

# ADVA open edge networking

Solutions for a digital future

Investor presentation, November 2022

# Disclaimer

## FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements with words such as “believes”, “anticipates” and “expects” to describe expected revenues and earnings, anticipated demand for optical networking solutions, internal estimates and liquidity. These forward-looking statements involve a number of unknown risks, uncertainties and other factors that could cause actual results to differ materially. Unknown risks, uncertainties and other factors are discussed in the ‘risk report’ section of ADVA Optical Networking’s annual report 2021.

## CONSOLIDATED PRO FORMA FINANCIAL RESULTS

ADVA provides consolidated pro forma financial results in this presentation solely as supplemental financial information to help investors and the financial community make meaningful comparisons of ADVA’s operating results from one financial period to another. ADVA believes that these pro forma consolidated financial results are helpful because they exclude non-cash charges related to stock compensation programs and amortization and impairment of goodwill and acquisition-related intangible assets, which are not reflective of the group’s operating results for the period presented. This pro forma information is not prepared in accordance with IFRS and should not be considered a substitute for historical information presented in accordance with IFRS.

# Company overview

Mission, vision, customers and products

# Transforming our business

## Statement from the CEO

"With our investments in recent years, we have created the foundation for transforming our business model.

This transformation includes growing revenue contributions from software and services, expansion into new industries and further verticalization of our business."



Digitization is bringing the investment focus to us



# ADVA fundamentals



## Background

- Headquartered in Munich, Germany
- Approximately 1,900 employees
- EUR 0.6 billion annual turnover

• Atlanta Richardson Neuchâtel York Meiningen Munich Gdynia



## Our vision

We love to work with highly innovative people to connect the world and drive change, success and value. In an increasingly digital environment, our networking technologies enable those who are solving the world's most critical challenges



## Our mission

Our mission is to be an innovation leader focused on our customers' experience by building better networking solutions

• Haifa Shenzhen Singapore Melbourne

We build the technology that helps to create a connected world

# The executive team



**Scott St. John**

**CMSO**

Sales  
Services  
Marketing



**Christoph Glingener**

**CEO**

PLM  
Development  
Global BD



**Ulrich Dopfer**

**CFO**

Finance, IR  
Legal  
IT



# The ADVA brand promise



## Open networking solutions

- Differentiated technology
- Network-level applications
- Market-leading scalability and efficiency

## Operational excellence

- High quality
- Short lead times
- Award-winning sustainability focus

## Ease of doing business

- Technology and VAR ecosystems
- Broad and deep application expertise
- Financial stability, solid balance sheet

Enabling our customers to capitalize on cloud and mobility

# Serving network operators around the world

## Private enterprises

- 30 of top 50 banks (revenue)

30%\*

- + Premium quality
- + Customer loyalty and trust
- Limited project volume

## Communication service providers

- 17 of top 25 global CSPs
- 5 of top 6 global Ethernet service leaders

65%\*

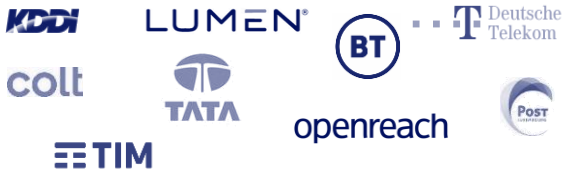
- + Longevity (stickiness)
- + Volume
- Long sales cycle (RFPs)

## Internet content provider

- 4 of top 5 global ICPs

5%\*

- + Volume and growth potential
- Aggressive pricing
- Limited visibility and stickiness



\*approximate revenue contribution FY 2021

Global diverse customer base drives growth and mitigates risk



# Our partners

## Technology partners



## Ensemble harmony ecosystem



## Partner ecosystem members

### Featured ELITE partners



### Featured SELECT partners



# ADVA's technology tripod

## Cloud interconnect



70% of revenues

### Private enterprises:

Business continuity  
and disaster recovery

**Internet content provider:**  
(Hyperscale) DCI

**Communication service provider:**  
Metro and edge upgrade for IoT, 5G  
and cloud services

## Cloud access



25% of revenues

### Private enterprises:

Secure cloud access  
and SD-WAN

**Internet content provider:**  
Edge cloud

**Communication service provider:**  
Zero-touch service delivery and  
assurance

## Network synchronization



5% of revenues

### Private enterprises:

Timing for critical infrastructure  
MiFID II financial time stamping

**Internet content provider:**  
Global database synchronization

**Communication service provider:**  
Next-gen mobile (5G)

# Overall sustainability approach and ratings

## Holistic approach

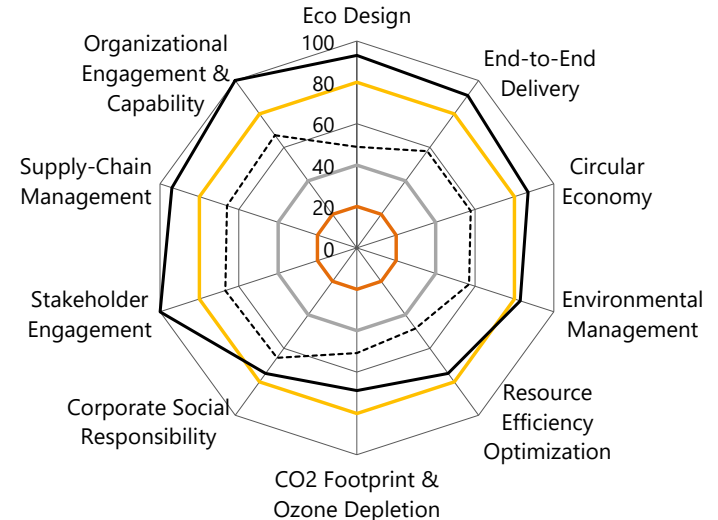
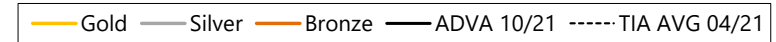
- Covering all sustainability aspects
- Science-based emissions targets (SBTi 1.5°C targets)
- Process-based product ecodesign and lifecycle assessments
- Optimization of operations, logistics and all packaging
- ISO 50001 and ISO 14001
- Supply-chain engagement
- Circular-economy processes

## External ratings

*Platinum rating  
from EcoVadis*



*Gold rating from TIA / QuEST Forum*



Top ratings for a holistic sustainability approach

# Why ADVA?

Growth and profitability



**Positive macro  
dynamics**

First-class  
customers and  
partners



**Strong products  
and technology  
alignment**

Excellent team  
and patent  
portfolio



**Accelerating  
cash generation**

Innovative solutions for a digital future



# Market dynamics

Growth drivers, competitive landscape



# Market growth drivers

## Enterprise transformation

- Investment in new technologies to stay relevant and lead the transformation and digitization of society
- Security is of highest importance



## Moving to the cloud

- Video, video, video!
- Terascale DCI\*
- Secure cloud access
- Virtualized service creation
- Edge cloud investments



\*data center interconnect

## 5G and IoT

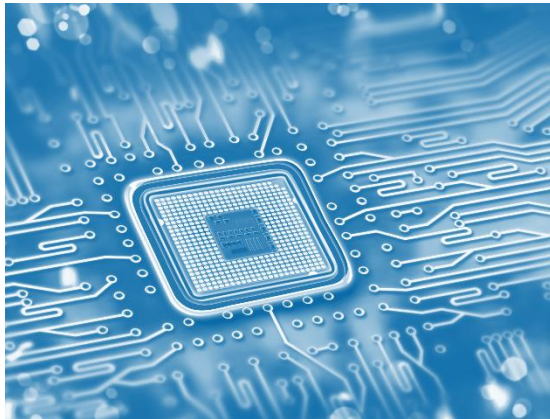
- New fronthaul, backhaul and timing investments
- Edge compute resources inside the network expand rapidly
- Open wholesale models prevail



Megatrends drive investment focus to the edge, where ADVA performs best

# Networking industry – a consolidating ecosystem

## Components



## Systems



Production floor ADVA, Meiningen, Germany

## Networks



# Systems suppliers in times of deglobalization



Acquired



2014



2015



2015



2016



2017

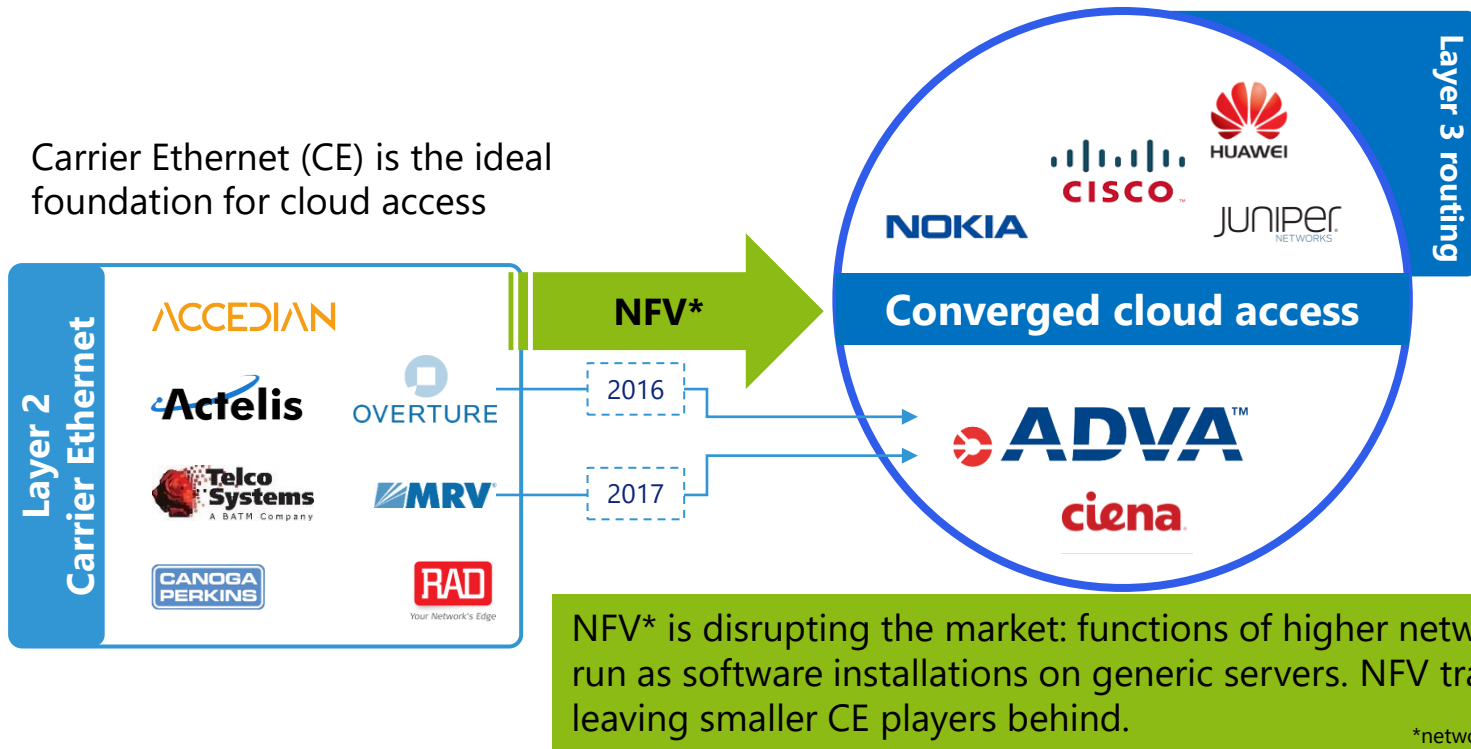


2018



2019

# Technology convergence at the network edge



Network layers 2 and 3 in the access are converging leading to TAM expansion

# New market dynamics and opportunity expansion

## Macro dynamics ...

- Pandemic accelerates digitalization
- Deglobalization impacts vendor selection
- Industry consolidation reduces choice

## ... have shifted the baseline


- Network infrastructure transitions from cheap commodity to strategic asset
- Government stimulus favors trusted suppliers
- Few remaining western suppliers that are profitable and have required credentials


Macroenvironment provides positive tailwinds for ADVA




# Market share data – ADVA highlights

## Optical networking<sup>1</sup>


 Access WDM,  
EMEA (12%)


 Metro WDM,  
EMEA (15%)

 Purpose built DCI,  
EMEA (18%)


1) Omdia, Optical networking Q2 2022, October 2022

## Data center interconnect<sup>2</sup>

 Enterprise, global (37%)

 Enterprise, EMEA (58%)

 Enterprise, NA (25%)

 Government & R&E  
EMEA (29%)

2) Omdia, Data center interconnect Q2 2022, October 2022

## SP access switching and Carrier Ethernet demarcation<sup>3</sup>

 EMEA (44%)

 Global (20%)

3) Omdia, Service provider access switching and Carrier Ethernet demarcation, Q2 2022, publ. October 2022

All numbers rolling four quarters

Innovation leadership and strength in growth markets

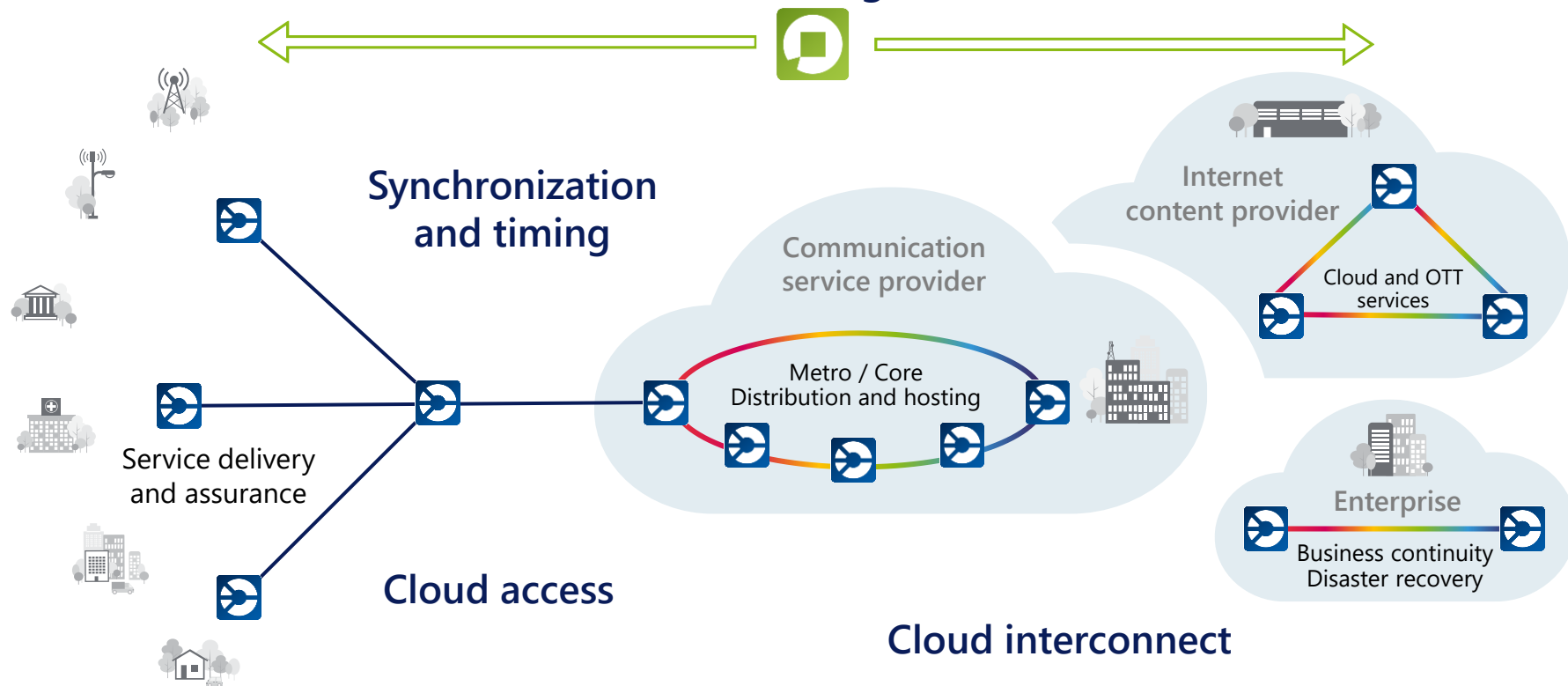


# Technology

Products and solutions

# ADVA solutions overview

## Ensemble network management and control



# Cloud interconnect overview



## Objective

Lowering cost  
per Gbit/s mile

Increasing  
infrastructure  
value

## Industry focus

Higher bitrate  
adoption (400G+)

Service innovation  
and security

## ADVA innovation

Terminal

TeraFlex™

OpenFabric™

OLS

Metro DCI\*

Spectrum as a  
service

Security

ConnectGuard™

Quantum-safe  
networking

Open terminal with  
highest data rates (1200G)

Efficient Terabit traffic  
grooming

Industry-leading open line  
system, empowering new  
services

Industry-leading encryption  
technology

\*data center interconnect



# Cloud interconnect dynamics

## Open optical networking solutions

### Foundation

- Market leadership in enterprise DCI<sup>1</sup>
- Large installed base of OLS<sup>2</sup> in hyperscale DCI
- Proven track record with global tier 1 / tier 2 customer base

### Transformation

- Higher bitrate adoption (400Gbit/s+)
- Disaggregation to eliminate vendor lock-in
- Stringent security and encryption requirements

### Upside

- Share gain through 400G+ optimized product portfolio
- TAM and margin expansion through verticalization
- Share gain through leadership in post quantum security

1) >35% global, >55% in EMEA; Source: Omdia, market share 2Q2022 (rolling four quarters) optical networks global and data center interconnect, publ. October 2022

2) open line system

Delivering scalable bandwidth for a digital future



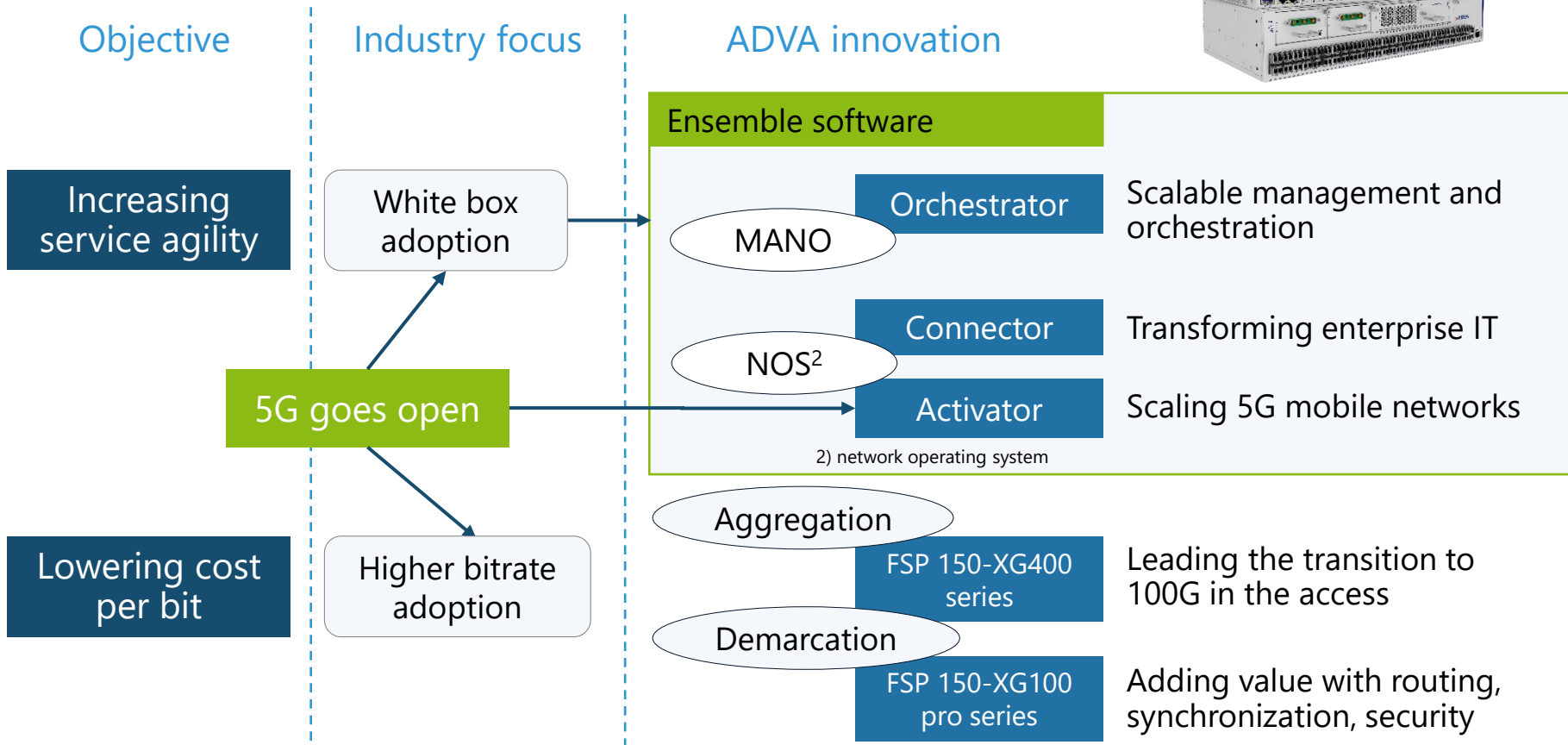
# Cloud access overview



## Objective

## Industry focus

## ADVA innovation



# Cloud access dynamics

## Empowering the network edge

### Foundation

- Market leadership in Carrier Ethernet (CE) access<sup>1</sup>
- Differentiated portfolio for 100G aggregation
- Technology leadership in NFVi<sup>2</sup>



### Transformation

- Transition to 10/100G in access and backhaul
- Collapsing multiple hardware appliances through NFV
- White box adoption in mobile networks and edge cloud



### Upside

- Share gain in consolidated CE vendor landscape
- Growing from switching into higher-value routing layer
- TAM expansion and software revenues through NOS<sup>3</sup>-leadership

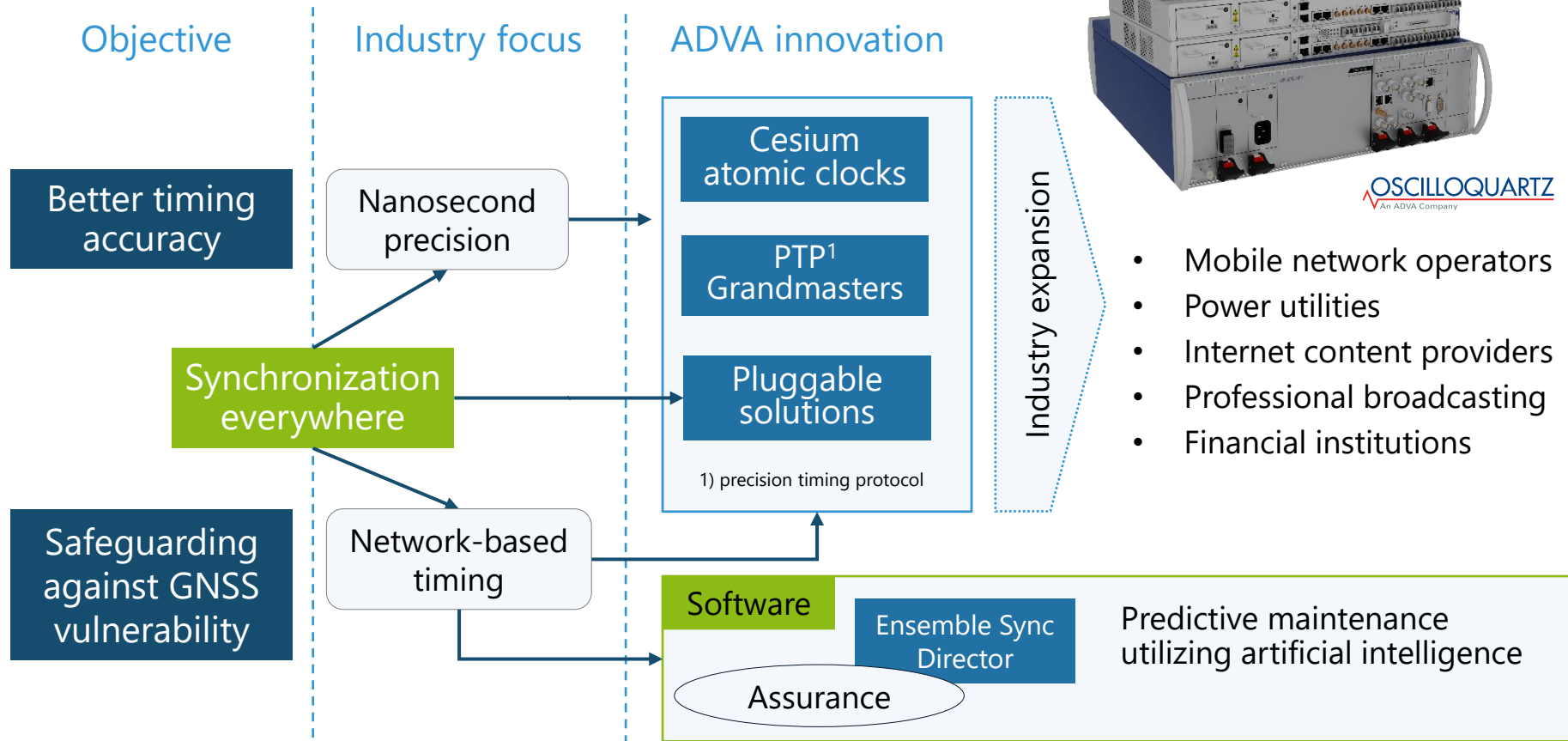
1) 20% global, 44% in EMEA; Omdia, market share 2Q2022, SP access switching & Ethernet demarcation, publ. October 2022

2) Network function virtualization infrastructure; Harmony ecosystem with >50 VNFs and a wide range of hardware choices

3) network operating system

Programmable edge cloud solutions for mobile networks, business access and IoT

# Network synchronization



OSCILLOQUARTZ  
An ADVA Company

- Mobile network operators
- Power utilities
- Internet content providers
- Professional broadcasting
- Financial institutions

# Network synchronization dynamics

## Foundation

- Technology leadership in network-based timing
- Consistently high win rates leading to impressive list of MNO<sup>1</sup> customers
- Three-year CAGR >25%

1) Mobile network operators

## Transformation

- Ever more stringent timing requirements with sub-microsecond accuracy
- Weakening competitors
- Security concerns<sup>2</sup>

2) Vulnerability of satellite-based timing increasingly problematic

## Upside

- Accelerating 5G rollouts
- New market verticals including energy, finance, broadcasting
- PNT<sup>3</sup> alternatives

3) Position navigation timing

The world needs better timing – network-based and assured

# Product portfolio overview

## Cloud access

Solutions that enable communication service providers to deliver software-defined, differentiated and performance-assured wholesale, mobile backhaul and business services;

Estimated 2021 market size and CAGR (2020-'25) for access switching & Ethernet demarcation;  
Source: Omdia, "Service provider switching and routing forecast 3Q 21", published January 2022

TAM (billion USD) 0.6

CAGR (5 year) 4.2%

## Network synchronization\*

Solutions to deliver accurate and scalable time and frequency synchronization for mobile network infrastructure, utilities, media distribution networks, financial services, distributed data bases and meteorology;

Estimated 2021 market size and 5yr CAGR – ADVA internal estimates

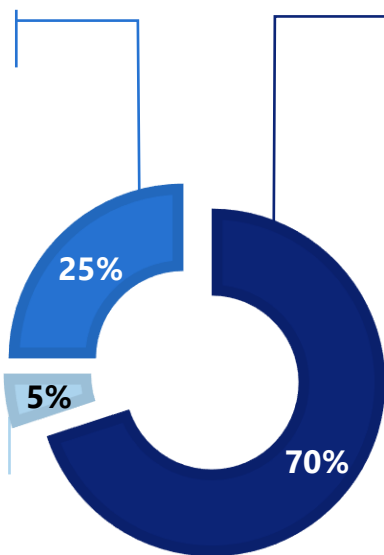
TAM (billion USD) 0.3

CAGR (5 year) 5%

\*2021 revenue contribution >6%  
ADVA revenue CAGR >25%

## Cloud interconnect

Solutions that deliver scalable bandwidth for access, metro and long-haul networks; high levels of open interworking, programmability and ease-of-use;



*Approximate revenue contribution  
rolling four quarters*

	Metro	Long Haul
TAM (billion USD)	5.8	4.0
CAGR (5 year)	3.9%	1.5%

Estimated 2021 market size and CAGR (2020-'2025) for metro and long haul WDM excl. China;  
Source: Omdia "Optical networks forecast 2021-2026" published June 2021

Growth rates are highest in segments  
where ADVA performs best

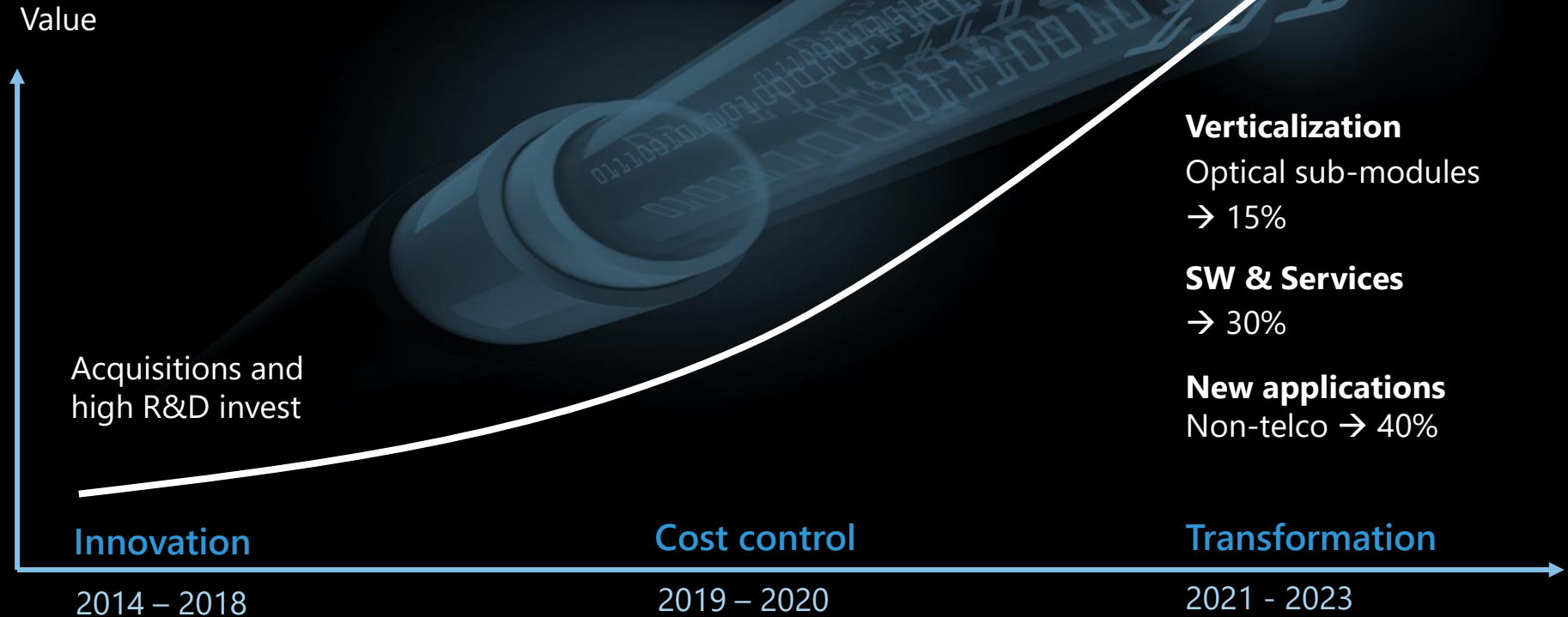




# Transformation

... to higher margin business

# Business transformation



Leveraging our investments of the last years to a higher margin model

# Transformation has started

to support our financials

## Verticalization

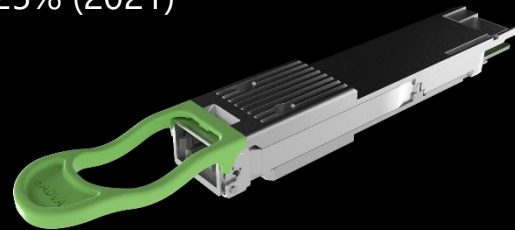
MicroMux™ family expansion

## SW & Services

Accelerating growth  
23% → 25% (2021)

## New applications

Oscilloquartz CAGR >25%  
Government wins  
Enterprise IT



Driving operating results to new levels

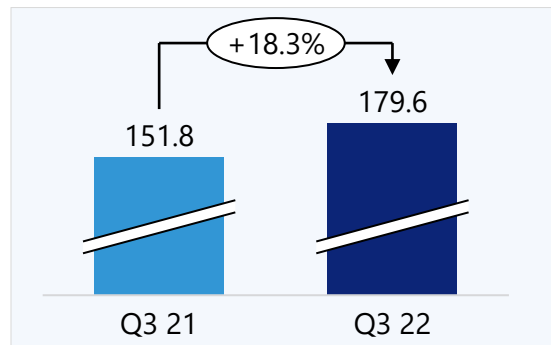


# Financials

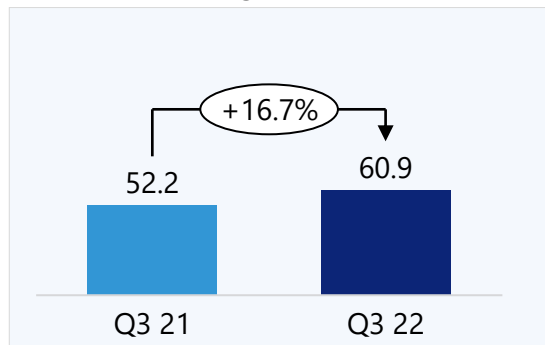
## Overview

# Q3 2022 key financials

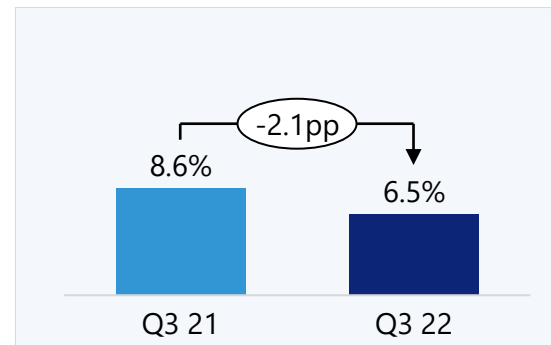
Revenues (m€)



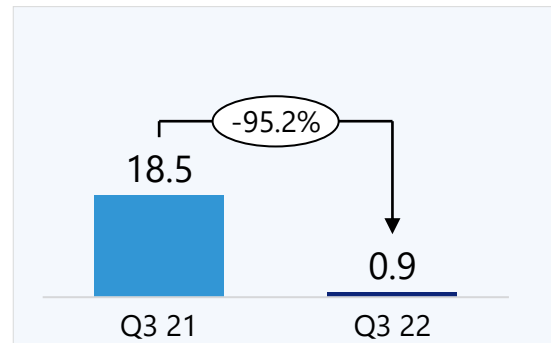
Pro forma gross profit (m€)



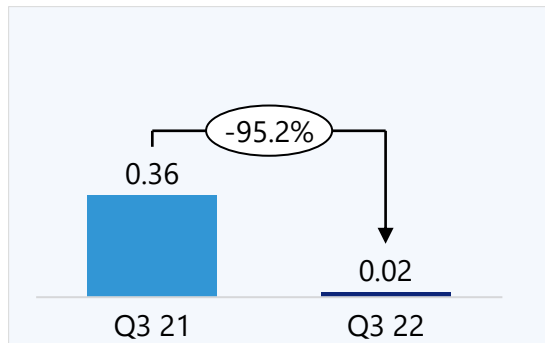
Pro forma EBIT (%)



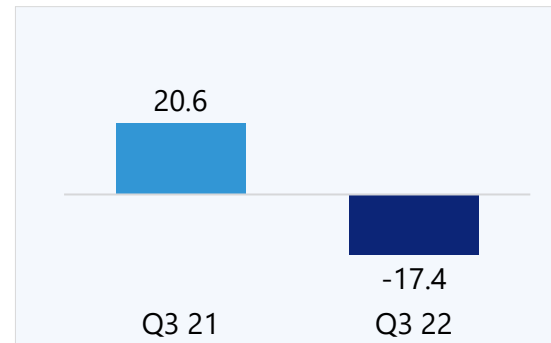
Net income (m€)



Diluted EPS (€)



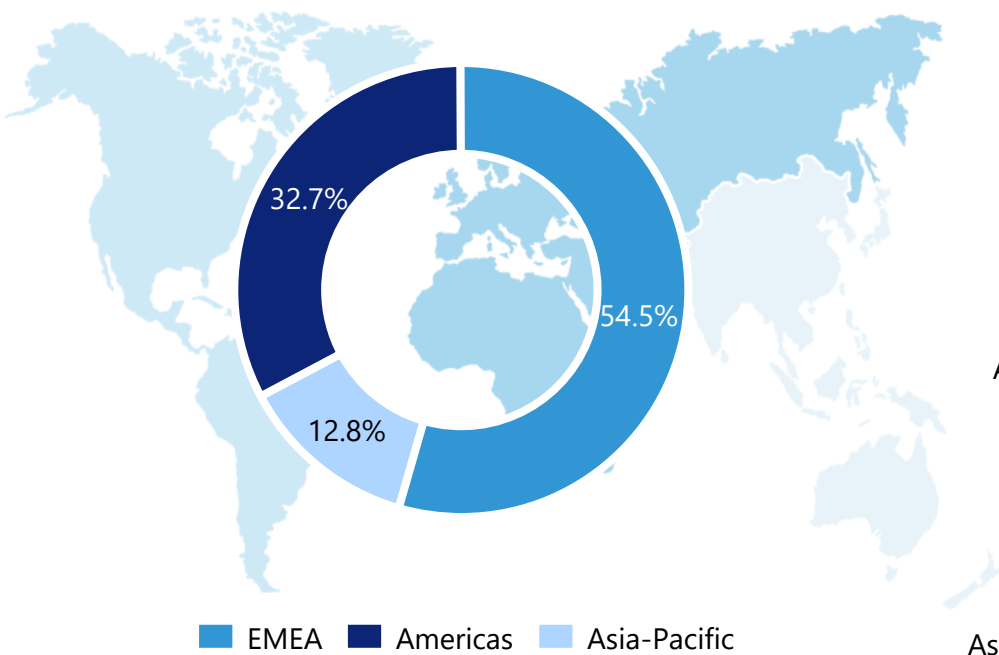
Net cash (+) / debt (-) (m€)\*



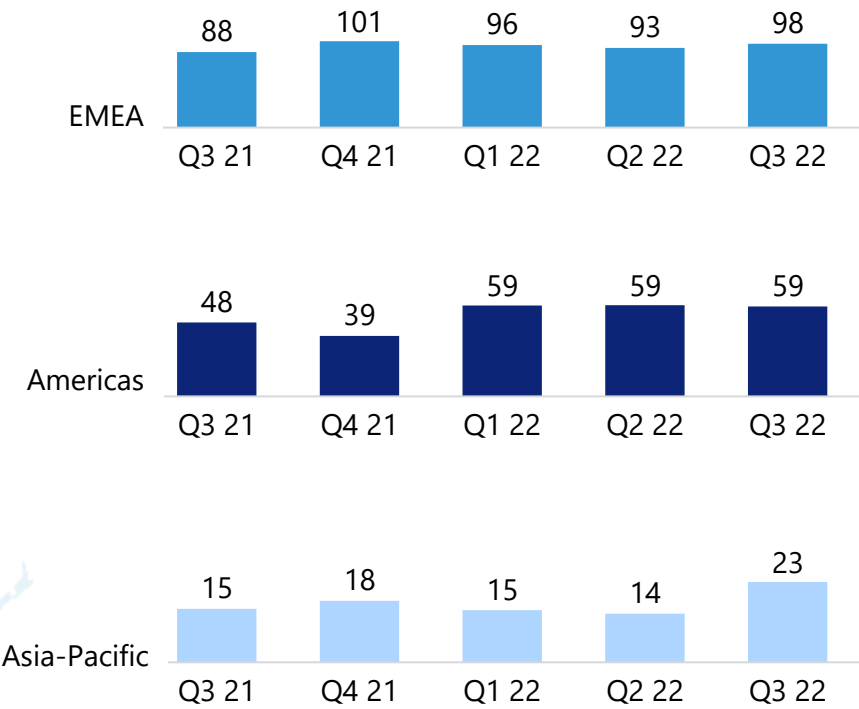
\*Note: Net cash Q3 2022 includes EUR 23.4 million lease liabilities due to IFRS 16 (Q3 2021: EUR 24.6 million)

# Regional revenue development Q3 2022

Revenue split Q3 2022 (%)



Revenue development per region Q3 21 – Q3 22 (m€)



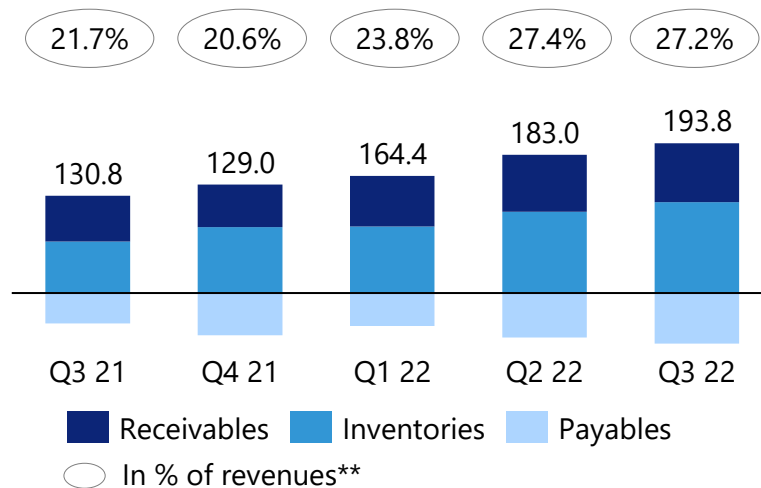


# Cash flow and balance sheet

## Cash flow breakdown (m€)\*

	Q3	
	2021	2022
Earnings before taxes	9.7	-3.3
Depreciation & Amortization	17.5	17.0
Increase (-) / decrease (+) in working capital	2.0	-11.6
Increase (-) / decrease (+) in other items	-0.8	-1.5
<b>Operating cash flow</b>	<b>28.4</b>	<b>0.6</b>
R&D	-10.6	-10.4
Other investing cash flow	-4.5	-7.2
<b>Investing cash flow</b>	<b>-15.1</b>	<b>-17.6</b>
<b>Free cash flow</b>	<b>13.3</b>	<b>-17.0</b>
Gross cash end of period	100.5	61.4
Net cash end of period	20.6	-17.4

## Working capital development (m€; %)



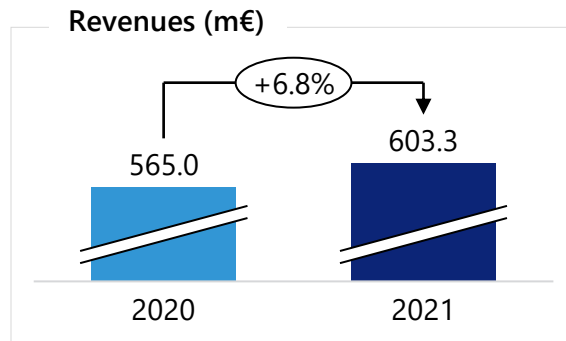
Equity ratio	Leverage LTM***	ROCE LTM
56.0%	0.7x	3.5%

\* Potential differences due to rounding

\*\* Calculated on a quarterly basis

\*\*\* Leverage is calculated as total bank debt divided by EBITDA. EBITDA is calculated as operating income plus depreciation and amortization of non-current assets. Impacts from IFRS 16 are excluded from leverage calculation.

# Financial year 2021 at a glance



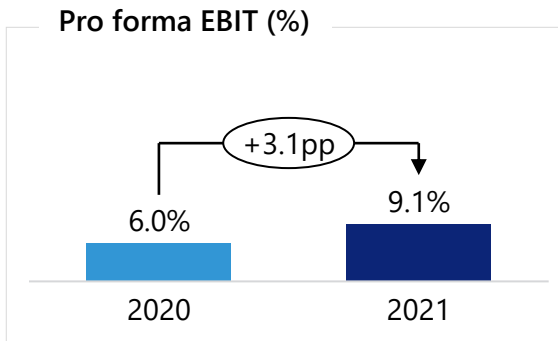
**Revenues increased +6.8% y-o-y ...**

- Strong demand with record order-backlogs
- Sequential growth of revenues despite supply chain challenges
- Growth driven by CSP's and enterprise customers

**Target 2021**

EUR 580m – 610m

603.3



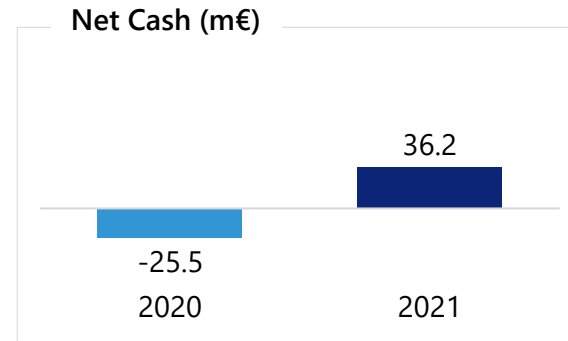
**... with a margin at the upper end of guidance range**

- Favourable customer and product mix with strict cost control helped to compensate for higher purchasing costs
- Pandemic driven less travel and marketing expenses

**Target 2021**

7.0% – 10.0%

9.1%



**Net Cash significantly increased by EUR 61.7m y-o-y**

- Free cash flow generation of EUR 59m (2020: EUR 38.8 m)
- Scheduled repayments of EUR 15m
- Very flexible balance sheet with a cash position EUR 109.0m

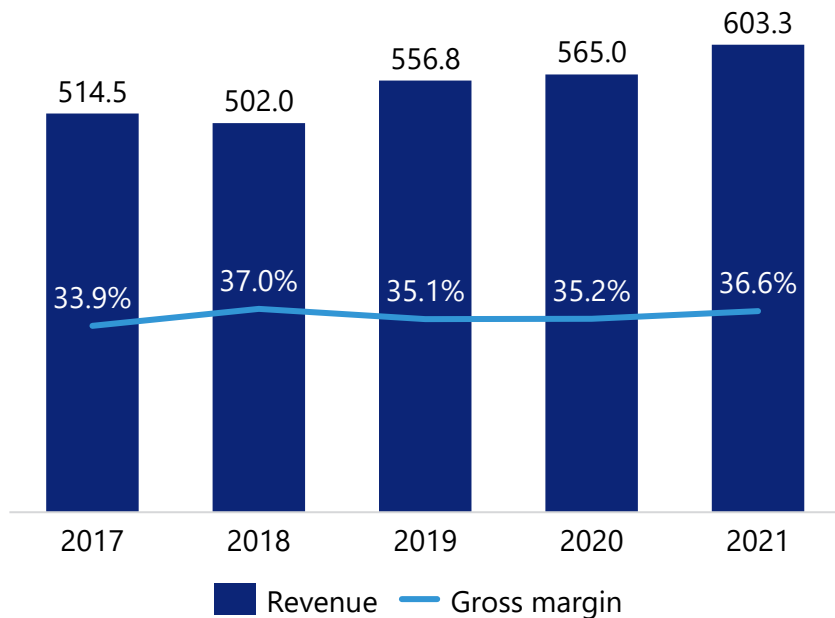
**Target 2021**

Net Debt to be in the single-digit million range

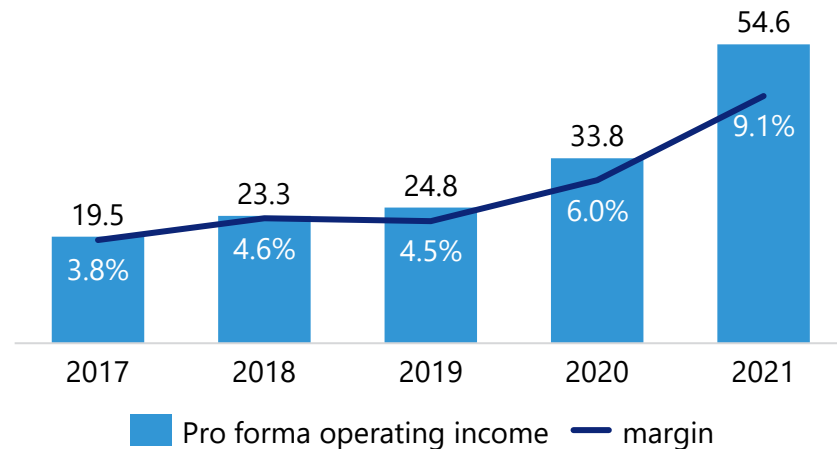
Net Cash  
EUR 36.2m

# Annual revenue and pro forma profitability

Revenue & pro forma gross margin (m€; %)

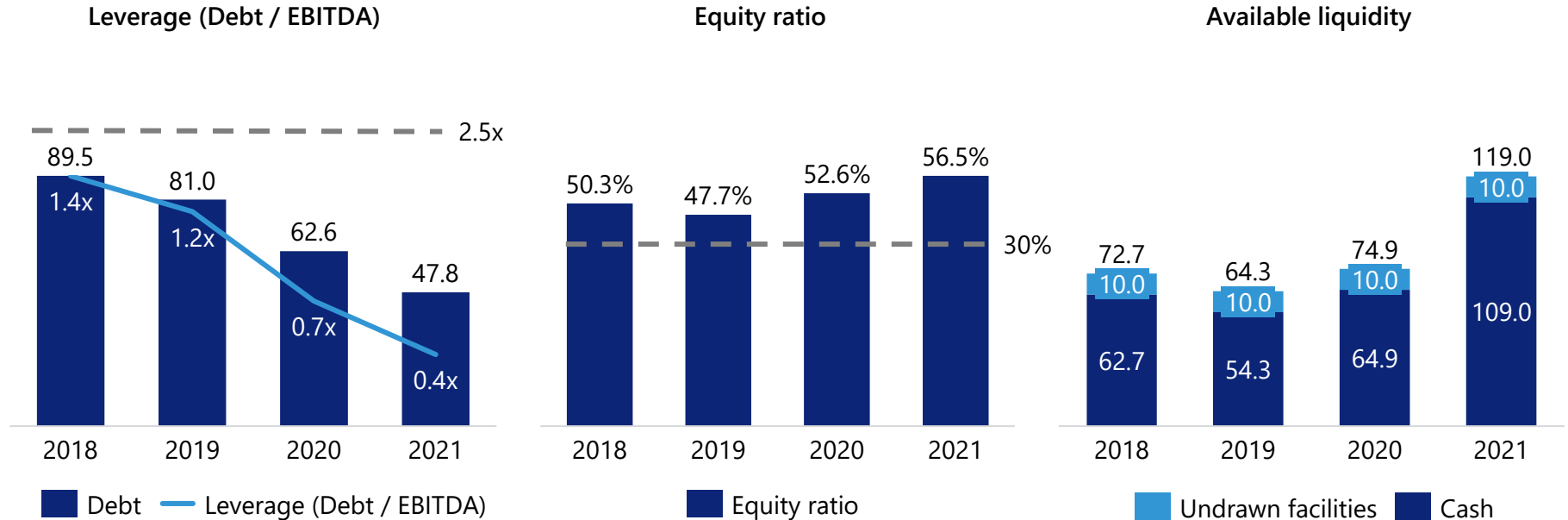


Pro forma EBIT & margin (m€; %)



\* Pro forma EBIT is calculated prior to non-cash charges related to the stock compensation programs and amortization and impairment of goodwill and acquisition-related intangible assets. Additionally, non-recurring expenses related to M&A and restructuring measures are not included.

# Financial policy – investment grade rating



## Comments

- Conservative financial policy targets a Debt / EBITDA leverage ratio of max. 2.5x
- Low current leverage level of 0.4x
- Balanced repayment profile and future profit generation will lead to a strengthened balance sheet
- High equity ratio of 56.5% significant above target of 30%

# Outlook FY 2022

Revenues (m€)

680m – 730m

Pro forma EBIT (%)

5% – 9%

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Supported by:



**Business transformation strategy successfully implemented**

Non-telco expansion – software & services – verticalization



**A unique investment cycle for communications networks**

Digitalization – government stimulus – network security

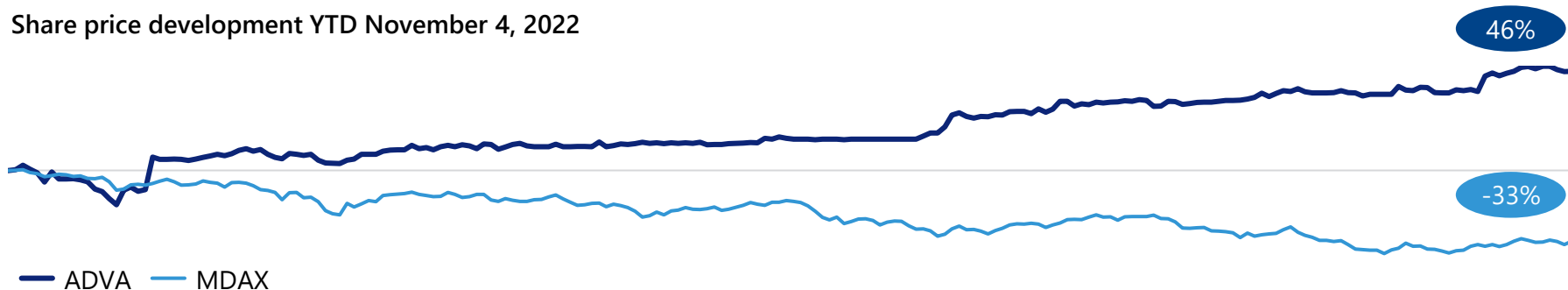


**Technologies well aligned**

Cloud, mobility, 5G, automation and security for mission critical infrastructure

# Investor relations overview

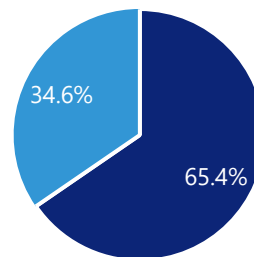
Share price development YTD November 4, 2022



Analyst recommendations and consensus 2022 as of November 4, 2022

Institution	Revenues	EBIT PF	EBIT PF in %	Target Price	Rec.	Date
Oddo	701.800	39.600	5,6%	18,50	Neutral	26.10.2022
First Berlin	702.818	40.553	5,8%	21,00	Buy	03.05.2022
Kepler Cheuvreux	700.000	48.788	7,0%	14,98	Hold	07.07.2022
Northland	700.000	56.600	8,1%	20,00	Outperform	29.04.2022
Warburg	694.418	49.154	7,1%	17,93	Hold	28.07.2022
<b>Average</b>	<b>699.807</b>	<b>46.939</b>	<b>6,7%</b>	<b>18,48</b>		

Shareholder Structure as of November 4, 2022



Top 5 investors

Samson Rock Capital LLP	5.02%
UBS Group	4.98%
JP Morgan	2.99%
Morgan Stanley	2.86%
Janus Henderson	1.61%

ADTRAN Free float





# Thank you

[ir@adva.com](mailto:ir@adva.com)

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