

ams

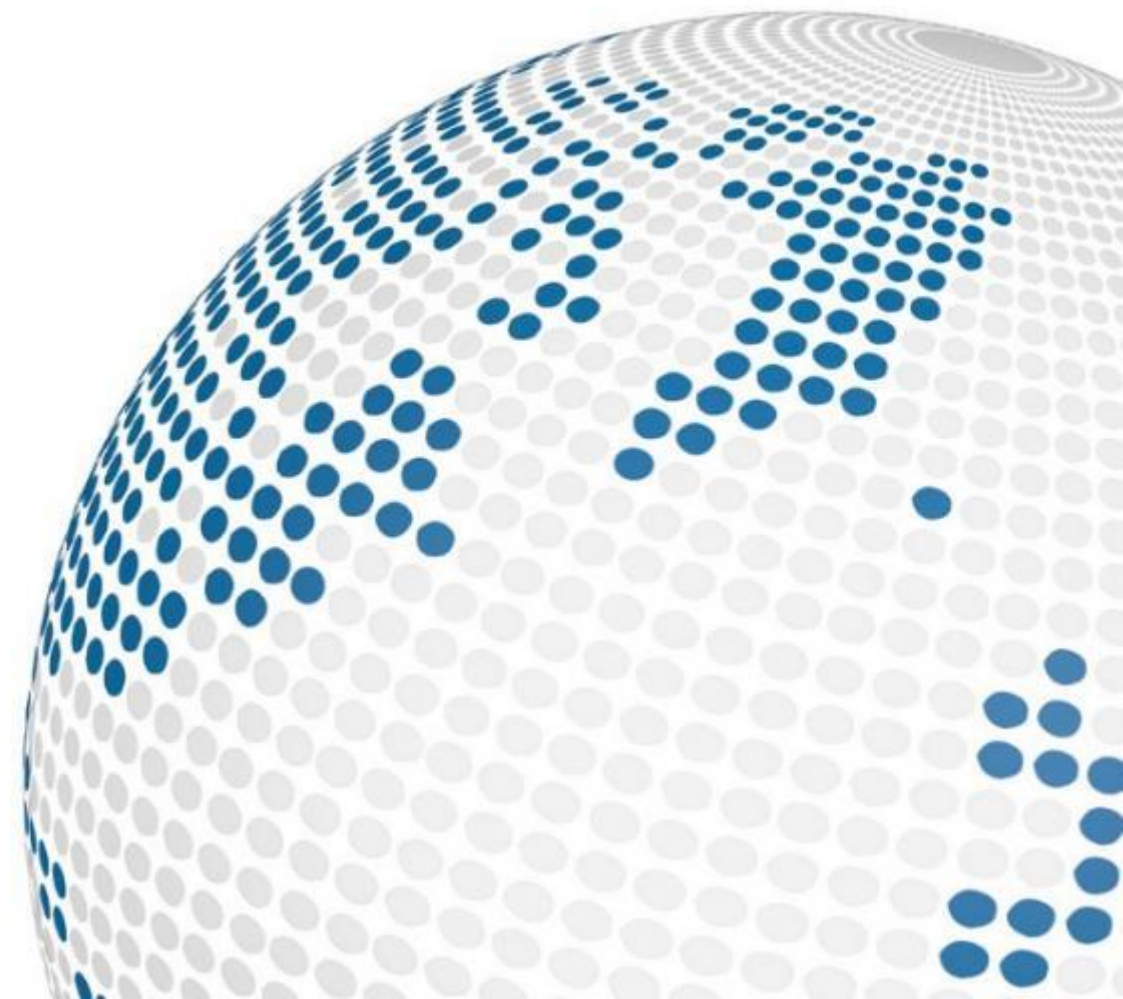
Full year and fourth quarter results 2020

Alexander Everke, CEO

Ingo Bank, CFO

Moritz M. Gmeiner, Head of IR

February 2021



ams group at a glance

(ams/OSRAM consolidated)



4.2bn

Revenues USD
CY 2020

5,500+

Engineers

20,000+

Customers

30,000

Employees

63/37%

AIM/consumer
revenue split H2 2020

30

Semiconductor
design centers

15,000+

Patents granted
and applied

110+

Years design +
manufacturing

Note: Presentation on slide denotes consolidated presentation of ams + OSRAM business including OSRAM business for second half of CY2020, AIM denotes Automotive, Industrial, Medical business

Vision for ams/OSRAM

Create the uncontested leader in optical solutions

Sensing



Illumination



Visualization



ams/OSRAM: Leading in optical sensing



Leading market position,
driving industry innovation

Strategic positioning

3D sensing, light sensing, BOLED,
image sensing, spectral sensing

Key technology areas



Consumer

- 3D
- Display management
- Camera enhancement



Automotive

- ICS (in-cabin sensing)



Industrial

- Imaging
- Automation
- 3D



Medical

- Imaging
- Biosensing/LFT

ams/OSRAM: Leading in light emitters¹



Leading market position, driving industry innovation

Strategic positioning



Consumer

- 3D
- Sensing illumination
- Display



Automotive

- Lighting (exterior/interior)
- 3D LIDAR
- Sensing illumination
- Display

LED (visible/invisible, mini, micro), VCSEL, EEL, specialty sources

Key technology areas



Industrial

- Sensing illumination
- 3D
- Illumination



Medical

- Sensing illumination

1) Presentation on slide denotes combination of ams + OSRAM as combined company following DPLTA effective date

Build the leading portfolio in optical solutions

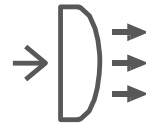
Strength across the full range of key solution components

Emitters



- LEDs
- Micro LED / Mini LED
- VCSELs / EELs
- Lamps

Optical components + micro-modules



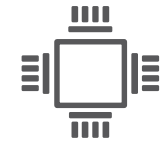
- Optical elements: Lenses, light guides, DOEs
- Micro-optical packaging
- Optical modules

Detectors



- Light sensors
- Image sensors
- Biosensors

Integrated circuits + algorithms



- Emitter driver ICs
- Sensor interfaces
- Sensor processors (incl. algorithms)

Key solution components



Target applications

Sensing



Illumination



Visualization



Create the uncontested leader in optical solutions



Innovation + leadership

Pursue real innovation and market leadership in key optical components (emitters, optics, detectors, ICs, algorithms)

Co-operation

Work with innovation leaders in each area, then roll out to broader customer base

Micro-module + module solutions

Develop optical micro-module/module solutions for growth applications in sensing, illumination, visualization

In-house manufacturing

Focus in-house manufacturing on process steps driving product differentiation

Leading financial performance

Deliver excellent financial performance in revenue growth and profitability

Diversified business

Drive diversified business with balanced application mix and broad customer portfolio

M&A

Accelerate implementation of our strategy through M&A

Strategic position to benefit from growth trends

Key technology trends driving the optical solutions market

Next generation displays

- Micro LED displays including full sensor-display integration
- Wearables, mobile devices, smart building, in-car displays, Industrial/HABA
- Mini LED backlight



Autonomous driving

- LIDAR solutions with VCSEL- and EEL-based illumination
- Leveraging front and rear lighting systems as LIDAR/sensor hubs



Digital automotive lighting

- Miniaturized light projectors for exterior and interior lighting solutions



Next generation imaging

- Heads-up displays in Automotive
- Ultra small wafer-level cameras for AR/VR glasses



Bio-sensing

- Optical read-out for Lateral Flow Test (LFT)
- Bio-sensing using mid-IR tunable laser and detector
- Take on the challenge of non-invasive glucose monitoring



Industrial IoT

- Presence detection and personalization
- Position detection
- Smart functions



In-cabin sensing (ICS) / HMI

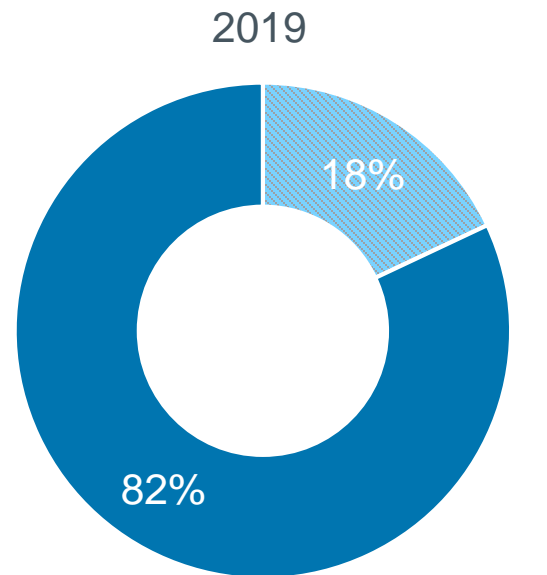
- Driver monitoring including attention and health + comfort settings
- Gesture detection and authentication



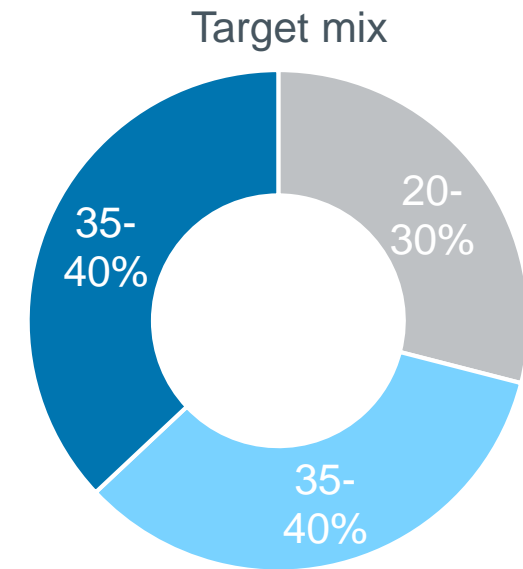
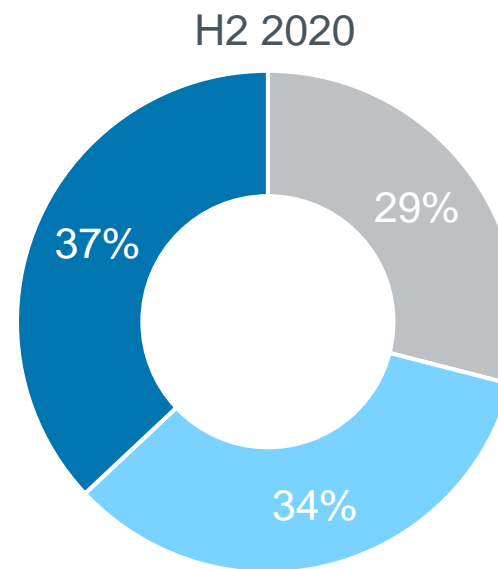
Balancing revenues in diversified market mix

Well-diversified business exposure becomes evident

ams historic

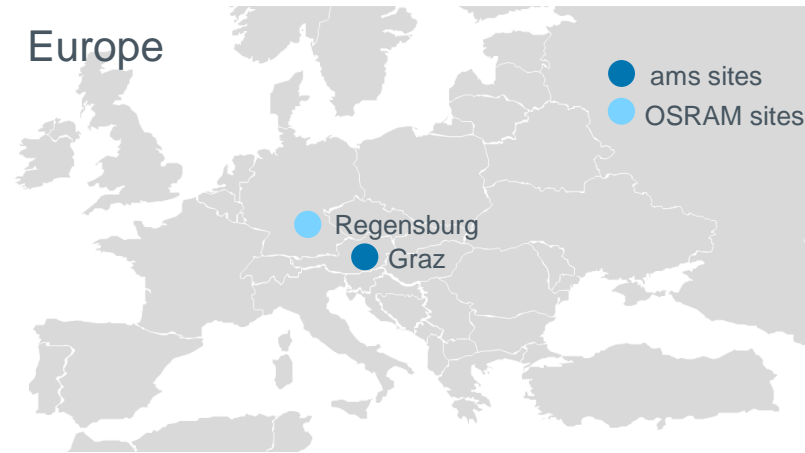


ams/OSRAM



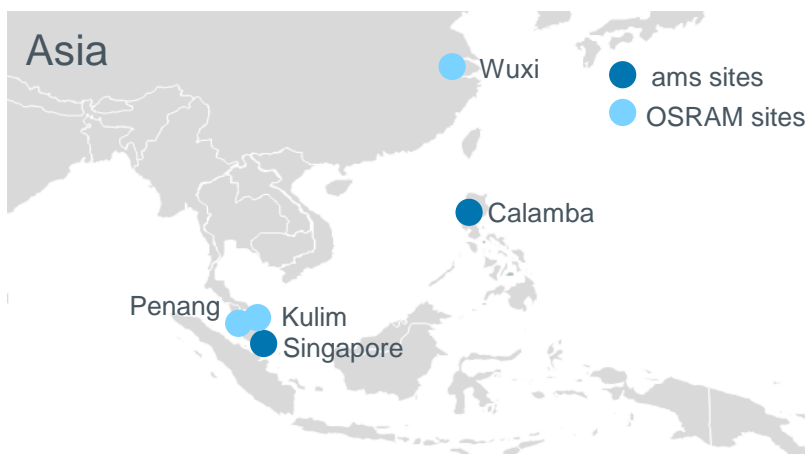
Combining semiconductor manufacturing footprint

Well-invested semiconductor asset base: clear scale + potential for optimization



Invest and innovate in European front-end

- Optimize front-end LED production
- Accelerate micro-LED manufacturing process development
- Significant capacity available for growth with limited additional capex
- Meaningful expected job additions over time



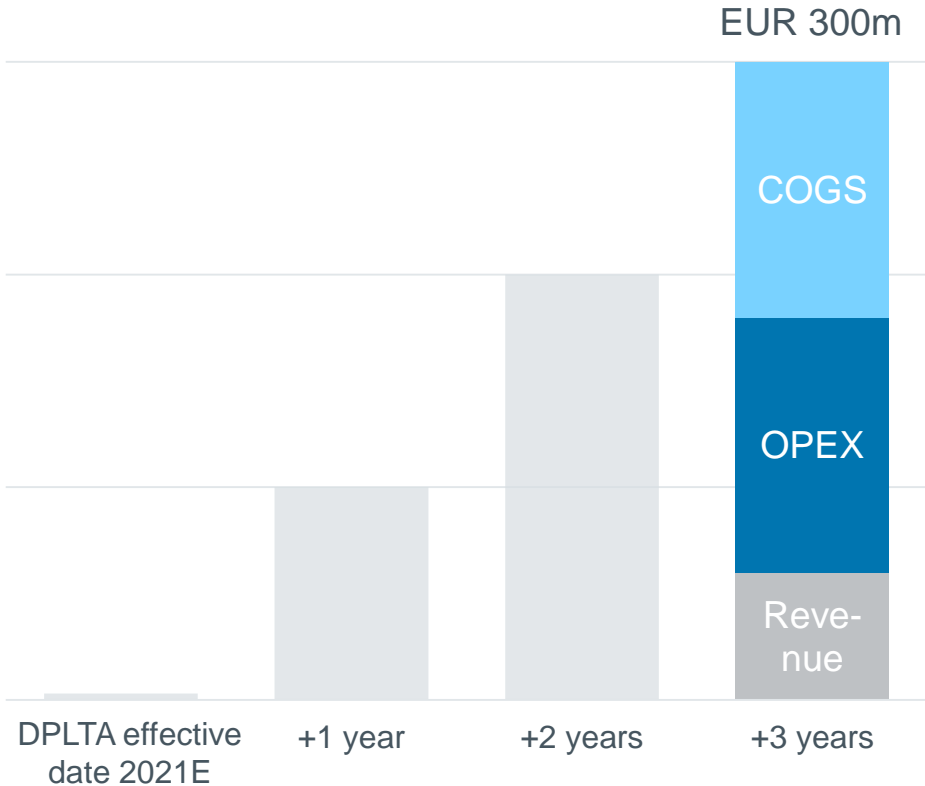
Optimize Asian manufacturing footprint

- Established three large scale new sites
- Assess consolidation of LED back-end production in Asia
- Explore streamlining of combined Asian manufacturing footprint
- Significant capacity available for growth with limited additional capex

Expected synergies confirmed



Planned ramp-up of run-rate synergies



Areas of identified synergy creation



- Optimize LED front-end production
- Optimize purchasing and sourcing
- Assess consolidation of LED back-end production
- Optimize Asian manufacturing footprint
- Align corporate functions incl. marketing/sales
- Integrate systems and IT across ams/OSRAM
- Optimize combined R&D programs
- Leverage complementary go-to-market strengths
- Accelerate roadmaps in new optical solution areas

Expected integration costs equivalent to ~1.3x run-rate synergies one-off over time

Note: Graphic representation of expected annual pre-tax run-rate synergies of EUR 300m p.a. gradually ramping up over approx. three years after DPLTA effective date, synergy values approximate figures

2020 highlights



ams business

Revenues and earnings at historic high despite Covid-19

CY revenues USD 2,291m, EBIT (adj.) USD 519m (23% of revenues), driven by robust consumer demand for 2020

Strong position in 3D + light sensing, expansion in Android

Leading 3D portfolio (world-/front-facing); focus on 3D dToF / BOLED 3D driving innovation; growth in BOLED invisible light sensing

AIM business highly impacted by Covid-19, start of recovery in H2

Significant Automotive/Industrial weakness into H2; Medical resilient; innovation for LFT medical testing addressing Covid-19

ams/OSRAM

Transaction closed, 71% majority shareholder

Full consolidation from H2 2020; effective joint preparation of integration; ams representation on OSRAM boards realized/announced

Successful financing transactions secure long term funding

Capital increase, high yield bond, convertible bond, bridge refinancing: comprehensive funding to support full OSRAM integration

DPLTA approved, preparing for implementation

OSRAM shareholder approval; objections create legal delay, expecting implementation in foreseeable future

Leadership in optical sensing solutions

- Light sensing: sensor solutions, illumination, optical systems
- Outstanding IP and expertise in optical technologies
- Key player across consumer, automotive and industrial markets

Broad portfolio in advanced applications

- 3D sensing, VCSEL, BOLED, display sensing, LIDAR, ICS
- Leading position in 3D sensing, SL, iToF/dToF, ASV solutions
- Behind-OLED light sensing for full screen mobile device design
- Leading in automotive 3D LIDAR illumination, in-cabin sensing (ICS)
- Strong VCSEL offering (3D, LIDAR)

Driving innovation and new use cases

- Spectral sensing for fast diagnostics at point-of-care (lateral flow test/LFT)
- BOLED 3D for invisible face authentication in smartphones

Leadership in optical sensing for consumer and non-consumer



ams 3D sensing: Leading in solutions

Industry-leading 3D platform

- Extensive portfolio across 3D system elements
- VCSEL, optics, NIR/SPAD sensing, algorithms, software
- Structured light (SL), time-of-flight (iToF, dToF), active stereo (ASV)
- Major player in high volume consumer 3D

3D system know-how creates solution play

- Solution architect with full system expertise in all technologies
- Leading illumination pedigree + high performance VCSEL offering
- Driving real innovation in next applications 3D dToF / BOLED 3D
- Non-consumer illumination + systems lead in Automotive (3D LIDAR, in-cabin) and Industrial

Broad 3D portfolio +
deep system expertise
to drive solutions



ams 3D sensing: 3D/1D direct ToF, BOLED 3D

3D/1D dToF world-facing (WF) solutions

- Strong technology position in 3D/1D dToF
- 3D dToF key architecture for high quality AR/new WF
- Unmatched 3D dToF full system capability (VCSEL illumination, optics, high performance SPAD, software, algorithms)
- High performance 3D dToF solution full development
- 1D dToF solution range, less advanced applications, successful in camera functions, ongoing penetration

BOLED 3D – innovation leadership in 3D

- Next level front-facing face authentication: invisible 3D, complete system behind display
- Full BOLED 3D ASV system enabled by deep 3D portfolio (VCSEL illumination, optics, NIR sensing, software, algorithms)
- Highly challenging technology, complex commercialization, progressing on development path
- Planning to explore SL architecture in further step

Developing 3D dToF,
1D dToF successful;
industry innovator in
BOLED 3D

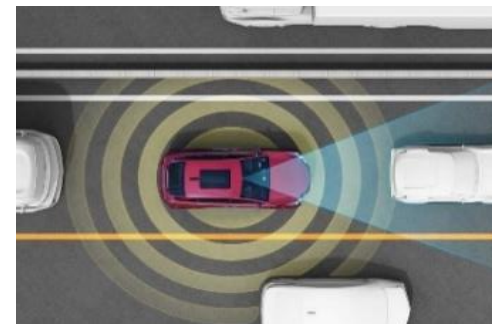
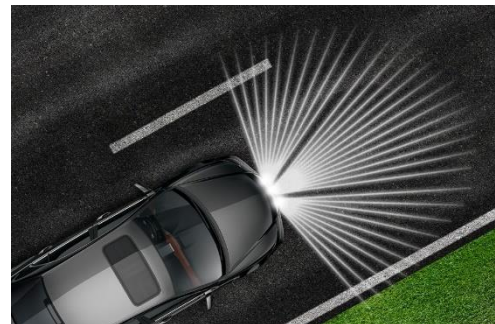


ams 3D sensing: Automotive VCSEL 3D LIDAR

Leadership position in 3D LIDAR VCSEL illumination

- High performance VCSEL illumination systems for multiple LIDAR architectures (true solid-state, mechanical scan, flash)
- LIDAR engagements in Europe, North America, Asia
- Successful IBEO partnership in long range true solid-state, further win Great Wall Motors
- True solid-state combines non-scanning/flash + mechanical/MEMS scanning advantages
- Line-by-line addressable high count VCSEL arrays, small pitch, high power, high efficiency

Positive market momentum, VCSEL engagements at several system vendors



ams Optical sensing: BOLED, AWB, ICS

Behind-OLED (BOLED) light/proximity sensing

- Invisible high quality optical sensing behind OLED display
- Maximum screen-to-body ratio/full screen designs
- Very successful in major Android platforms across OEMs
- Multi-generation portfolio

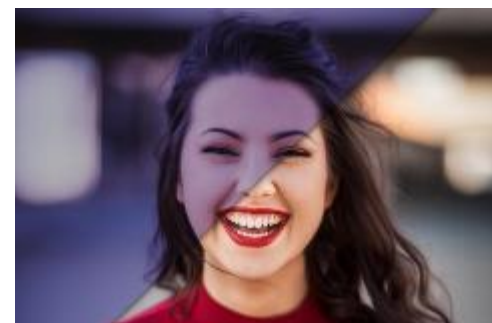
Auto white balancing (AWB) for smartphone cameras

- Innovative spectral sensing for precise light environment analysis
- Camera enhancement enables better pictures with vivid natural colors
- 2020 introduced, increasing market adoption

New automotive market In-cabin sensing (ICS)

- Driver monitoring (drowsiness, distraction), driver interaction (HMI/gesture), occupant monitoring (airbag management, rear seat)
- Early leading position due to automotive solution expertise in 2D + 3D
- Project wins at multiple system suppliers including 3D

2020: more BOLED
success; AWB
traction; attractive
automotive ICS

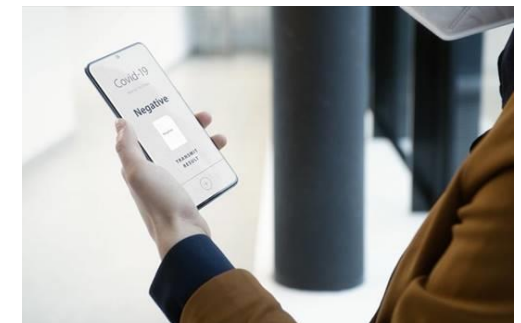
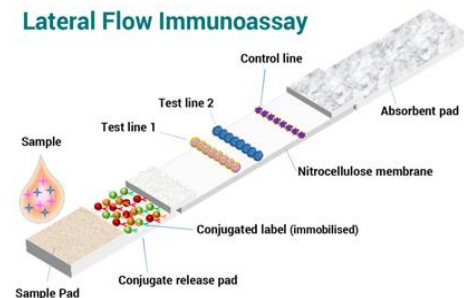


ams Optical sensing: Medical LFT read-out

Spectral sensing digital LFT solution

- Innovative solution for medical lateral flow test (LFT, established test method for viruses, bacteria, other biomarkers)
- High precision optical LFT read-out, unmatched technology for complete system including software front-end
- Fast accurate diagnostics at point-of-care, avoiding expensive lab equipment
- European partner Senova in early production for Covid-19 antibody LFT kit
- First North American partner Precision Bio in late stage development and approval process for Covid-19 antigen LFT solution

Innovation for fast
point-of-care tests;
partners for Covid-19
antibody + antigen LFT



Leading in industrial global shutter imaging

- High performance global shutter CMOS IS
- High speed machine vision, automation, inspection, traffic

Global leader in Medical Imaging sensor solutions

- Computed tomography (CT), digital X-ray, mammography
 - Industry leader with broad portfolio
 - High resolution diagnostics at lower radiation doses
 - Continuing market success in Asia, Covid-19 diagnostics CT demand
- NanEye micro cameras ($\leq 1\text{mm}^2$) in advanced endoscopy

High performance NIR for optical sensing/3D

- Global shutter NIR sensing, state-of-the art performance (QE)
- Enabling full 3D solutions including BOLED 3D

Ongoing Asia CT market penetration; global shutter NIR for 3D solutions



ams Audio sensing

Audio ANC (active noise cancellation)

- Best-in-class performance for excellent audio quality (>40dB)
- Leading market position, design traction and new launches at additional OEMs in 2020
- Digital ANC innovation for loose-fit true wireless earbuds: high quality noise reduction without plug-in earpieces
- Selective noise cancellation by-pass (Augmented Hearing) for speech/specific audio

Leader in high performance ANC, customer base expanded in 2020



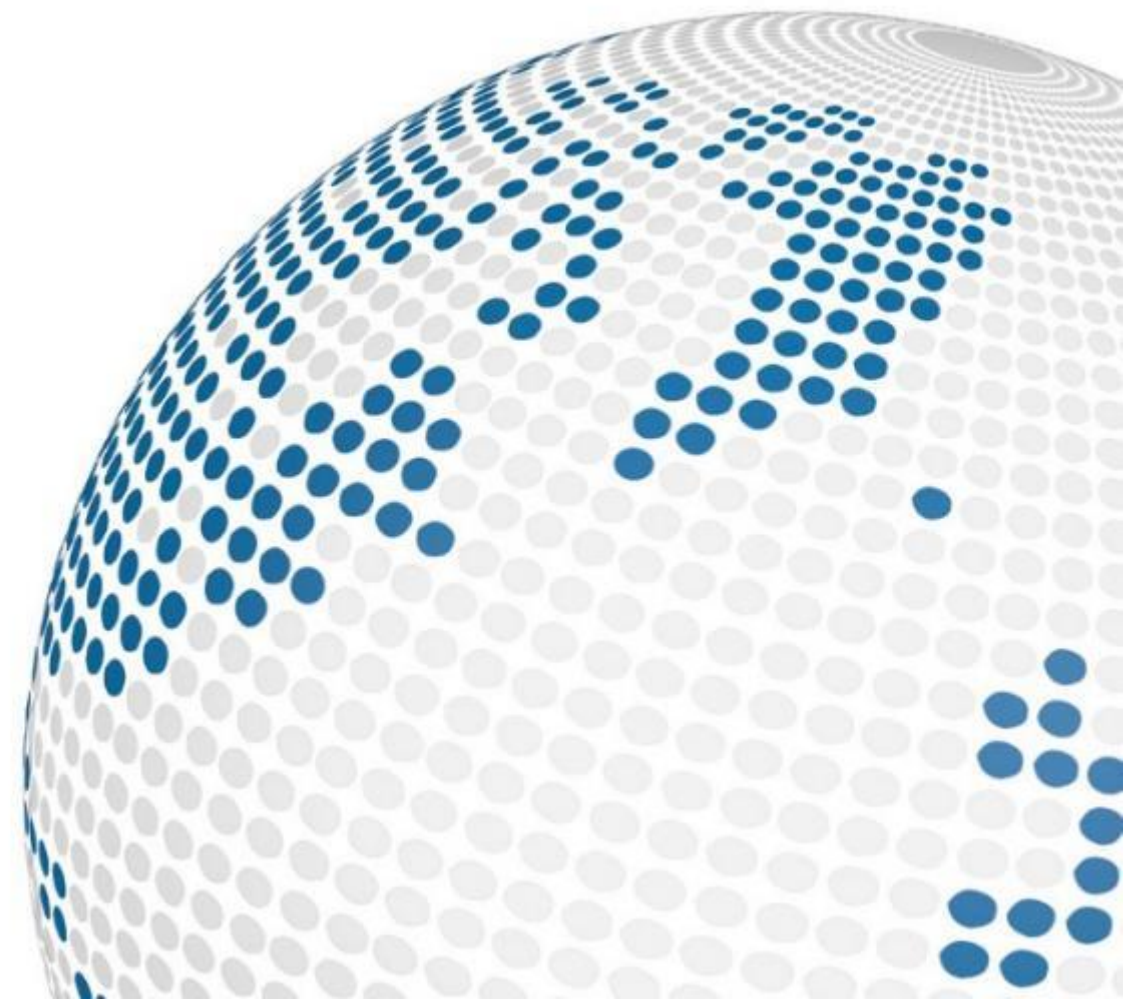
Sensing enables life

Sensing is an integral part of the digital transformation



ams Group

CY and Q4 2020 financial results



Outlook ams business Q1 2021



Revenues

USD 500-540 million

+4% year-on-year at midpoint

Operating profitability

20-22%

Adjusted EBIT margin

Highlights

Q4 2020

- ams Q4 2020 revenues and adjusted EBIT margin towards/at top end of guidance range
- Strong sequential growth given robust demand in ams consumer business
- ams welcomes improved performance of OSRAM business in Q4 2020 and is pleased to see increased fiscal year outlook

CY 2020

- Record revenues and earnings for ams business, year-on-year growth despite Covid-19
- Group results include 6 months of OSRAM business in second half 2020

Q1 2021

- Expected Q1 ams revenues USD 500-540m, adj. ams EBIT margin of 20-22%
- ams business expects year-on-year revenue growth in Q1 at midpoint despite typical seasonality

Overview key financials – ams group



USDm

		CY 2020	CY 2019	Q4 2020	Q4 2019
Total revenues		4,169 +86%	2,243	1,679 +138%	705
Gross margin	(adjusted) ¹⁾ (IFRS reported)	33% 30%	41% 38%	35% 32%	45% 42%
Result from operations (EBIT)	(adjusted) ¹⁾ (IFRS reported)	550 164	468 391	280 153	200 216
EBIT margin	(adjusted) ¹⁾ (IFRS reported)	13% 4%	21% 17%	17% 9%	28% 31%
Net result	(adjusted) ¹⁾ (IFRS reported)	282 -104	434 357	180 52	155 171
EPS (basic/diluted) in CHF ²⁾	(adjusted) ¹⁾ (IFRS reported)	1.13 / 0.98 -0.45 / -0.52	5.02 / 4.90 4.15 / 4.05	0.59 / 0.46 0.18 / 0.10	1.74 / 1.57 1.94 / 1.77
EPS (basic/diluted) in USD	(adjusted) ¹⁾ (IFRS reported)	1.26 / 1.09 -0.50 / -0.57	5.38 / 5.24 4.44 / 4.33	0.66 / 0.51 0.20 / 0.11	1.89 / 1.71 2.11 / 1.92

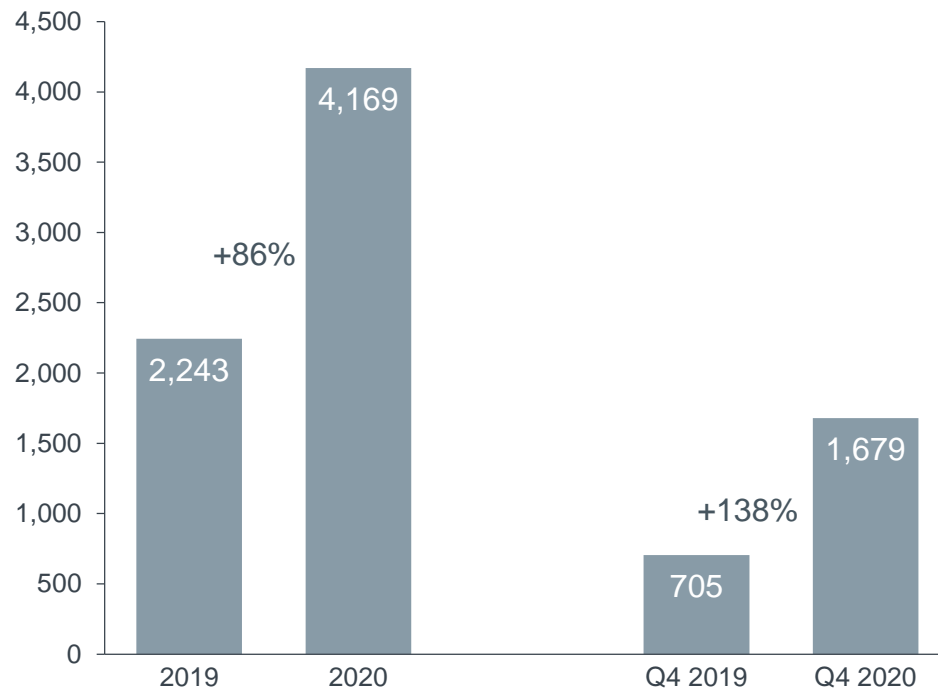
¹⁾ Excl. acquisition-related, one-time restructuring and share-based compensation costs and results from investments associates

²⁾ Earnings per share in CHF were converted using the average currency exchange rate for the respective periods

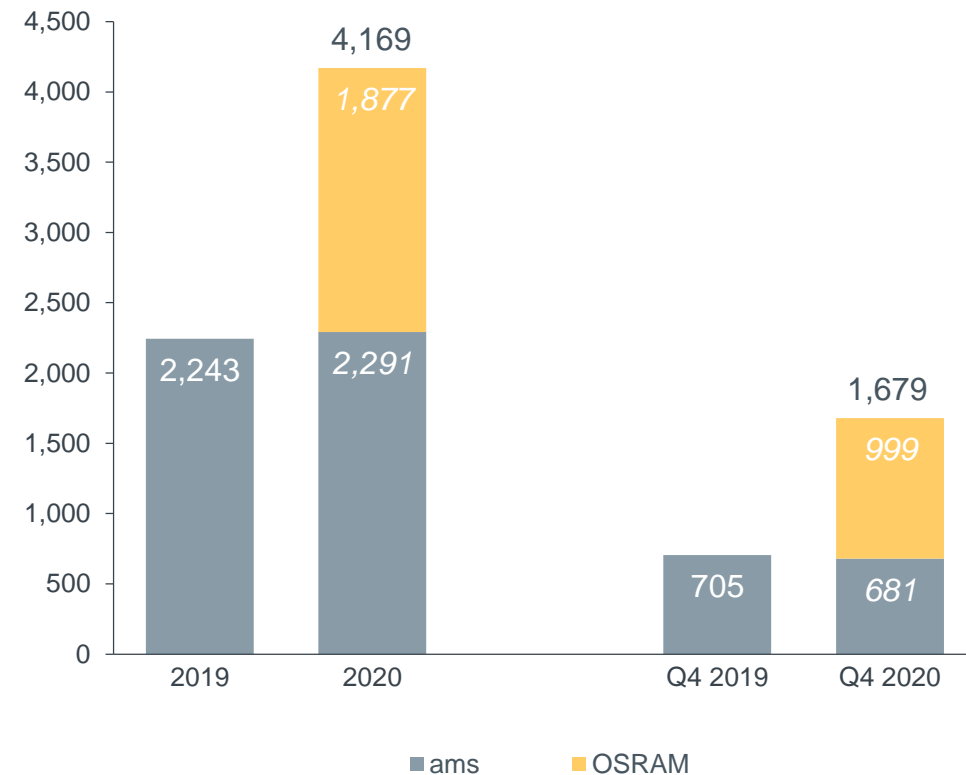
Revenues – ams group

USDm

Total revenues



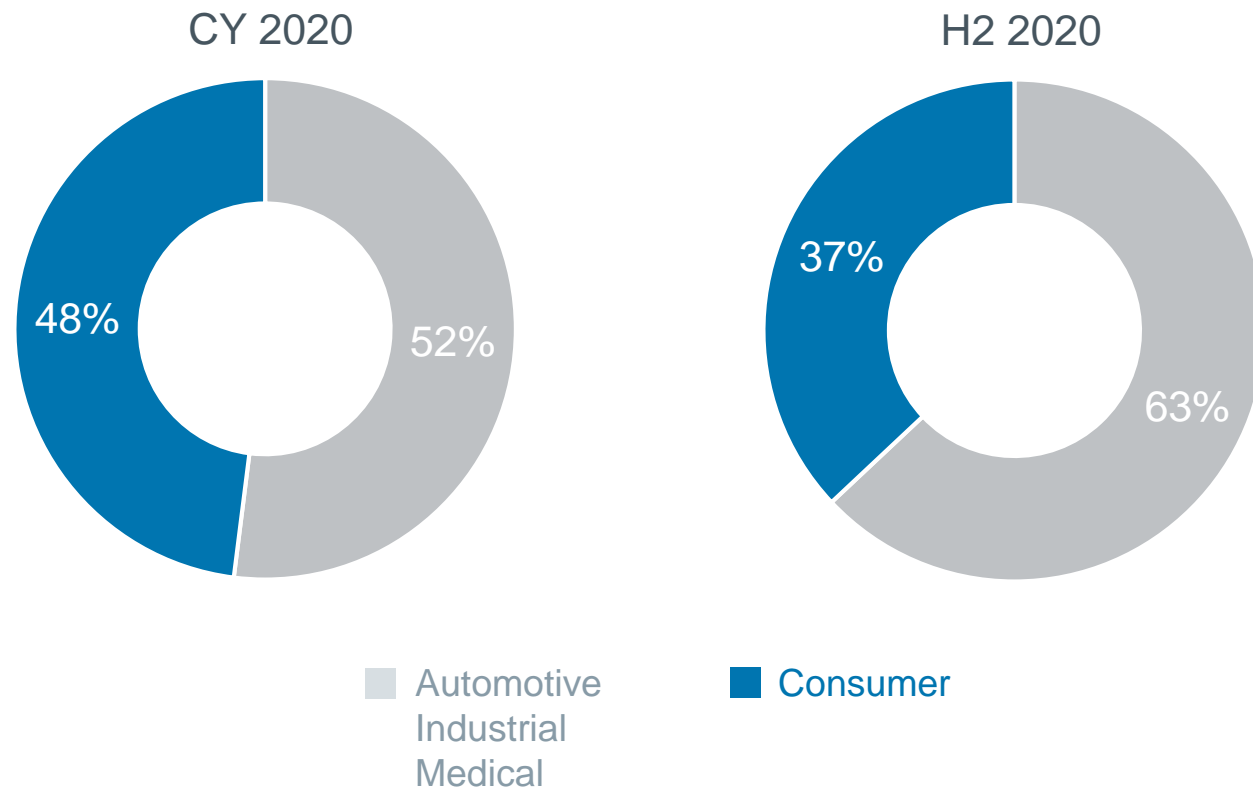
Revenues ams/OSRAM



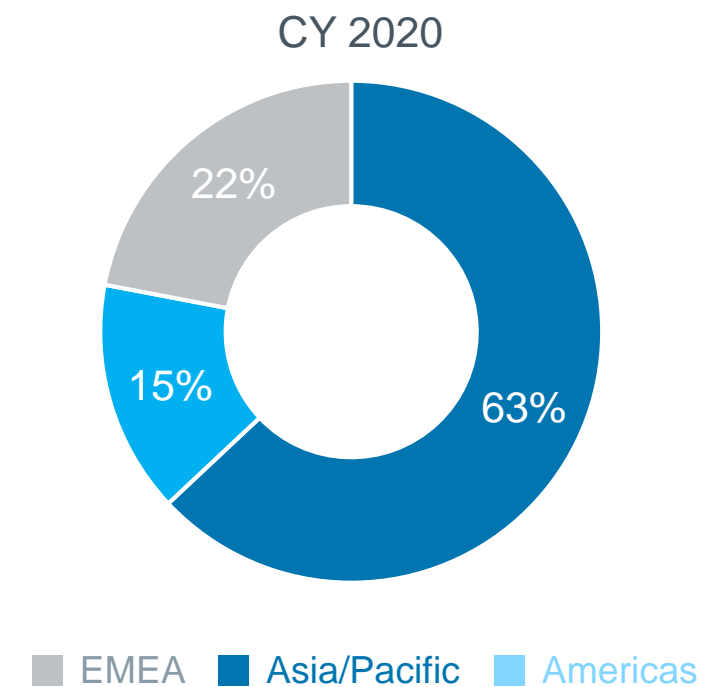
Revenue distribution – ams group

% of revenues

Group revenues by market



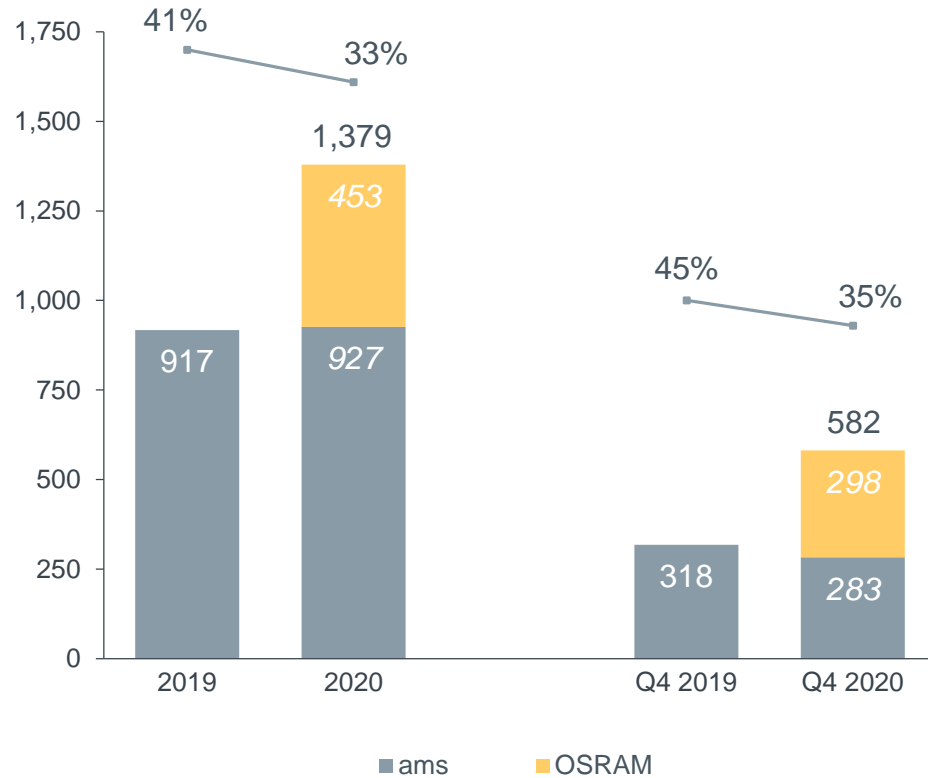
Group revenues by region



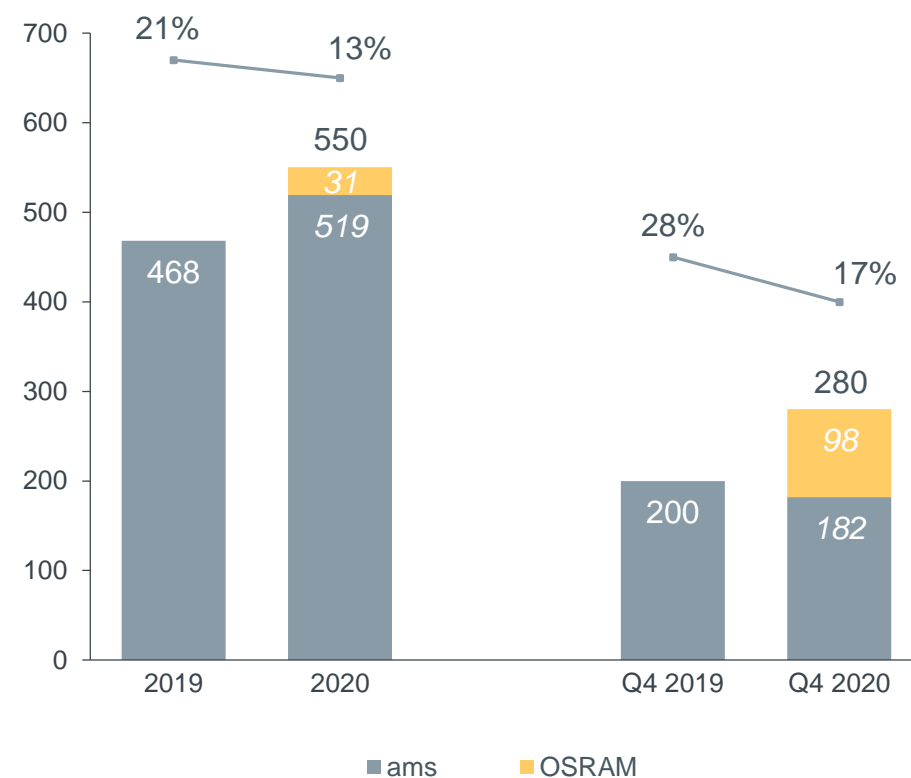
Gross profit, operating profit (EBIT) – ams group

USDm, % of revenues

Gross profit, gross margin (adj.)¹⁾



EBIT, EBIT margin (adj.)¹⁾



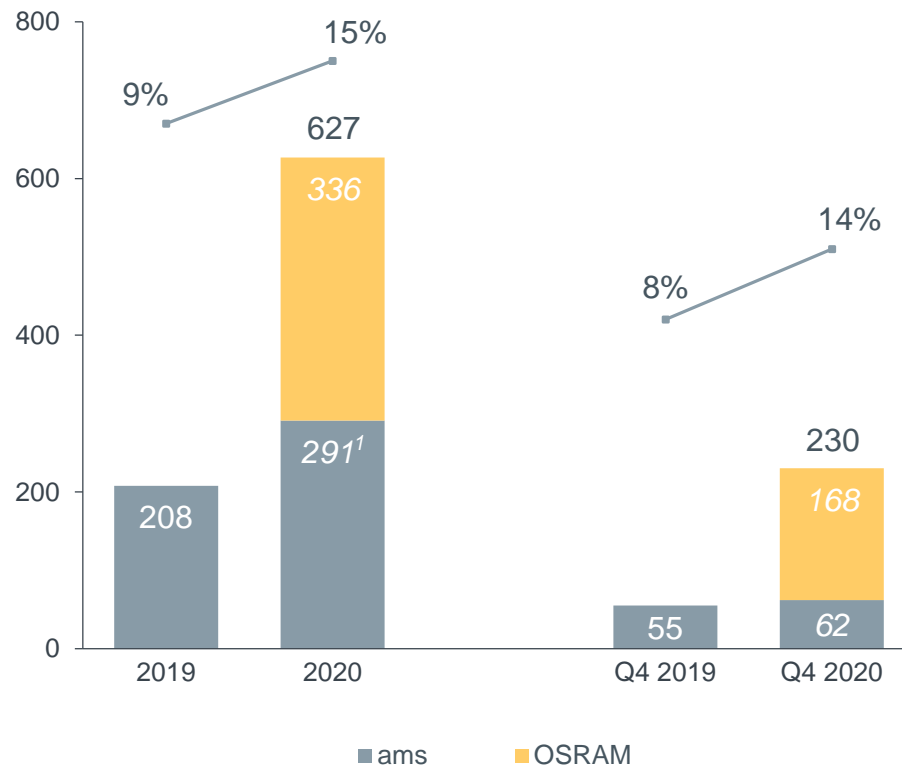
1) Excl. acquisition-related, one-time restructuring and share-based compensation costs and results from investments in associates

Operating expenses – ams group

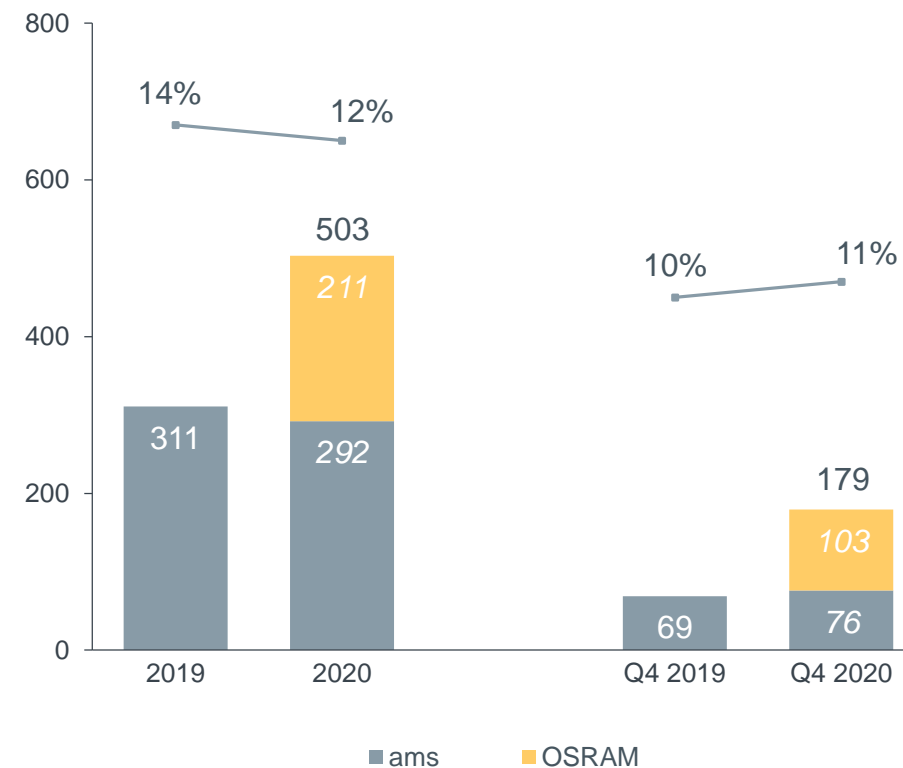
USDm, % of revenues



SG&A



R&D



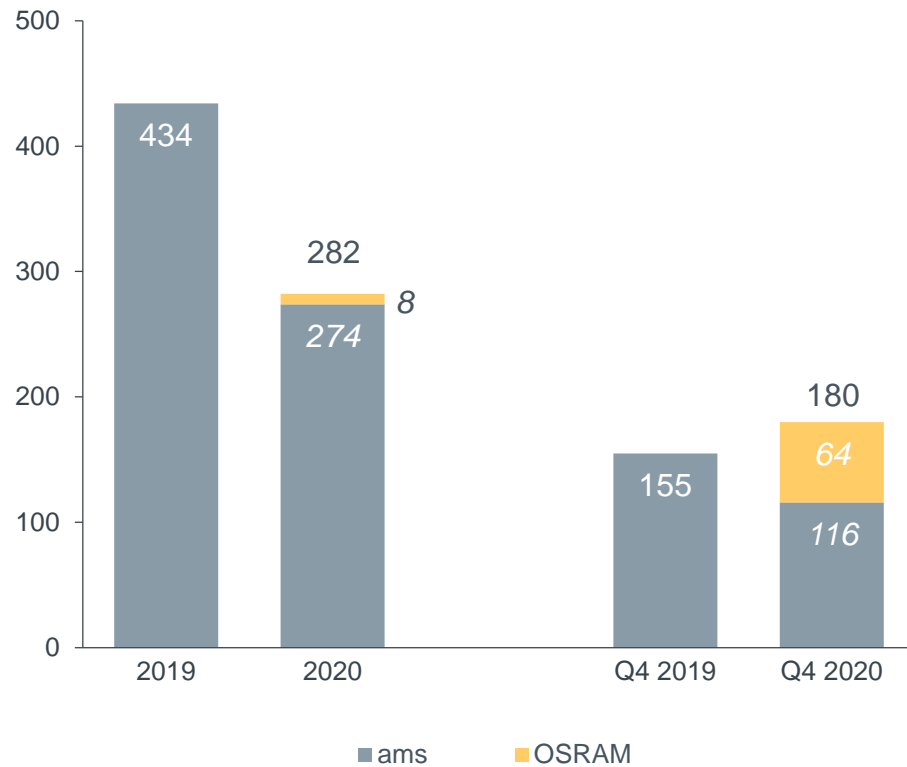
1) USD 227m excluding transaction-related one-time expenses

Net result and EPS – ams group

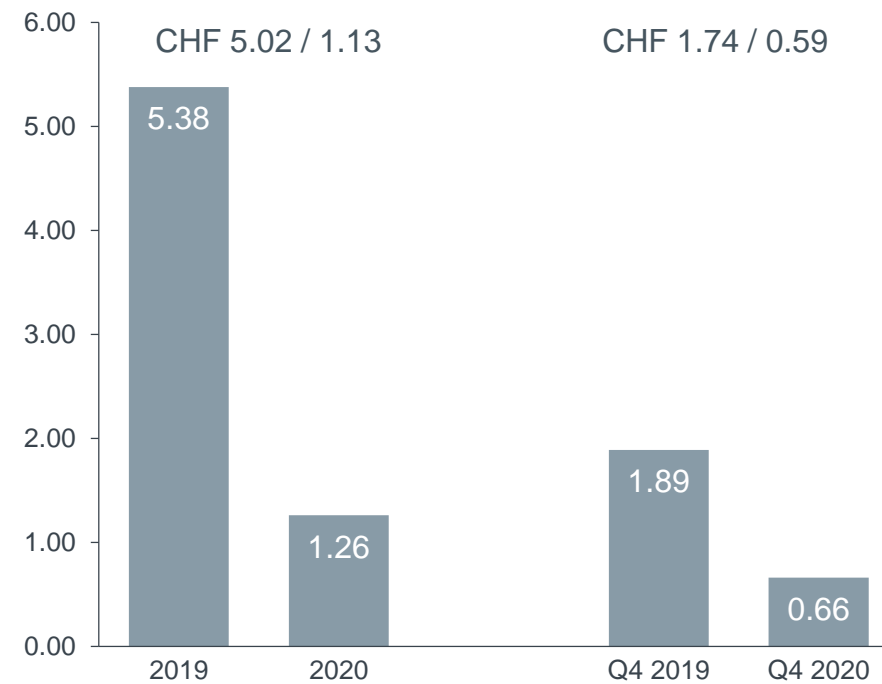
USDm, USD per share



Net result (adj.)¹⁾



EPS basic (adj.)¹⁾²⁾



1) Excl. acquisition-related, one-time restructuring and share-based compensation costs and results from investments in associates

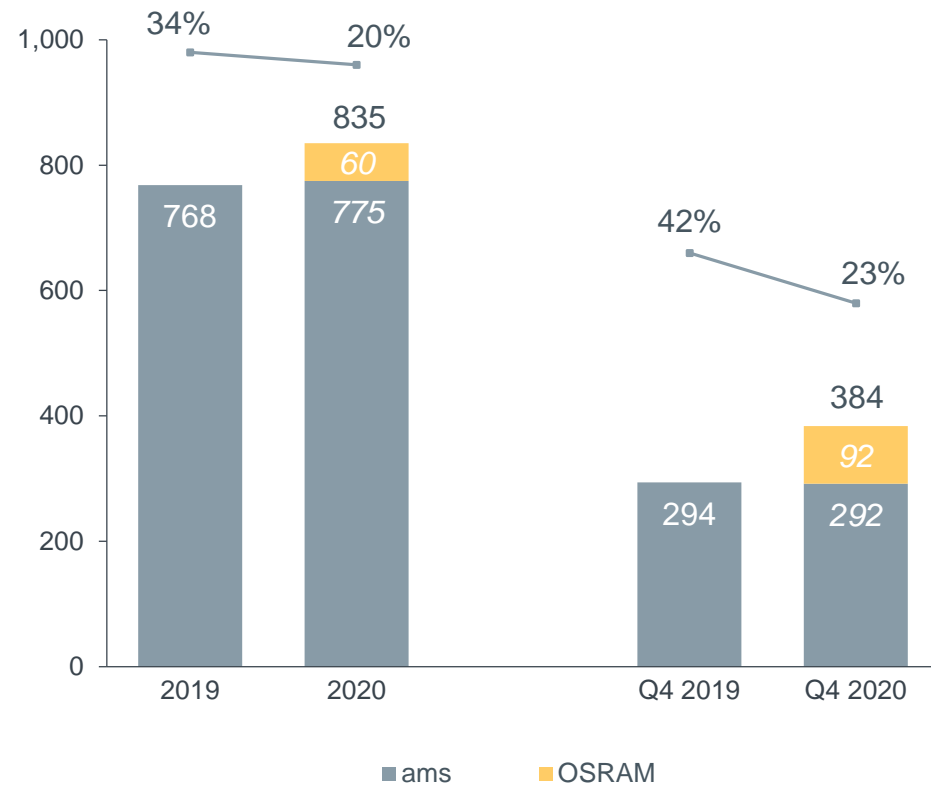
2) Reflecting new share count for 2020 figures after capital increase in Q2 2020

Operating cash flow, CAPEX – ams group

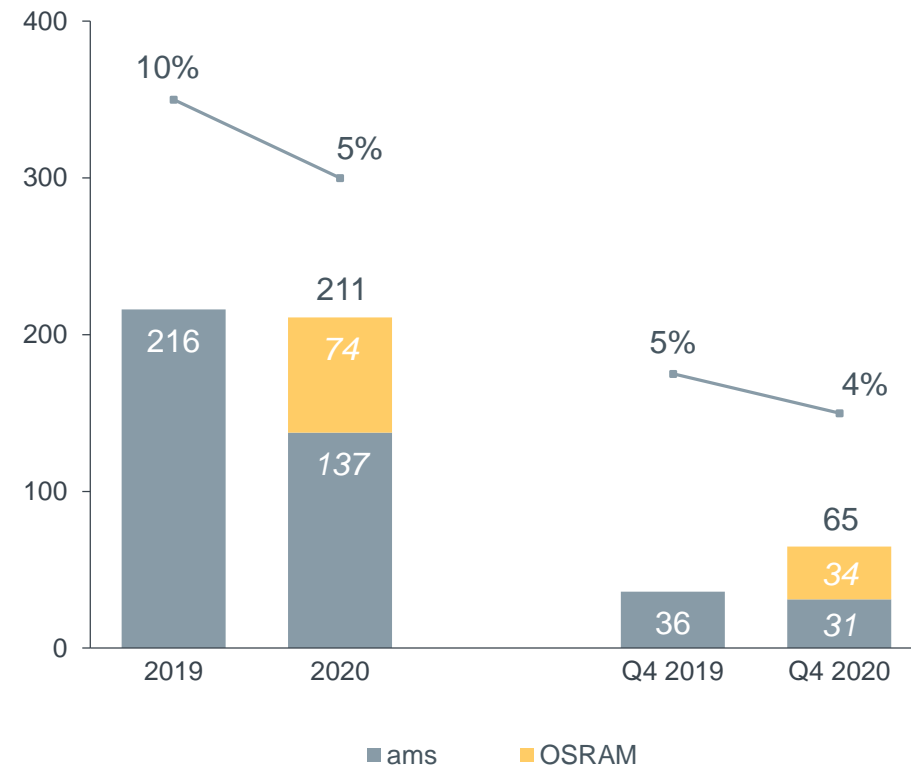
USDm, % of revenues



Operating cash flow

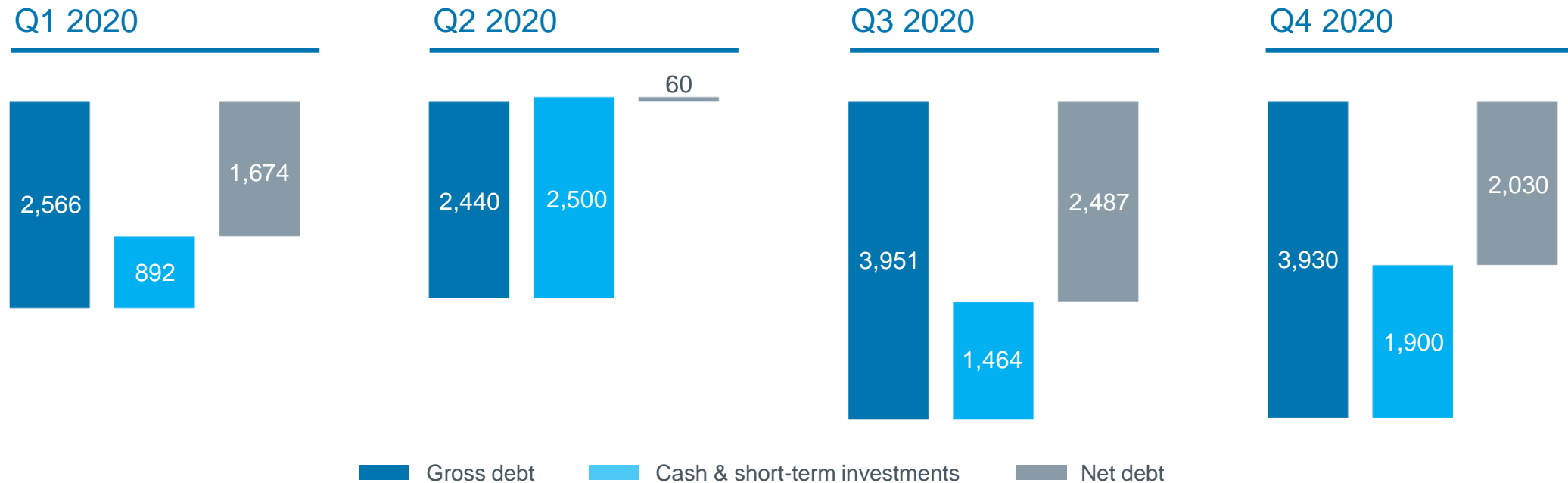


Capital expenditures



Cash and debt overview

USDm

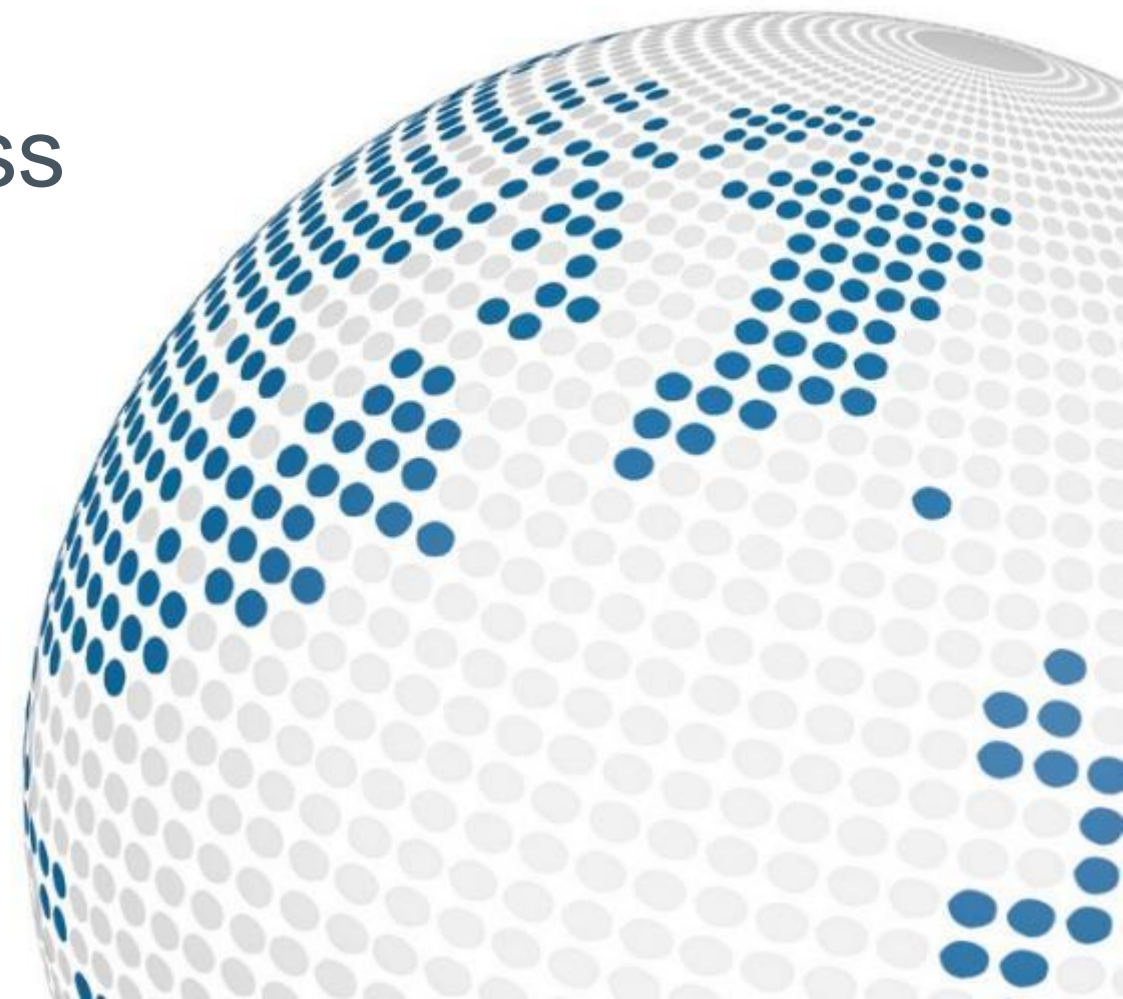


Financing highlights

- EUR 760m convertible bond issued
- All previous bridge facilities cancelled, EUR 450m repaid, new EUR 750m bridge facility agreed
- All OSRAM bank debt replaced by inter-company loan

ams business/OSRAM business

CY and Q4 2020 financial results



Overview key financials – ams business



USDm

		CY 2020	CY 2019	Q4 2020	Q4 2019
Total revenues		2,291 +2%	2,243	681 -3%	705
Gross margin	(adjusted) ¹⁾ (IFRS reported)	40% 38%	41% 38%	42% 40%	45% 42%
Result from operations (EBIT)	(adjusted) ¹⁾ (IFRS reported)	519 300	468 391	182 131	200 216
EBIT margin	(adjusted) ¹⁾ (IFRS reported)	23% 13%	21% 17%	27% 19%	28% 31%
Net result	(adjusted) ¹⁾ (IFRS reported)	274 55	434 357	116 65	155 171

¹⁾ Excl. acquisition-related, one-time restructuring and share-based compensation costs and results from investments associates

Overview key financials – OSRAM business



USDm

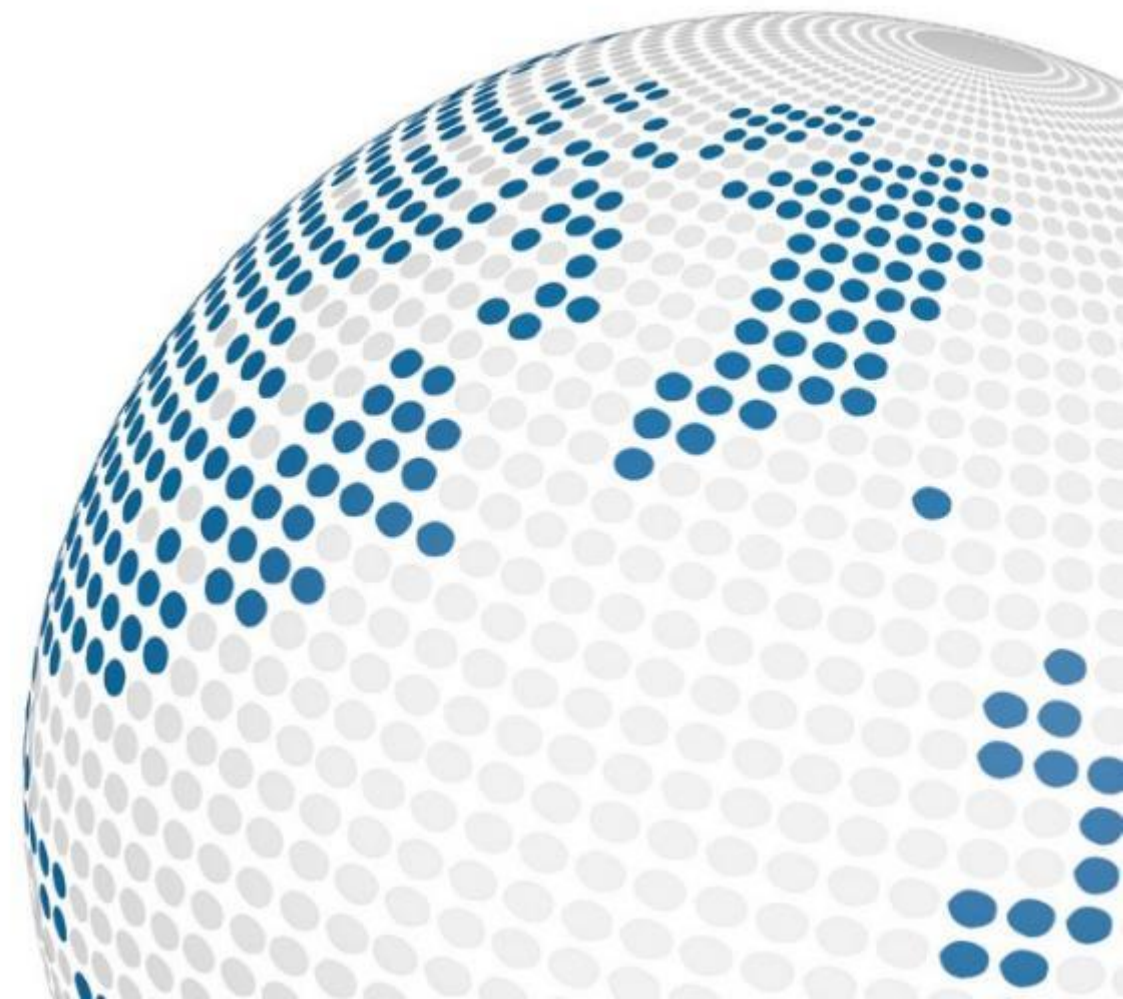
		Q4 2020 (OSRAM Q1) ²	H2 2020 (OSRAM Q4&Q1) ²
Total revenues		999	1,877
Gross margin	(adjusted) ¹⁾ (IFRS reported)	30% 27%	24% 19%
Result from operations (EBIT)	(adjusted) ¹⁾ (IFRS reported)	98 21	31 -136
EBIT margin	(adjusted) ¹⁾ (IFRS reported)	10% 2%	2 -7%
Net result	(adjusted) ¹⁾ (IFRS reported)	64 -13	8 -159

¹⁾ Excl. acquisition-related, one-time restructuring and share-based compensation costs and results from investments associates

²⁾ OSRAM business figures are based on ams accounting principles and may deviate to OSRAM standalone financial reporting

ams

Thank you



Profit and loss statement – ams group



USDm

	2020	2019	Q4 2020	Q4 2019
Revenues	4,169	2,243	1,679	705
Gross profit	1,232	860	538	297
• Gross margin (adjusted ¹⁾)	33%	41%	35%	45%
• Gross margin (IFRS reported)	30%	38%	32%	42%
Research and development	-503	-311	-179	-69
Selling, general and administrative	-627	-208	-230	-55
Other operating income/expenses	68	52	27	45
Result from operations (EBIT)	164	391	153	216
• EBIT margin (adjusted ¹⁾)	13%	21%	17%	28%
• EBIT margin (IFRS reported)	4%	17%	9%	31%
Net financing costs	-259	-15	-67	-30
Result before tax	-95	376	85	186
Income tax result	-12	-19	-33	-14
Net result (adjusted ¹⁾)	282	432	180	153
Net result (IFRS reported)	-104	357	52	171

¹⁾ Excl. acquisition-related, one-time restructuring and share-based compensation costs and results from investments associates

Balance sheet – ams group

USDm

Assets	Dec 31, 2020	Dec 31, 2019	Liabilities and equity	Dec 31, 2020	Dec 31, 2019
Cash and short term invest.	1,900	595	Interest-bearing debt	282	930
Financial investments	23	0	Trade liabilities	648	161
Trade receivables	739	240	Tax liabilities	16	23
Inventories	1,020	250	Provisions	515	134
Other current assets	201	154	Other liabilities	2,018	184
Assets held for sale	57	102			
Total current assets	3,939	1,342	Total current liabilities	3,631	1,432
Fixed assets	2,306	1,344	Interest-bearing debt	3,648	1,547
Intangible assets	4,819	1,342	Employee benefits	259	58
Right of use assets	344	146	Deferred tax liabilities	270	74
Investments in associates	99	33	Long term provisions	53	16
Deferred tax asset	197	10	Other liabilities	390	135
Other non-current assets	105	2			
Long-term financial assets	44	1,054			
Total non-current assets	7,913	3,932	Total non-current liabilities	4,620	1,832
			Shareholders' equity ams	3,673	2,010
			Equity minority interest	-72	0
Total assets	11,852	5,274	Total liabil. and equity	11,852	5,274

Cash flow statement – ams group

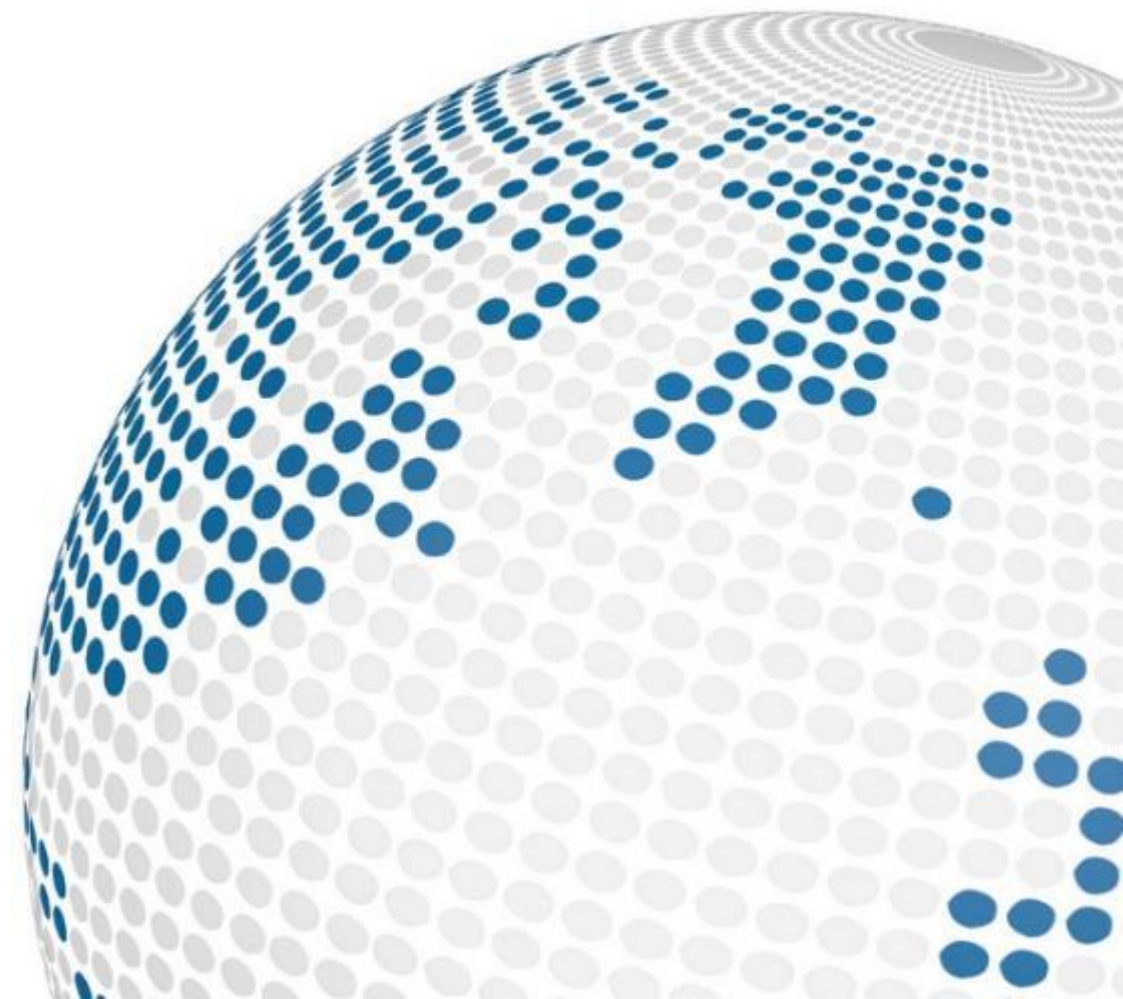


USDm

	2020	2019	Q4 2020	Q4 2019
Result before tax	-95	376	82	186
Depreciation	690	333	231	87
Cash flow from operations	835	768	384	305
Capital expenditures	-211	-216	-65	-36
Acquisition of subsidiaries, net of cash acquired	-1,094	-10	-6	0
Acquisition/disposal financial investments	-526	-963	2	-783
Cash flow from investing activities	-1,776	-1,088	-71	-724
Proceeds from borrowings	359	680	145	303
Repayment of debt	-2,104	-284	-847	-144
Proceeds from issuance of senior notes/convertible bonds	2,369	0	893	0
Changes resulting from capital increase	1,962	0	0	0
Cash flow from financing activities	2,316	170	155	146
Change in cash and cash equivalents (incl. effects of changes in foreign exchange rates)	1,318	-148	453	-356
Cash and cash equivalents at end of period	1,900	595	1,900	595

Appendix

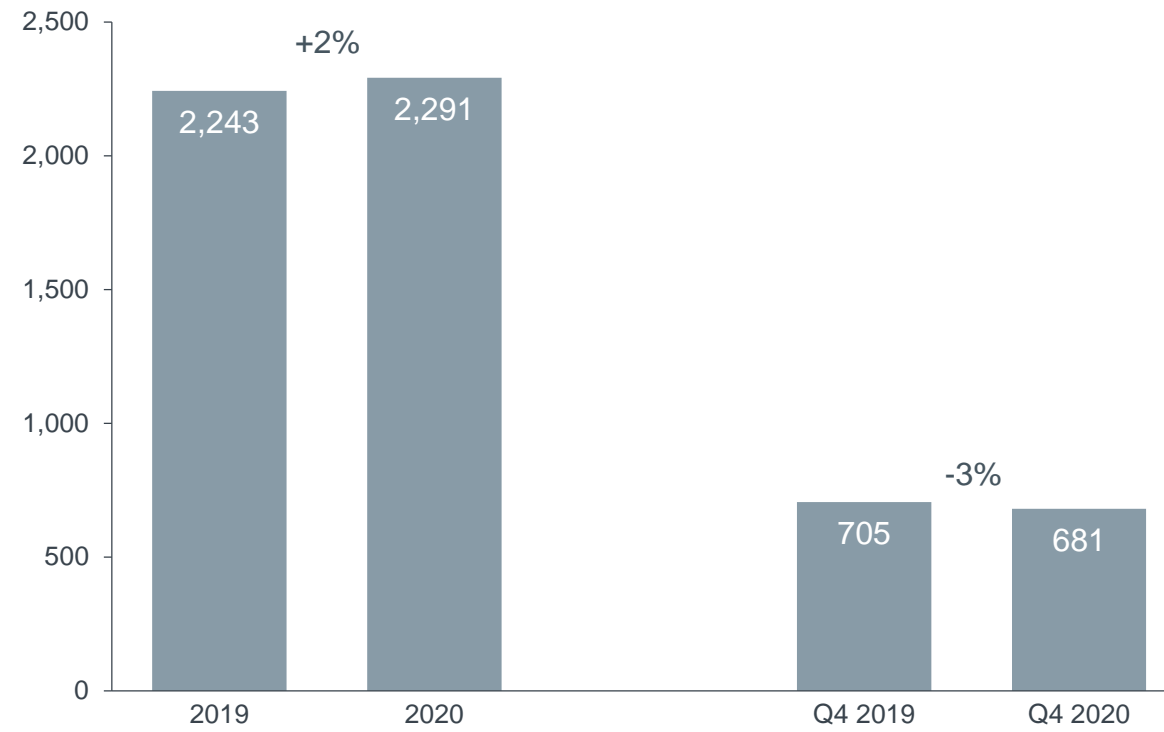
ams business CY and Q4 2020 results



Revenues – ams business

USDm

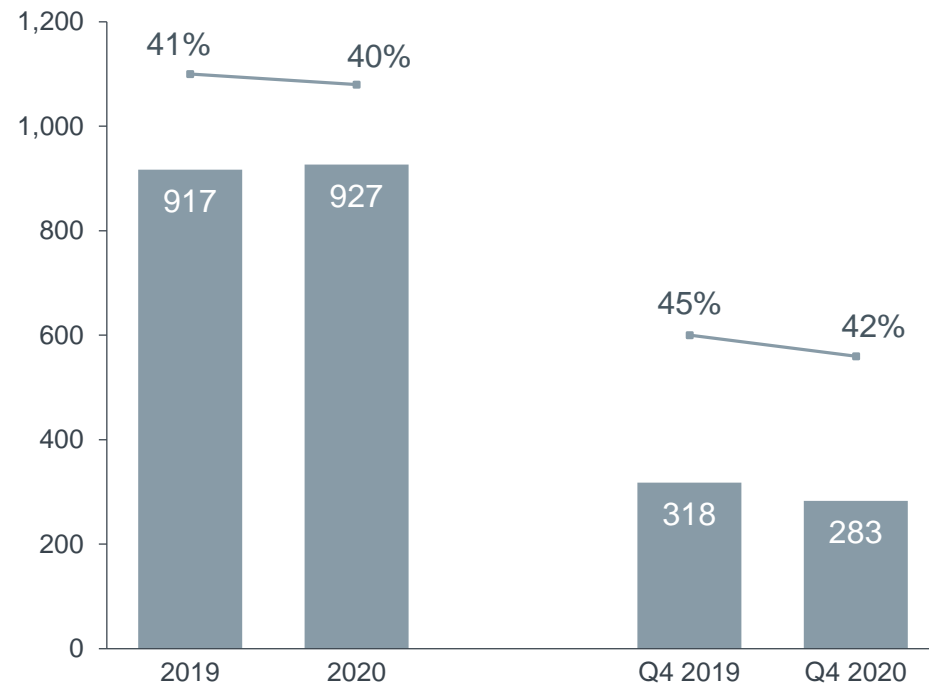
Total revenues



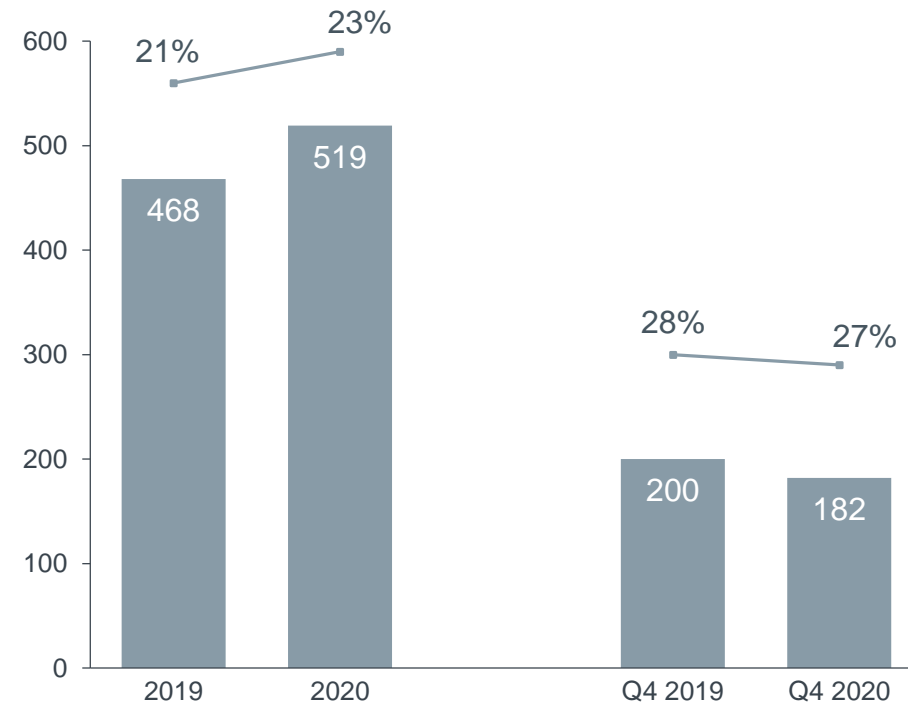
Gross profit, operating profit – ams business

USDm, % of revenues

Gross profit, gross margin (adj.)¹⁾



Operating profit (EBIT), EBIT margin (adj.)¹⁾

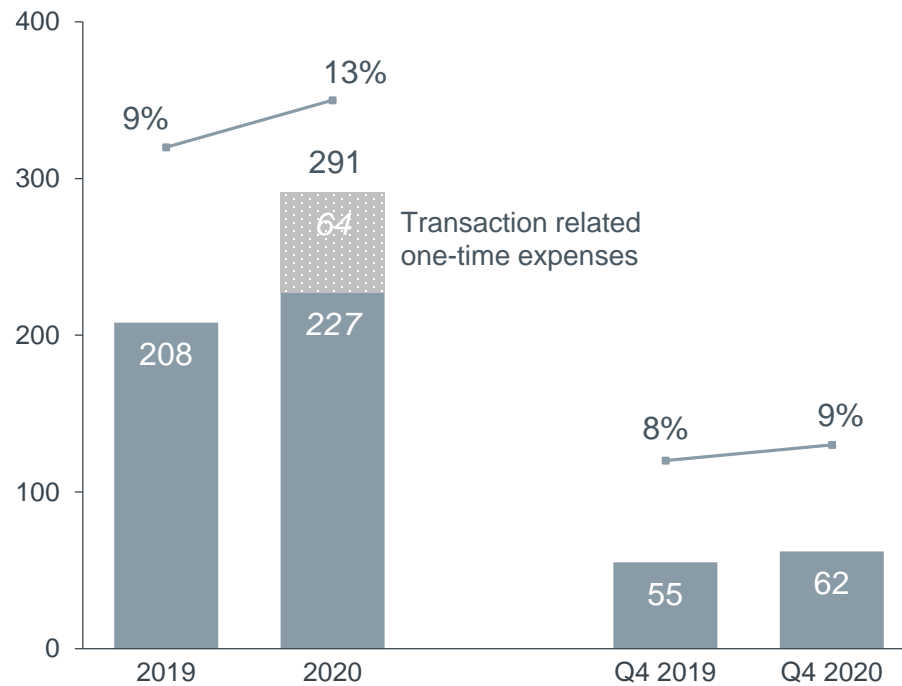


1) Excl. acquisition-related, one-time restructuring and share-based compensation costs and results from investments in associates

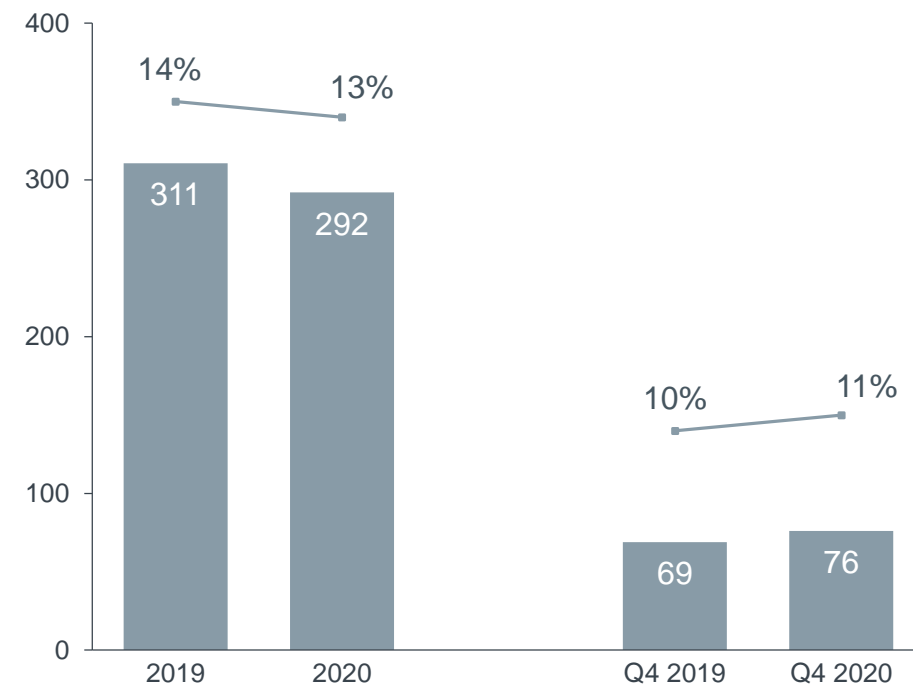
Operating expenses – ams business

USDm, % of revenues

SG&A



R&D



ams Hybrid manufacturing model

Differentiated internal manufacturing

Front-end CMOS, Austria

- 8" CMOS/specialty analog to 180nm, optical filters

Optical production/backend + VCSEL, Singapore

- Advanced optical assembly, optical components
- High performance optical systems, efficient large scale manufacturing
- 6" 2,000 wspm automotive-qualified VCSEL line

In-house test, Philippines/Singapore/Austria

Outsourced standard/volume manufacturing

Network of external partners

- High volume wafer sources, standard/semi-custom packaging
- External VCSEL supply chain for several VCSEL programs

Excellent 2020
manufacturing
performance through
Covid-19 challenges

