

# Fourth Quarter and Fiscal Year 2023 results

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# Chapter 1 – Our Story

# Investment Hypothesis

## Our path to 15% adjusted EBIT and strong positive cash flow

- Strong technology & innovation leader in its field of semiconductor emitters (led and lasers) and sensors; undisputed leader in auto lamps
- Leading market positions in structurally growing semi-markets (~17bn EUR TAM) in automotive, industrial, medical and selected consumer applications driven by the mega-trends *digitalization*, *energy efficiency*, *sustainability* and *smart living*.
- Globally diversified business (50% Asia, 29% EMEA, 21% Americas), balanced customer exposure with top 10 customers representing ~34% of the business (~80% automotive customers amongst top 10) and top-3 19%
- Traditional Lamps & Systems segment (~80% automotive halogen lamps) at target margin of around 15% adj. EBIT generating strong cash flow and pursuing 'last-man-standing' strategy
- Semiconductor segment (~40% automotive, ~30% industrial/medical, ~30% consumer) currently at low single digit adj. EBIT margin due to a few non-core business with low margin, cyclical underutilization, and pre-investment in disruptive microLED technology
- 'Re-establish-the-Base' turnaround program to exit non-core semiconductor business and adjust infrastructure & overhead to lower base, delivering EUR ~150m run-rate savings by end of 2025 bringing semiconductor segment to double-digit adj. EBIT margin
- Structural growth model of 6 – 10% CAGR (relative to 2023 w/o non-core portfolio) primarily based on BoM expansion and some cyclical recovery in end-markets, underpinned by very strong design-win basis in automotive, industrial, medical and selected consumer projects will deliver further improvement to profitability for delivering ~15% adj. EBIT by 2026
- Strongest growth from automotive, then mobile phone sensors, Kulim-8-inch products, and broad applications in industrial & medical
- After completion of pre-investment into world's first 8-inch led facility, return to around 10% CAPEX-to-sales
- Strengthened balance sheet after EUR 2.25 bn re-financing completed in Q4/2023
- Fully committed to sustainability - carbon-neutrality targeted by 2030

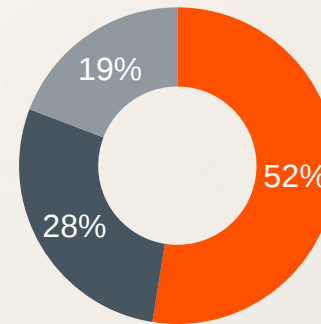
# ams OSRAM at a glance

A company in transition to structural growth in automotive, industrial/medical & selected consumer applications with 110+ years of combined company history

## Our segments & technologies



## Revenues by application<sup>1</sup> & Market positions



### Automotive:

- #1 Auto LED & lasers
- #1 in traditional lamps

### Industrial & medical:

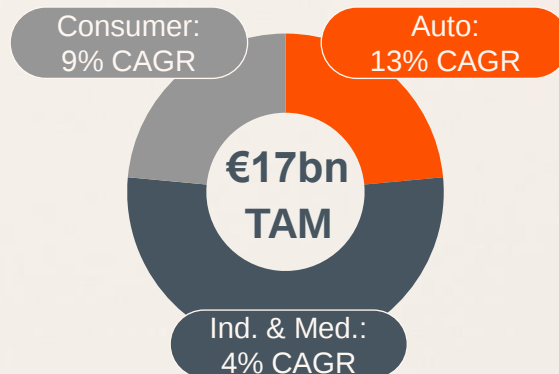
- #1 horticulture led lighting
- #1 in CT medical imaging

### Consumer:

- #2 in light sensors

## Key Figures<sup>1</sup> & Semiconductor TAM

|            |               |
|------------|---------------|
| Revenues   | 3.6 bn€       |
| Adj. EBIT  | 233 m€ / 6.5% |
| Customers: | >10k          |
| Employees: | ~20k          |
| Engineers; | ~5k           |
| Patents:   | >15k          |



## Return to structural growth – value proposition

- **Target operating model 2026:**  
6-10% revenue CAGR, ~15% adj. EBIT, ~10% CAPEX to sales
- **‘Re-establish the base’ program** to achieve profit improvement of ~150m€ by E-2025
- **Positive Free Cash Flow<sup>2</sup>** starting in 2024

# Our segments - overview of business units and applications

AUT = Automotive, I&M = Industrial & Medical, CON = Consumer



## Emitters (LED & laser)

~1.4 bn€

AUT



Forward Lighting (FWL)



High pixelated FWL



Signaling



Display & HUD



Hyper-red LEDs



Industrial & Outdoor



Sensing illumination

CON



## Sensors + ICs

~1.0 bn€

AUT



In-Cabin Sensing



Medical imaging  
(e.g. CT Sensors)



1D/2D/3D sensing



Flicker Detection



Camera enhancement  
Spectral & Ambient Light  
Sensing



Display Proximity Sensing

CON

## Automotive & Specialty Lamps

~1.1 bn€

AUT



Classic halogen & Xenon lamps



LED replacement lamps



LED standard lamps

I&M



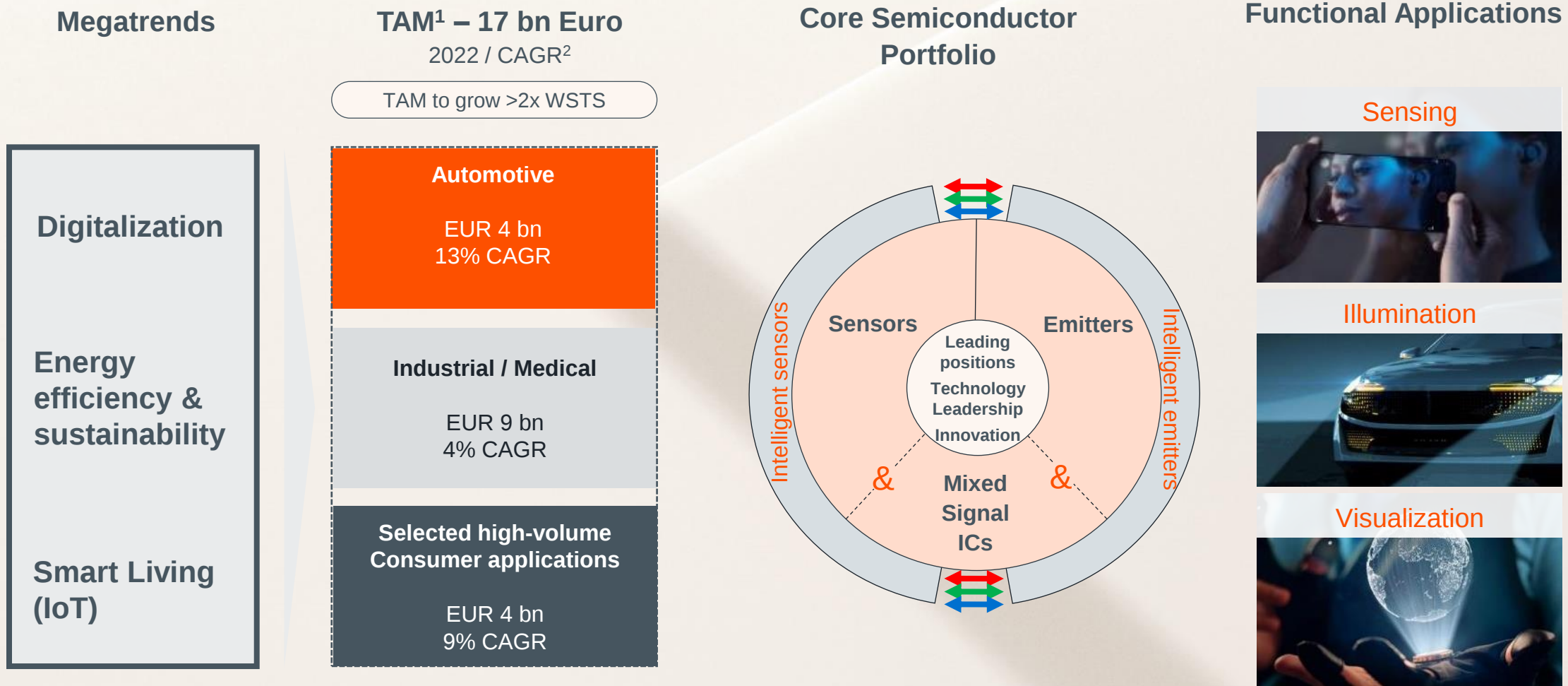
Semiconductors



Cinema

# Structural growth in semiconductor core portfolio is driven by mega-trends and leading market positions

Growing from the core of sensor & emitter components by increasingly adding intelligence to drive system performance



<sup>1</sup> ams OSRAM market model due to lack of suitable external market models

<sup>2</sup> 2022 – 2026 CAGR due to 2022 was last full year actuals, and cyclical dip in 2023

=> No dedicated market reports for ams OSRAM addressed application segments available

# ams OSRAM holds leading positions in its core semiconductor & lamps markets

Leverage strong positions with focused core portfolio and commitment to Automotive, Industrial, Medical markets

## #2 in LED

LED Suppliers by 2023(E) market share  
(Total market USD ~11bn; TrendForce)

|    |                      |     |
|----|----------------------|-----|
| 1. | Nichia               | 15% |
| 2. | ams OSRAM            | 13% |
| 3. | Seoul Semiconductors | 7%  |
| 4. | Samsung LED          | 7%  |
| 5. | MLS                  | 6%  |



## #1 in Light Sensors

Light Sensor Suppliers by 2022 market share  
(Total market USD ~1.1bn; OMDIA)

|    |                       |       |
|----|-----------------------|-------|
| 1. | ams OSRAM             | 29.2% |
| 2. | STMicroelectronics    | 28.5% |
| 3. | Sensortek (Sitronix)  | 8.3%  |
| 4. | ADI (includes Maxim). | 5%    |
| 5. | Capella/Vishay        | 3.5%  |



## #1 in traditional Auto lamps/bulbs

Bulb Suppliers by 2023 market shares  
(Total market USD ~1.4bn; own market model due to lack of external research)

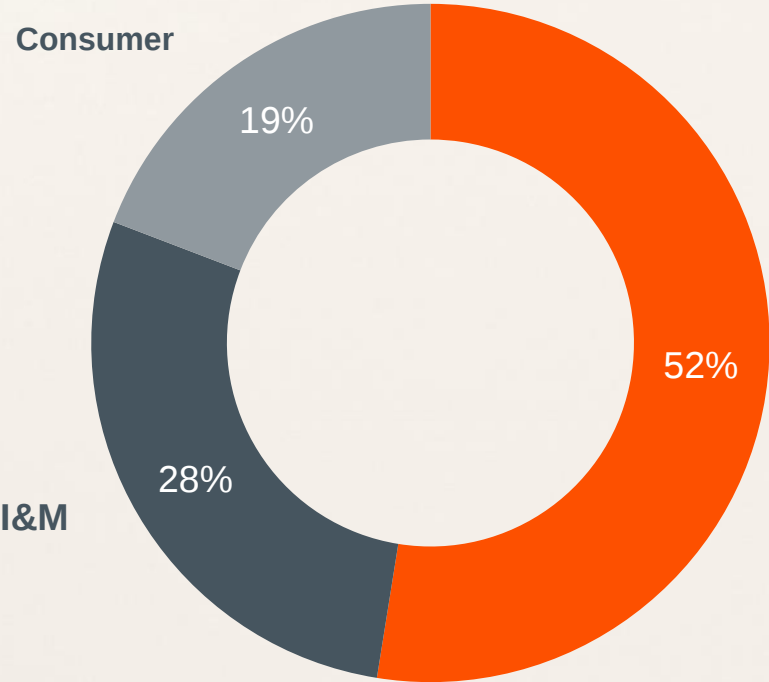
|    |                                |
|----|--------------------------------|
| 1. | ams OSRAM                      |
| 2. | Lumileds                       |
| 3. | Others (incl. Asian suppliers) |



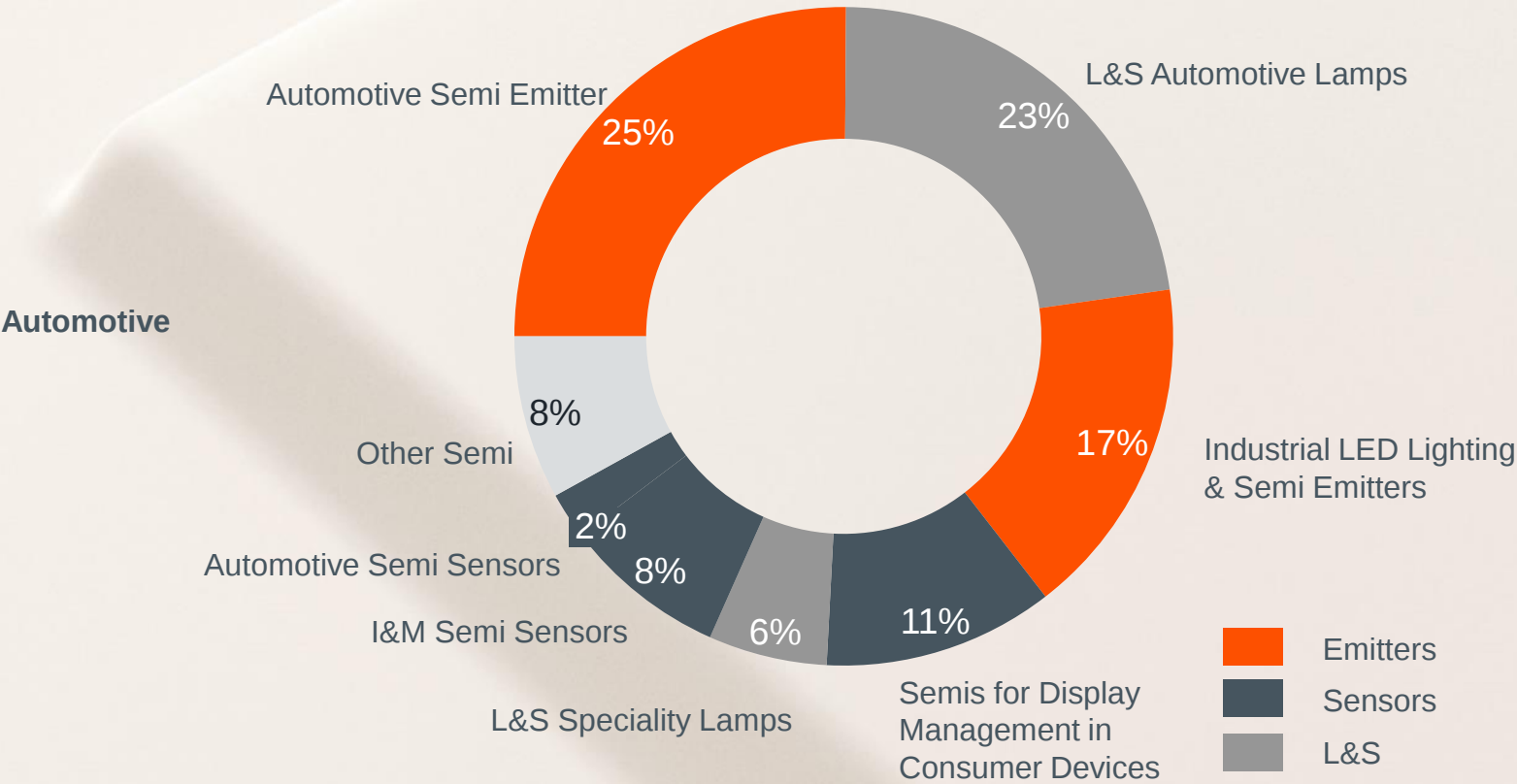
# Very broad based and diversified revenue streams

Strong exposure to structural growth markets in automotive, industrial, medical and selected consumer applications

End market split  
(FY 2023)



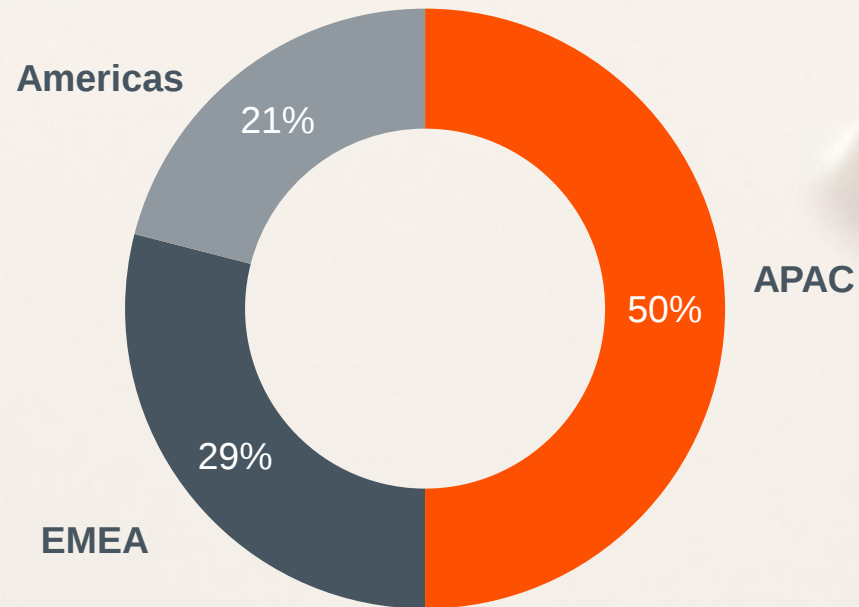
Application split (estimates)  
(FY 2022/23, core portfolio\*)



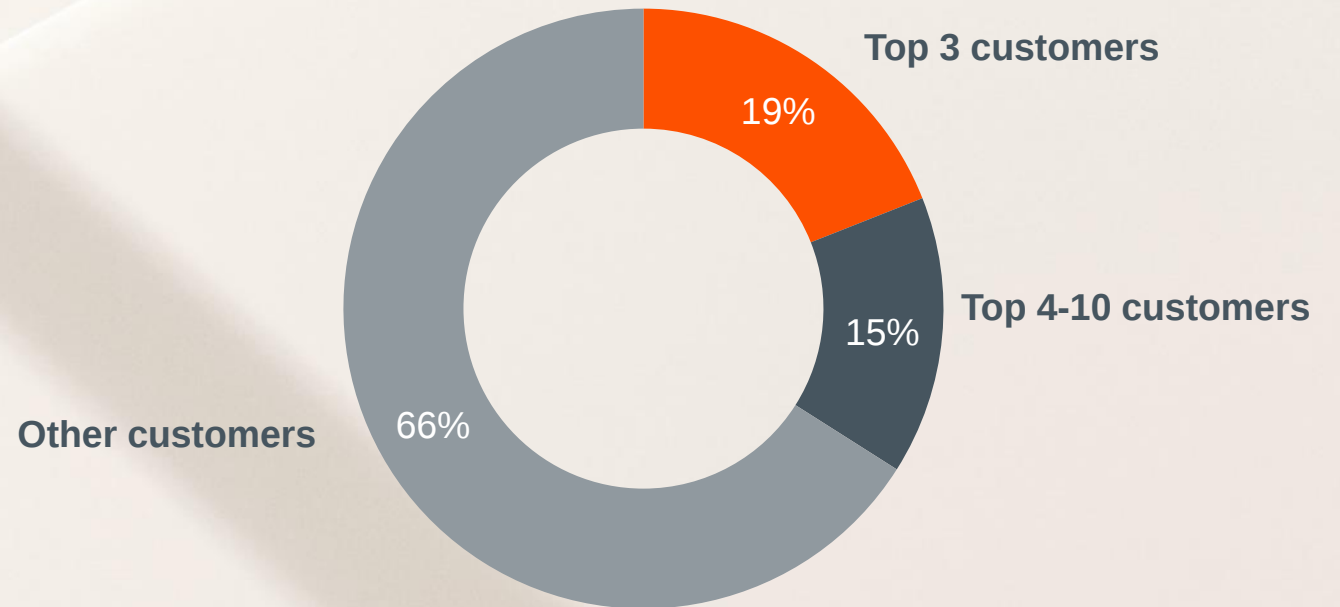
# Benefitting from globally balanced revenue base and healthy customer split

Strong regional presence and very balanced customer portfolio

Revenues by region (FY 2023)



Top customers split (FY 2023)



Total: more than 10k customers

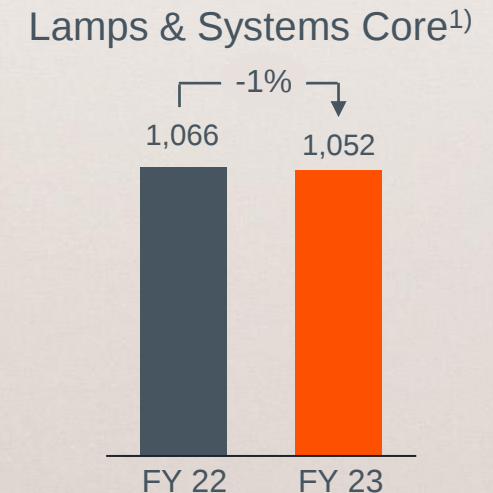
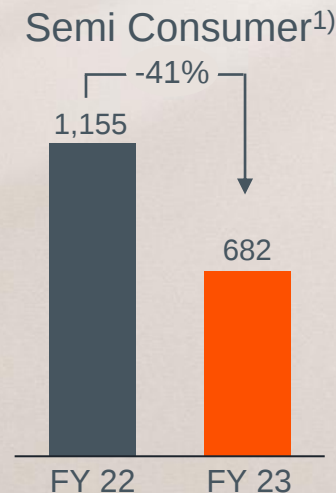
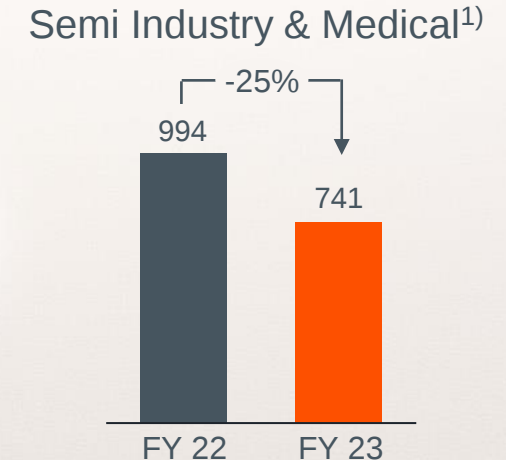
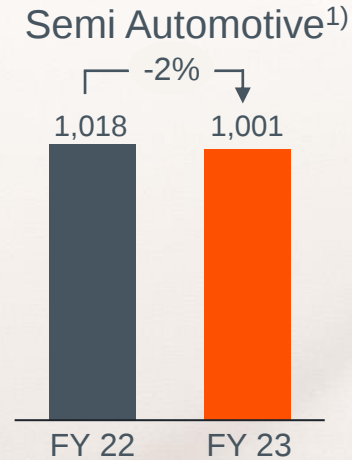
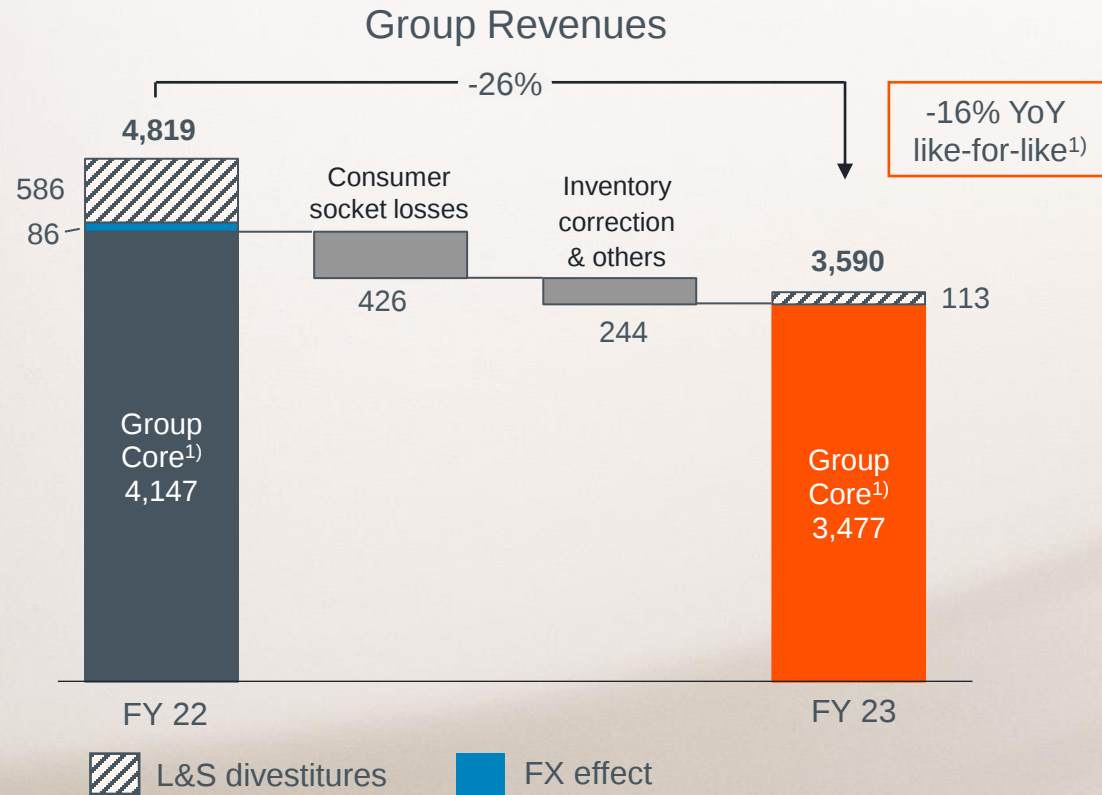
Our customers are innovation leaders in their field

Global companies who set the benchmark for innovation



# FY23 – like-for-like revenue decline mainly due to known consumer socket losses

Portfolio divestitures, inventory correction and phase out of specific consumer programs drove revenue decline



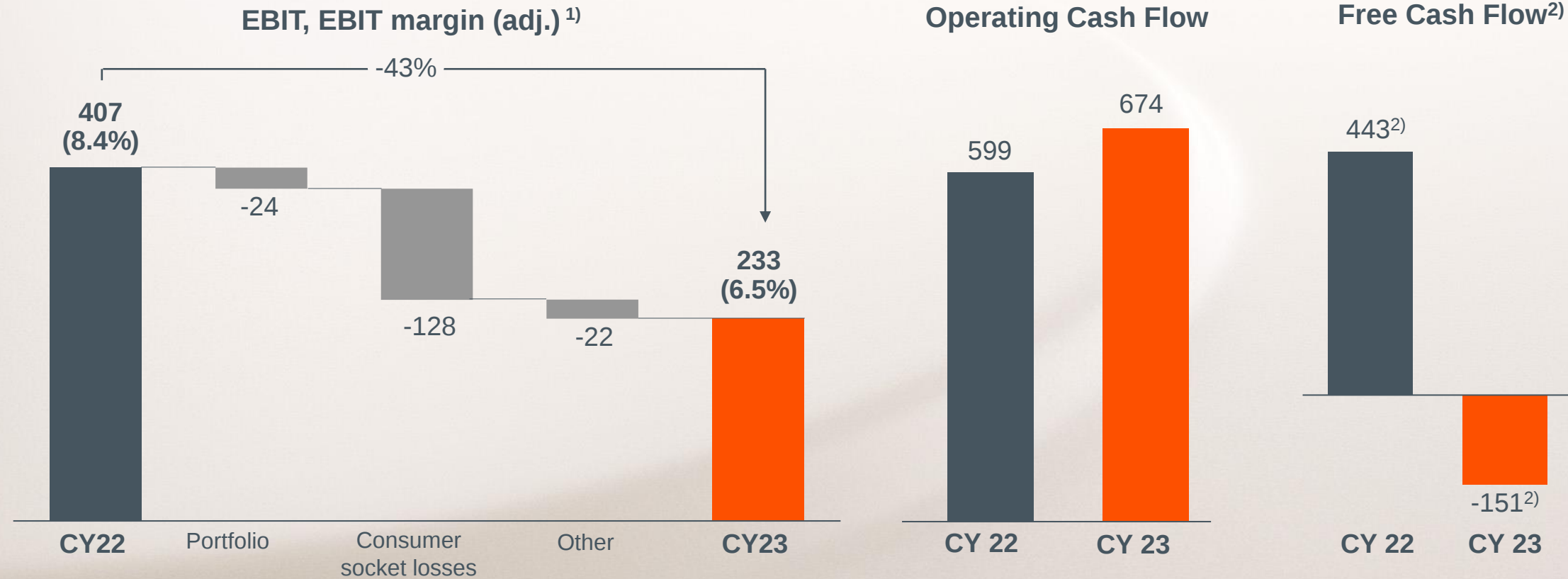
## Main developments:

- L&S: portfolio divestitures (EUR ~586m total since FY22)
- Semi: stabilized automotive business, ongoing inventory correction in industrial/medical and phase-out of major programs in consumer

<sup>1)</sup> Excluding L&S portfolio divestitures, including FX effect

# FY23 – adj. EBIT reduction essentially driven by known consumer socket losses

## Adjusted EBIT and Free Cash Flow

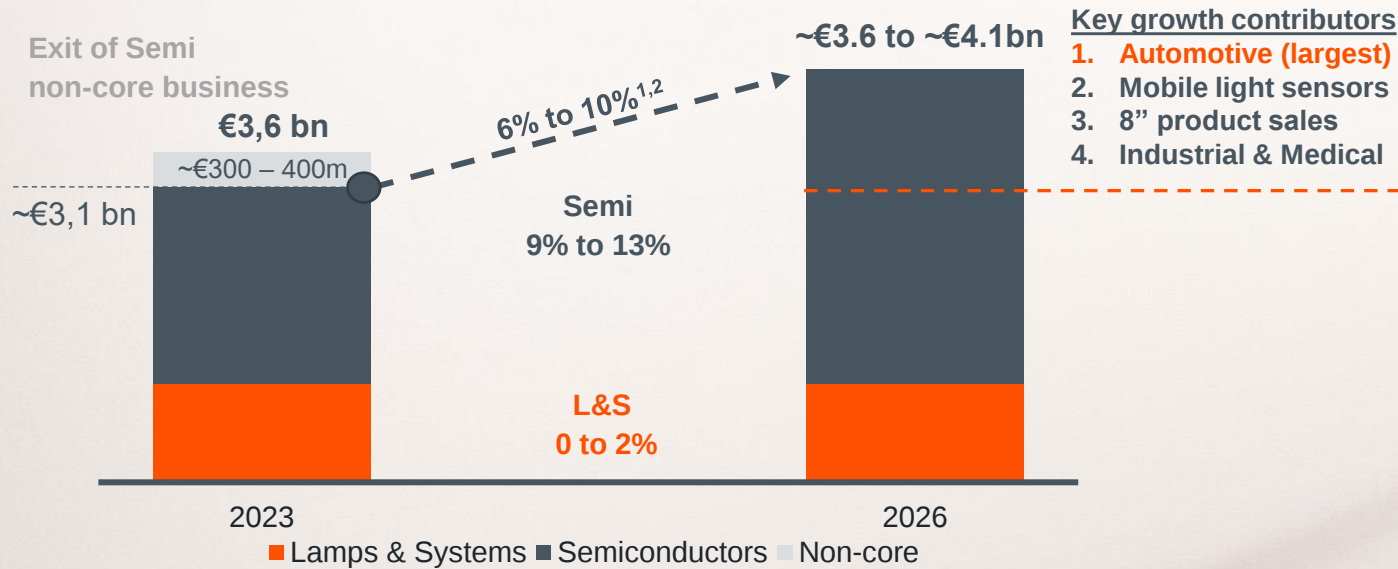


### Main developments:

- Drop in adjusted EBIT driven by underutilization cost in the semiconductor businesses for non-core consumer products, inventory corrections for products in industrial and automotive applications, and by high R&D spendings for microLED technology
- Significant improvement of operating cash flow
- Strong decline in FCF mainly driven by extraordinary investment into the 8-inch based microLED technology for next generation of displays

# FY2023: mid-term target growth model, strong design-win base & 're-establish-base' drive structural growth & adj. EBIT improvement until 2026+ for turn-around

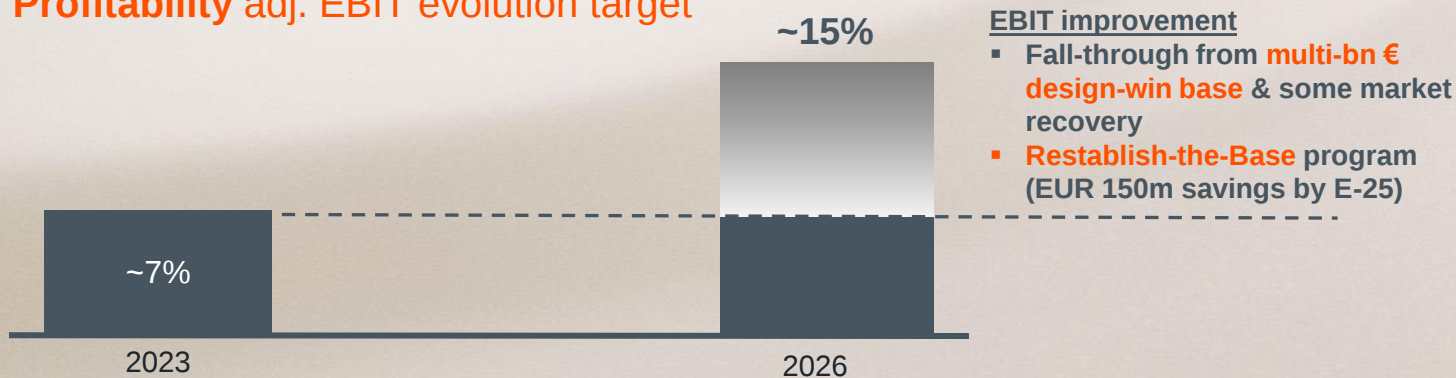
## Portfolio re-adjustment revenue target



## Over-the-cycle mid-term targets

| Revenues                               |
|----------------------------------------|
| 6 - 10% CAGR <sup>1</sup>              |
| Adjusted EBIT Margin                   |
| ~15%                                   |
| CAPEX                                  |
| ~10% of Sales <sup>3</sup>             |
| Free Cash Flow <sup>4</sup>            |
| Positive <u>after</u> interest payment |
| Leverage                               |
| Net Debt / (adj.) EBITDA < 2x          |

## Profitability adj. EBIT evolution target



Notes:

1. Driven from new base following disposal of "non-core" semiconductor assets
2. >2x WSTS opto-electronics F99 & sensors H99 = 3.1% CAGR '22 to '26 due to addressed segments
3. FY2024 still above 10%
4. FY2024: slightly positive, including proceeds from divestments, before interest payments

# 'Re-establish the Base' program

With Q2/23, the new management team announced a new strategy and an efficiency program 'Re-establish the Base'. It aims to strengthen profitability with targeted run-rate savings of EUR ~150m by end of 2025 and adj. EBIT margin target of ~15% in the mid-term



## Set-up & Infrastructure

- *Make the company lean and efficient by having the appropriate size, infrastructure and agility*



## Portfolio

- *Focus the semiconductor portfolio on the core of differentiated, intelligent sensor and emitter components with the highest profitability and the best growth perspective*
- *Expand leading positions in relevant Automotive, Industrial, Medical markets*
- *Continue to pursue specific opportunities in Consumer markets where we sustainably differentiate*
- *Exit non-core Semiconductor business with a 2023 revenue run-rate of EUR 300-400m*



## Monetizing Innovation

- *Center mindset and accountability on "monetizing innovation" and overall profitability*
- *Invest selectively in disruptive innovation such as microLED technology*



## Refinancing

- *Reduction of total debt & balanced maturity profile*
- *Strengthened balance sheet*
- *Completed in 2023*

# FY 2023 – strong design-win traction underpinning structural growth model

Majority in automotive, industrial & medical and consumer very strong



# Continued strong design-win traction – Q4 2023 examples

Winning new business across the board



**LIDAR** (Automotive)



**Traditional Forward LED lighting**  
(Automotive)



**Material treatment**  
(Industrial)



**Laser projection**  
(Consumer)



**dToF sensors**  
(Consumer)

**LTV estimates\***

**>100 m€ to date**

**+100 m€ in Q4**

**~150m€ in FY23**

\*cumulated, estimated project life-time values

# ams OSRAM - 'Outstanding Partner' award by BYD

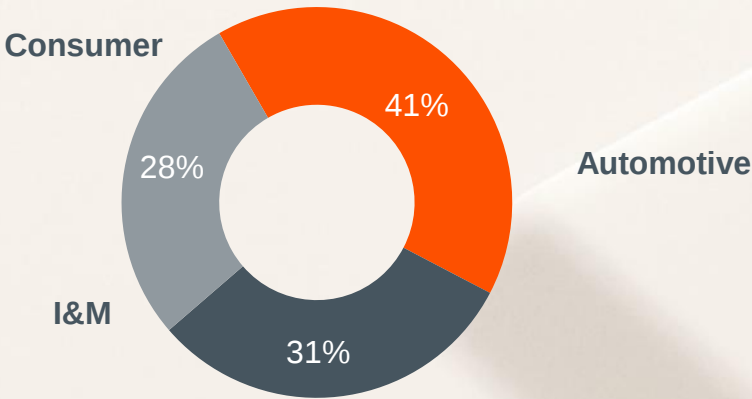
The world's leading EV maker in 2023



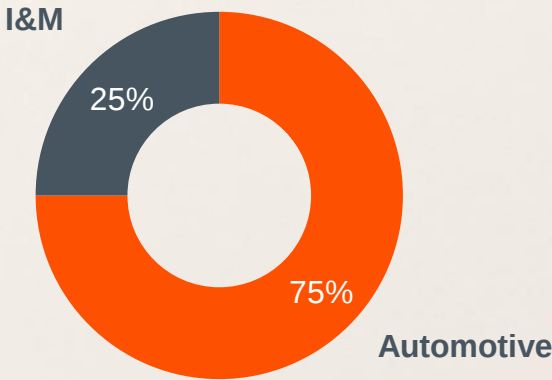
# Balanced end market mix within segments

## Revenue split FY2023 by segments

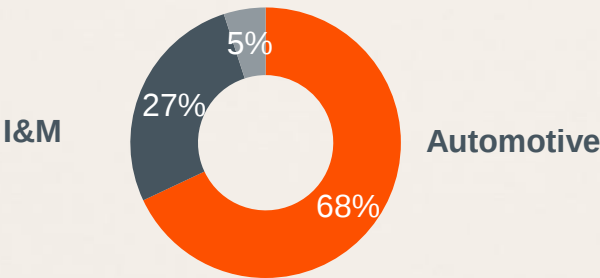
**Semiconductors**  
(overall / technology split below)



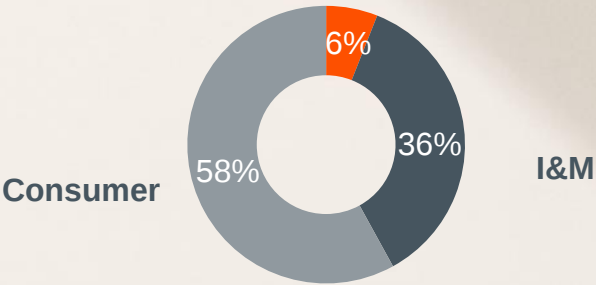
**Lamps & Systems**



**Consumer**



**Automotive**



# Overview of Q4 - financials

Figures in EUR million (for details refer to “Financial results in detail”)

| EUR millions<br>(except per share data)           | Q4 2023 | Q3 2023 | QoQ      | Q4 2022 | YoY     |
|---------------------------------------------------|---------|---------|----------|---------|---------|
| Revenues                                          | 908     | 904     | +0%      | 1,177   | -23%    |
| Gross margin adj. <sup>1)</sup>                   | 28.7%   | 29.0%   | -30 bps  | 28.5%   | +20 bps |
| Results from operations (EBIT) adj. <sup>1)</sup> | 62      | 71      | -12%     | 86      | -28%    |
| EBIT margin adj. <sup>1)</sup>                    | 6.9%    | 7.9%    | -100 bps | 7.3%    | -40 bps |
| Net result adj. <sup>1)</sup>                     | -16     | 29      | -154%    | 29      | -154%   |
| Diluted EPS adj. <sup>1)</sup>                    | -0,03   | 0.11    | -131%    | 0,11    | -131%   |
| Diluted EPS adj. (in CHF) <sup>1)2)</sup>         | -0,03   | 0.10    | -133%    | 0,11    | -130%   |
| Net Result (IFRS reported)                        | -82     | -55     | -49%     | -147    | +44%    |
| Diluted EPS (IFRS reported)                       | -0,18   | -0.21   | +14%     | -0,56   | +68%    |
| Operating Cash Flow                               | 80      | 199     | -60%     | 201     | -60%    |
| Cash Flow from CAPEX <sup>3)</sup>                | -222    | -262    | -15%     | -233    | -5%     |
| Free Cash Flow <sup>4)</sup>                      | -142    | -63     | -125%    | -32     | -349%   |
| Net debt                                          | 1,312   | 2,269   | -100%    | 1,717   | -24%    |
| Net debt (incl. SLB) <sup>5)</sup>                | 1,696   | 2,269   | -25%     | 1,717   | -1%     |

<sup>1)</sup> Excluding M&A-related, transformation and share-based compensation costs, results from investments in associates and sale of businesses

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

<sup>3)</sup> Cash flow from investments in property, plant, and equipment and intangibles (such as capitalized R&D)

<sup>4)</sup> Free Cash Flow is defined as Operating Cash Flow minus CAPEX

<sup>5)</sup> Incl. EUR 384m equivalent from SLB Malaysia transaction closed in December 2023

# Overview of FY23 - financials

Figures in EUR million (for details refer to “Financial results in detail”)

| EUR millions<br>(except per share data)           | 2023   | 2022  | YoY     |
|---------------------------------------------------|--------|-------|---------|
| Revenues                                          | 3,590  | 4,819 | -25%    |
| Gross margin adj. <sup>1)</sup>                   | 28.7%  | 30.5% | -180bps |
| Results from operations (EBIT) adj. <sup>1)</sup> | 233    | 407   | -43%    |
| EBIT margin adj. <sup>1)</sup>                    | 6.5%   | 8.4%  | -190bps |
| Net result adj. <sup>1)</sup>                     | 50     | 124   | -59%    |
| Diluted EPS adj. <sup>1)</sup>                    | 0,16   | 0,47  | -66%    |
| Diluted EPS adj. (in CHF) <sup>1)2)</sup>         | 0,15   | 0,47  | -68%    |
| Net Result (IFRS reported)                        | -1,613 | -444  | -263%   |
| Diluted EPS (IFRS reported)                       | -5,20  | -1.70 | -206%   |
| Operating Cash Flow                               | 674    | 599   | +13%    |
| Cash Flow from CAPEX <sup>3)</sup>                | -1,049 | -537  | -95%    |
| Free Cash Flow <sup>4)</sup>                      | -375   | 62    | -705%   |
| Net debt                                          | 1,312  | 1,717 | -24%    |
| Net debt (incl. SLB) <sup>5)</sup>                | 1,696  | 1,717 | -1%     |

<sup>1)</sup> Excluding M&A-related, transformation and share-based compensation costs, results from investments in associates and sale of businesses

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

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<sup>5)</sup> Incl. EUR 384m equivalent from SLB Malaysia transaction closed in December 2023

# No clear upswing signal for next 12 months, long-term growth drivers remain sound

**Macro headwinds expected to prevail throughout next 12 months – afterwards, back to moderate growth track towards 2026**

| Outlook next 12 months       |                                                                                                                                                                                                                                                                                                                                                                                                                                    | Long-term outlook                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Macro sentiment              | <ul style="list-style-type: none"> <li>Dec Eurozone PMI still weak in contraction while US PMI bouncing up and down slightly below 50 level. China slightly above 50.</li> <li>GDP consensus expectations 2024 weaker in Eurozone (0.6%), China unchanged (4.5%), US higher (1.3%).</li> <li>2024 semiconductor forecast w/o memory slightly higher at 6.5% y-o-y.</li> </ul>                                                      | <ul style="list-style-type: none"> <li>GDP consensus forecast shows moderately improving growth in Eurozone (1.4%) and US (1.7%).</li> <li>China consensus growth is expected to fall below 2024 level (4.3%).</li> </ul>                                                                                                                                                   | <br> |
| Automotive sentiment         | <ul style="list-style-type: none"> <li>Light vehicle production is on pre-pandemic level with 89.6m units for the full year, -0.5% below 2023 as a result of the relative production strength esp. in H2/2023</li> <li>2024 is seen as a transitional year towards a more demand-driven model with H1 production volume expected to grow +1.4% y-o-y, and H2 production volume -2.3% y-o-y / +2.8% over H1 sequentially</li> </ul> | <ul style="list-style-type: none"> <li>Light vehicle production expected to grow with +2.1% y-o-y in 2025 to 91.5m and +1.8% y-o-y in 2026 to 93.2m units.</li> <li>Growth in EVs softens but still expected to reach &gt;30% of global production within the next 3 years, that usually also have come with additional emitter &amp; sensor enabled innovations</li> </ul> |                                                                                         |
| Consumer sentiment           | <ul style="list-style-type: none"> <li>Global smartphone forecast 2023/24 increased to 1,171m / 1,179m units implying -0,3% / +1.8% growth.</li> <li>Initial signs of rebound seen in 4Q24, however global smartphone shipments in 2023 remain lower than 2022.</li> <li>Wearable forecast 2023 slightly increased to 543 / 570m units implying +6,4% / +4.7% growth y-o-y.</li> </ul>                                             | <ul style="list-style-type: none"> <li>Global smartphone forecast 2025 shows growth increasing to 2.8% y-o-y to 1,212m units.</li> <li>Wearable forecast shows 4.3% y-o-y growth in 2025 to 596m units.</li> <li>MicroLED display shipments expected to increase to 50m units in 2030</li> </ul>                                                                            |                                                                                         |
| Industry & Medical sentiment | <ul style="list-style-type: none"> <li>Further deterioration of end market expected; follows a similar correction pattern like Consumer in 2023</li> <li>German production of engineering products to decline -4% y-o-y in 2024</li> <li>Global LED lighting market growth expectation downward adjusted.</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>Global market for high power laser units to grow at +14% CAGR by 2030</li> <li>Worldwide projector market to increase annually by +10% over next 3 years</li> </ul>                                                                                                                                                                  |                                                                                       |

Sources: WSTS Semiconductor Market Forecast Nov 2023  
 IHS Light Vehicle Production Forecast January 2024  
 OMDIA Micro LED Display Market Tracker 4Q23  
 OMDIA Smartphone Model Market Tracker 3Q23  
 IDC Quarterly Wearable Device Tracker Forecast 3Q23

TrendForce 2023 Industry and Demand Q3 2023  
 VDMA Economy December 2023  
 Optech Consulting High Power Lasers for Material Processing December 2023  
 PMA Research December 2023  
 S&P Global, Bloomberg

# Business outlook

## Q1 2024 Guidance

## 2024 comments

- Revenue 800 m€ - 900 m€
- Adj. EBIT 4% - 7%

- Based on assumption  
EUR/USD 1.08

- Divesting/exiting non-core semiconductor portfolio (2023 run-rate: 300 to 400 m€)
- H1/24 with continued macro weakness, H2/24 improving (ramp of design-wins and expected market recovery)
- ~75 m€ savings run-rate at year-end from 'Re-establish-the-Base' program
- Some cost headwinds e.g. personnel cost, 8" ramp-up cost
- CAPEX in PPE of slightly above 500 m€ (incl. ~50m delayed PPE from 2023)
- Accounts Payable roll-over from Q4/23 and cap. R&D, combined ~200m€
- FCF positive (including divestments proceeds, before interest payments)

# Summary Q4 & FY23

## Summary

### Q4/23:

- Solid Q4 revenue and adj. EBIT performance above mid-point
- Strong Design-Win traction continuing
- Implementation of Re-establish-the-Base program well on track

### FY/23:

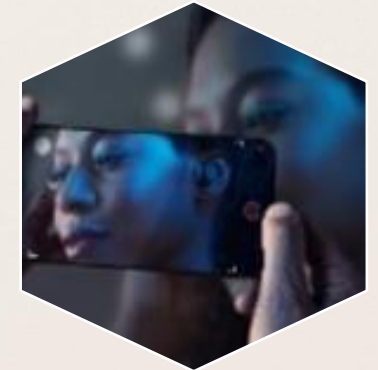
- Strategic re-alignment & revised mid-term financial model
- Re-financing completed ahead of schedule

### Outlook Q1/24:

- Seasonal decline of revenue and adj. EBIT pronounced by inventory correction in industrial & medical

### Comments FY/24:

- Executing 'Re-establish-the-Base' to benefit from structural growth



# Chapter 2 – Structural Growth Driver

# Semiconductors: Automotive Growth Drivers

# Offering full technology range and innovation leadership in automotive emitters and light sensors

## Leading Positions in Automotive Semiconductor Sub-Segments

### #1 in Automotive Emitters

Auto LED suppliers by 2023(E) market share  
(Total market USD ~3.3bn; TrendForce)

|     |                     |     |
|-----|---------------------|-----|
| 1.  | ams OSRAM           | 34% |
| 2.  | Nichia              | 25% |
| 3.  | Lumileds            | 10% |
| 4.  | Seoul Semiconductor | 7%  |
| 5.  | Samsung LED         | 7%  |
| 6.  | Dominant            | 6%  |
| 7.  | Stanley             | 4%  |
| 8.  | Everlight           | 2%  |
| 9.  | Jufei               | 1%  |
| 10. | Lextar              | 1%  |



### #1 in Automotive Light Sensors

Auto Light Sensor suppliers by 2022 market share  
(Total market USD ~71m; OMDIA)

|    |           |     |
|----|-----------|-----|
| 1. | ams OSRAM | 34% |
| 2. | Elmos     | 22% |
| 3. | Vishay    | 15% |
| 4. | Melexis   | 6%  |
| 5. | Hamamatsu | 4%  |
| 6. | Rohm      | 1%  |



### #16 in Automotive Semiconductors

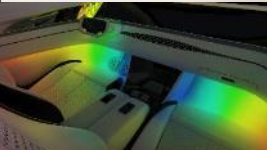
Automotive semiconductor suppliers by 2022 market share  
(Total market USD ~64bn; OMDIA)

|     |               |      |
|-----|---------------|------|
| 1.  | NXP           | 11%  |
| 2.  | Infineon      | 11%  |
| 3.  | STMicro       | 8%   |
| ... | ...           | ...  |
| 15. | Toshiba       | 1.5% |
| 16. | ams OSRAM     | 1.5% |
| 17. | Melexis       | 1.2% |
| 18. | Sanken        | 1.1% |
| 19. | Fuji Electric | 1.0% |
| 20. | Nichia        | 0.9% |



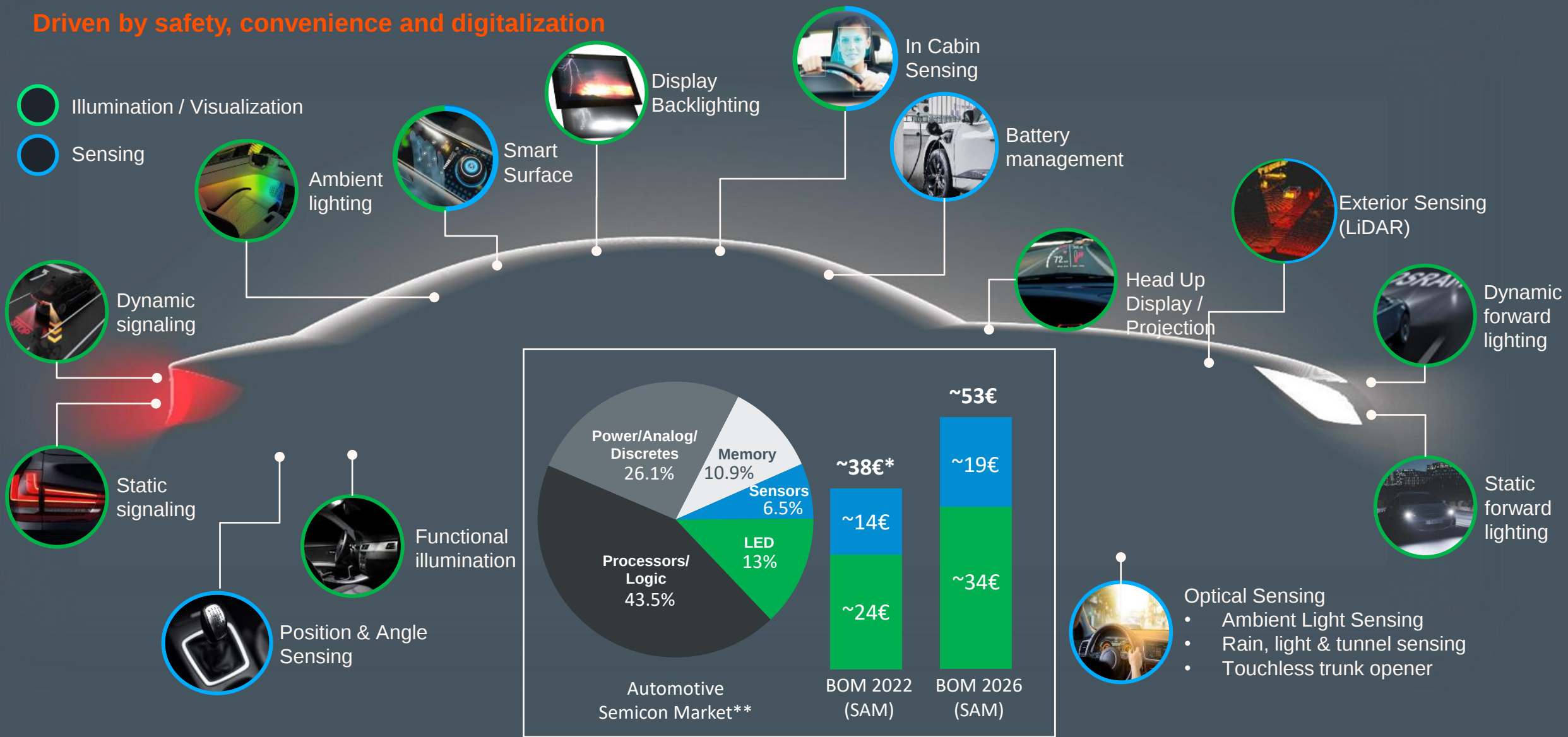
# ams OSRAM can build on a strong track record as trusted innovation partner

ams OSRAM's long history of driving innovation in the Automotive semiconductor world

|                                                                                                                                      |                                                                                                                                             |                                                                                                                                                                          |                                                                                                                                                   |                                                                                                                                                                                                                                                                              |                                                                                                                                                                     |                                                                                                                                                                                 |                                                                                                                                                                                                                                                               |                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Rain sensor</p> <p>1991</p>                      |  <p>1st full color head up display for BMW</p> <p>2003</p> |  <p>1st daytime running LED light with Audi</p> <p>2007</p>                             |  <p>Ice-blue backlighting color theme with Ford</p> <p>2008</p> |  <p>1st full LED front lighting</p> <p>2009</p>                                                                                                                                           |  <p>capacitive sensor for Airbag - Child Seat Suppression System</p> <p>2012</p> |  <p>1st standard scalable LED forward lighting with BMW, VW</p> <p>2014</p>                  |  <p>Eviyos 1.0 with microstructured LEDs</p>  <p>LED matrix headlights</p> <p>2017+</p> |  <p>1st VCSEL for Driver Monitoring</p> <p>2021</p> |
| <p>1980</p> <p>1<sup>st</sup> radial LED in VW</p>  | <p>1997</p> <p>1st LED brand color program with VW</p>   | <p>2005</p> <p>1<sup>st</sup> ambient light sensor reproducing human eye behavior</p>  | <p>2008</p> <p>1st headlamp products with GM</p>              | <p>2010</p> <p>1<sup>st</sup> IR laser for emergency braking for Volvo</p>  <p>1st RGB ambient</p>  | <p>2013</p> <p>1<sup>st</sup> ADB</p>                                           | <p>2017</p> <p>Tailgate sensor (capacitive) for 1<sup>st</sup> touchless trunk opener</p>  | <p>2020</p> <p>1<sup>st</sup> 12V battery with high precision current aO sensor</p>                                                                                      |                                                                                                                                        |

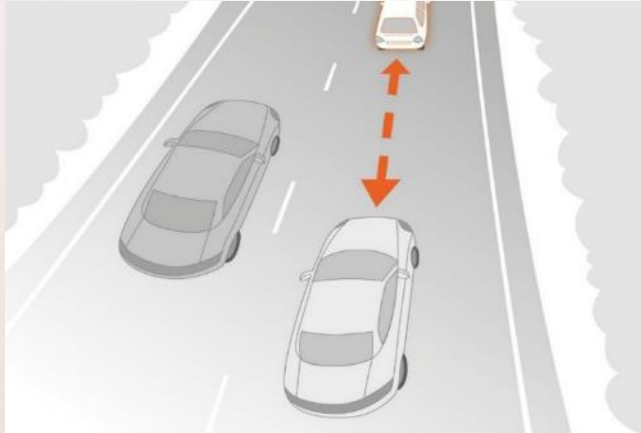
# ams OSRAM Automotive and Mobility

Driven by safety, convenience and digitalization



# ams OSRAM is at the forefront of developing the LiDAR automotive market

Several key design wins for EEL and for VCSEL demonstrating our leading position



## Since 2000

>14 car models

ams OSRAM's 905nm laser used for laser based automated emergency braking systems

## 2023

>10 car models

L2 autonomous driving driven mainly out of APAC market

## 2025+

> 7 car models

L3 autonomous driving systems for global market & mobility as a service

>100 m€

5-year design-win volume to date

## Key Trends:

- Autonomous driving
- Safety
- Traffic jam assistant
- Highway pilot emerging
- Mobility as a service

## Pioneer Role and Proven Track Record:

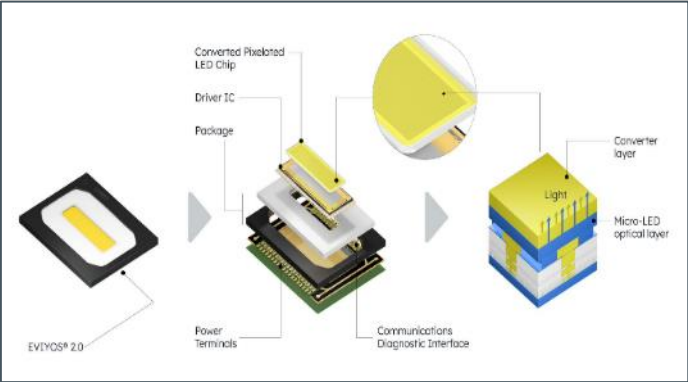
- > 20 Mio LiDAR lasers in the field without chip failures
- > 300 Bn kilometers covered in autonomous driving with OS lasers



# Safe Mobility – high pixelated forward lighting (Eviyos)

Increasing ams OSRAM semiconductor BoM per car with a strong design-win base

## Example applications



2023

1 OEM

2024

7 OEMs

2025+

>12 OEMs

**>250 m€**  
Design-wins to date  
over lifetime



Implemented in the new  
VW Touareg (top version)

Image courtesy of Volkswagen AG

# Car as a 3<sup>rd</sup> living room – Colored ambient lighting

Increasing ams OSRAM semiconductor BoM per car with a strong design-win base



2023

Market  
introduction

2024

3 OEMs

2025+

> 8 OEMs

**>100 m€**

5-year design-win  
volume to date

**>240 m€**

market potential  
2028



## Integrated RGB products:

- Dynamic Illumination with many LEDs
- High flexibility in function and system architecture
- ams OSRAM open system protocol

# ALIYOS™ LED-on-foil technology creates unprecedented lighting

Increasing ams OSRAM semiconductor BoM per car with a strong design-win base



2023

Technology launch  
and first customized  
demos with Tier1s

2024

Customized  
demos with OEMs  
as well as first  
series designs

2025+

First OEM SOPs  
with applications  
based on  
ALIYOS™



Light



Transparent



Thin



Flexible



Bright



Freedom of Design



ALIYOS™ LED-on-foil technology pushes boundaries of multi-segmented area lighting and enables customization of light emission patterns

# Safe & autonomous mobility – in-cabin sensing

Increasing ams OSRAM semiconductor BoM per car with a strong design-win base driven by regulation & comfort



Driver safety & assistance

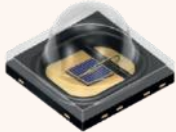


Cabin & Occupant safety

On-going business relationships with all global OEMs and Tier-1

## Product portfolio

### Infrared LEDs



IR LEDs are preferred by most OEMs due to better cost efficiency for high-volume 2D Driver Monitoring applications

### Infrared VCSELs



Mid-term, VCSEL growth will be accelerated by use cases related to autonomous driving that require 3D capability

both technologies in-house

>250 m€

LTV design-win volume to date

# Semiconductors: Medical / Industrial Growth Drivers

# ams OSRAM has been a trusted partner for decades in industrial / medical

**Leading by system defining component performance, innovation & IP portfolio and deep customer relationships**

## Value proposition for our customers

- System defining component performance: Differentiating LED and laser technologies with leading performance - know-how across the entire value chain
- Innovation leadership & broad IP portfolio - recognition of strong technology know-how by our customers
- In all focus applications, we have deep relationships with the leading customers and innovation drivers across all regions



- Broad portfolio of high-performance light and other optical sensors as discrete components elements or integrated module



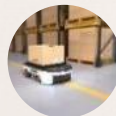
- Best in Class LED emitters reinforcing market leadership and unrivaled performance, e.g. in horticulture lighting with hyper red innovation



- Supply security: European-based specialty analog mixed-signal CMOS fab (Austria)
- Worldwide regional presence and technical support

# Addressing industrial / medical applications with key to system performance

Leveraging differentiated technology base into multi niches where we are key for the system performance

| Selected applications                                                                                                      | Structural growth drivers                                                                                                                                                                                                                          | Typical ams OSRAM BoM potential                                                        |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  <b>Medical Imaging &amp; Diagnostics</b> | <ul style="list-style-type: none"><li>– Aging population</li><li>– Lower radiation dosage</li><li>– Higher specificity</li></ul>                                                                                                                   | ~ 25 – <b>several ten k €</b> (from image sensor to module for high end CT scanner)    |
|  <b>Horticulture &amp; Smart Farming</b>  | <ul style="list-style-type: none"><li>– HPS lamp replacement</li><li>– Focus on near-shoring and freshness</li><li>– Yield improvement through optimized illumination</li><li>– Project business: subject to energy &amp; financing cost</li></ul> | ~100 – 200 € per luminaire*                                                            |
|  <b>Robotics</b>                          | <ul style="list-style-type: none"><li>– Automation, productivity</li><li>– Contextual Awareness</li></ul>                                                                                                                                          | ~20+ €                                                                                 |
|  <b>LED &amp; laser projection</b>        | <ul style="list-style-type: none"><li>– Home entertainment, lifestyle</li><li>– Replacement of traditional lamps</li><li>– Trickle-down from premium to mid-range</li></ul>                                                                        | ~5 – 190 € (from simple LED projector to high power material processing)               |
|  <b>Outdoor / Industrial lighting</b>    | <ul style="list-style-type: none"><li>– Aging and growing population</li><li>– Urbanization</li><li>– HID replacement</li></ul>                                                                                                                    | ~5 – 50 € per luminaire* (from small LED street luminaire to high power stadium light) |
|  <b>UV-C disinfection</b>               | <ul style="list-style-type: none"><li>– Growth opportunity &gt;2026</li><li>– Regulation &amp; Hg Lamp replacement once LEDs reach &gt;15% WPE</li></ul>                                                                                           | ~20 – 2,500 € (from consumer device to industry scale water reactor disinfection)      |

# Medical imaging – 4-side tileable sensor IC for computed tomography

Extending lifetime of ams OSRAM solutions at market leading medical customers



2022 – 2025+

annual revenue at  
high single digit to high teens m€



## 4-side tileable Sensor IC :

- Stacked CMOS wafer and Photodiode wafer using TSV technology
- ams OSRAM proprietary technology

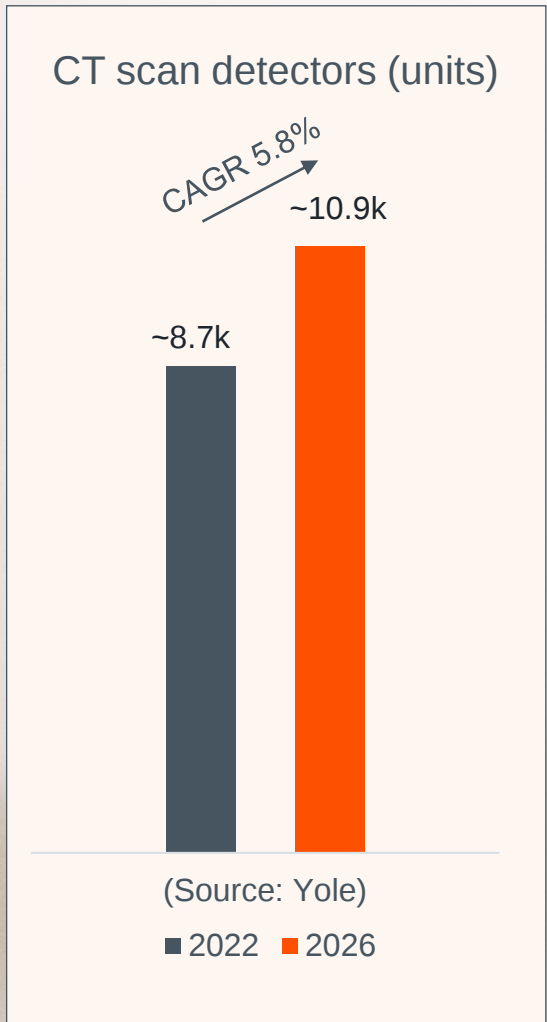


>50 m€

5-year design-win  
volume to date

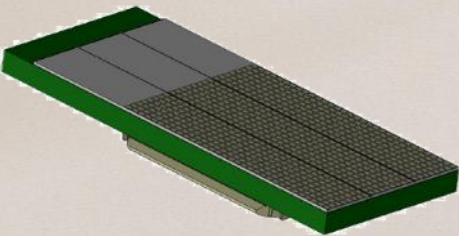
# Example of leading position in niche – medical imaging CT scan sensors/ICs

8 out of 10 OEMs employ ams OSRAM products – solid revenue growth 2x market growth projected



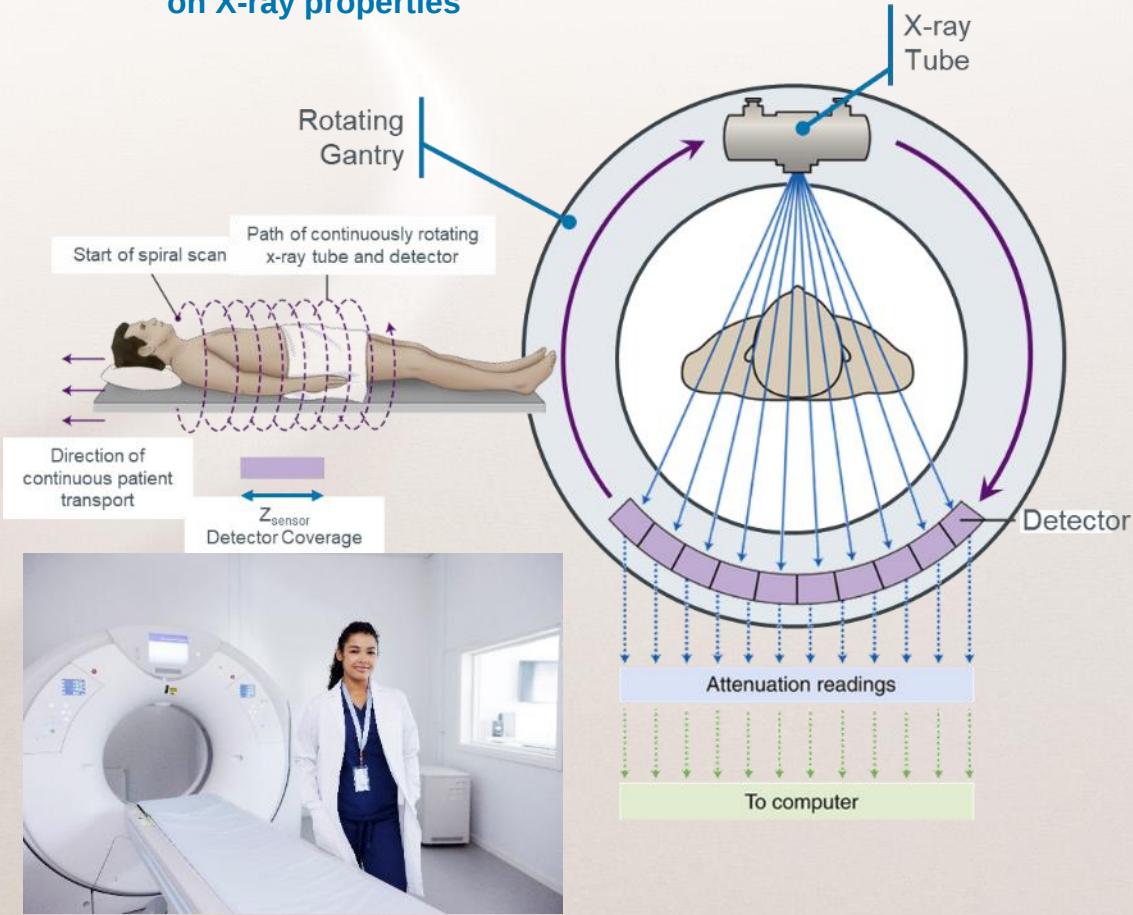
## Top 10 CT Players ams OSRAM Customer Engagement

|               |               |
|---------------|---------------|
| #1 CT Player  | engaged       |
| #2 CT Player  | no engagement |
| #3 CT Player  | engaged       |
| #4 CT Player  | engaged       |
| #5 CT Player  | engaged       |
| #6 CT Player  | engaged       |
| #7 CT Player  | no engagement |
| #8 CT Player  | engaged       |
| #9 CT Player  | engaged       |
| #10 CT Player | engaged       |



ams OSRAM 64-Slice CT Detector Module

## Generation of 3D images based on X-ray properties



# Semiconductors: Opportunities & growth drivers in Consumer portable devices

# ams OSRAM offering full technology range and best value in focus applications

## Strong Positions in Consumer Semiconductor Sub-Segments

### #2 Light Sensor Supplier in Smartphones

Light Sensor suppliers by 2022 market share  
(Total market USD ~800m; Omdia)

|     |                    |     |
|-----|--------------------|-----|
| 1.  | STMicroelectronics | 39% |
| 2.  | ams OSRAM          | 30% |
| 3.  | Sensortek          | 11% |
| 4.  | Lite-On            | 4%  |
| 5.  | TXC                | 3%  |
| 6.  | Broadcom           | 2%  |
| 7.  | Elan               | 2%  |
| 8.  | Sharp              | 2%  |
| 9.  | Capella/Vishay     | 2%  |
| 10. | Dyna Image         | 1%  |



### #3 Sensor & Actuator Supplier in Wearables

Sensor & Actuator suppliers by 2022 market share  
(Total market USD ~864m; Yole)

|    |           |     |
|----|-----------|-----|
| 1. | Bosch     | 25% |
| 2. | ST Micro  | 19% |
| 3. | ams OSRAM | 7%  |
| 4. | Goermicro | 7%  |
| 5. | Knowles   | 5%  |
| 6. | OMRON     | 5%  |
| 7. | TDK       | 3%  |
| 8. | Zilltek   | 2%  |



### We are present at all Top 15+ Smartphone OEMs globally

| Shipments 2022>>        | % of smartphones with<br>ams OSRAM content |
|-------------------------|--------------------------------------------|
| 1. Smartphone OEM 1     | 62%                                        |
| 2. Smartphone OEM 2     | 91%                                        |
| 3. Smartphone OEM 3     | 22%                                        |
| 4. Smartphone OEM 4     | 27%                                        |
| 5. Smartphone OEM 5     | 45%                                        |
| 6. Smartphone OEM 6     | 50%                                        |
| 7. Smartphone OEM 7     | 55%                                        |
| 8. Smartphone OEM 8     | 24%                                        |
| 9. Smartphone OEM 9     | 45%                                        |
| 10. Smartphone OEM 10   | 47%                                        |
| <b>TOTAL (all OEMs)</b> | <b>50%</b>                                 |

- ams OSRAM is present in **50% of smartphones** shipped in 2022
- The addressed OEMs have a **unit market share of >80%**

# Addressing relevant, system defining functions in portable consumer devices

Focus on significant growth opportunities in camera enhance, 3D AR, body tracking, microLED & smart glasses

| Focus applications                                                                                   | Addressed Functionalities                                                                                                                                                                                                                                                             | ams OSRAM BOM Potential                       |
|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
|  <b>Smartphone</b>  | <ul style="list-style-type: none"><li>– Camera enhancement (Flicker, Spectral Color Sensors, ToF)</li><li>– 3D AR sensing</li><li>– 3D Authentication</li><li>– Display Management / BOLED sensing</li><li>– MicroLED display</li></ul>                                               | <b>Mobile BOM: €1-25<sup>1)</sup></b>         |
|  <b>Tablets</b>     | <ul style="list-style-type: none"><li>– 3D AR sensing</li><li>– 3D Authentication</li><li>– Display Management / BOLED sensing</li><li>– MicroLED display</li></ul>                                                                                                                   | <b>Tablet BOM: €3-40<sup>1)</sup></b>         |
|  <b>Smartwatch</b> | <ul style="list-style-type: none"><li>– Display Management / BOLED sensing</li><li>– MicroLED display</li><li>– User Interaction (Rotary Encoder)</li><li>– Vital Sign Monitoring</li></ul>                                                                                           | <b>Watch BOM: €2+ <sup>1)</sup></b>           |
|  <b>AR / VR</b>   | <ul style="list-style-type: none"><li>– Display Management</li><li>– Vital Sign Monitoring</li><li>– Face / Hand / Body Tracking</li><li>– Eye Tracking / Authentication</li><li>– 2D/3D sensing</li><li>– Visualization (Light engine, microLED display, Optical coupling)</li></ul> | <b>AR/VR Glasses BOM: €5-100<sup>1)</sup></b> |

# ams OSRAM's display management and camera enhancement are leading

Our technologies and products are relevant or key for system performance



## Display Proximity sensing

Intensity or ToF-based sensors for touch display on/off.



## Flicker Detection

Elimination of artificial light modulation bands



## Spectral Ambient Light Sensing

Auto White Balancing to improve contrast & low light performance. Light source identification (TL, LED, sun) for better colors. Multi-zone for segmented analysis.



## Depth Sensing for Auto Focus & Bokeh

Single and Multi-zone dToF-based depth sensing for depth-of-field effects and sharp images, also in low light situations



## AR Support

Social media (SnapChat, TikTok), room scanning, navigation, gaming, E-Commerce

# ams OSRAM's spectral ambient light sensing makes the difference

8 out of the top 10 smartphones by camera score use ams OSRAM sensors for superior camera performance



**Autofocus:**  
“Fast and accurate autofocus, even in challenging light conditions”\*

**AWB & Flicker:**  
“Excellent for photographing family and friends, thanks to accurate skin tones and high details”\*

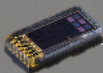
## Camera Enhancement: Light, Color, Flicker & Range sensors



TMF882x  
Mutizone dToF



TSL2585  
ALS/UV/Flicker



TCS3410  
RGB/Flicker

Winning combination: Spectral + ALS

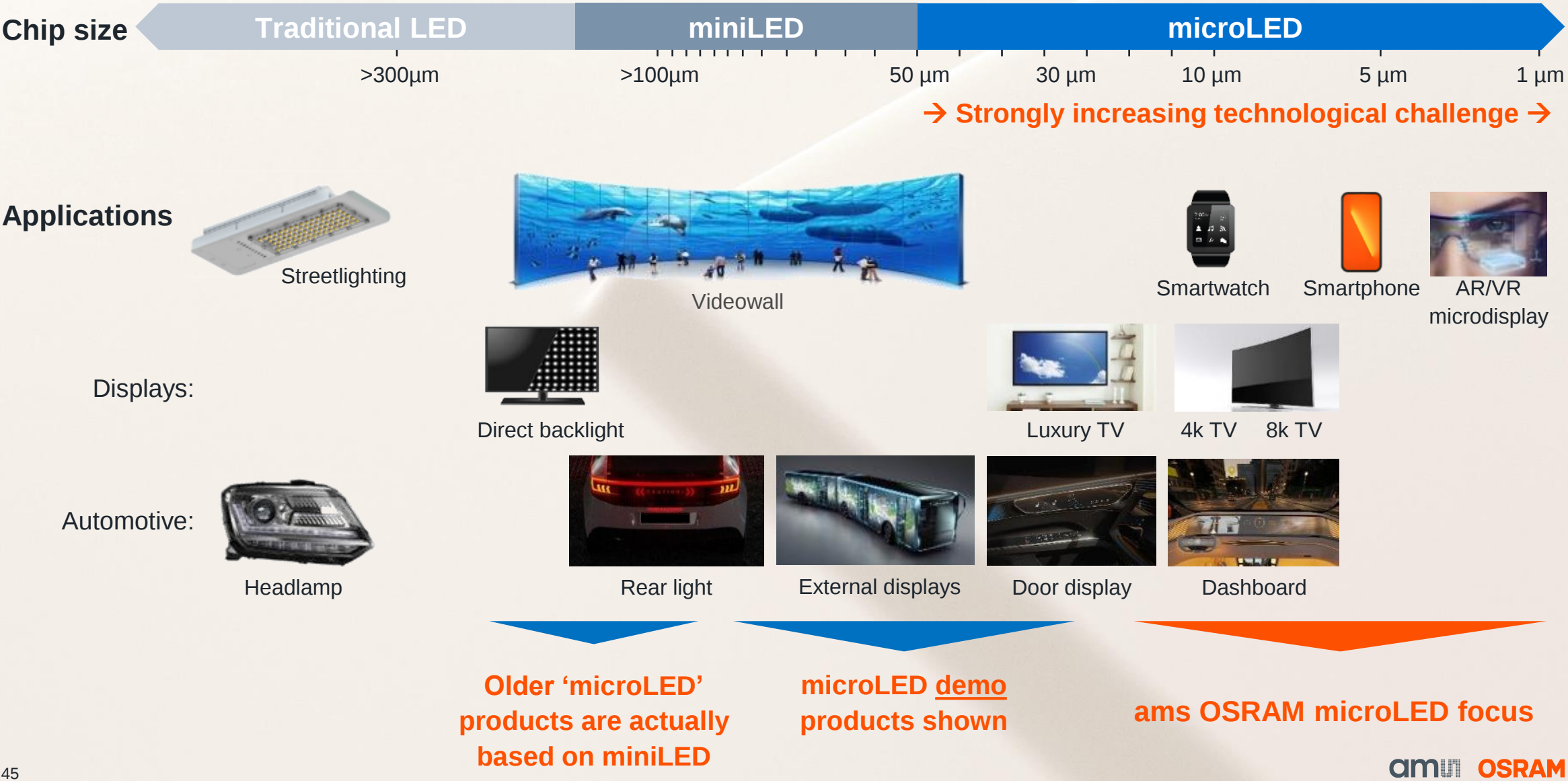
## Top Smartphones by Camera score

| Smartphone Model           | Launch Date | Camera score |
|----------------------------|-------------|--------------|
| 1. Huawei P60 Pro          | Mar 2023    | 156          |
| 2. Oppo Find X6 Pro        | Mar 2023    | 153          |
| 3. Honor Magic5 Pro        | Feb 2023    | 152          |
| 4. Oppo Find X6            | Mar 2023    | 150          |
| 5. Huawei Mate 50 Pro      | Sep 2022    | 149          |
| 6. Google Pixel 7 Pro      | Oct 2022    | 147          |
| 7. Honor Magic4 Ultimate   | Mar 2022    | 147          |
| 8. Apple iPhone 14 Pro Max | Sep 2022    | 146          |
| 9. Apple iPhone 14 Pro     | Sep 2022    | 146          |
| 10. Huawei P50 Pro         | Jul 2021    | 143          |

source: <https://www.dxomark.com/smartphones/>

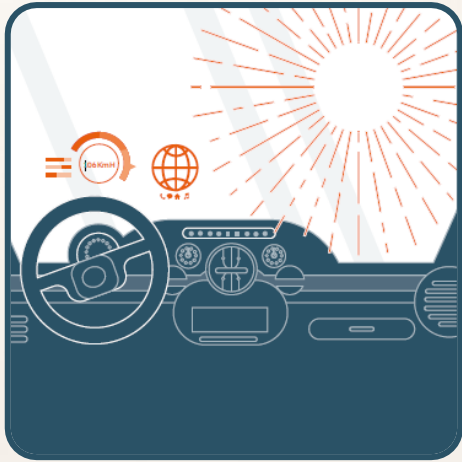
# Monetizing innovation: Next generation (micro)LED and 8" manufacturing

# Extremely small microLED are required to enable disruptive mass adoption

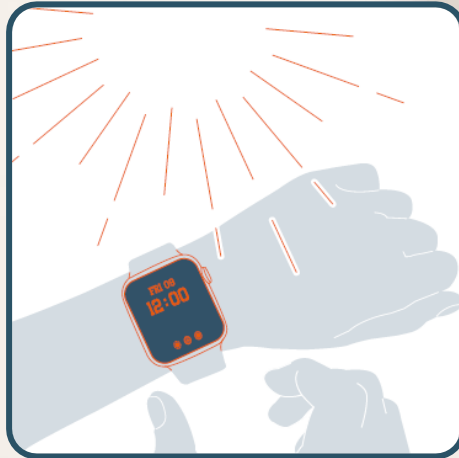


# Micro-LED displays promise a new and unique user experience

Ready to combine some of the really important features that the industry is looking for



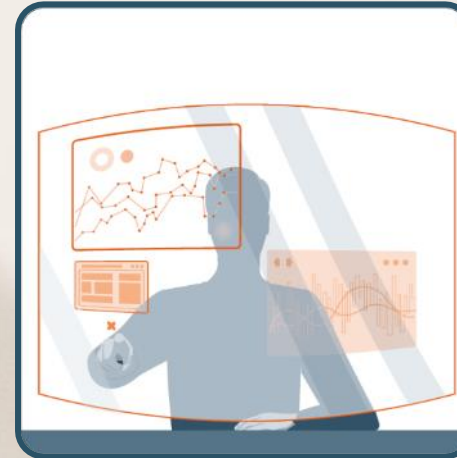
**Highest brightness**  
(e.g. for head-up displays),  
and robustness to temperature  
and sunlight



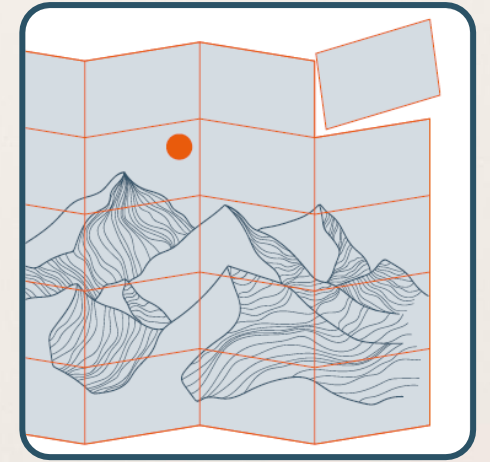
**No burn-in** even  
for fixed image patterns  
in bright sunlight



**Wide viewing  
angles**



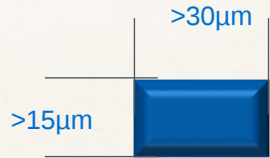
**Transparent** or  
**curved** displays



**Seamless stitching**  
and **bezel-free screens**

# Next-generation LED production is key enabler for significant microLED shrink

Shrink required to reach acceptable cost level for high-volume applications



**Status today:** Die sizes in existing products typically in the range of 35x60µm<sup>2</sup> to 15x30µm<sup>2</sup>



1 wafer per color



**1 to 4**

4k displays

Chip cost too high for market breakthrough of microLED technology

Massive die shrink required for mass adoption

## Key enabler: 8-inch LED manufacturing

Modern state-of-the art and first 8" fab for advanced LED technologies

Fully automated material handling system and factory control, advanced process control and material scheduling and fault detection (FDC) technologies

SMIF concept that allows lowest defect densities required for advanced (µ)LED manufacturing

Fab built in industry record time: 1 year from start of construction to first wafer starts



**ams OSRAM focus:**  
Very small die sizes



1 wafer per color



**25 to >80**

4k displays

Acceptable LED cost for high-volume applications

# Lamps & Systems: Lamps for Automotive, Industrial and Entertainment

# Strong and stable profit contributor with excellent position in lamps business

AMSP is covering automotive, entertainment and industry applications

## Automotive



LED retrofits



Fixtures & car accessories



Traditional lamps



LED & Laser modules (e.g. XLS)

Automotive Aftermarket (AFTM)

Automotive OEM

## Entertainment and Industry



Semiconductors



Entertainment



Cinema



Medical

## End market split in AMSP lamps

Automotive lamps

~80%

~20%

Entertainment & Industry lamps

- Large installed base globally
- Expanding our leading market position softens slowly declining market volume
- LEDr and XLS with positive market growth in declining lamps business
- New opportunities beyond lamps with fixtures & car accessories using our strong brand and channel position.

# ams OSRAM is at the forefront of LED retrofits in automotive

## Increasing potential of retrofit solutions for on-road and off-road applications



### Key benefits of LED retrofit solutions:

- Easy upgrade to LED
- Earlier detection of signs and obstacles
- Optimized light distribution with reduced glare
- Stylish and modern look

2020

1<sup>st</sup> ever on-road<sup>1</sup> LED headlamp retrofit in Europe  
NIGHT BREAKER LED H7



NIGHT BREAKER LED H7

2022

First leading player launching a “socket-design” solution for easier replacement



LEDriving HL EASY

2023

Further expansion of on-road and off-road portfolio for headlights and signal lights



Product launches (selection):  
NIGHT BREAKER LED H1, W5W, H4 (motorcycle)  
LEDriving HL EASY H1, H3  
HLT BRIGHT 24V in H1, H4, H7 (trucks)

Way forward

Expand global leadership position in LEDr with our brands OSRAM and SYLVANIA



Exemplary

1) Approved LED light source - only applies to the respective countries in which there is approval or to which an equivalent approval applies, and the vehicle models and light functions currently listed in the compatibility list. For more details see [www.osram.com/nb-led](http://www.osram.com/nb-led)

# Chapter 3 – Our Sustainability Commitments

# ESG update: climate strategy, carbon neutrality goal, ESG committee

## ams OSRAM group-wide ESG focus

### ESG achievements

- Development and ongoing implementation of a comprehensive group climate strategy, aligning our actions with global climate goals.
- Annual sustainability reporting, demonstrating our commitment to transparency and accountability (GRI compliant)
- Comprehensive reporting of CO<sub>2</sub> emissions, including our own activities (Scope 1 + 2) and significant progress in reporting emissions along the value chain (Scope 3).
- ESG Committee, driving our sustainability efforts and ensuring focused decision-making.
- Sustainability Policy and internal Sustainability Guideline in place, guiding our actions towards a more sustainable future.
- All production sites exceeding a defined threshold are certified to ISO 14001.
- High rankings in ESG ratings.

### ESG goal: Carbon neutrality by 2030

- Group to be carbon neutral (Scope 1+2) by 2030, endeavor towards net zero ambition
- 100% green electricity at production sites in Germany + Austria
- Started to self-generate electricity
  - First solar energy production 2022 at sites e.g. in Austria, China
  - Large-scale solar energy production planned for new 8" manufacturing facility in Malaysia
- Strategy based on principle "avoid, reduce, compensate", reduction path developed
- Reducing emissions via energy efficiency measures at several locations, plan established to compensate for inevitable CO<sub>2</sub> emissions



# At ams OSRAM, we are highly committed to sustainability

External recognitions confirm our engagement within ESG (actual status per rating)

| INSTITUTION                                                                                                                                                                                       |                                                                                      |  | RATING               | COMMENT                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|----------------------|---------------------------------------------------------------------------------|
|   <b>CDP</b>                    |    |  | <b>C<br/>B-</b>      | Climate Change<br>Water Security                                                |
|   <b>ecovadis</b>               |    |  | <b>Gold</b>          | Improvement from silver to <b>gold</b>                                          |
|   <b>SUSTAINALYTICS</b>         |    |  | <b>21.0<br/>66.1</b> | ESG Risk Rating <i>low</i> medium risk, +30%<br>“Strong” ESG Risk Management    |
|   <b>ISS</b>                    |    |  | <b>Score B-</b>      | improvement +25%, PRIME                                                         |
|   <b>MSCI</b>               |  |  | <b>BBB</b>           | Average in managing the most<br>significant ESG risks and opportunities         |
|   <b>S&amp;P Global CSA</b> |  |  | <b>Score 67</b>      | Corporate Sustainability Assessment,<br>positioning in 1 <sup>st</sup> Quartile |

Corporate ESG  
Performance

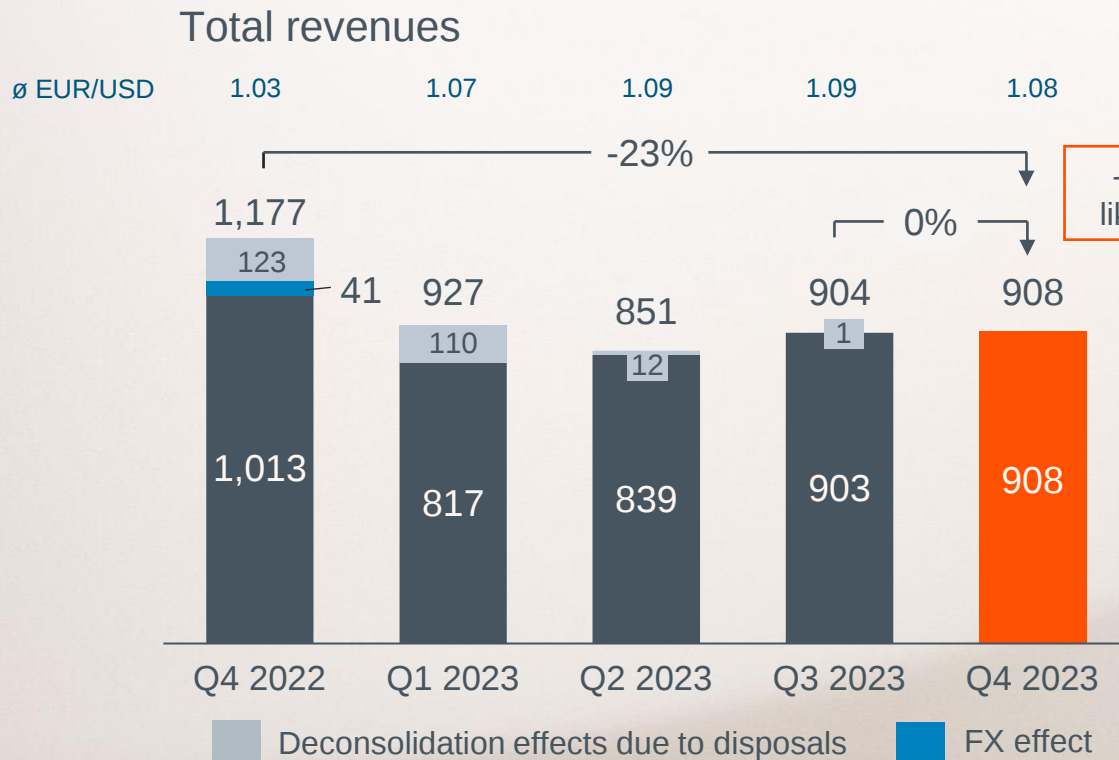
RATED BY  
ISS ESG

Prime

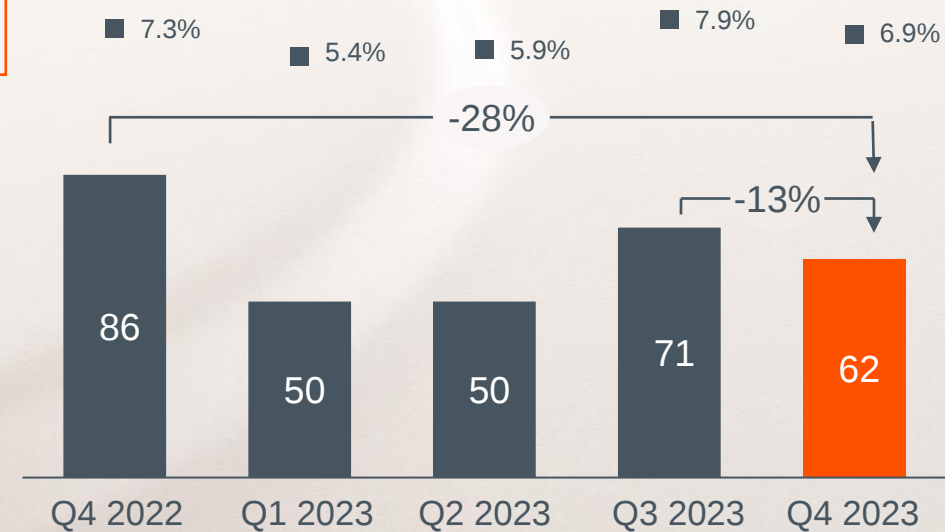
# Chapter 4 – Selected Details of Financials

# Group revenues and adjusted EBIT above mid-point of the guided range

All figures in EURm / % of revenues



## EBIT, EBIT margin (adj.)<sup>2)</sup>



- Revenue slightly above mid-point of the guided range of EUR 850m to 950m
- YoY: Like-for-like decline mainly driven by ramp-down of previous high-runner mobile-phone components

- Adj. EBIT margin 6.9%, above mid-point of the guided range of 5% to 8%
- QoQ decline due to one-time positive effect in Q3

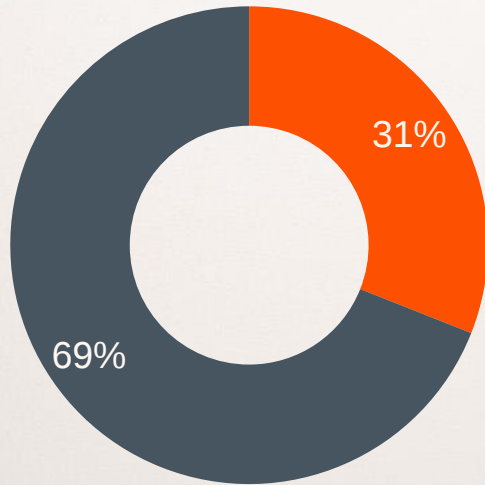
<sup>1)</sup> Based on like-for-like portfolio comparison basis and constant currencies

<sup>2)</sup> Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

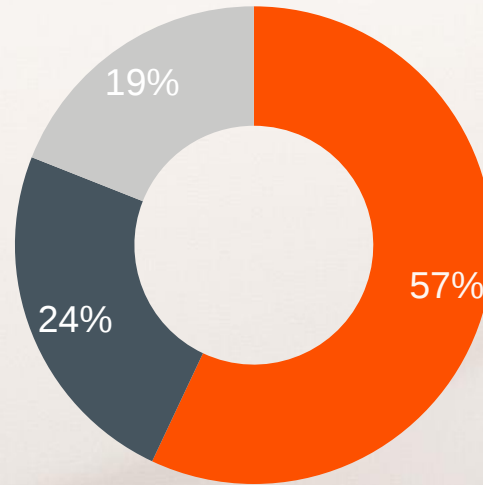
# Automotive, industrial, medical represent ~80% of revenues

APAC most important sales region, semiconductor segment contributes ~70% of revenues

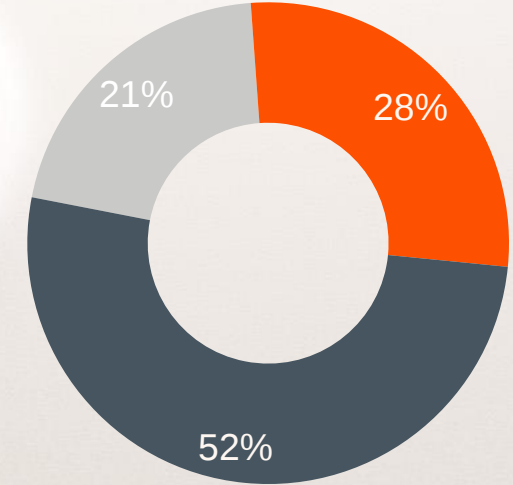
Revenues by segment (Q4 2023)



Revenues by end market (Q4 2023)



Revenues by region (H2 2023)

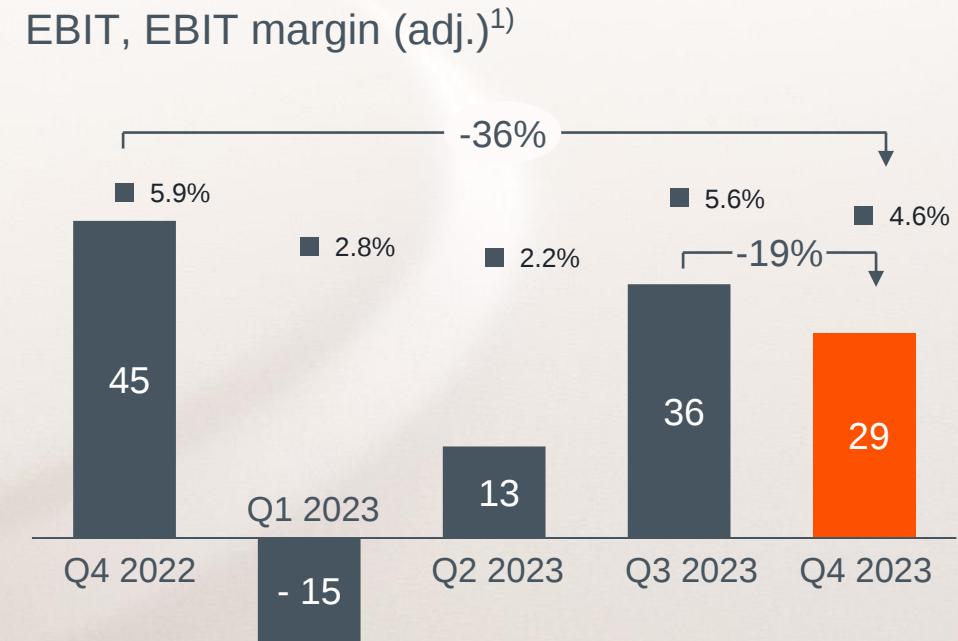
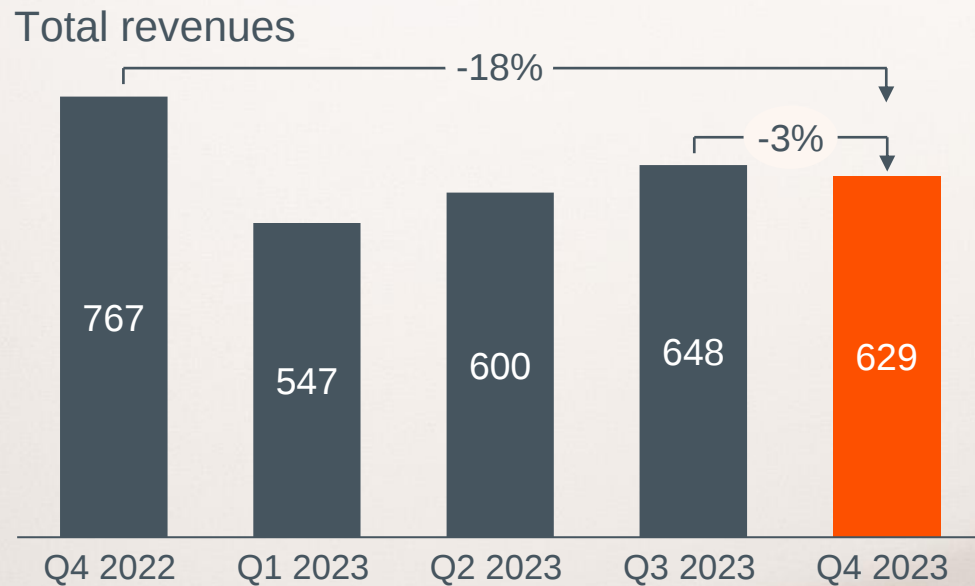


■ Semiconductors ■ Lamps & Systems ■ Automotive ■ Industrial & Medical ■ Consumer ■ Americas ■ EMEA ■ APAC

- Stable end market split as all end markets supported sequential growth
- Automotive: Stabilization, strong demand from China, improved inventory situation and more normalized order pattern
- Industrial & Medical: Stable q-o-q, mixed development overall, strong macro-economic pressure y-o-y
- Consumer: Seasonal upswing, y-o-y subdued also due to macro economic pressure

# Semiconductors: decline driven by consumer and I&M, all-time-high in automotive

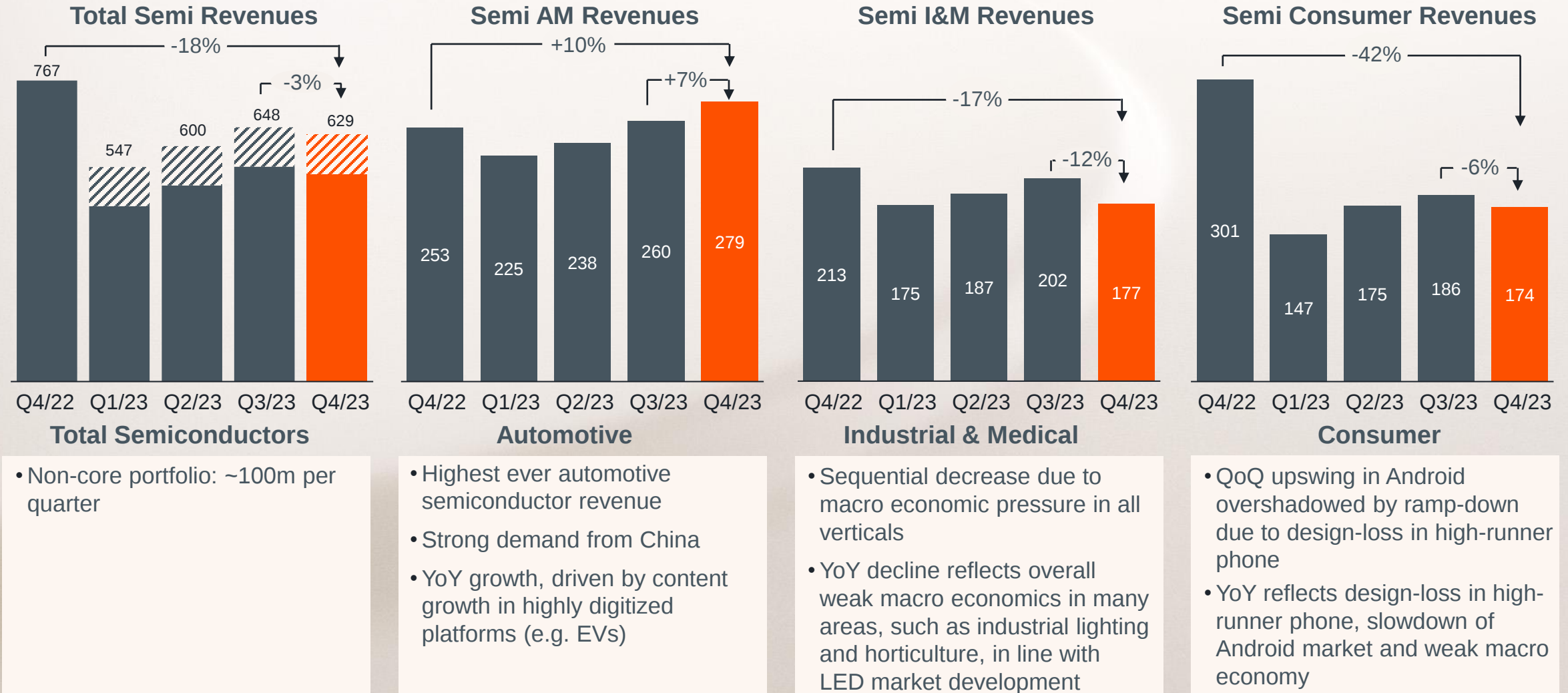
All figures in EURm / % of revenues



- Revenues/YoY: decline mainly driven by ramp down of previous high-runner custom products for mobile phones after socket losses and weakness in industrial markets
- Revenues/QoQ: decline driven by Consumer & I&M, whilst automotive increased to record level
- EBIT/YoY: decline due to lower run-rate causing high underutilization cost especially in Consumer related products
- EBIT/QoQ: decline due to positive one-time effect in Q3 (funding catch-up of ~10m€), like-for-like QoQ improvement

# Semiconductors segment in Q4: auto strong, I&M and consumer weak

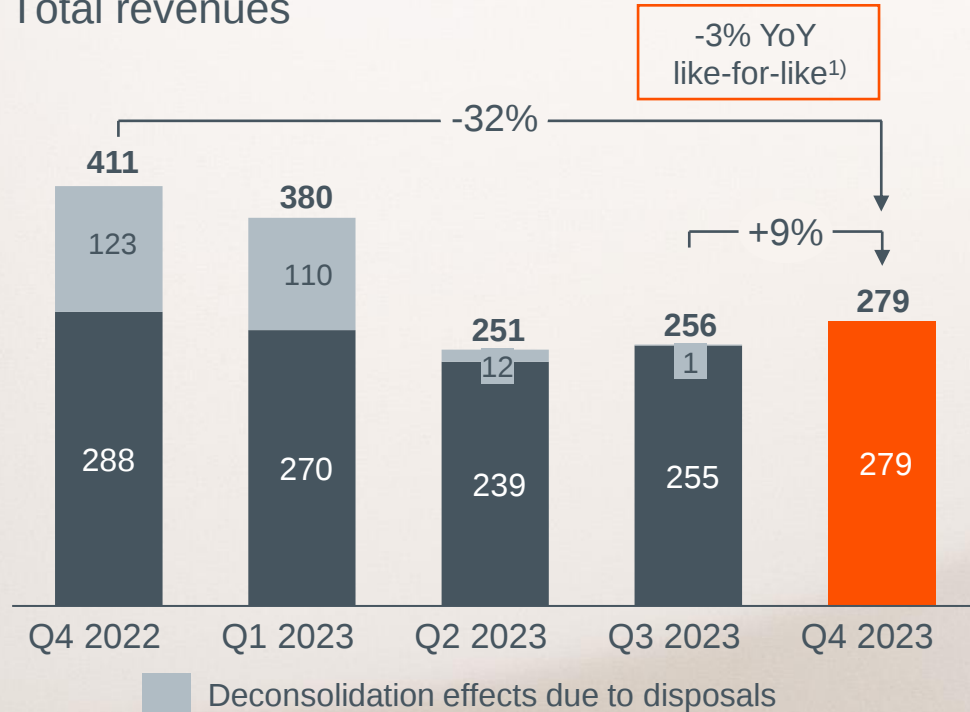
Semiconductors segment, Q4 development QoQ & YoY, figures in EURm



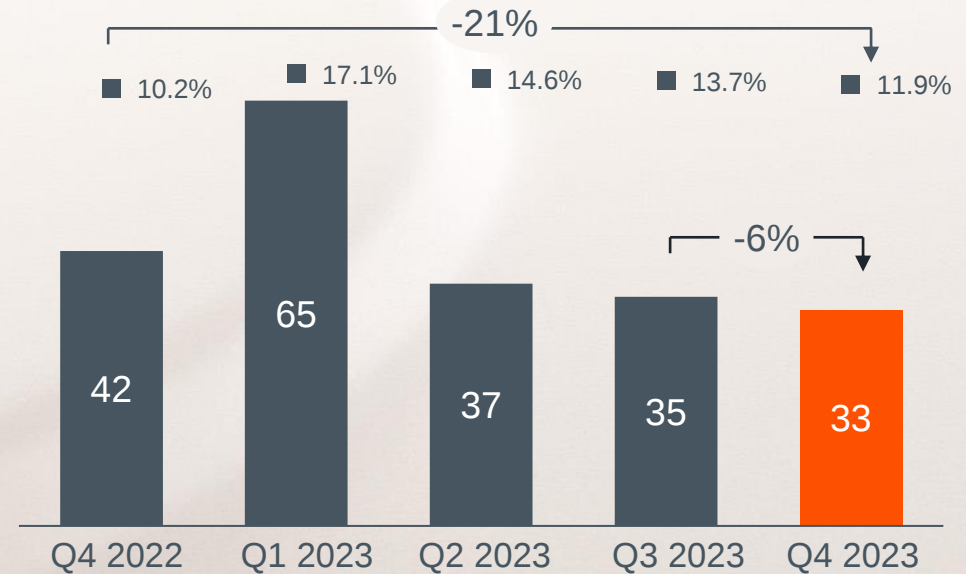
# Lamps & Systems: seasonally strong Q4, continued weakness in industrial

All figures in EURm / % of revenues

Total revenues



EBIT, EBIT margin (adj.)<sup>2)</sup>



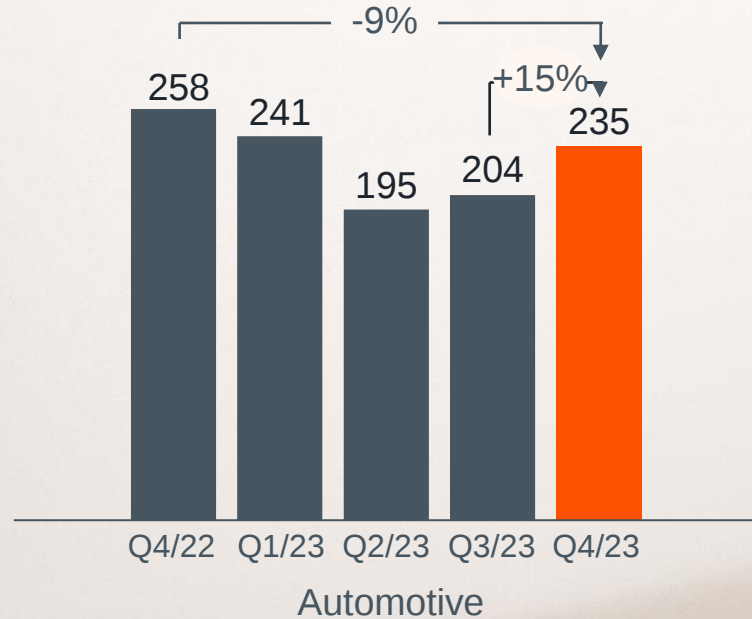
- Revenues/Q4: strong seasonal aftermarket business
- Revenues/YoY: like-for-like decline due to weakness in industrial lamps business
- EBIT/Q4: negative one-time effect due to raw-material value correction

<sup>1)</sup> Based on like-for-like portfolio comparison basis

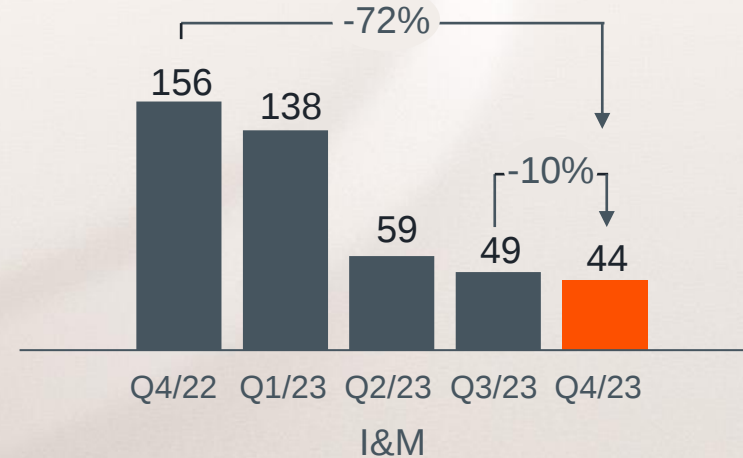
<sup>2)</sup> Excluding M&A-related, transformation and share-based compensation costs as well as results from investments in associates and sale of businesses

# Lamps & Systems: Seasonal effects in Q4, soft yoy development

Lamps & Systems segment: Q4 development QoQ & YoY, figures in EURm



- Strong QoQ in automotive mainly reflecting seasonality in aftermarket
- YoY impacted by negative effects from FX and portfolio (divestment of site Treviso)



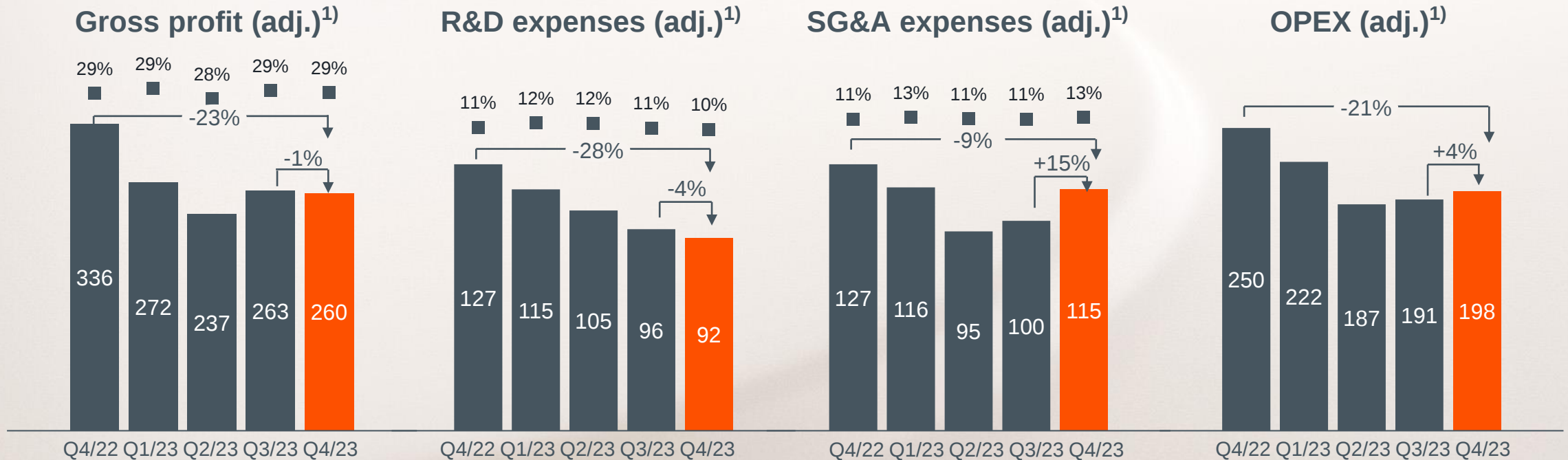
- I&M mainly impacted by softer demand for specialty lamps for semiconductor manufacturing

~123m

I&M YoY disposal effects

# Group: Gross Profit and OPEX sequentially flat, R&D further down

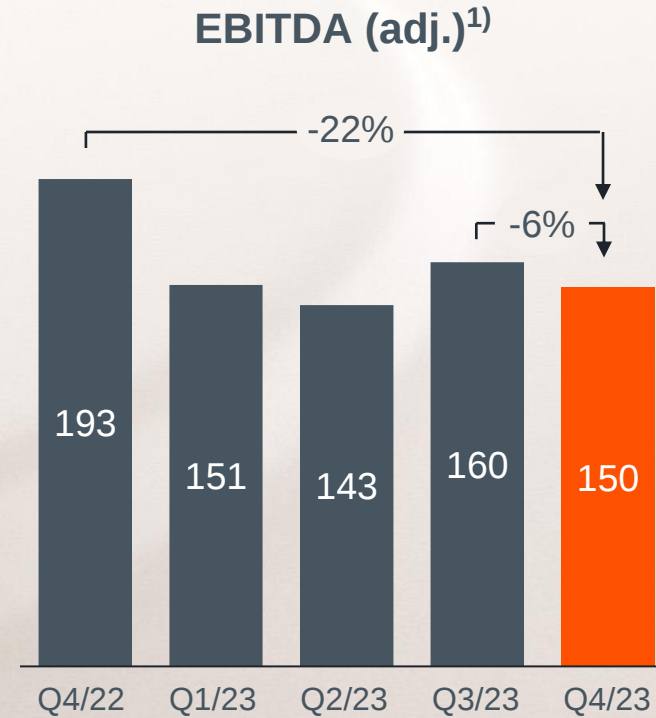
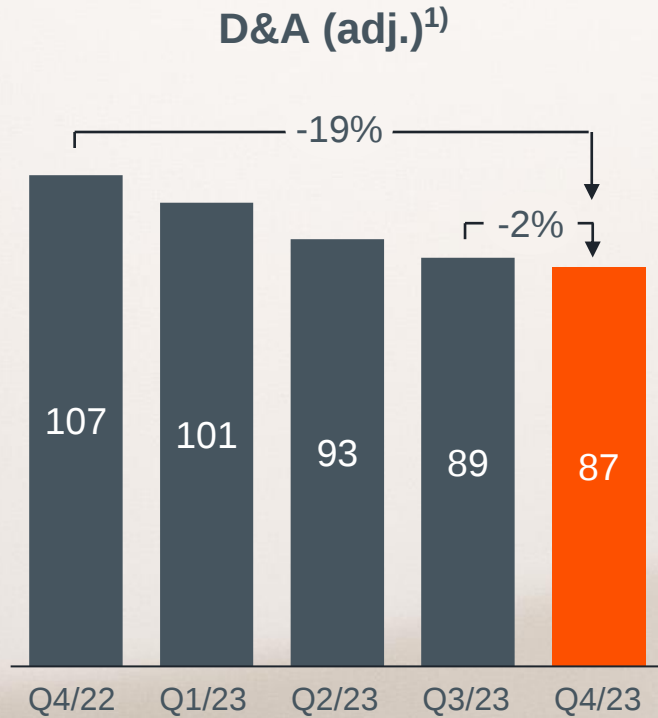
All figures in EURm / % of revenues



- Gross profit/QoQ flat, still impacted by underutilization effects mainly in consumer and industrial related manufacturing and a one-time raw material value correction in L&S
- R&D expenses QoQ decline reflects capitalization effect, besides continuous stream-lining and efficiency programs
- General sales overheads increased QoQ due to seasonal effects and bonus provisions. SG&A shows YoY a clear base-line reduction

# Group adj. Depreciation & Amortization and adj. EBITDA

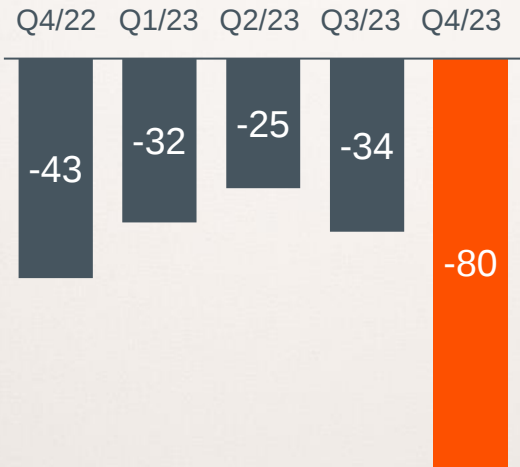
All figures in EURm



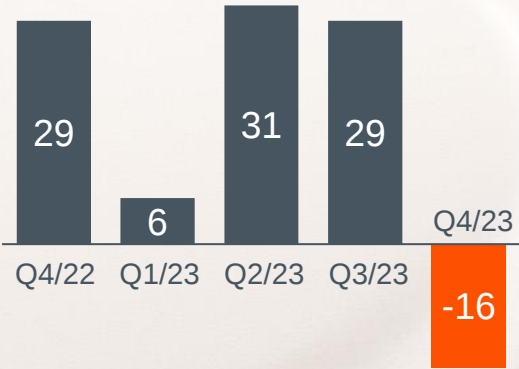
# Adj. net result / Adj. EPS impacted by re-financing

All figures in EURm / EUR per share

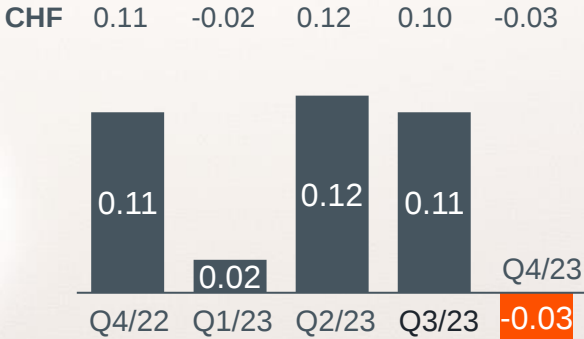
Net financing result (adj.)<sup>1)</sup>



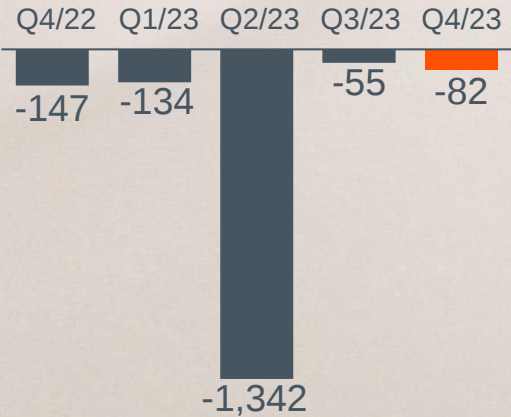
Net results (adj.)<sup>1)</sup>



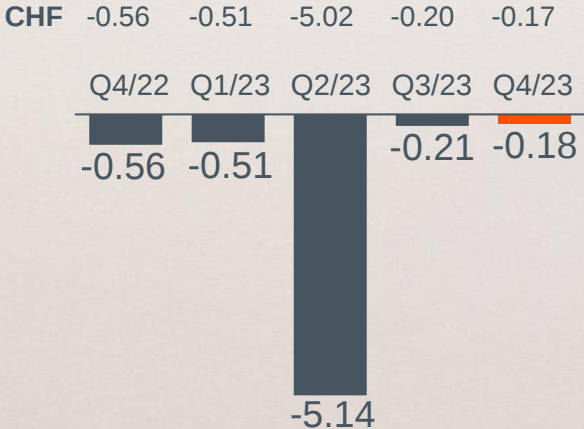
EPS diluted (adj.)<sup>1)</sup>



Net results IFRS



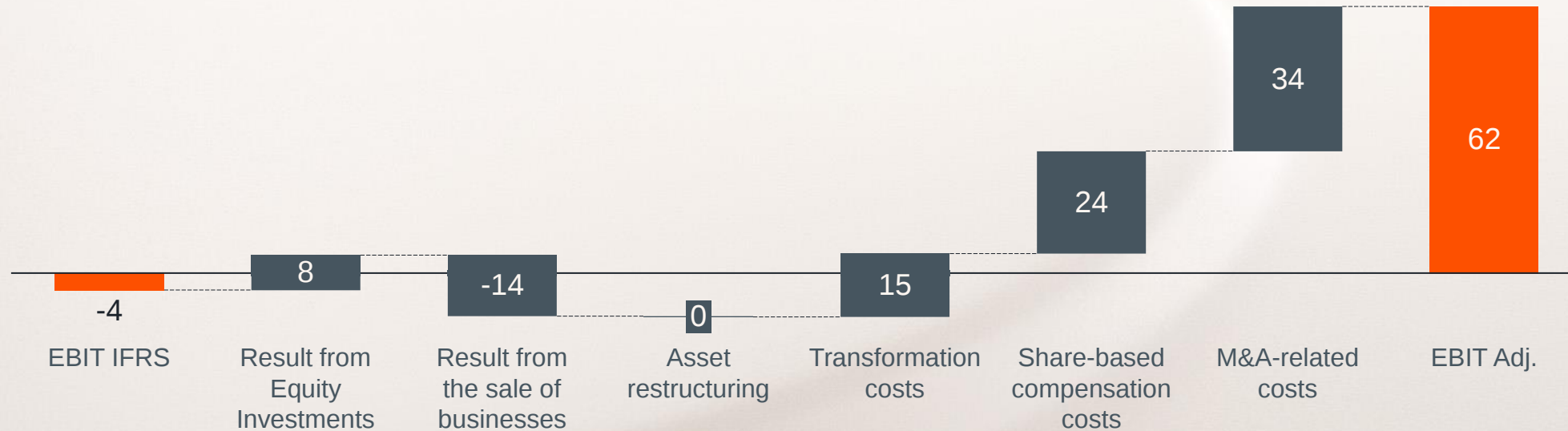
EPS diluted IFRS



- Adjusted net financing result includes EUR 38m of re-financing related expenditures as a consequence of the EUR 2.25 bn re-financing, which leads to an adjusted net result of minus EUR 16m compared to the previous quarter
- **Change in share count: 274,289,910 increased to 998,443,942 as of Dec 7<sup>th</sup>, 2023**
- **Q4/23 average share count at 456,490,225**

# Reconciliation from EBIT IFRS reported to EBIT adjusted figures

Q4 2023, All figures in EURm

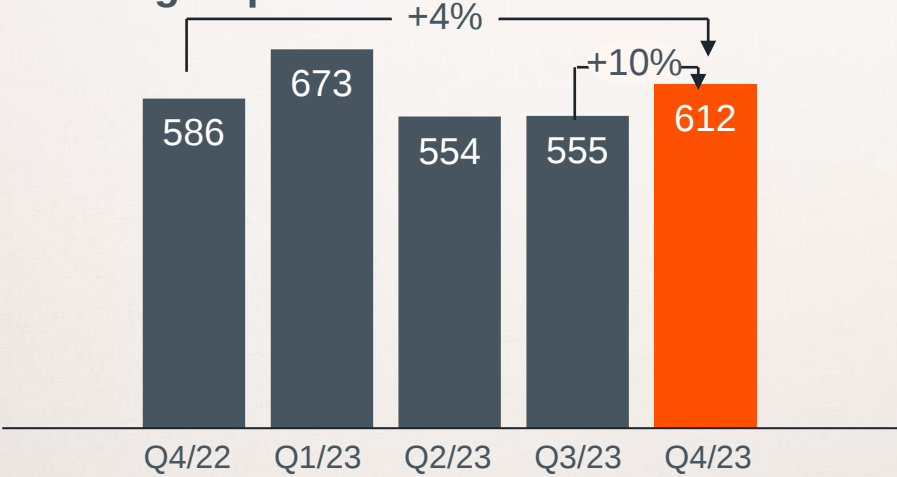


- EBIT Adj. best reflects underlying profitability of business and overall group development
- Historic M&A transactions (e.g. OSRAM) result in significant purchase price allocation expenses (non-cash, resulting in D&A), heavily impacting EBIT IFRS
- Transformation costs for personnel restructuring programs affect short-term profitability
- One-time impairment charges overshadow operating business development including profitability
- Book gain / losses of disposals + results from smaller historic equity investments are not part of operating business model

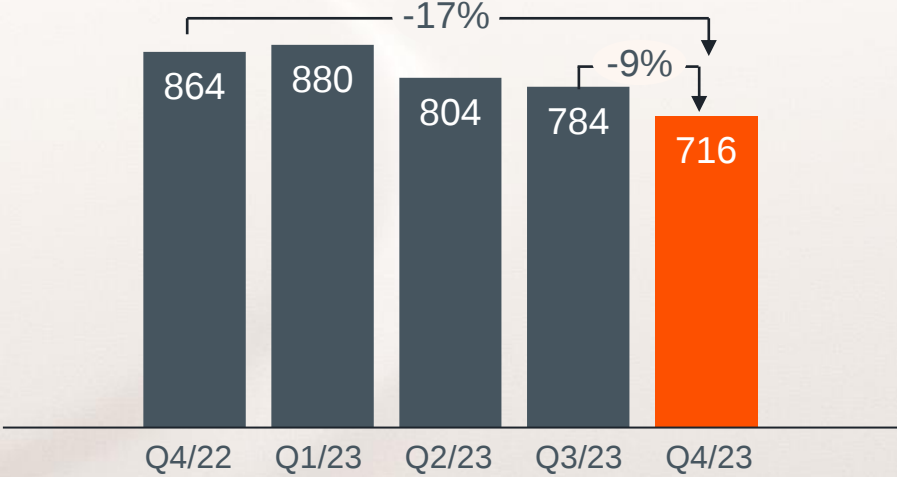
# Net Working Capital

All figures in EURm

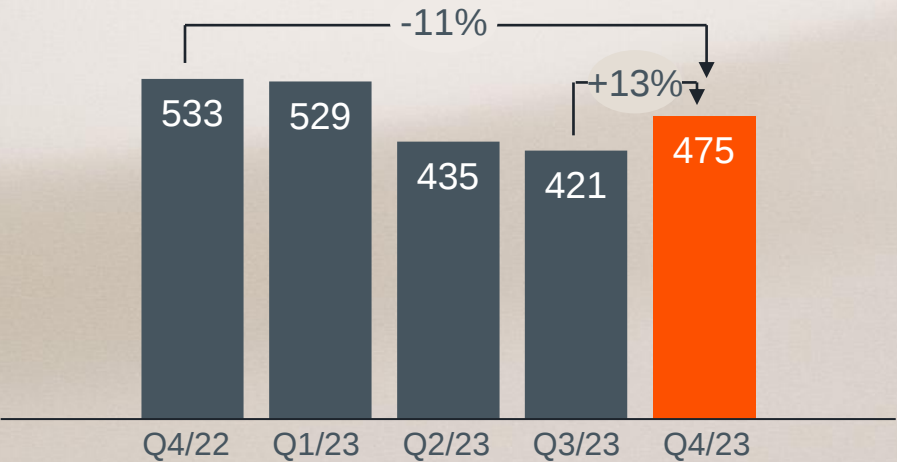
Net Working Capital



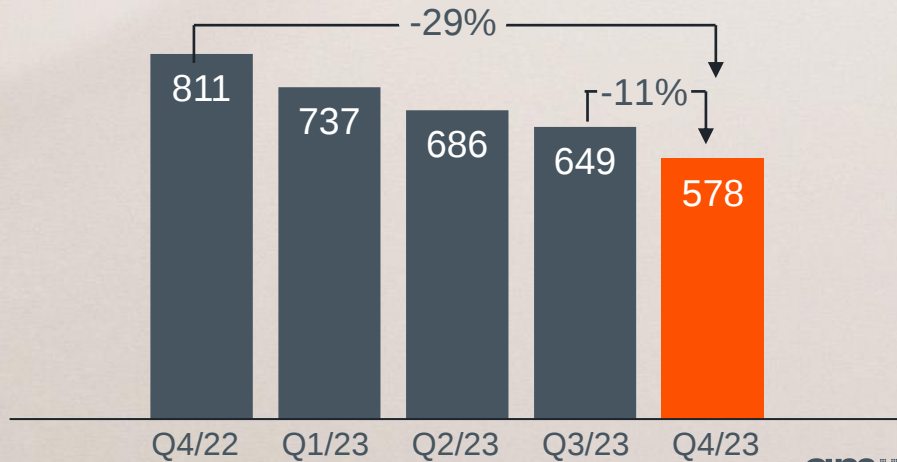
Inventories



Trade & Other Receivables

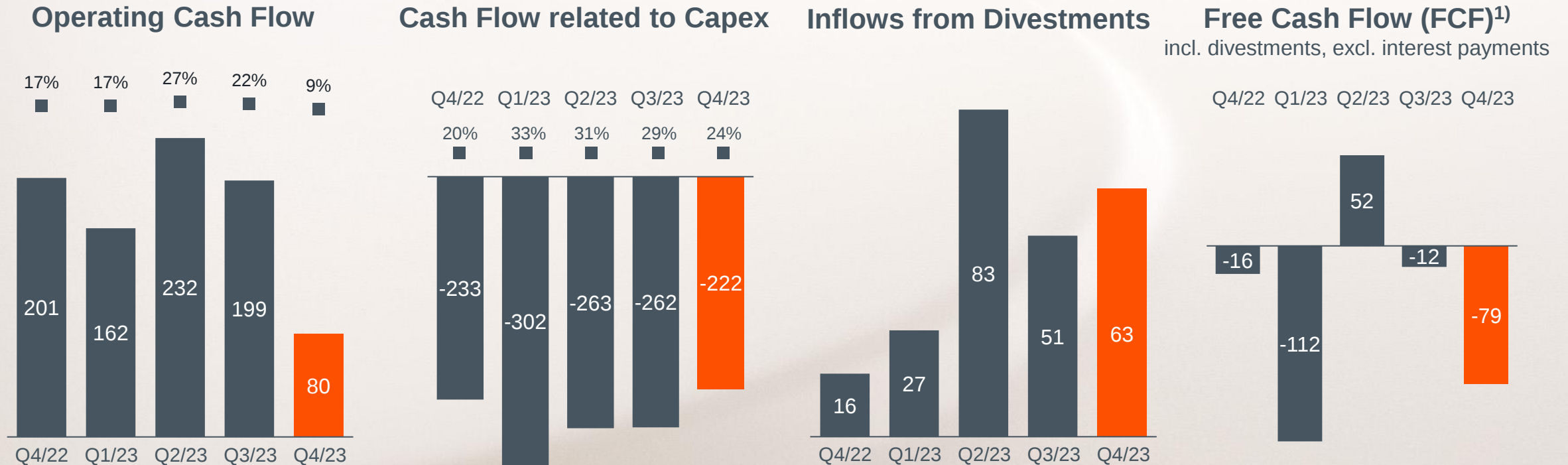


Trade Payables



# Drop in operating cash flow and elevated capex put pressure on the FCF

All figures in EURm / % of revenues

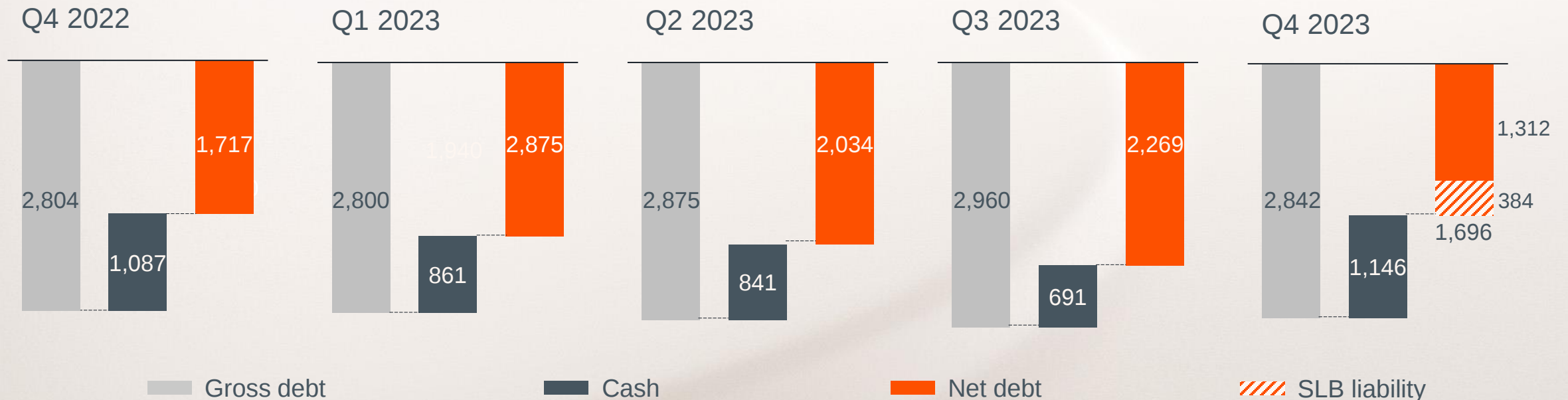


- Significant drop in Operating CF due to EUR 77m reduction in accounts payable and seasonal increase of accounts receivables
- Still elevated Capex driven by tool installation in the 8-inch Kulim LED facility – in-line with expectations.

<sup>1)</sup> Free Cashflow (FCF) defined as Operating CF – Capex + proceeds from divestments

# Cash and debt overview – strong deleveraging in Q4 2023

All figures in EURm



- Expected decrease of group leverage to 2.8x net debt/adjusted<sup>1)</sup> EBITDA driven by EUR 800m gross proceeds from rights issue completed in Q4-23
- Adj. EBITDA<sup>1)</sup> LTM EUR 603m (based on adj. EBIT + D&A not related to adjustments)
- EUR 800m undrawn RCF with core banking group successfully extended to September 2026
- Holistic refinancing plan released in Sep-23 successfully completed in Q4-23 (in particular EUR 850m and USD 450m former senior notes already refinanced by new senior notes of EUR 625m and USD 400m due in March 2029)

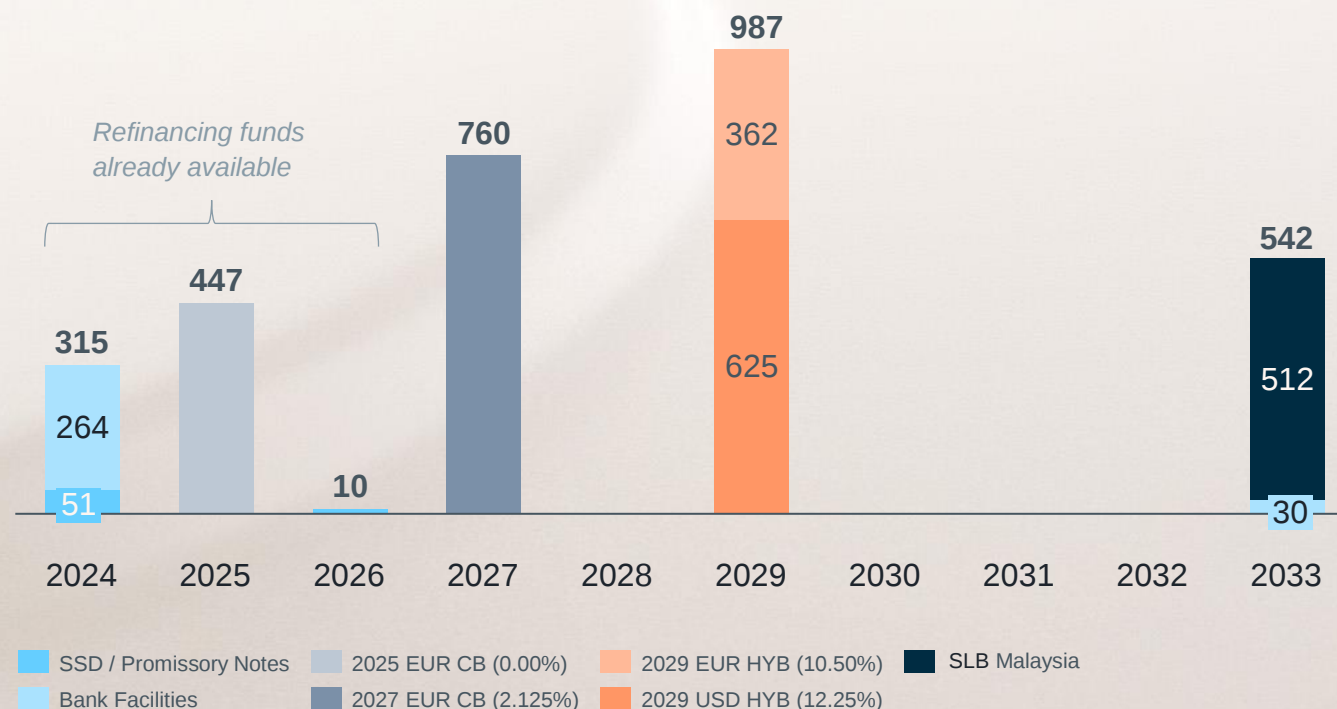
# Well balanced maturity profile with diversified funding mix post refinancing Q4/23

## Current capitalization

| IFRS book values                                      | December-23  |
|-------------------------------------------------------|--------------|
|                                                       | EUR million  |
| Cash                                                  | (1,146)      |
| Other Financial Debt <sup>1), 2)</sup>                | 355          |
| 2025 EUR Convertible Bond (0.00%) <sup>1)</sup>       | 436          |
| 2027 EUR Convertible Bond (2.125%) <sup>1)</sup>      | 669          |
| 2029 EUR Senior Unsecured Note (10.50%) <sup>1)</sup> | 630          |
| 2029 USD Senior Unsecured Note (12.25%) <sup>1)</sup> | 368          |
| Revolving Credit Facility (EUR 800m undrawn)          | 0            |
| SLB Malaysia transaction                              | 384          |
| <b>Total debt</b>                                     | <b>2,842</b> |
| <b>Total net debt <sup>3)</sup></b>                   | <b>1,696</b> |
| Outstanding OSRAM Licht AG – Put Options              | 611          |
| <b>Available Liquidity <sup>4)</sup></b>              | <b>2,152</b> |

## Current debt maturity profile

EUR m, repayment amounts as of December 2023



### Notes:

- Amounts reflect carrying amounts / book values For 2025CB - Nominal Amount: EUR 447.4m (formerly EUR 600m; reduced by 2 Buybacks in the meantime) / Book Value under Debt (IFRS per 31-Dec-23): EUR 434m. For 2027CB - Nominal Amount: EUR 760m / Book Value under Debt (IFRS per 31-Dec-23): EUR 668m
- Includes R&D loans, Bank Facilities and Promissory Notes
- Includes EUR 384m equivalent Sale-and-Lease back Malaysia transaction
- Includes EUR 1145m Cash, EUR 800m RCF (undrawn) and EUR 206m bilateral bank facilities (undrawn)

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| Upcoming events                                           |                                                            |
|-----------------------------------------------------------|------------------------------------------------------------|
| ▪ <b>February 13-14, 2024</b><br>Non-Deal Roadshow London | ▪ <b>March 8, 2024</b><br>ODDO BHF TMT Forum, virtual      |
| ▪ <b>February 21, 2024</b><br>Non-Deal Roadshow Zurich    | ▪ <b>March 11-15, 2024</b><br>Non-Deal Roadshow USA/Canada |
| ▪ <b>February 22, 2024</b><br>Non-Deal-Roadshow Frankfurt | ▪ <b>March 21-22, 2024</b><br>Jefferies Mid Cap TMT London |