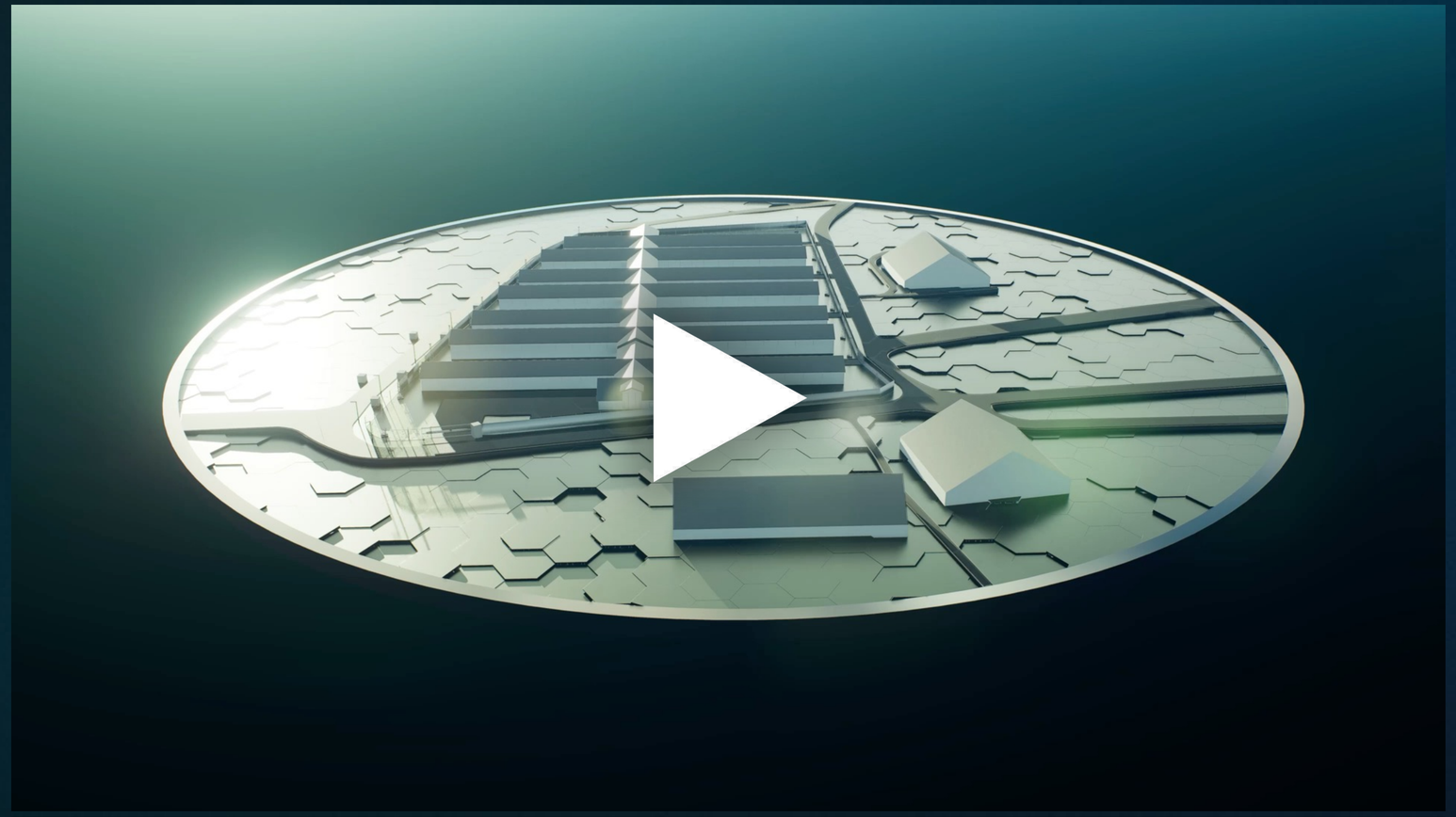
North Dakota

Our Site in Sweden stands out with highest efficiency-standards

Best in Class PUE of 1.04
in 2021

100 % Carbon-Free
in 2021

Zero CO_2 Emissions
in Scope 1,2 in 2021



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Cash Case

→ **Crypto mining**

1 Constant Cash Generation

Rewards from our crypto business are sold and converted to cash

2 Keeping our Costs Low

Thanks to our carefully considered choice of locations, well-negotiated electricity contracts, and the high energy efficiency of our data centers, we operate profitably even at low crypto prices

3 Levers for the Future Development of the Company

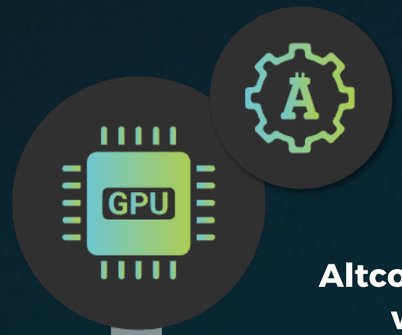
The cash is used to finance the further expansion of our HPC-infrastructure (data centers) and the cloud computing segment

4 Versatile Use of GPU Hardware:

GPUs are initially used for Altcoin mining, before we switch to cloud computing. All based on the foundation of HPC data centers.

Northern Data's Crypto Mining

- Direct Selling
- Cash Generation



Altcoin Mining with GPUs

Self-mining
(for own account)

Bitcoin Mining with ASICs

Self-mining
(for own account)

Bitcoin Mining

€ 54 m unaudited revenue in H1 ‘22

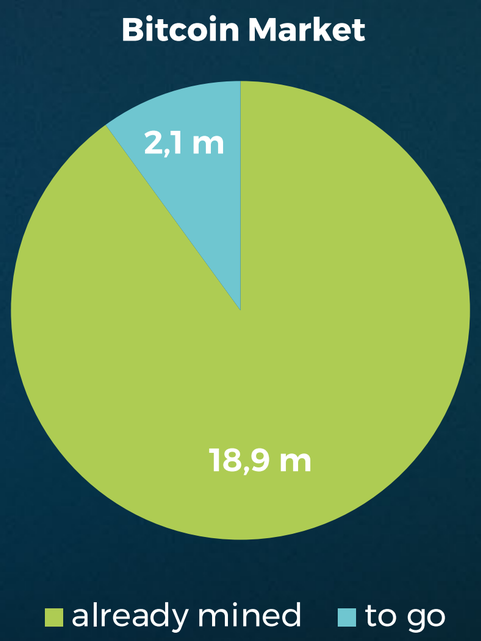
- 2,185 BTC generated from Jan. ’22 to Sep. ‘22
- 36,000–42,000 ASIC miner deployed (3.5–4.0 EH/s) for own account until year end 2022

2022 Bitcoin Production

	Dec. ‘21	Jul. ‘22	Aug. ‘22	Sep. ‘22
Active ASIC systems	18,000	47,300[1]	33,500[1]	**25,900[1]**
Mined BTC	227	206[1]	216[1]	**171**
Exahash / s	1.7	4.35[1]	3.08[1]	**2.39**

Note: All monthly figures unaudited and might include rounding and billing differences in cryptocurrency production (especially for hosting customers)
1 Includes deployed Exahash / s for Bitcoin Mining for own account as well as mining for third parties with profit share
2 Currently foreseeable ASIC-Mining-capacity and Exahash / s for FY ‘22.

Northern Data's take in Bitcoin



BTC Price at US$ 20,000

BTC Assumptions

BTC Price: US$ 20,000

Hashrate: 250 EH/s

ND Market Share
(simplified)

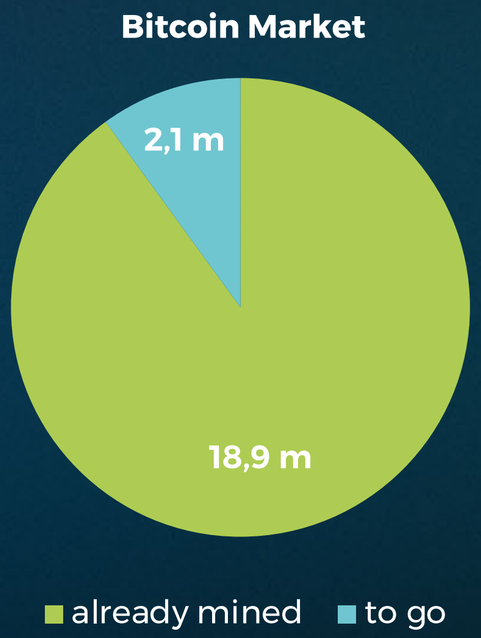
42,600 ASIC Systems

- 4.0 EH/s
- 4.0 EH/s ÷ 250 EH/s
- 1.60 %

Monthly Economic
Illustrative

BTC/Day	900	
ND Market Share	x 0.0160	450
Days/Month	x 31	
BTC Price (USD)	x 20,000	
	~US$ 9 m	

What happens when BTC rises?



BTC Price at US$ 40,000

BTC Assumptions

BTC Price: US$ 40,000

Hashrate: 300 EH/s

ND Market Share
(simplified)

42,600 ASIC Systems

- 4.0 EH/s
- 4.0 EH/s ÷ 300 EH/s
- 1.33 %

Monthly Economic
Illustrative

BTC/Day	900		
ND Market Share	x 0.0133	371	
Days/Month	x 31	-18 %	
BTC Price (USD)	x 40,000		
	~US$ 15 m		+67 %

Growth Case

→ **Cloud Computing**

1 **The GPU cloud market is growing at 16% annually**

There is a massive growing global demand for cloud computing power

2 **We are optimally prepared to serve this market due to existing hardware and abundant data center space**

Northern Data stands out with large amounts of best-in-class hardware and infrastructure at good prices

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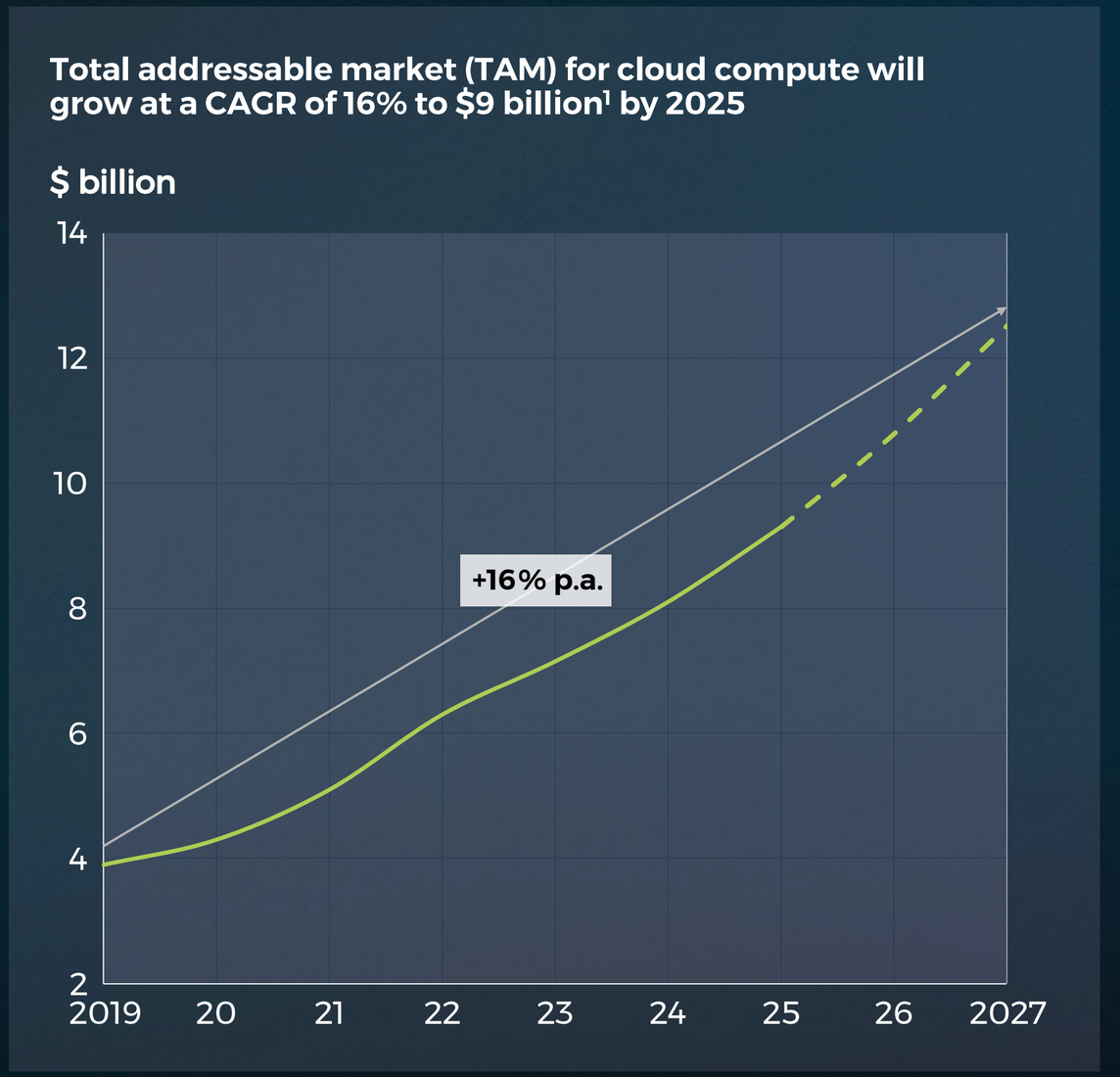
The cloud compute market is growing

- Bluechips investing in GPU-hardware shows that the cloud market offers yet unexplored opportunities

Northern Data wants to take advantage of high and increasingly rising demand in the cloud market

Total addressable market (TAM) for cloud compute will grow at a CAGR of 16% to $9 billion[1] by 2025



intel

"1,000x increase in power is needed over our current collective computing capacity" – Raja Koduri[1]

HYPERION RESEARCH

"A recent study showed that almost 50% of the users are altering on-premises deployments due to cloud" [2]

1 Raja Koduri, SVP and head of Intel's Accelerated Computing Systems and Graphics Group (Dec '21)
2 Hyperion Research, Report on New Trends on Using Cloud for HPC Workloads, Nov 2021

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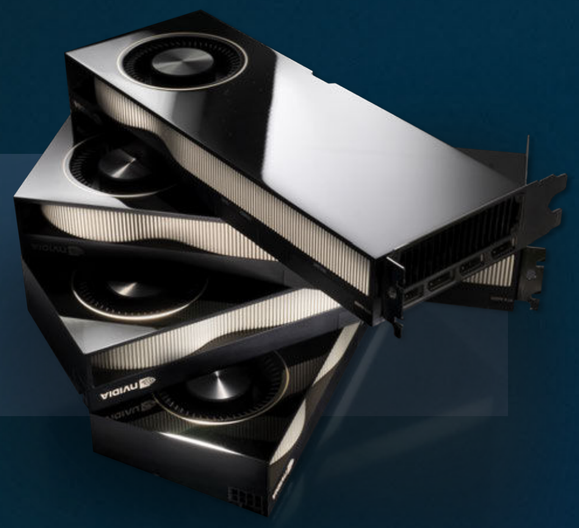
We are optimally prepared to serve the cloud computing market

- High-performance GPUs are already owned by Northern Data and deployed in ultra energy efficient and carbon-neutral data centers in the Nordics

Our available high-performance GPUs



NVIDIA RTX™ A100	~2,000 GPUs
NVIDIA RTX™ A6000	~2,000 GPUs

Our existing green data centers already fitted-out with cloud infrastructure

Norway

- PUE of 1.15 (guaranteed)
- 100% Carbon-neutral Energy

Sweden

- PUE of 1.04 (2021)
- 100% Carbon-neutral Energy

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Deployment of NVIDIA™ A100 in our Sweden Data Center

Meta

“Meta is building new supercomputer with 16,000 Nvidia GPUs“ [1]

NVIDIA RTX™ A100 ~2,000 GPUs

1 www.datacenterdynamics.com

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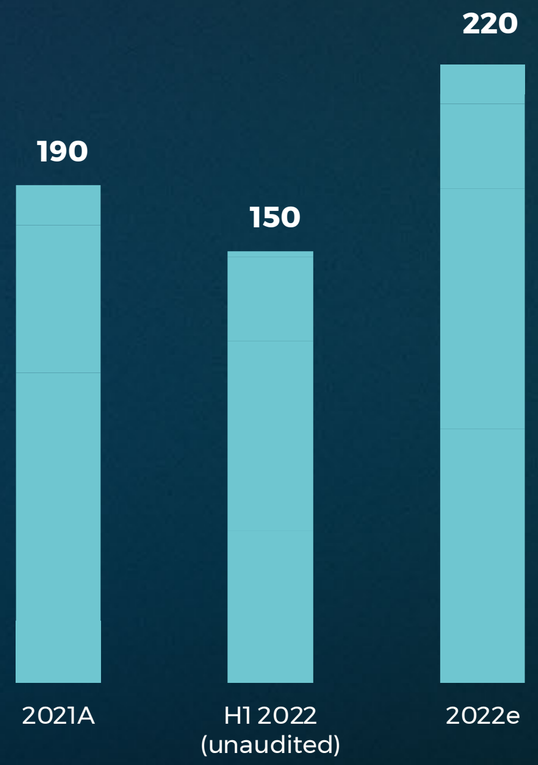
Outlook 2022

Guidance Scenarios 2022

(in EUR million)



→ Bull Case	Revenue[1]	EUR 250 m
	EBITDA[1,2]	EUR 40 m

→ **Base Case**	**Revenue [1]**	**€ 220 m**
	EBITDA [1, 2]	**€ 20 m**

[1] Dependent on price and hashrate development of Bitcoin and Ethereum
[2] Comprises EUR 35 million non-cash trading loss from crypto currency trading

→ Bear Case	Revenue[1]	EUR 200 m
	EBITDA[1, 2]	EUR 6 m

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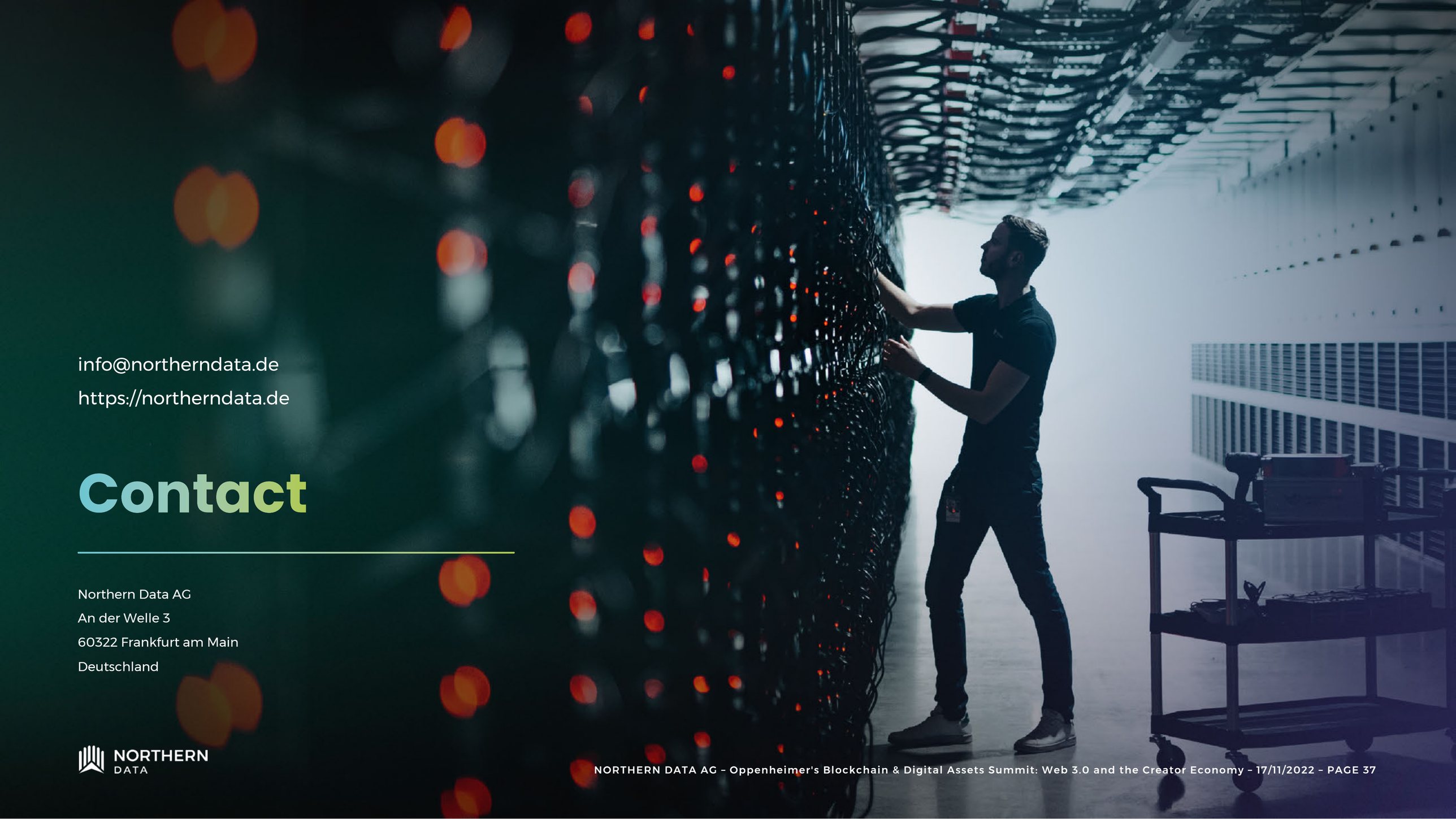
Time for Q&A



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Glossary

Altcoin Mining

- While Bitcoin mining is the act of mining bitcoin with the use of ASIC machines, Altcoin mining describes the mining of any other cryptocurrency. This can be done with different types of machines like CPUs, GPUs, FPGAs or sometimes even ASICs
- Examples of altcoins include Ethereum, Dogecoin, Litecoin, Bitcoin Cash, etc.

Artificial Intelligence (AI)

- AI refers to any technology that is designed to operate in a way that mimics the problem-solving and decision-making capabilities of the human mind
- AI systems work by ingesting large amounts of labeled training data, analyzing data for correlations and patterns, and using these patterns to make predictions about future states

ASIC

- An application-specific integrated circuit (ASIC) is an integrated circuit chip that has been designed for a specific purpose
- ASIC miners are computers that are designed specifically to mine cryptocurrency
- Most mining companies who invest in ASICs designed to mine BTC stick to mining only BTC

Bitcoin Mining

- Bitcoin mining is the act of adding transaction records to Bitcoin's public ledger, known as the blockchain. It solves a mathematical puzzle to get bitcoins in return
- Mining rigs are used to solve these puzzles and miners earn bitcoins for each solution they find. Miners use specialized hardware and software that can run 24 hours a day at high speeds which gives them an advantage over other players in this game of chance

Glossary

Blockchain

- Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. It stores encrypted blocks of data then chains them together to form a chronological network connected through peer-to-peer nodes.
- Digital assets are distributed instead of copied or transferred, creating an immutable record

Cloud Computing

- Cloud computing refers to use of computing power via a digital network that is located elsewhere.
- The remote data center is managed by a Cloud Services Provider (CSP). The CSP makes these resources available for a monthly subscription fee or bills them according to usage.

Graphics Processing Unit (GPU)

- The typical function of a GPU is to perform and control the rendering of visual effects and 3D graphics. GPUs are also equipped with a large number of Arithmetic Logic Units (ALU), which are responsible for performing mathematical computations
- Although BTC can be mined using GPUs, they are more suitable for mining other cryptocurrencies like Ethereum, Ripple, Dogecoin, etc.

Hashrate

- Hashrate is the total computational power being used by a crypto network to process transactions. It is measured in ‘hash/second’, i.e., how many calculations can be performed per second.
- 1 TH/s = 1 trillion hashes per second
- 1 EH/s = 1 quintillion hashes per second

Glossary

High Performance Computing (HPC)

- HPC refers to the practice of aggregating computing power that delivers a performance higher than what one could get out of a typical computer in order to solve.
- HPC combines technologies such as hardware, GPU servers, systems management and data center facilities to solve large problems in the fields of science, engineering, or business

Hosting Services

- Hosted services are applications, IT infrastructure components or functions provided over the Internet for customer usage in exchange for a specified fee
- In a mining host service environment, rigs and relevant hardware are leased to individuals or businesses following a profit-sharing model

Mining Data Center

- Data centers are colocation facilities that provide space, power, and cooling requirements to crypto miners for them to be operational
- Multiple servers and other relevant equipment, owned by different individuals or businesses are all stored in a single data center leading to lower costs, overheads and redundancy

MW

- Watt (W) is a unit of power
- 1 Megawatt (MW) = 1 million watt
- This metric is usually used in reference to the total power capacity for a crypto mining facility