



Open edge networking

Investor presentation

FSE: ADV

April 18th 2019



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 2018.

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

Stability, continuity and growth opportunities

Statement from the CEO



2018 revenues: €502.0 million

Proforma EBIT: 4.6%

"Digitization is changing all ecosystems.

"The rapid development and rollout of artificial intelligence, edge computing solutions, IoT and 5G require a robust and scalable telecommunications infrastructure with greater optical transmission capacity, new models for providing communication services, and increasingly precise network synchronization. Our key investments address each of these issues and clearly underline the value of our acquisition strategy.

"At the same time, consolidation in our industry has further reduced the number of competitors, further sharpening our profile as an innovative telecommunications supplier with a unique blend of innovation and customer focus.

"All this creates new growth opportunities, that we will capitalize on."

Digitization is transforming networks, bringing the investment focus to us

Who we are

Global provider of open networking solutions

Our technology

Cloud interconnect

- Open optical networking (WDM)
- 65% of revenue



Cloud access

- Carrier Ethernet and NFV
- 30% of revenue



Network synchronization

- Precision timing
- 5% of revenue



Our customers

Private enterprises

- 30 of top 50 banks (revenue)
- 25% of revenue

Internet content providers

- 4 of top 5 global ICPs
- 10% of revenue

Communication service providers

- 17 of top 25 global CSPs,
5 of top 6 global Ethernet service leaders
- 65% of revenue

Our strengths

Innovation power

- >900 engineers
- >230 granted patents, >50 pending

Speed for customers

- Responsive team
- Customer-centric solutions

Trusted partner

- >50% net promoter score
- Operational excellence

Digital transformation → networking dominated by data centers → ADVA's DNA

Financial year 2018 at a glance

Revenues

502m

Revenues increased sequentially in all four quarters ...

Gross margin contribution
+11.2m

... with overall margin improvements due to product innovation ...

Pro forma EBIT margin expansion
4.6%

... and active cost management.

Net liquidity increase

+30%

Net liquidity increased significantly due to higher cash flow from operations.

Consolidation phase completed, improvement of margins and cash flow

ADVA's 25 years history

Strong breadth and depth of customer base of thousands of enterprise and hundreds of carriers worldwide including many tier 1 carriers. Over 200 customers committed to ADVA's Ensemble network management platform

Agile, flexible, entrepreneurial and multi-national culture with spirit of innovation, hard work ethic and loyalty leading to low attrition and continuity in our strategy

Global leader in enterprise DCI and synchronization – a strong competitor in the ICP markets

Global leader in the Ethernet access device (EAD) market and when combined with Ensemble NFVi solutions the clear technology leader

Today

Going public and first product

Going global

Product expansion and strategic acquisitions

Global specialist for

- Open optical networking
- Edge cloud solutions
- Network synchronization

Network innovator – speed for customers – trusted partner

ADVA fundamentals



Background

- Headquartered in Munich, Germany
- More than 1,850 employees
- Over EUR 0.5 billion turnover



Our vision

Virtualization and software are keys to differentiated solutions, but hardware will remain strategically important



Our mission

Being your trusted partner for connecting, extending and assuring the cloud

Atlanta Richardson Neuchâtel York Meiningen Munich Gdynia

Haifa Shenzhen Singapore Melbourne

Innovation – speed for customers – trusted partner

Our broad customer base

Hundreds of carriers, thousands of enterprises

Industries

Private enterprises

- Financial services institutions
- Research and education
- Healthcare, media, utilities



Business characteristics

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

Internet and cloud

- Internet content providers
- Carrier neutral providers



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

Communication service providers

- Wireline operator
- Wireless operator
- Multiservice operator (cable)



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

Diverse global customer base drives growth and profitability



Industry context

Market growth drivers, technologies and products

Digitization drives investment focus to the edge

Digitization of all ecosystems

IoT
Smart workspace
Connected home
Smart robots
Autonomous driving
Augmented reality
Artificial intelligence

Network transformation

5G
Cloud & Network 3.0
Disaggregation
Machine learning
White box solutions
Open platform
Automation
Edge computing
Virtualization

ADVA open edge networking

Scalable bandwidth
Instant service creation
Precise synchronization

The market is coming to our sweet spot – the edge is, where ADVA performs best

Our technology differentiation

ADVA open edge networking



Open tera-scale networking

Bandwidth

- Disaggregated optical architecture
- Highest level of security and automation
- Unparalleled data center expertise

Empowering the network edge

Service creation

- Leader in secure, zero-touch service delivery solutions
- Proven and scalable NFVi architecture
- Seamless transition to virtual service delivery

Synchronization at scale

Precision

- Most comprehensive network synchronization portfolio
- Best accuracy and assurance
- Key enabler for 5G and many other ecosystems

We innovate from the edge on in – customer focus, profound application know how

Product portfolio overview

Cloud access

Carrier Ethernet access and network functions virtualization (NFV) solutions that enable communication service providers to deliver software-defined, differentiated and performance-assured wholesale, mobile backhaul and business services;



TAM (billion USD) 1.3

CAGR (5 year) 18%

Estimated 2018 market size and 5yr CAGR for access switching & routing;
Source: Ovum, "service provider switching and routing forecast 2018-2023", published August 2018

Network synchronization

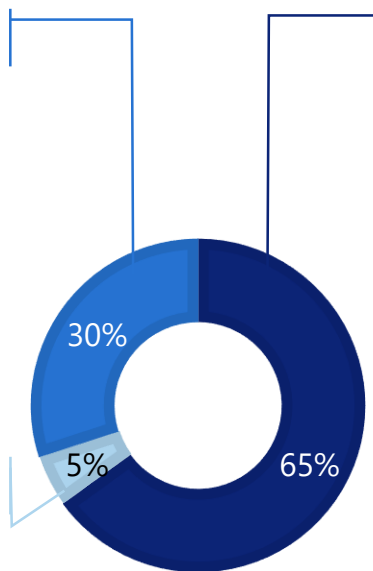
Primary reference sources (atomic clocks) and distribution solutions to deliver accurate and scalable time and frequency synchronization for mobile network infrastructure, utilities, financial services, distributed data bases and meteorology;



TAM (billion USD) 0.3

CAGR (5 year) 5%

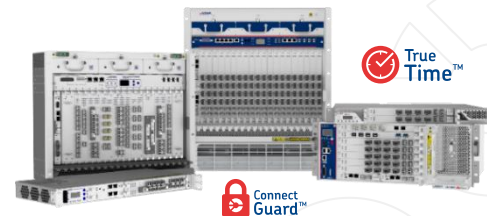
Estimated 2018 market size and 5yr CAGR – ADVA internal estimates



Approximate revenue contribution rolling four quarters

Cloud interconnect

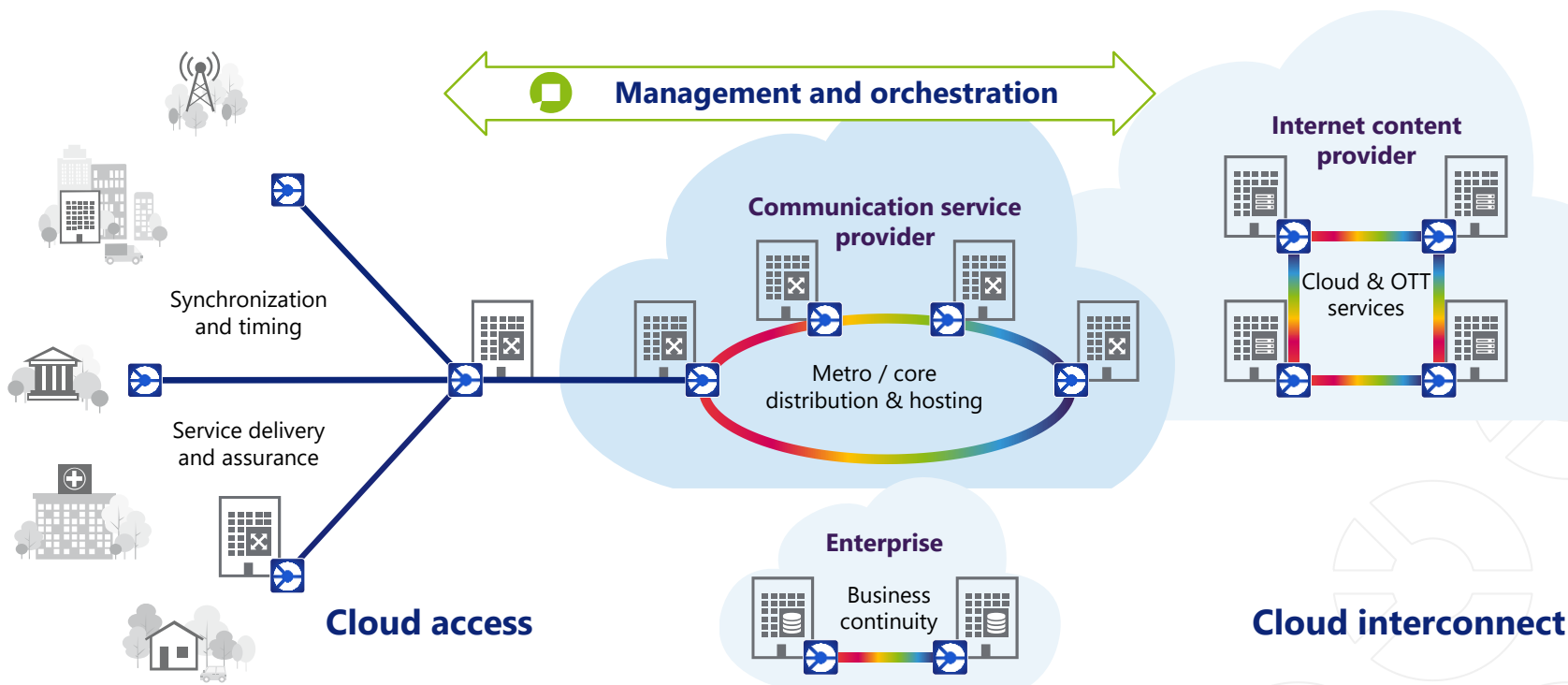
Open optical networking solutions based on wavelength division multiplexing (WDM) technology to deliver scalable bandwidth for access, metro and long-haul networks; high levels of open interworking, programmability and ease-of-use;



	Carrier	ICP	Enterprise
TAM (billion USD)	11.6	1.0	0.3
CAGR (5 year)	4%	17%	4%

Estimated 2018 market size for access, metro and long haul WDM;
Source: Ovum, "optical networks forecast 2018-2023" published January 2019;
5yr CAGR for access (15.7%), metro (7.2%) and long haul 3.2%) WDM – and DCI
Forecast 2017-2022 published Feb 2018

Solution overview



Open edge networking – connecting, extending and assuring the cloud

Portfolio growth opportunities

Cloud access

- Accelerate revenue contribution from edge cloud solutions and win new designs for NFV-based service delivery



Packet edge with NFV

Network synchronization

- Use technology leadership to expand into other verticals



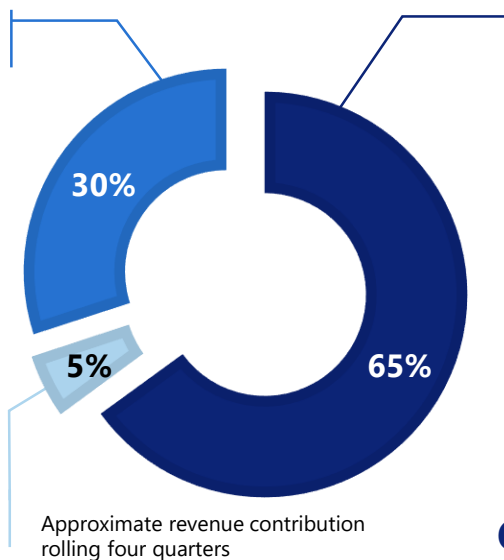
OSCILLOQUARTZ
An ADVA Optical Networking Company

Cloud interconnect

- Aggressively pursue more DCI opportunities with new Teraflex™ terminal and open line system
- Leverage our 32G FibreChannel first-mover advantage



Open optical transport



Approximate revenue contribution rolling four quarters

Cross portfolio


- Win new footprint for flexible, programmable 5G infrastructure leveraging optical, packet edge and synchronization

Technology tripod matured, enabling us to grow high single digits 2019

ADVA portfolio drivers summarized



Approximate
revenue
contribution

	Private enterprises	Internet content provider	Communication service provider
Cloud interconnect (Open optical transport - WDM)	Business continuity and disaster recovery	(Hyperscale) DCI	Metro and edge upgrade for IoT, 5G and cloud services (capacity, latency, timing, security and automation)
Cloud access (Carrier Ethernet and NFV)	Secure cloud access and SD-WAN	Edge cloud	Zero-touch service delivery and assurance
Network synchronization  <small>An ADVA Optical Networking Company</small>	MiFID II financial time stamping	Global database synchronization	Next-gen mobile (LTE-A and 5G)

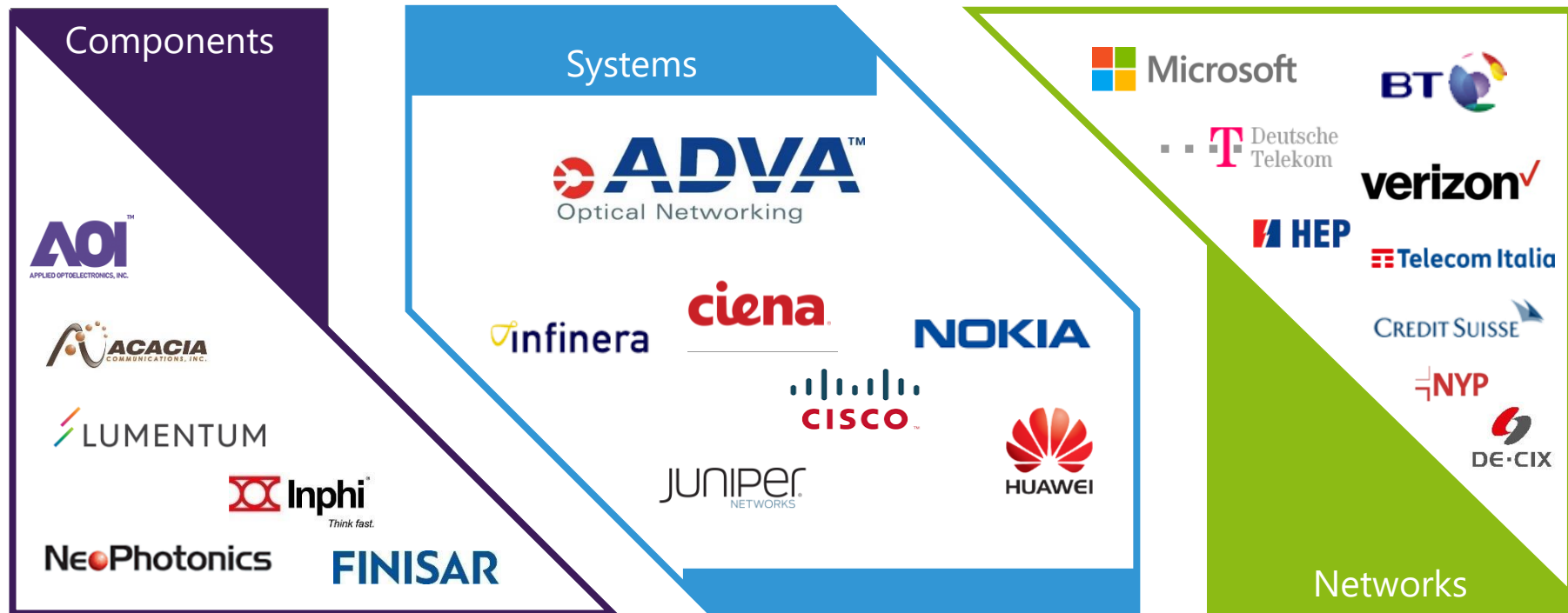
ADVA technology tripod – increasing number of cross-selling opportunities



Differentiators

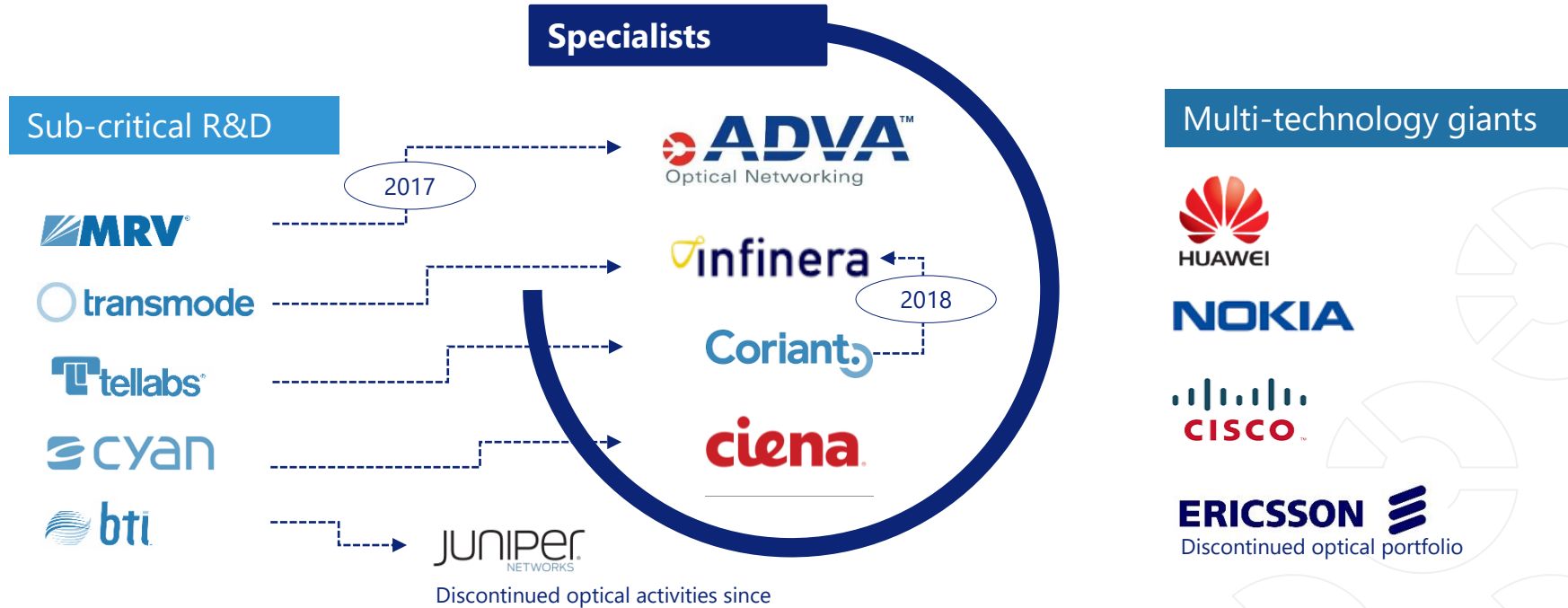
Competitive landscape

Networking industry – our ecosystem



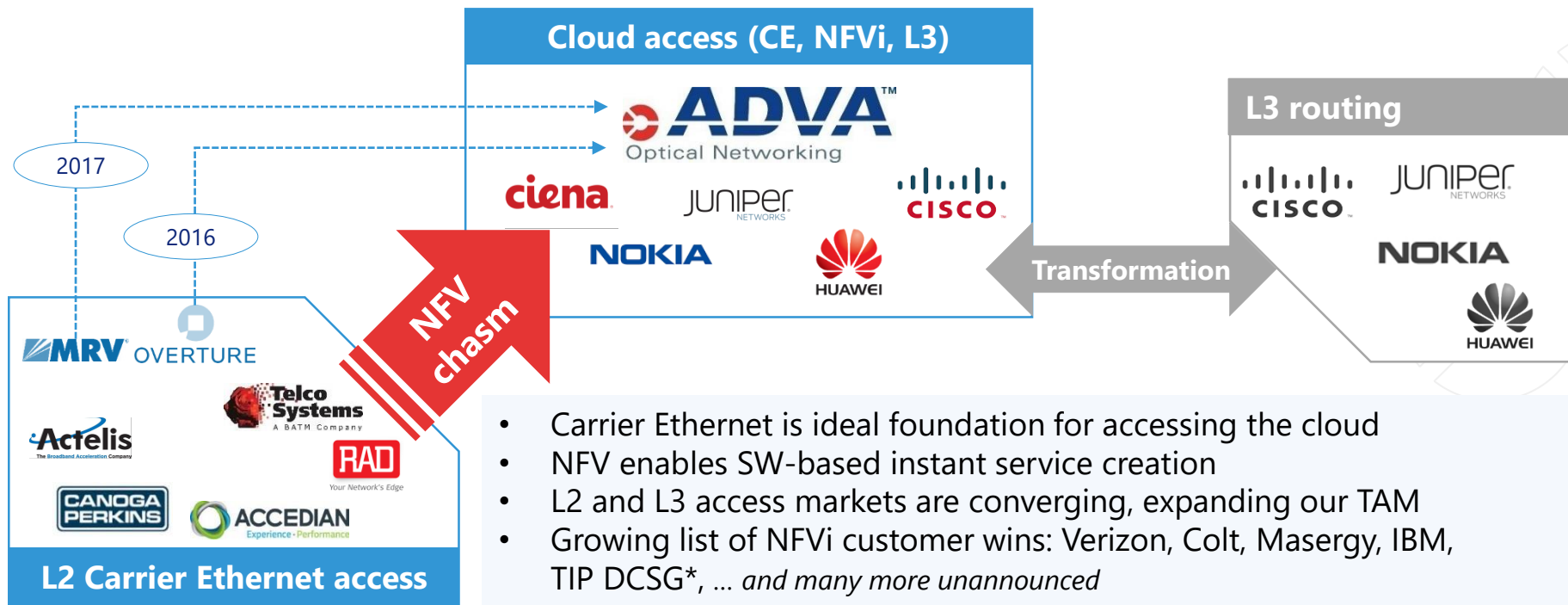
Industry leading on time-to-market, time-to-quality and time-to-cost

Cloud interconnect: Vendor consolidation



Small players disappear – large corporations lack focus and seek better profitability

Cloud access: Convergence at the network edge



*Telecom Infra Project, disaggregated cell site gateway

Layer 2 and Layer 3 access converging – NFV is disrupting the market

Why we win – the ADVA brand promise

Innovation leadership

Speed for customers

Trusted partner



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

Award-winning factory in Meiningen, Germany

Enabling our customers to capitalize on cloud and mobility

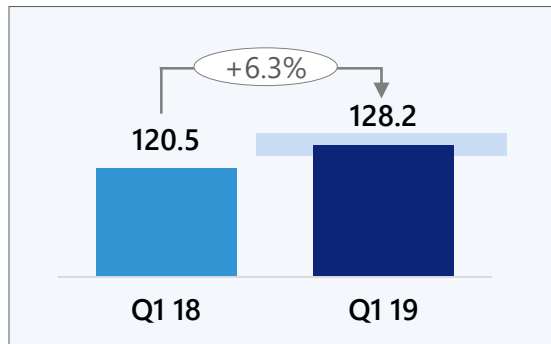


Financials

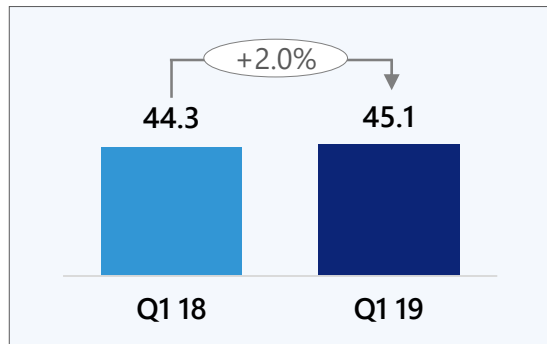
Overview

Q1 2019 key financials

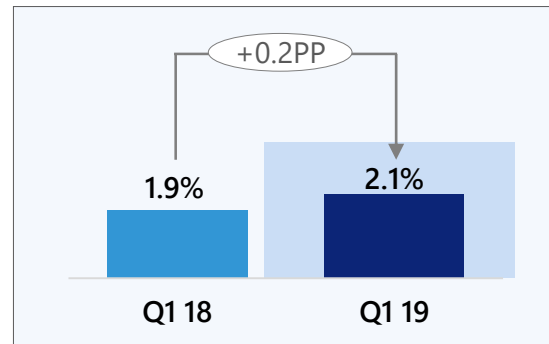
Revenues (m€)



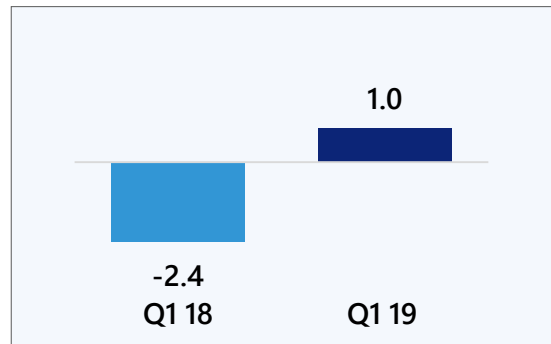
Gross profit (m€)



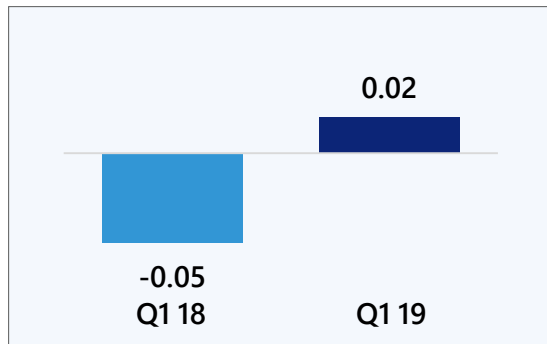
Pro forma operating income (%)



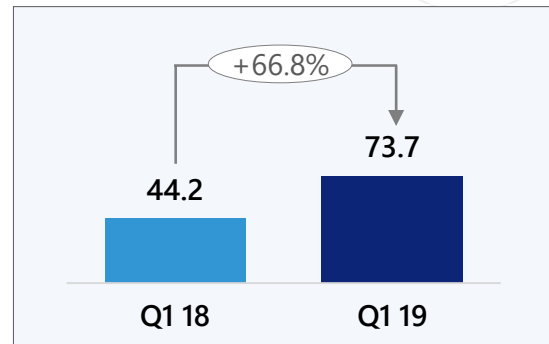
Net income (m€)



Diluted EPS (€)



Net debt (+) / Net liquidity (-) (m€)*



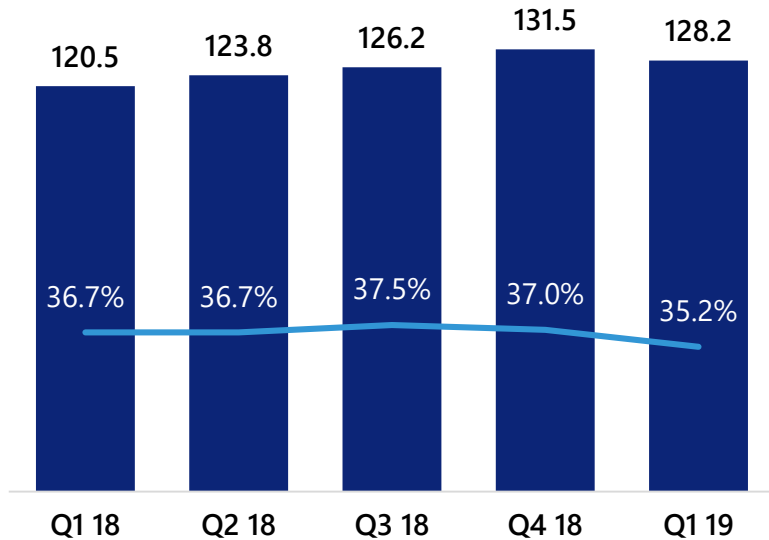
Guidance

Note: Net debt Q1 2019 includes EUR 36.8 million lease liabilities due to first-time adoption of IFRS 16

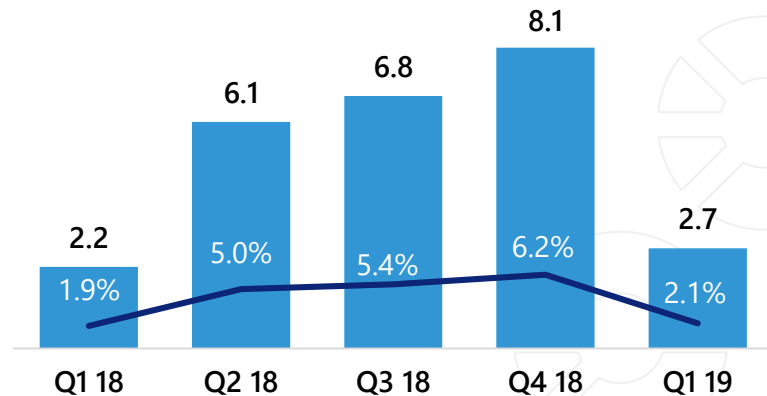
Quarterly IFRS revenue and pro forma profitability

(In millions of EUR, in % of revenues)

Revenue & gross margin



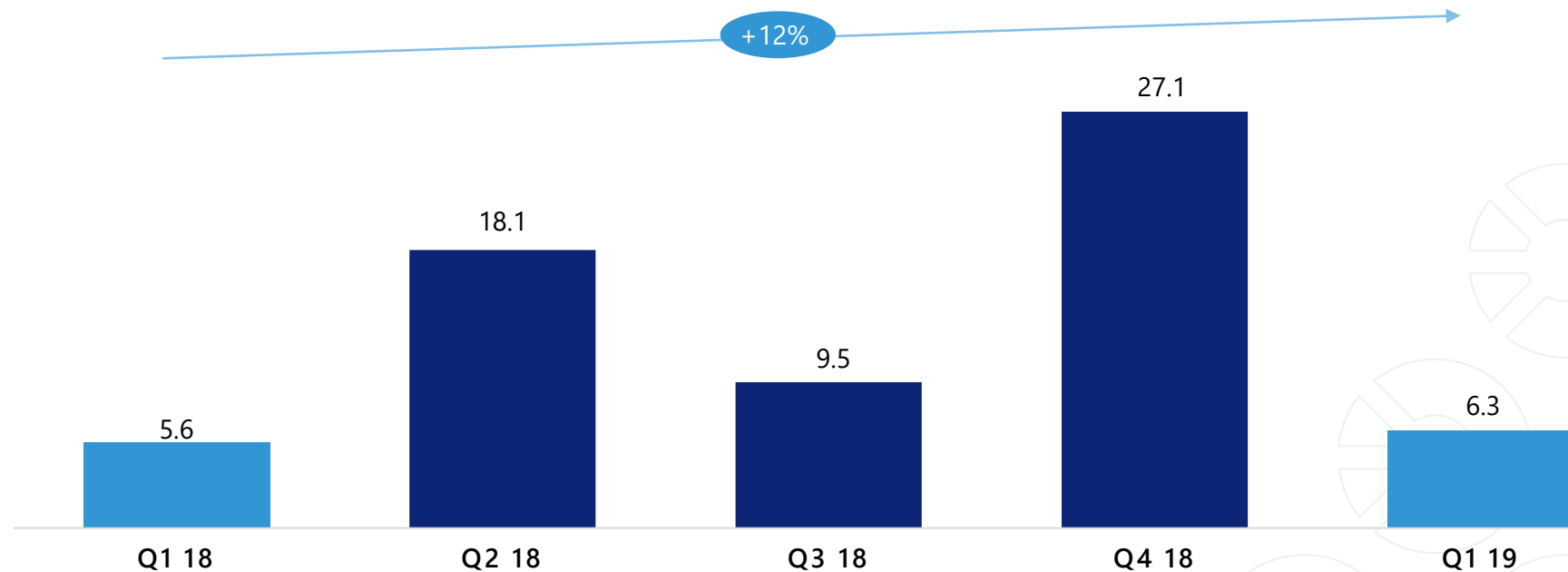
Pro forma operating income & margin



* Pro forma operating income 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 restructuring measures are not included.

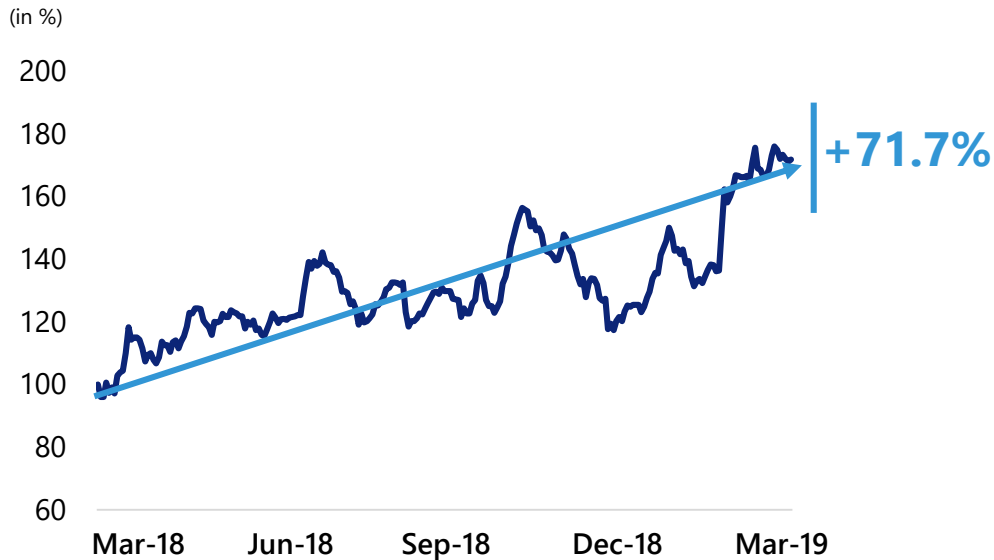
Seasonality of operating cash flow

(In millions of EUR)



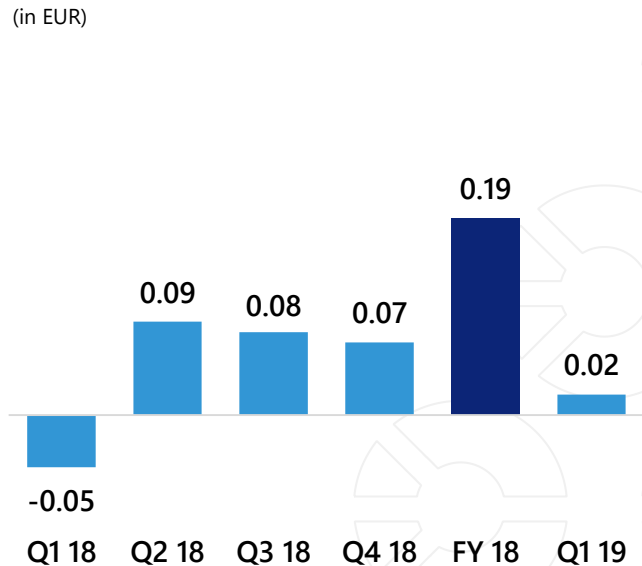
Share price and EPS development

Share price development Q1 18 – Q1 19



*As of 16.04.2019

EPS development Q1 18 – Q1 19

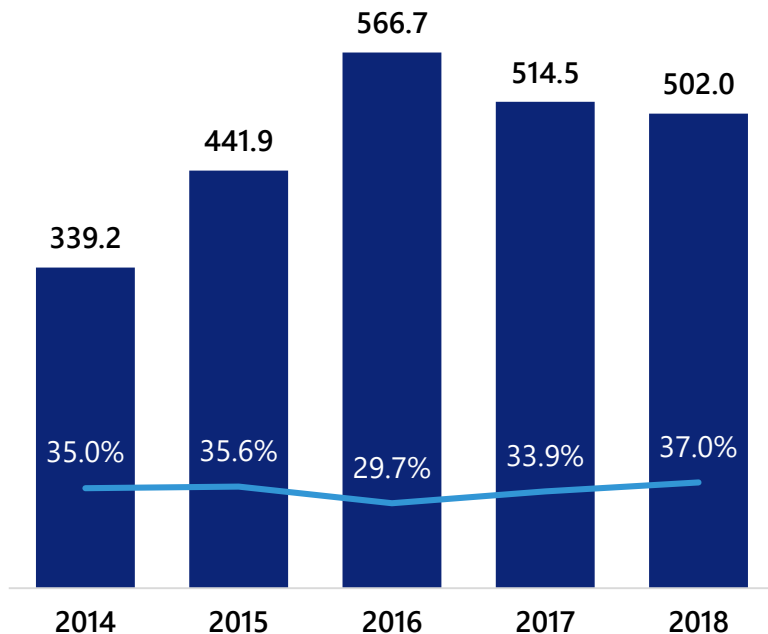


Delivering shareholder return

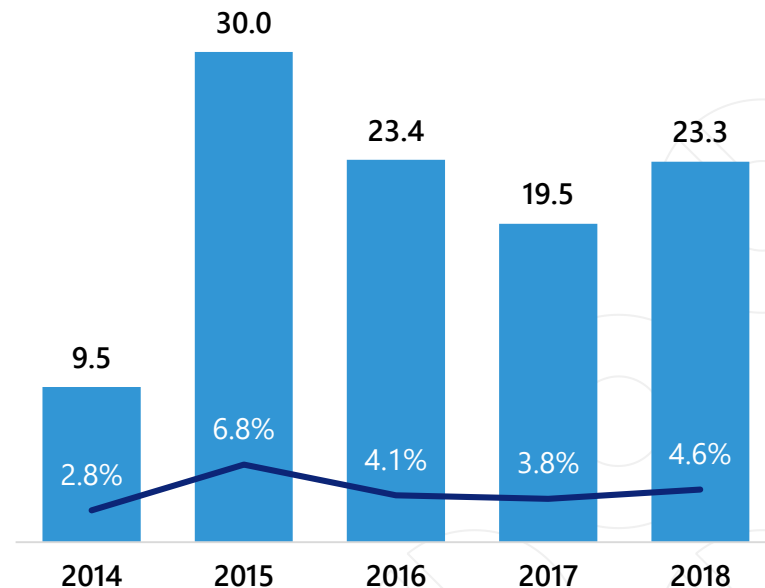
Annual IFRS revenue and pro forma profitability

(In millions of EUR, in % of revenues)

Revenue & pro forma gross margin

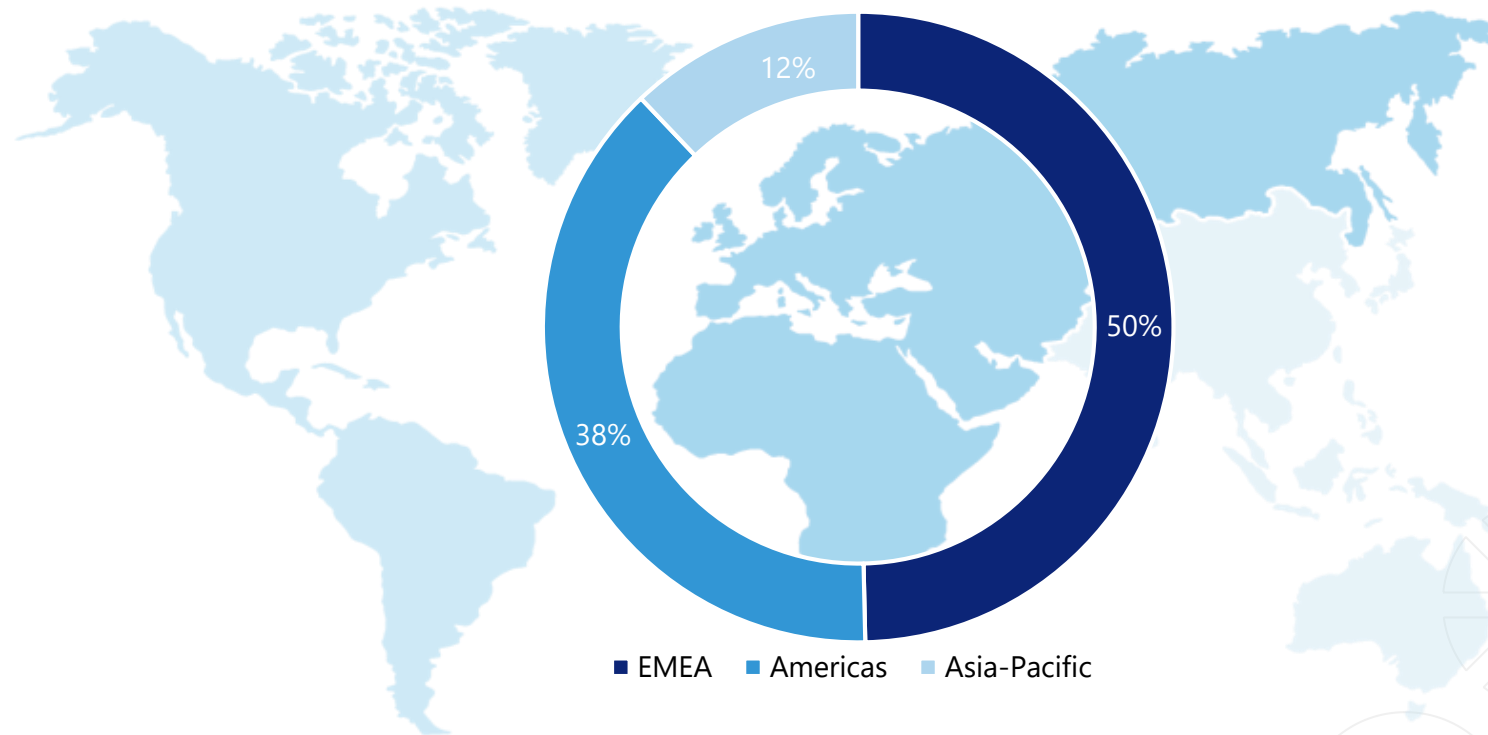


Pro forma operating income & margin



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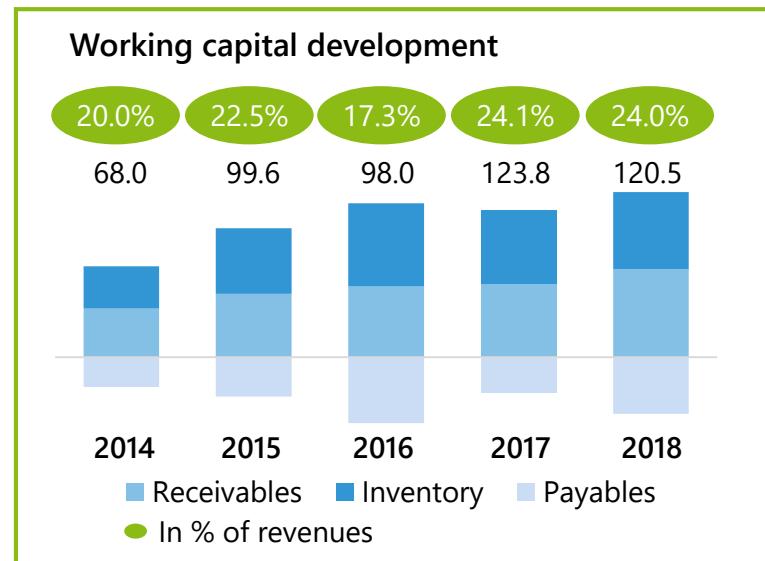
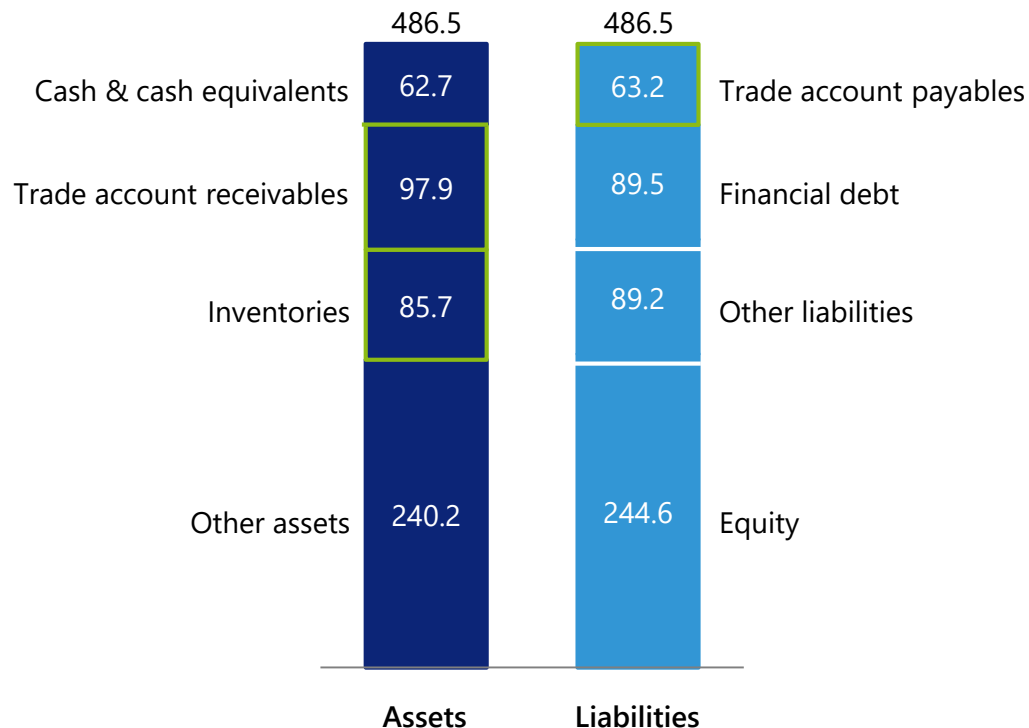
Annual revenue per region FY 2018



Customer expansion in APAC – strength in Central Europe

IFRS balance sheet FY 2018

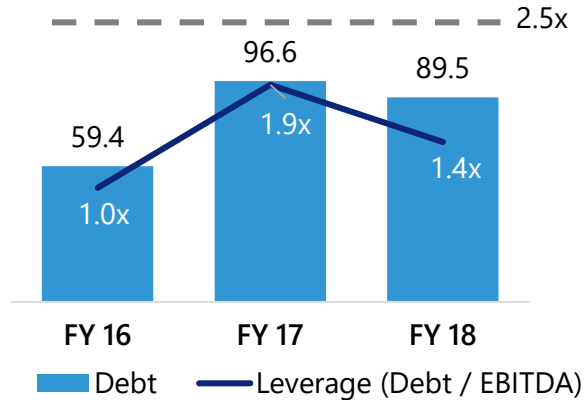
(In millions of EUR)



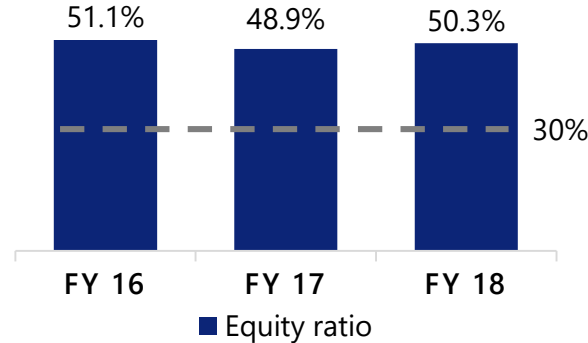
*Leverage is calculated as total liabilities to banks divided by EBITDA. EBITDA is calculated as operating income plus depreciation and amortization of non-current assets.

Financial policy – investment grade rating

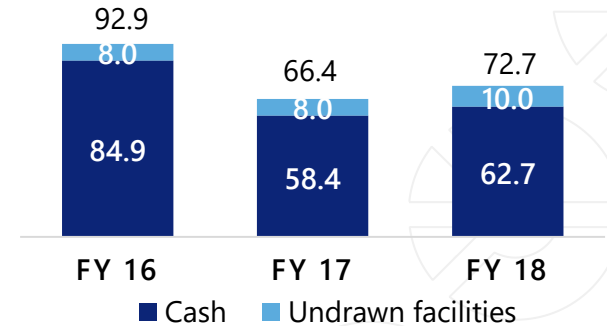
Leverage development (Debt / EBITDA)



Equity ratio



Available liquidity

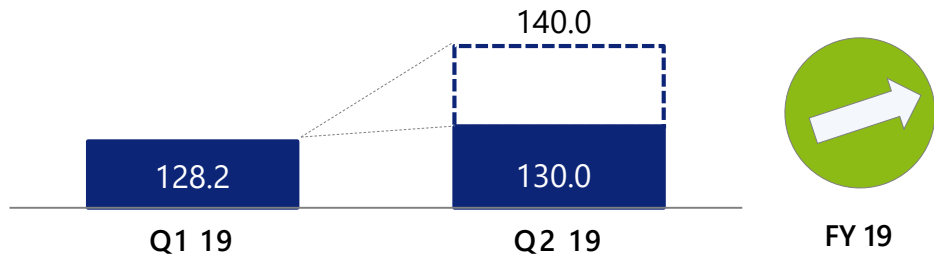


Comments

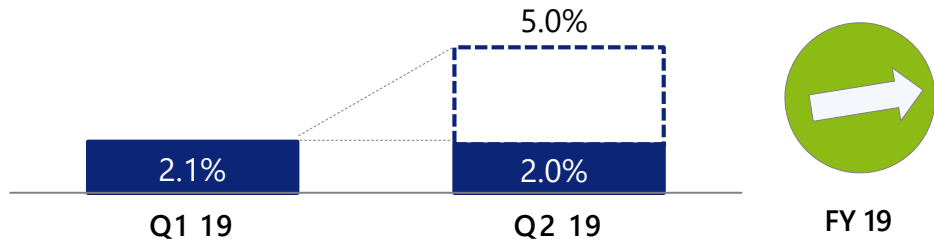
- Conservative financial policy targets a Debt / EBITDA leverage ratio of max. 2.5x
- Low current leverage level of 1.4x albeit recent long-term refinancing of MRV acquisition
- Balanced repayment profile and future profit generation will lead to a strengthened balance sheet
- High equity ratio of c. 50% significant above target of 30%

Guidance Q2 2019 and outlook FY 19

Revenues between EUR 130 millions and EUR 140 millions



Pro forma operating margin between 2% and 5% of revenues



Summary

- Good start to the new fiscal year 2019: y-o-y growth in EMEA and Americas, we are winning tenders and new customers in our core markets;
- Digitization is changing the networks and bringing the investment focus to us: We are technologically very well positioned, our three core competencies are strategically relevant to the transformation of networks;
- We remain committed to the positive outlook for the current fiscal year and continue to invest all our energy and creativity in innovative solutions for the benefit of our customers, shareholders and employees;

ADVA Optical Networking will continue to perform detailed quarterly reviews of the expected business development in respect of all intangible assets, including capitalized research and development expenses; in case of highly adverse business prospects, these reviews may result in non-cash impairment charges.



Growth

Catalysts and strategy

Growth strategy 2018 (recap)

2018



Focus: Return to quarterly growth and increase profitability

Tactics:

- Protect MRV customer base and drive cross-selling initiatives; extend customer base for cloud access solutions
- Leverage metro core upgrade cycle to drive additional optical revenue
- Utilize technology leadership in synchronization to further improve overall corporate gross margin

2019

On track for
2019 ++

Focus: Leverage expanded solution portfolio to increase market share and reaccelerate growth

Tactics:

- Aggressively pursue more DCI opportunities with new Teraflex terminal and open line system
- Win new footprint for flexible, programmable 5G infrastructure leveraging optical, packet edge and synchronization
- Accelerate revenue contribution from Ensemble and win new designs for NFV-based service delivery

2020 and beyond

Focus: Capitalize on the transition to virtualized service delivery and 5G

Tactics:

- Harness Ensemble software architecture and increase software revenue contribution to >10%
- Dominate market for network synchronization systems
- Continue to pursue tuck-in acquisitions or consolidate with and expand into a larger entity

We accomplished our 2018 goals and continue to execute against our plan

Growth strategy

2019

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2020

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2021 and beyond

Focus: Further balance the ADVA technology tripod

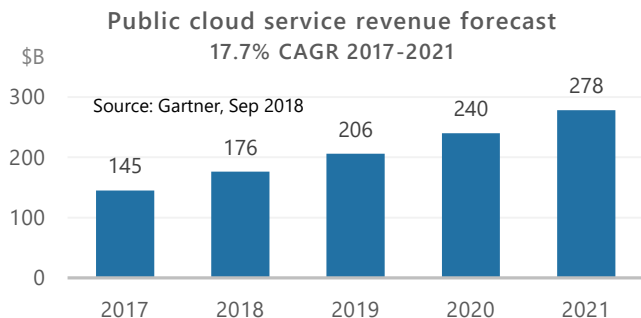
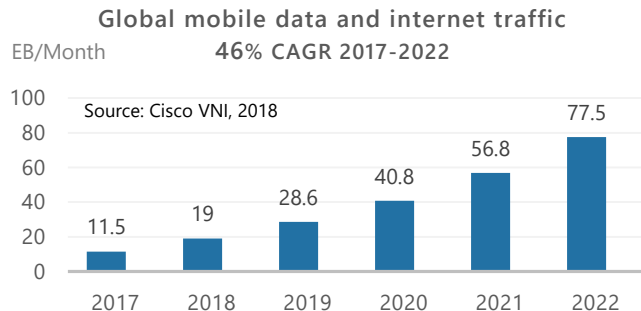
Tactics:

- Expand into new verticals with synchronization
- Expand into enterprise IT with edge cloud solutions

ADVA technology tripod: strategic building blocks for network transformation

Growth catalysts

Industry mega trends



ADVA

- Digitization drives network transformation;
- Investment focus moves to the edge, where ADVA is well positioned with multiple ways to win:
 - Interconnect – scalable bandwidth on open platform
 - Access – rapid service delivery on packet edge with NFV
 - Synchronization – precision timing, increasing relevance in ever more applications, success winning Tier 1 footprint
- More customers, better revenue diversification, and broader solutions portfolio
- Industry consolidation and regionalization lead to sharper profile as innovator and trusted partner

Investment focus coming to ADVA's sweet spot – increasingly differentiated profile



Appendix

Our partners

Technology partners



Ensemble harmony ecosystem



Partner ecosphere members

Featured elite partners



Featured select partners



and many more Connect and Connect+ partners

Investor relations overview

Recent investor activities

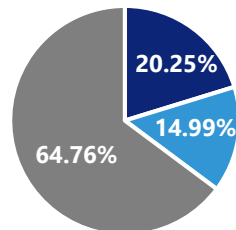
Conferences: 2019 Needham Growth Conference in New York/January
ODDO BHF FORUM 2019 in Lyon/January
Investor meetings at MWC in Barcelona/February
Investor meetings at OFC in San Diego/March

Planned investor activities

Conferences: Cowen TMT Conference in New York/May
Quirin Champions 2019 in Frankfurt/June
Roadshow in London/June

Shareholder structure

Status: March 31, 2019: 49,930,955 shares outstanding



Top Investors*

Int. Kapitalanlagegesellschaft	4.9%
Morgan Stanley	3.3%
Dimensional Fund	3.1%
DNB Asset	3.0%
Blackwell Partners (US)	3.0%
Norges Bank	2.8%
Goldman Sachs Group	2.0%

- Teleios Capital Partners
- EGORA Group
- Free float

*Sources: Insight Nasdaq, Oddo Seydler, ADVA

Financial analyst coverage

As of April 18, 2019 Institution	Recommendation/ Price Target	Update	Previous Target
Deutsche Bank	Hold (€8.20)	Mar 07, 19	(€6.80)
Hauck & Aufhäuser	Hold (€10.00)	Apr 04, 19	(€8.20)
LBBW	Buy (€10.25)	Mar 14, 19	(€8.00)
Northland Capital Markets	Outperform (€11.00)	Apr 15, 19	(€9.00)
Ø	€9.86		



Thank you

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