Sensing is life

First quarter results 2023

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Moritz M. Gmeiner, Head of IR

May 2023

Vision and mission for ams OSRAM

To create the uncontested leader in optical solutions

Sensing

Illumination

Visualization

Become the uncontested leader in optical solutions through bold investments in disruptive innovation and continuous transformation delivering best in class profitability and growth

Pursue market leadership in key optical segments

Building success from our focus technologies

	Emitters	Optical components & micro-modules	Detectors	Integrated circuits & algorithms
Key solution components	• LED incl. NIR, IR, UV-C • MicroLED • EEL / VCSEL • Lamps	• Optical elements • Micro-optical packaging • Optical modules	• Light sensors • Image sensors • Other optical	• Emitter driver ICs • Sensor interfaces • Sensor processors (incl. algorithms)

Micro-optical solutions & lamps

Sensing

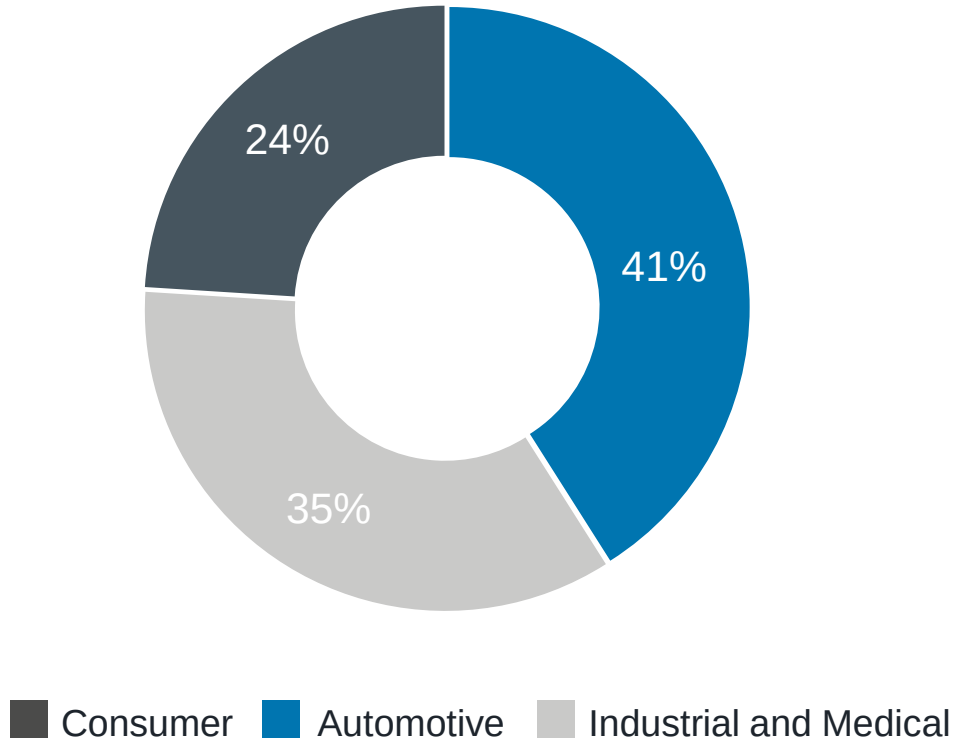
Illumination

Visualization

ams OSRAM

Excellent position for leadership in optical solutions

Balanced revenue streams (FY 2022)



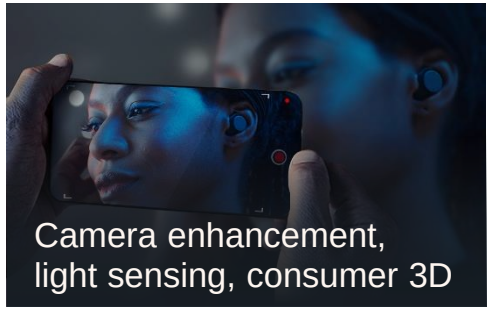
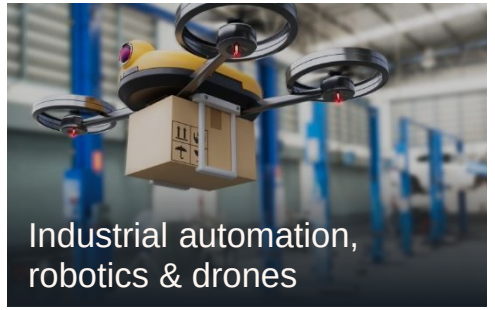
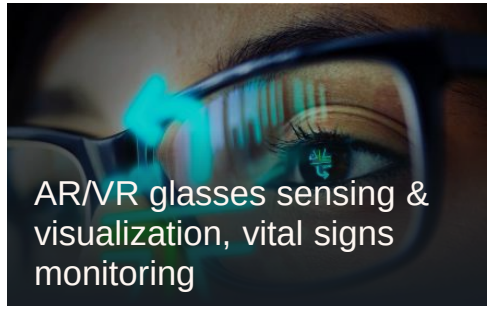
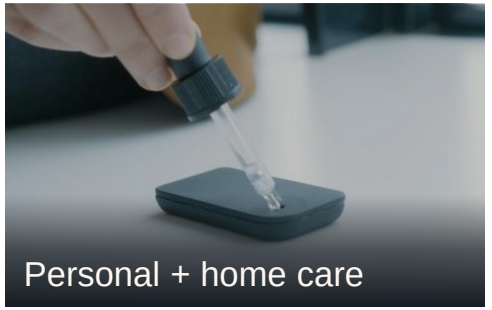
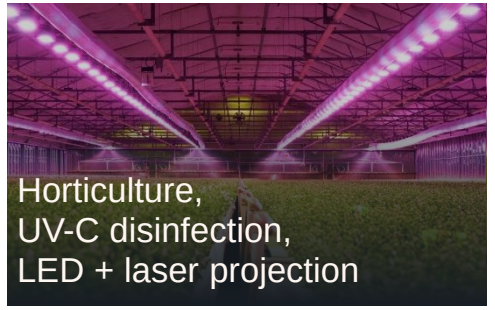
Industry-leading portfolio + application expertise

- Focus on leading technology positions
- Leader in application expertise across end markets
- Agility to support short and long product life cycles
- Able to drive innovation for different end markets, applications and customer bases
- Leveraging world-class IP and manufacturing

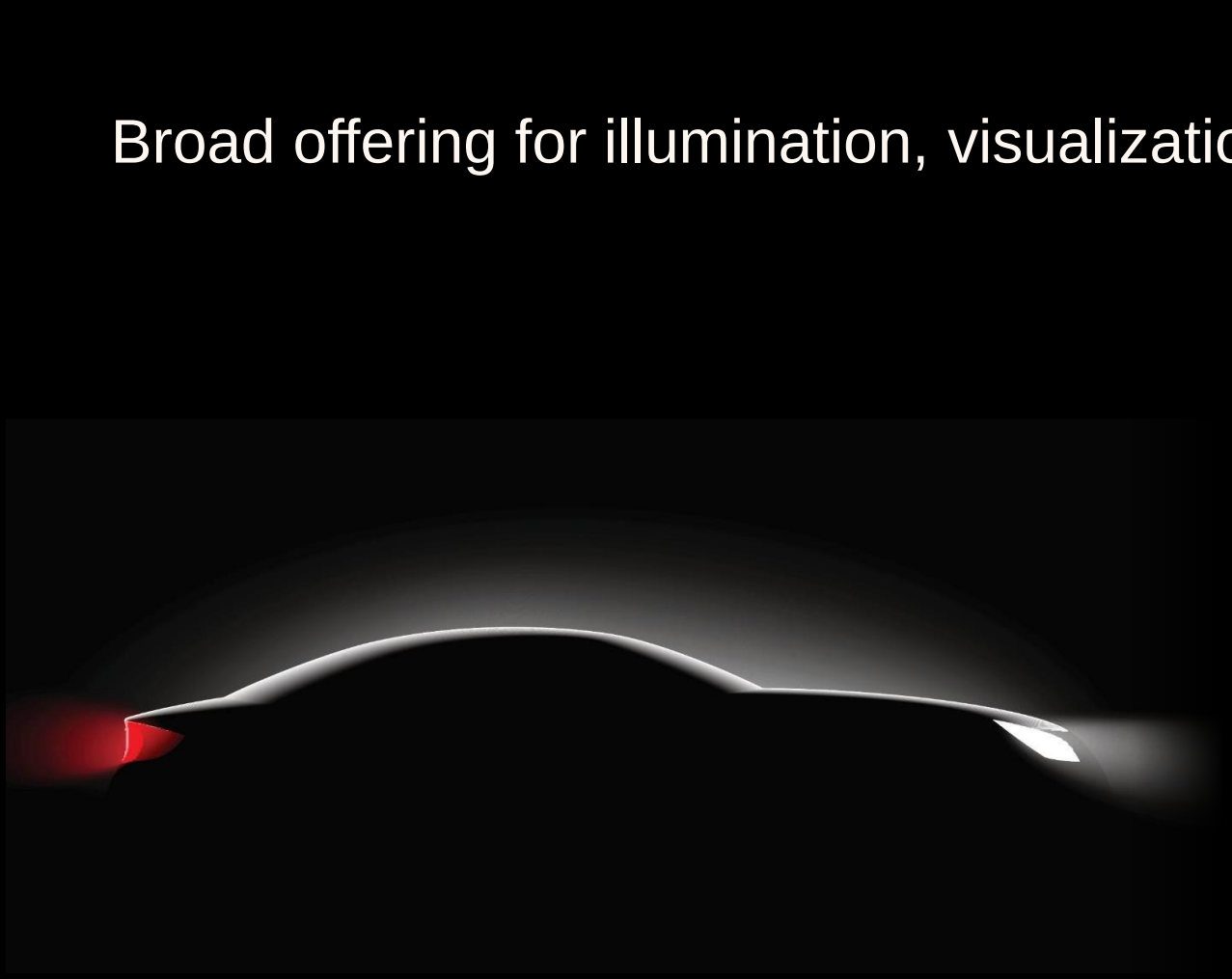
Leading technologies for key optical applications

- High performance automotive LED lighting (exterior + interior)
- LED innovation (UV-C, IRED, high power specialty lighting)
- Micro LED next generation display technology
- Display management, optical sensing
- Near-to-eye AR/VR illumination + sensing
- 3D AR/authentication (consumer + industrial)
- EEL/VCSEL ADAS (LIDAR)
- High performance imaging (industrial + medical)

Key societal megatrends drive demand for our optical solutions

	Consumer	Automotive	Industrial	Medical
Digitalization	 Camera enhancement, light sensing, consumer 3D	Advanced displays, smart surfaces, projected lighting	 Industrial automation, robotics & drones	Medical imaging
Smart Living (IoT)	 AR/VR glasses sensing & visualization, vital signs monitoring	ADAS/AD (LIDAR), dynamic forward & signal lighting, in-cabin sensing	HABA, outdoor & industry lighting	 Personal + home care
Energy efficiency & sustainability	BOLED ALS/spectral display management, microLED displays	Ambient lighting, UV-C disinfection	 Horticulture, UV-C disinfection, LED + laser projection	UV-C disinfection

Broad offering for illumination, visualization and sensing applications



Illumination / Visualization

- Dynamic + static forward lighting
- Dynamic + static signaling
- Functional illumination + interior lighting
- Ambient lighting
- Projection
- Smart surface
- LCD backlighting

Sensing

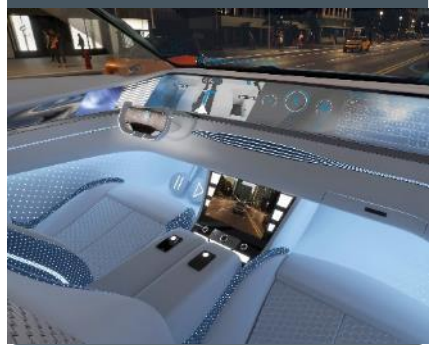
- In cabin sensing
- Exterior sensing + ADAS
- Rain, light, and tunnel sensing
- Smart surface
- Ambient light sensing
- Position sensing

Enabling innovation in automotive mobility

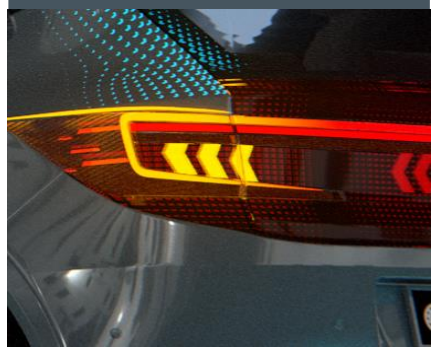
Driving automotive application and technology trends

Exterior lighting

Interior lighting



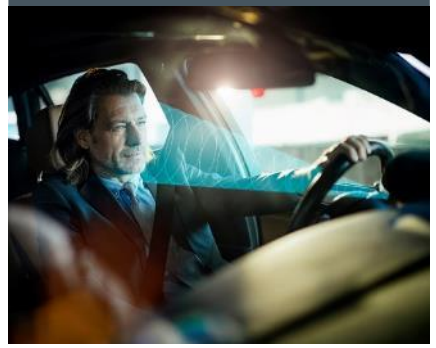
Dynamic signaling



Driver + interior monitoring

Automated + autonomous driving

Gesture sensing + HMI



Automotive

LED (low-mid-high power), matrix light, 2D/3D sensors, IRED, LIDAR (EEL/VCSEL), MicroLED, classic sources (Xenon, Halogen)

Innovative portfolio for smartphone, wearable, AR/VR and other devices

Sensing

- Camera enhancement
- Display management / BOLED sensing
- 2D/3D sensing (Augmented Reality, other)
- Vital Signs Monitoring
- Authentication
- Eye/hand/body tracking
- User interfacing

Illumination / Visualization

- MicroLED
- LED/laser projection (AR/VR glasses)

Enabling innovation in mobile + wearable devices

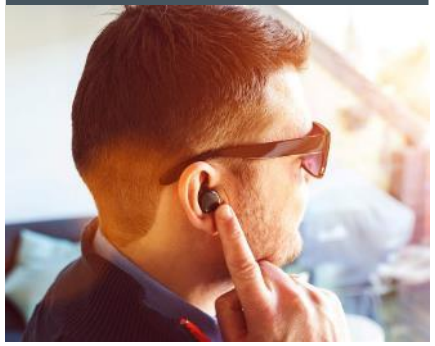
Creating solutions for consumer application and technology trends

Next generation microLED displays

Camera enhancement

Display management

Presence detection



3D AR/VR + authentication

Near-to-Eye projection/sensing

Mobile + wearable

BOLED, microLED, LED, proximity + light sensing, color sensing, AWB, spectral sensing, 3D sensing, VCSEL/EEL, Near-to-Eye

Strong differentiation in industrial and medical applications

Illumination / Visualization

- Outdoor/industry lighting
- Horticulture & smart farming
- LED & laser projection
- UV-C LED disinfection

Sensing

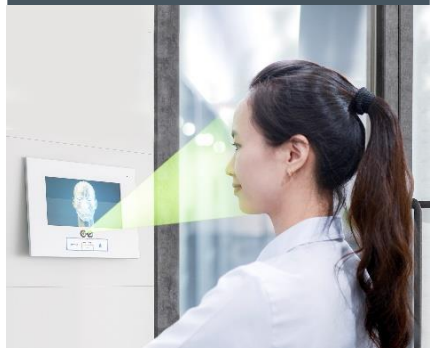
- Industrial automation (IoT + robotics, imaging)
- Home & Building Automation (HABA)
- Medical imaging
- Vital signs monitoring

Enabling innovation in industrial + medical applications

Technologies for current and emerging industrial applications + innovative medical uses

Industrial lighting, IoT + automation

Outdoor lighting, HABA, security

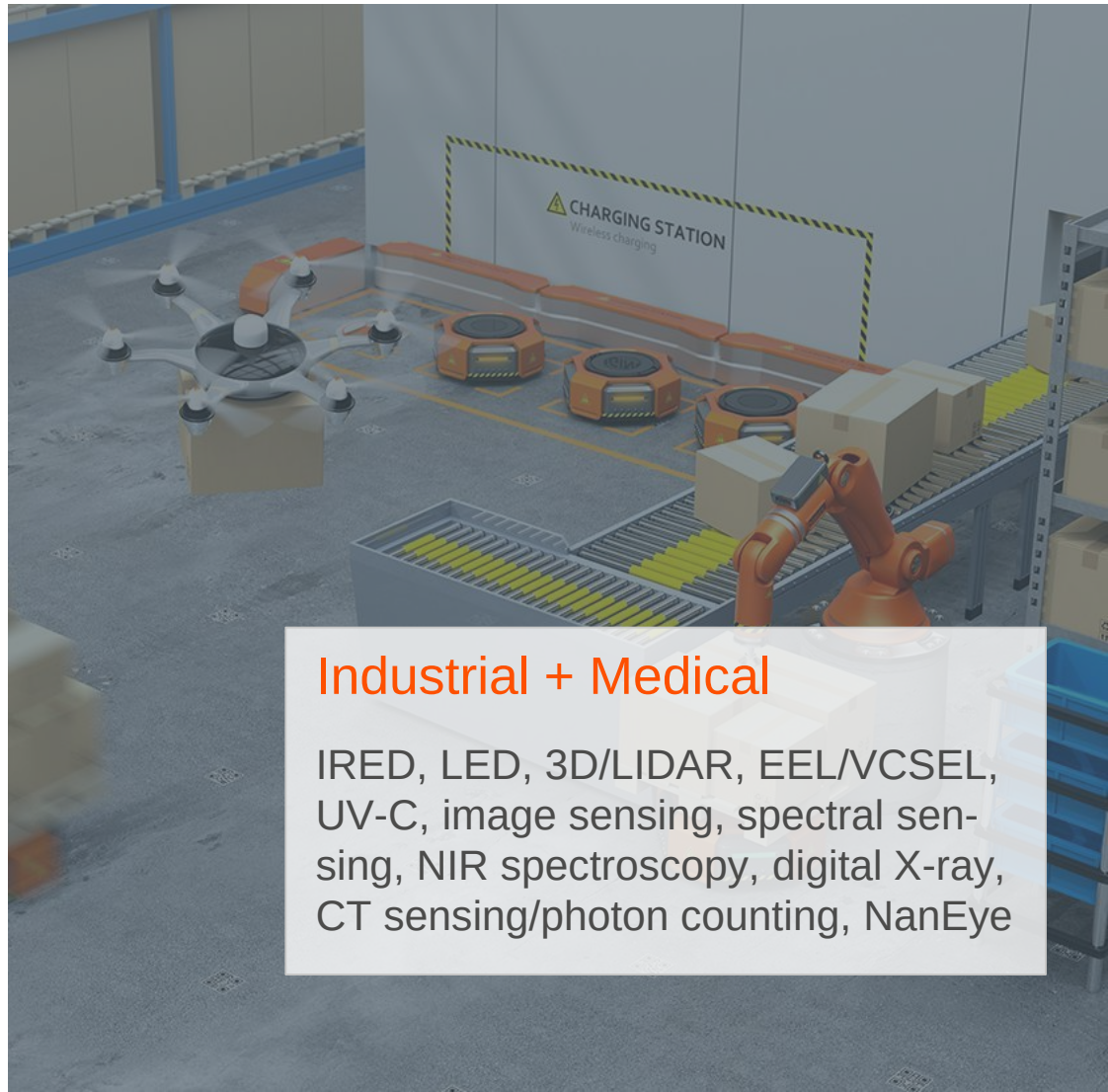


Horticulture

Medical imaging

Vital signs monitoring

UV-C disinfection



Industrial + Medical

IRED, LED, 3D/LIDAR, EEL/VCSEL, UV-C, image sensing, spectral sensing, NIR spectroscopy, digital X-ray, CT sensing/photon counting, NanEye

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Q1 2023 Key developments

Q1 2023 Key developments

Overview of key developments

- First quarter results in line with guidance reflecting difficult market environment and macro-economic trends
- Subdued demand situation across areas drives ongoing underutilization with negative impact on profitability
- Strong quarter for automotive aftermarket, moderate sequential decline in automotive semiconductor business
- Very muted consumer business sequentially and year-on-year driven by continued end market weakness
- Continued lower demand in LED industrial, outdoor, and horticulture lighting, but certain signs of stabilization in other industrial markets
- Last communicated disposals closed for full completion of planned disposals
- Synergy creation fully on track
- Meaningful sequential increase in capex driven by investments into 8” LED front-end fab

Q1 2023 Key developments

Disposals progress

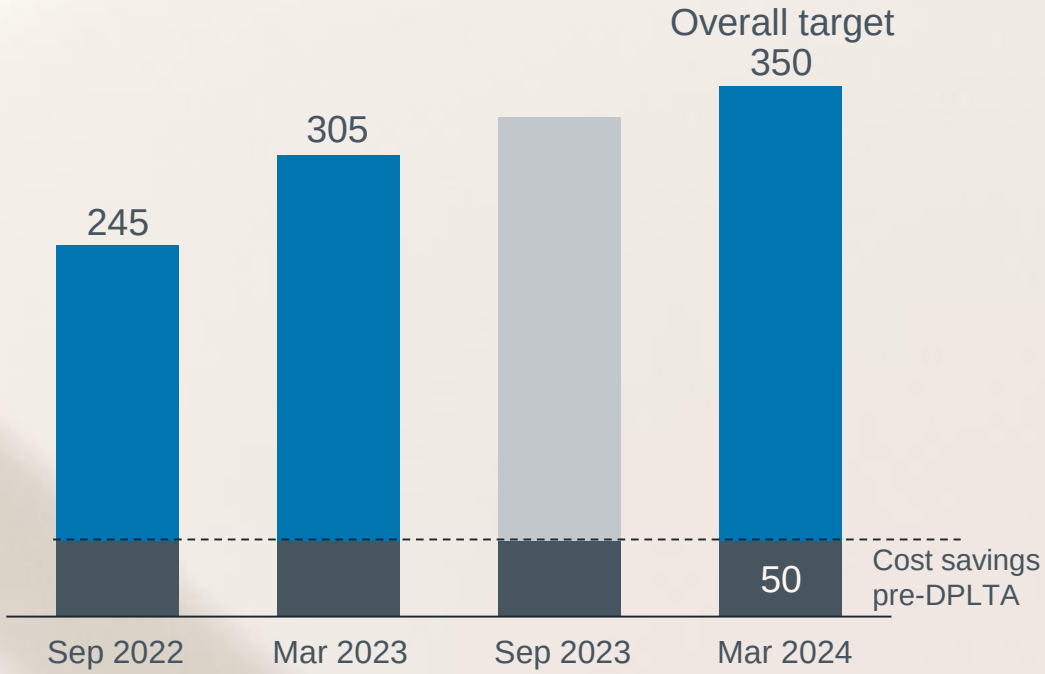
- Closing of last two remaining disposals in March/Q1 (entertainment lighting) and April/Q2 (Digital Systems Europe/Asia)
- All planned and communicated disposals of businesses outside of strategic focus areas now closed
- Successful completion of portfolio re-alignment following the acquisition of OSRAM
- Expected total cash inflow of high double-digit EURm from disposal proceeds in 2023, majority still to receive
- Total combined proceeds for all disposal transactions since 2021 expected at close to EUR 600m
- Substantial sequential deconsolidation effect in Q2 of around EUR 80m revenues

Q1 2023 Key developments

Synergy creation / integration update

- EUR 305m synergy and savings run-rate at end of Q1 2023 (87% of total expected run-rate), in line with plans
- Synergy creation and integration programs fully on track
- ~70% of one-time integration costs incurred at end of Q1 2023 (EUR ~80m expected to remain, total cost estimate to realize synergies EUR ~270m)

Creation of synergies and savings (EURm)[1)]



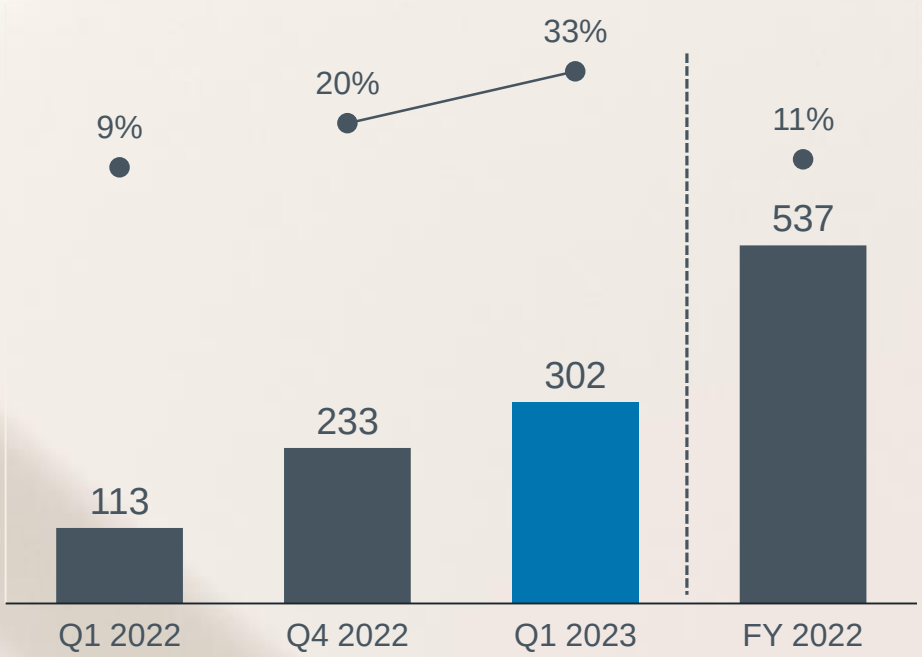
All figures in EURm; [1)] synergy and savings values gross pre-tax and approximate figures
Graphic representation of expected annual gross pre-tax run-rate synergies of EUR 300m p.a. against original baseline gradually ramping up over approx. three years after DPLTA effective date

Q1 2023 Key developments

Capital expenditures

- Significant investment into manufacturing capabilities as part of long-term strategy
- Strong sequential increase in capex in Q1, predominantly for industry-first 8” LED front-end facility in Malaysia
- Completion of building, build-out of support infrastructure and planned equipment deliveries drive substantial capex through 2023, construction progressing on schedule
- Capex development in line with plans, currently expected total 2023 capex of slightly below EUR 1 billion
- 2023 expected to be significant peak capex year compared to last and next few years

Capital expenditures (EURm / % of revenues)



Q1 2023 Semiconductors segment

Automotive market

- Moderate sequential decline, in line with company expectations
- Inconsistent order patterns in automotive market in Q1
- Inventory adjustments in down-stream supply chain continued as expected, stabilizing at end of Q1

Consumer market

- Significantly negative q-o-q shipment trend in several product areas
- Driven by lower y-o-y volumes in smartphones + consumer devices given macro-economic environment and consumer spending
- Q-o-q seasonal and mix effects in smartphones across regions, China and Android markets subdued, weak q-o-q volume development in wearables applications

Industrial & Medical mkt.

- Unfavorable results in line with expectations
- Reduced q-o-q demand in certain industrial markets (LED industrial, outdoor and horticulture lighting)
- Other industrial and medical market contributions supportive

Q1 2023 Lamps & Systems segment

Automotive market

- L&S automotive incl. traditional lighting for aftermarket and OEM
- Robust segment performance driven by aftermarket business for lamps
- Strong aftermarket business also supported by seasonality despite unfavorable macro-economic trends affecting some regions

Other markets

- Industrial, building-related and medical business supportive
- Mixed demand trends across areas due to macro-economic environment

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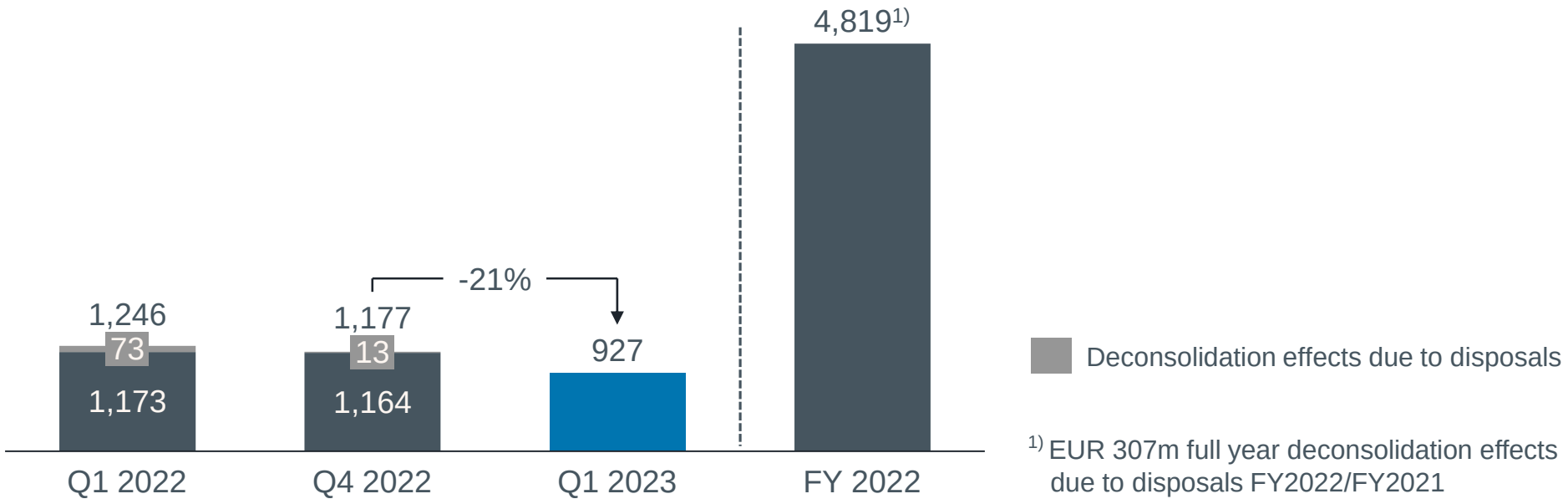
Financial results Q1 2023

Group revenues

Total revenues



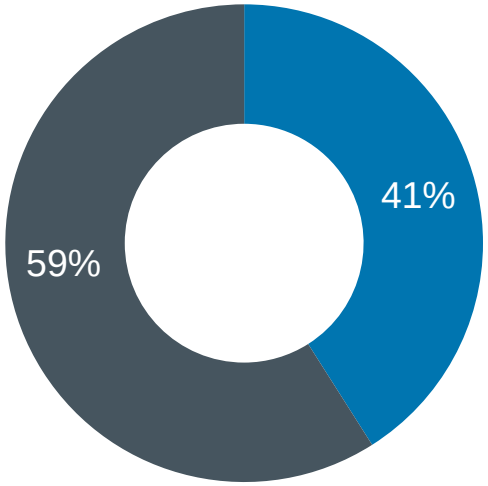
[1)] EUR 307m full year deconsolidation effects due to disposals FY2022/FY2021

- Revenues in-line with guidance range, challenging market environment causing meaningful sequential decrease
- Reduced quarter-on-quarter demand and volumes in important markets given prevailing macro-economic trends
- Year-on-year comparison reflects de-consolidation effects of around EUR 73m from several disposals, including former OSRAM Continental JV business AMLS, Fluence horticulture fixtures business and others

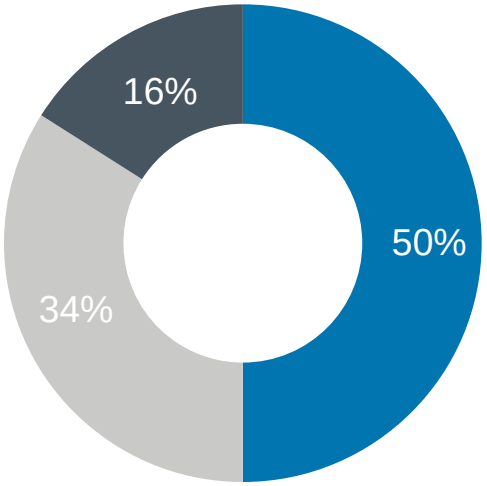
All figures in EURm / % of revenues

Balanced revenue distribution

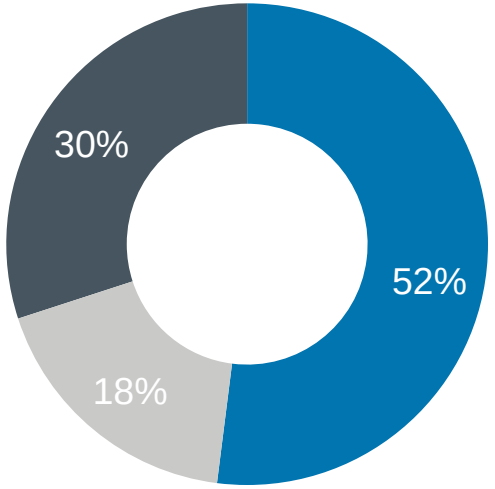
Revenues by segment (Q1 2023)



Revenues by end market (Q1 2023)



Revenues by region (FY 2022)

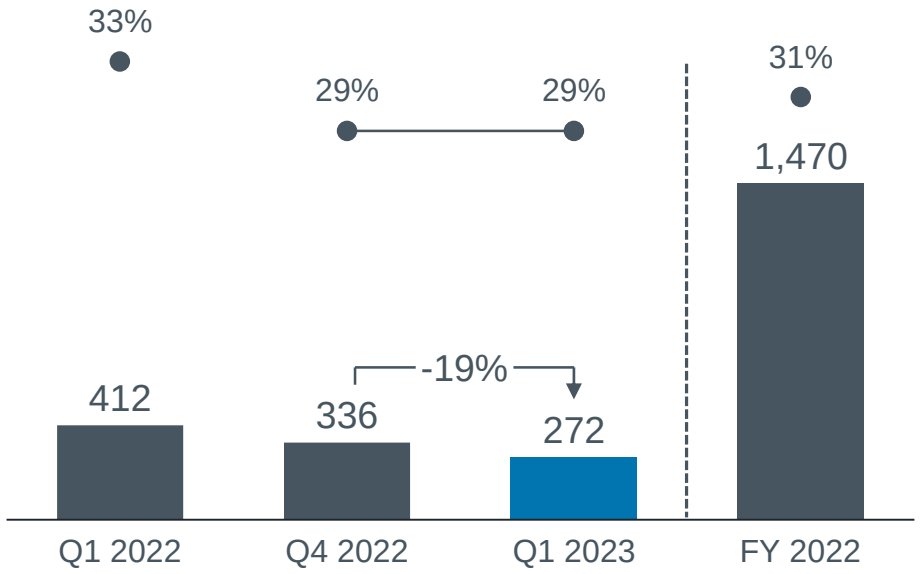


- Q1 with strong Lamps & Systems contribution, particularly from automotive aftermarket business
- Automotive: Inventory adjustments continuing in Q1
- Consumer: Very muted demand environment

Note: Revenues by region are updated on a half-yearly basis

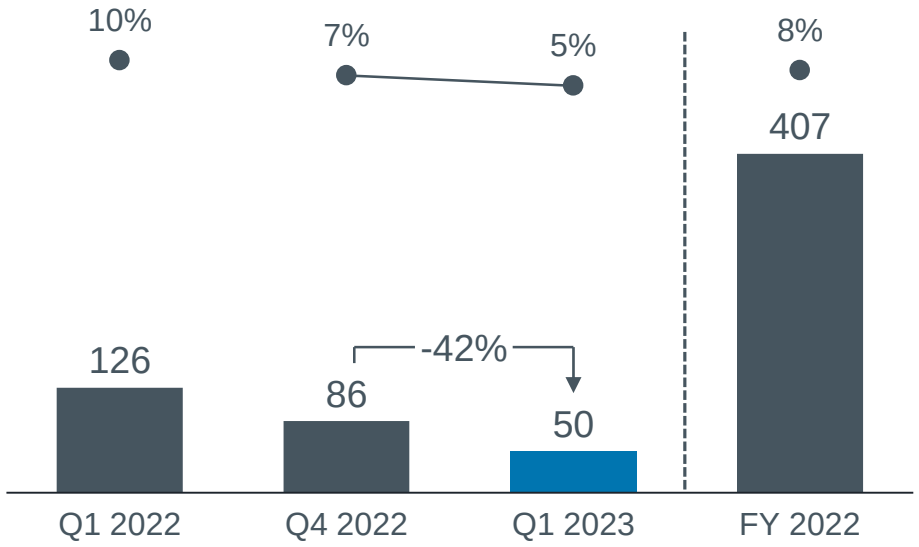
Group profitability

Gross profit, gross margin (adj.)[1)]



- Gross profit tracked company expectations
- Continued to be impacted by meaningful underutilization effects in manufacturing
- Cost mitigation efforts in manufacturing

EBIT, EBIT margin (adj.)[1)]



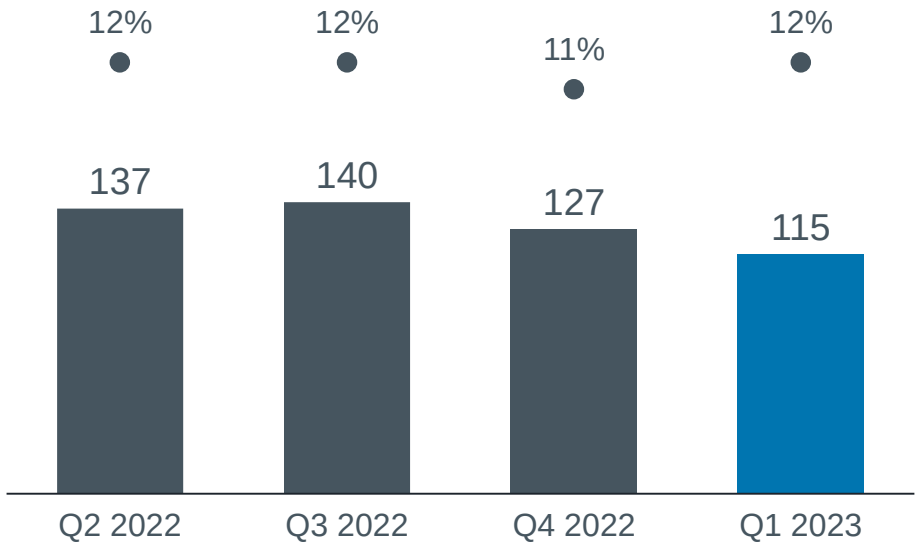
- Adj. EBIT margin in line with guidance range
- Reflecting sequentially lower Gross Profit base
- Support from Q1 cost mitigation for lower adj. operating expenses

All figures in EURm / % of revenue

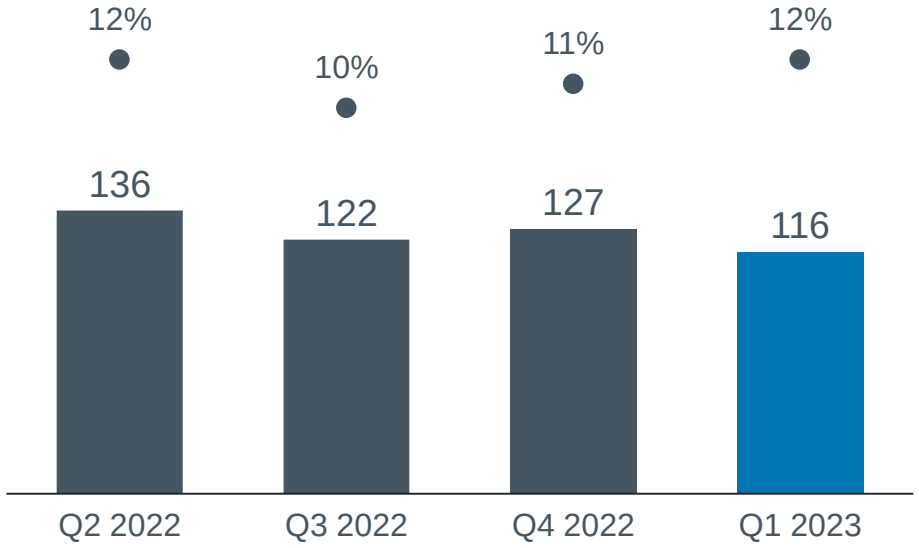
[1)] Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

Operating expenses

R&D expenses (adj.)[1)]



SG&A expenses (adj.)[1)]



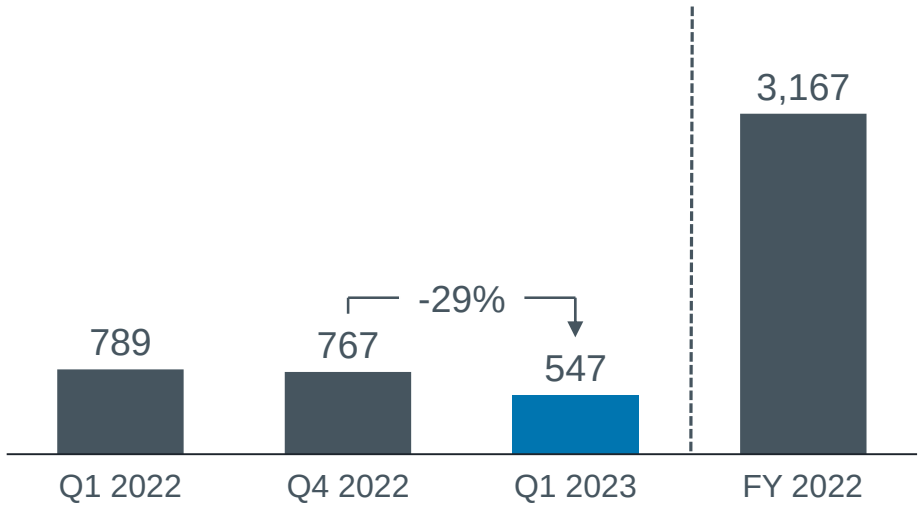
- Strong decrease in operating expenses on absolute basis over last quarters
- R&D development reflects ongoing stream-lining and efficiency programs, majority of R&D in Semiconductors segment
- Clear SG&A base-line reduction from efficiency programs over last 12 months

All figures in EURm / % of revenue

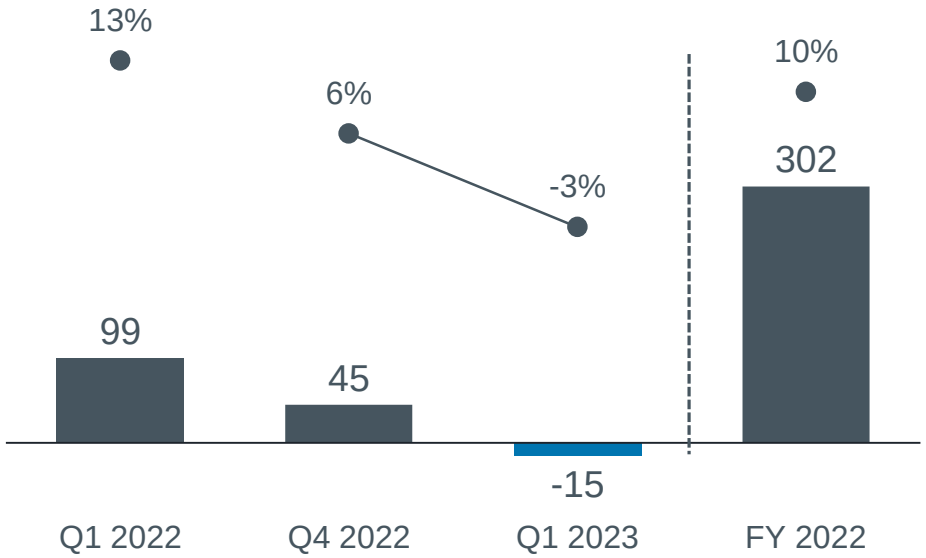
[1)] Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

Semiconductors segment performance

Total revenues



EBIT, EBIT margin (adj.)[1)]



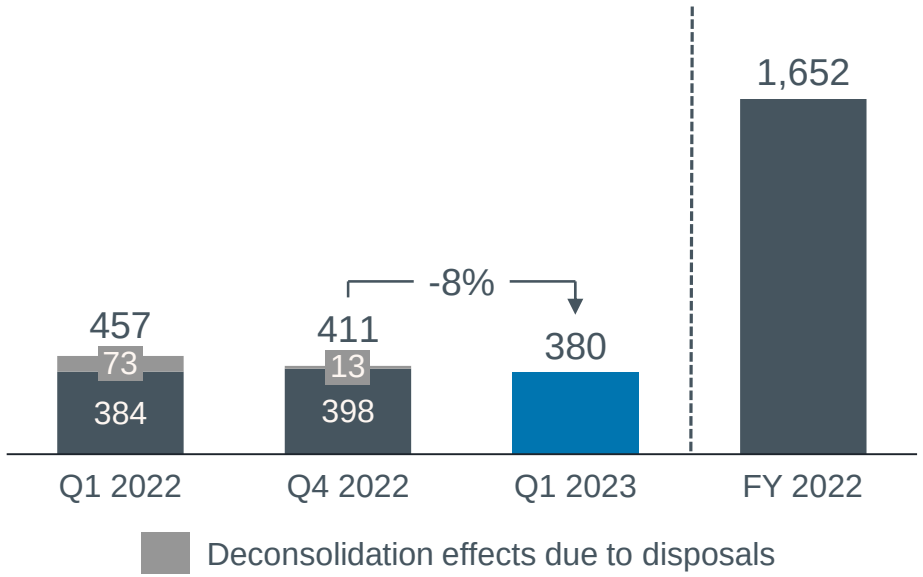
- Moderate sequential decline in automotive business driven by further inventory adjustments in Q1
- Significantly muted consumer business with lower volumes y-o-y and q-o-q; industrial and medical results tracking expectations, q-o-q demand reduction in certain industrial markets
- Profitability significantly impacted by lower production volumes and underutilization

All figures in EURm / % of revenue

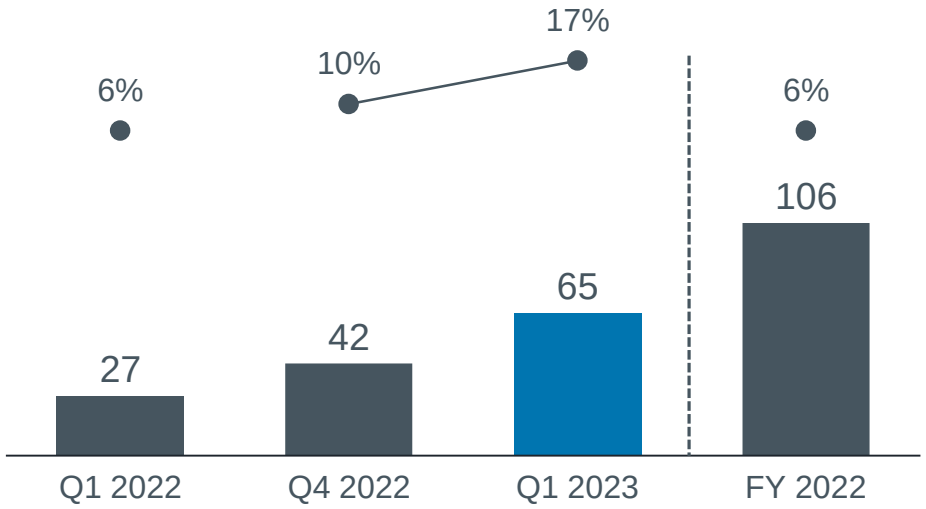
[1)] Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

Lamps & Systems segment performance

Total revenues



EBIT, EBIT margin (adj.)[1)]



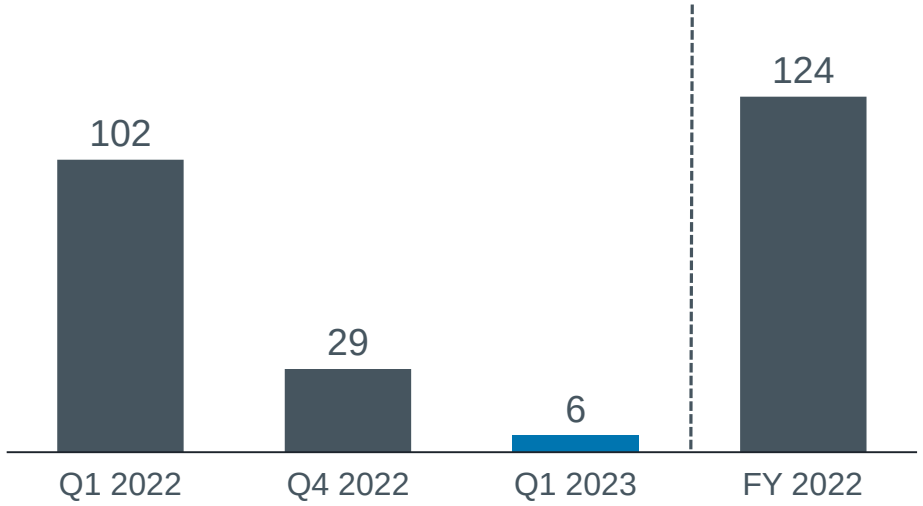
- Robust performance and resilience on comparable portfolio basis
- Strong performance of L&S automotive business despite macro-economic trends, other L&S markets reflecting more subdued demand situation
- Substantially improved profitability also reflects positive disposal-related and portfolio streamlining effects

All figures in EURm / % of revenue

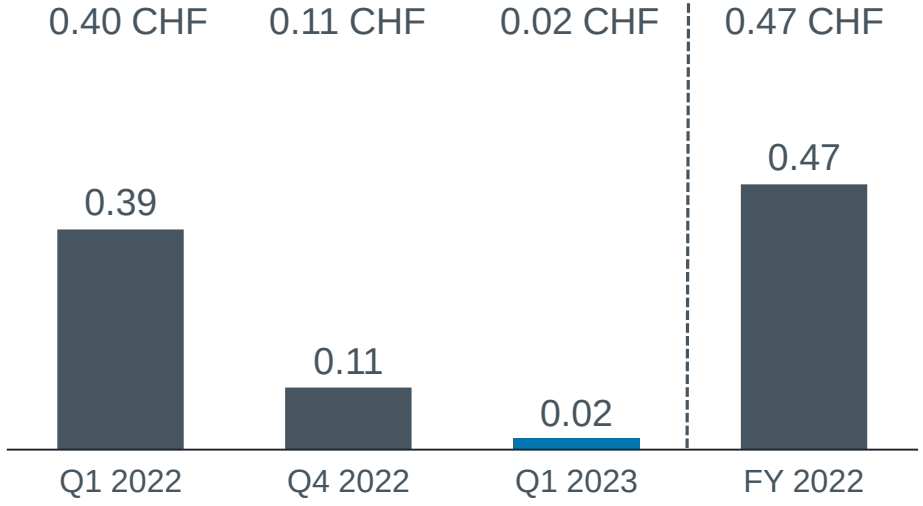
[1)] Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

Adj. net result / Adj. EPS

Net result (adj.)[1)]



EPS diluted (adj.)[1)]

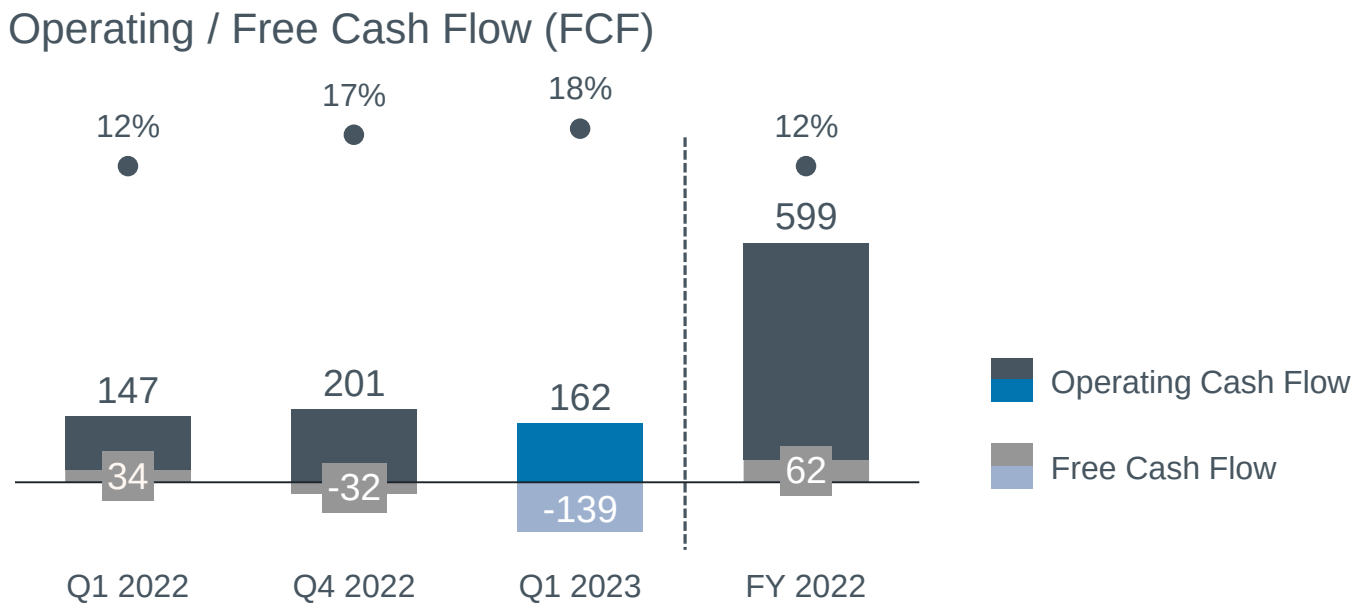


- Financial result Q1 EUR -32m
- Income tax result Q1 EUR -12m
- IFRS reported net result EUR -134m

All figures in EURm / EUR / CHF per share

[1)] Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

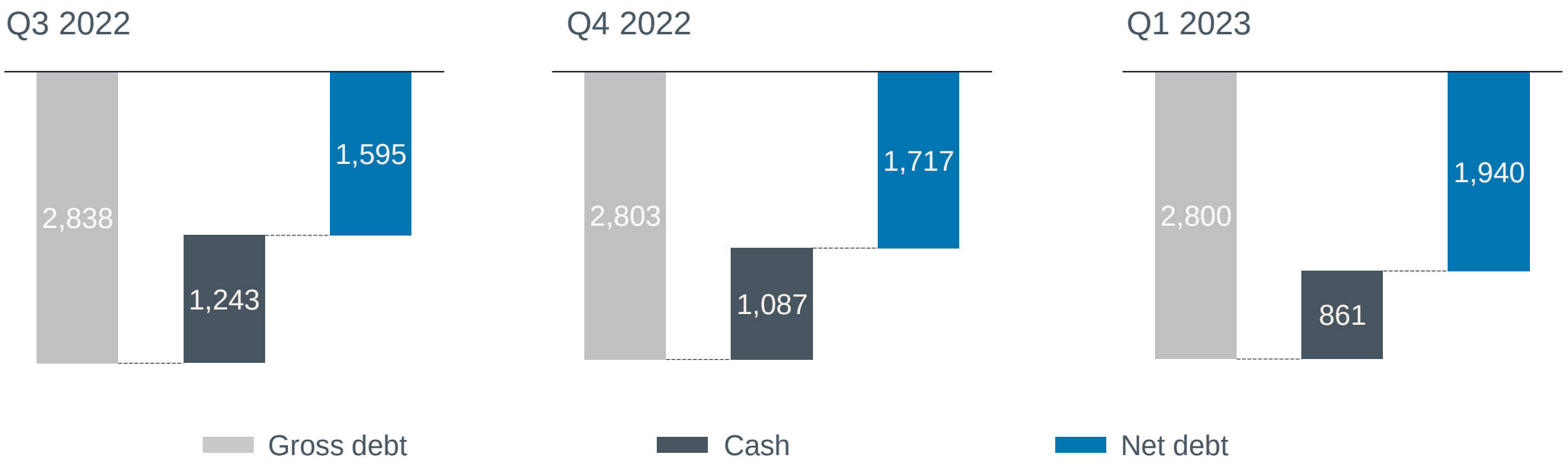
Cash Flow



- Continuing strong operating cash flow generation in Q1, up year-on-year (18% of revenues)
- Free cash flow (FCF) development as expected given substantial capital expenditures in Q1

All figures in in EURm / Operating Cash Flow % of revenues

Cash and debt overview



- Expected uptick in group leverage to 2.5x net debt/adjusted[1)] EBITDA at end of Q1 2023 driven by net debt and trailing EBITDA trend
- Well-layered debt and maturity structure, EUR 1 billion undrawn multi-year lines (incl. EUR 800m revolving facility)
- ~95% of outstanding debt on fixed rate basis
- Adj. EBITDA[1)] LTM EUR 767m (based on adj. EBIT + D&A not related to adjustments)

All figures in EURm

[1)] Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

Outlook

Q2 2023 financial guidance

Revenues

EUR 800-900 million
(sequentially flat at the midpoint of EUR 880-980 million revenues on comparable portfolio basis)

Operating profitability

3-6% (adjusted EBIT margin)

Comments

- Reflecting ongoing subdued demand trends, seasonal effects, continued reduced production volumes, and meaningful deconsolidation effects
- Approx. EUR 80m q-o-q deconsolidation effect compared to Q1 (Digital Systems Europe/Asia transaction closed early April)
- Approx. EUR 150m y-o-y deconsolidation effect compared to Q2 2022

- Taking into account current macro-economic and market trends, cautiously optimistic to benefit from improving demand environment during H2 2023, based on current information and exchange rates

Expected and based on current information and exchange rates

Adjusted figures exclude M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of a business

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Profit and loss statement

IFRS reported figures

	Q1 2023	Q1 2022	FY 2022
Revenues	927	1,246	4,819
Gross profit	209	385	1,258
– Gross margin (IFRS reported)	23%	31%	26%
– Gross margin (adjusted[1)])	29%	33%	31%
Research and development	-147	-162	-630
Selling, general and administrative	-143	-156	-608
Other operating income	15	3	179
Other operating expenses	-17	-31	-357
Results from investments in associates	-8	0	-4
Result from operations (EBIT)	-90	40	-161
– EBIT margin (IFRS reported)	-10%	3%	-3%
– EBIT margin (adjusted[1)])	5%	10%	8%
Net financing result	-32	-50	-201
Result before tax	-122	-10	-361
Income tax result	-12	26	-82
Net result (IFRS reported)	-134	15	-444
Net result (adjusted[1)])	6	102	124

[1)] Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

Balance sheet

Assets	Mar 31, 2023	Dec 31, 2022	Liabilities and equity	Mar 31, 2023	Dec 31, 2022
Cash and cash equivalents	861	1,087	Current interest-bearing loans	164	169
Current financial investments	21	21	Trade payables	737	811
Trade receivables	529	533	Income tax payables	79	87
Inventories	880	864	Current provisions	267	256
Other current receivables and assets	211	223	Other current liabilities	1,412	1,345
Assets held for sale	158	157	Liabilities held for sale	59	50
Total current assets	2,661	2,884	Total current liabilities	2,717	2,717
Property, plant and equipment	1,973	1,856	Non-current interest-bearing loans	2,636	2,635
Intangible assets	3,605	3,645	Employee benefits	173	179
Right-of-use assets	230	230	Deferred tax liabilities	109	105
Investments in associates	23	35	Non-current provisions	45	45
Deferred tax assets	65	69	Other non-current liabilities	321	318
Other non-current assets	53	54			
Non-current financial assets	36	59			
Total non-current assets	5,985	5,948	Total non-current liabilities	3,285	3,281
			Shareholders' equity ams-OSRAM AG	2,638	2,826
			Non-controlling interests	7	7
Total assets	8,646	8,832	Total liabilities and equity	8,646	8,832

All figures in EURm

Cash flow

Selected cash flow items

	Q1 2023	Q1 2022	FY 2022
Net result	-134	15	-444
Amortization, depreciation and impairment	173	157	1,018
Cash flows from operating activities	162	147	599
Capital expenditures	-302	-113	-537
Acquisitions of subsidiaries, net of cash acquired	-31	0	-25
Proceeds from sale of businesses, net of cash disposed	11	0	346
Cash flows from investing activities	-306	-109	-183
Proceeds from loans	0	0	32
Repayment of loans	-2	-62	-134
Repayment / repurchase of convertible bonds	0	0	-334
Repayment of lease liabilities	-15	-18	-109
Interest paid	-46	-46	-125
Cash flows from financing activities	-63	-127	-726
Net change in cash and cash equivalents (incl. FX effects)	-242	-89	-172
Cash and cash equivalents at end of the period	861	1,235	1,087

All figures in EURm