

AIXTRON Investor Presentation

IR Presentation – Q1/2016

(FSE: AIXA, ISIN DE000A0WMPJ6, NASDAQ: AIXG, ISIN: US0096061041)

Forward-Looking Statements

This document may contain forward-looking statements regarding the business, results of operations, financial condition and earnings outlook of AIXTRON within the meaning of the safe harbor provisions of the US Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as “may”, “will”, “expect”, “anticipate”, “contemplate”, “intend”, “plan”, “believe”, “continue” and “estimate” and variations of such words or similar expressions. These forward-looking statements are based on our current views and assumptions and are subject to risks and uncertainties. You should not place undue reliance on these forward-looking statements. Actual results and trends may differ materially from those reflected in our forward-looking statements. This could result from a variety of factors, such as actual customer orders received by AIXTRON, the level of demand for deposition technology in the market, the timing of final acceptance of products by customers, the condition of financial markets and access to financing for AIXTRON, general conditions in the market for deposition plants and macroeconomic conditions, cancellations, rescheduling or delays in product shipments, production capacity constraints, extended sales and qualification cycles, difficulties in the production process, the general development in the semi-conductor industry, increased competition, fluctuations in exchange rates, availability of public funding, fluctuations and/or changes in interest rates, delays in developing and marketing new products, a deterioration of the general economic situation and any other factors discussed in any reports or other announcements filed by AIXTRON with the U.S. Securities and Exchange Commission. Any forward-looking statements contained in this document are based on current expectations and projections of the Executive Board and on information currently available to it and are made as at the date hereof. AIXTRON undertakes no obligation to revise or update any forward-looking statements as a result of new information, future events or otherwise, unless expressly required to do so by law.

Due to rounding, numbers presented throughout this presentation may not add up precisely to the totals indicated and percentages may not precisely reflect the absolute figures for the same reason.

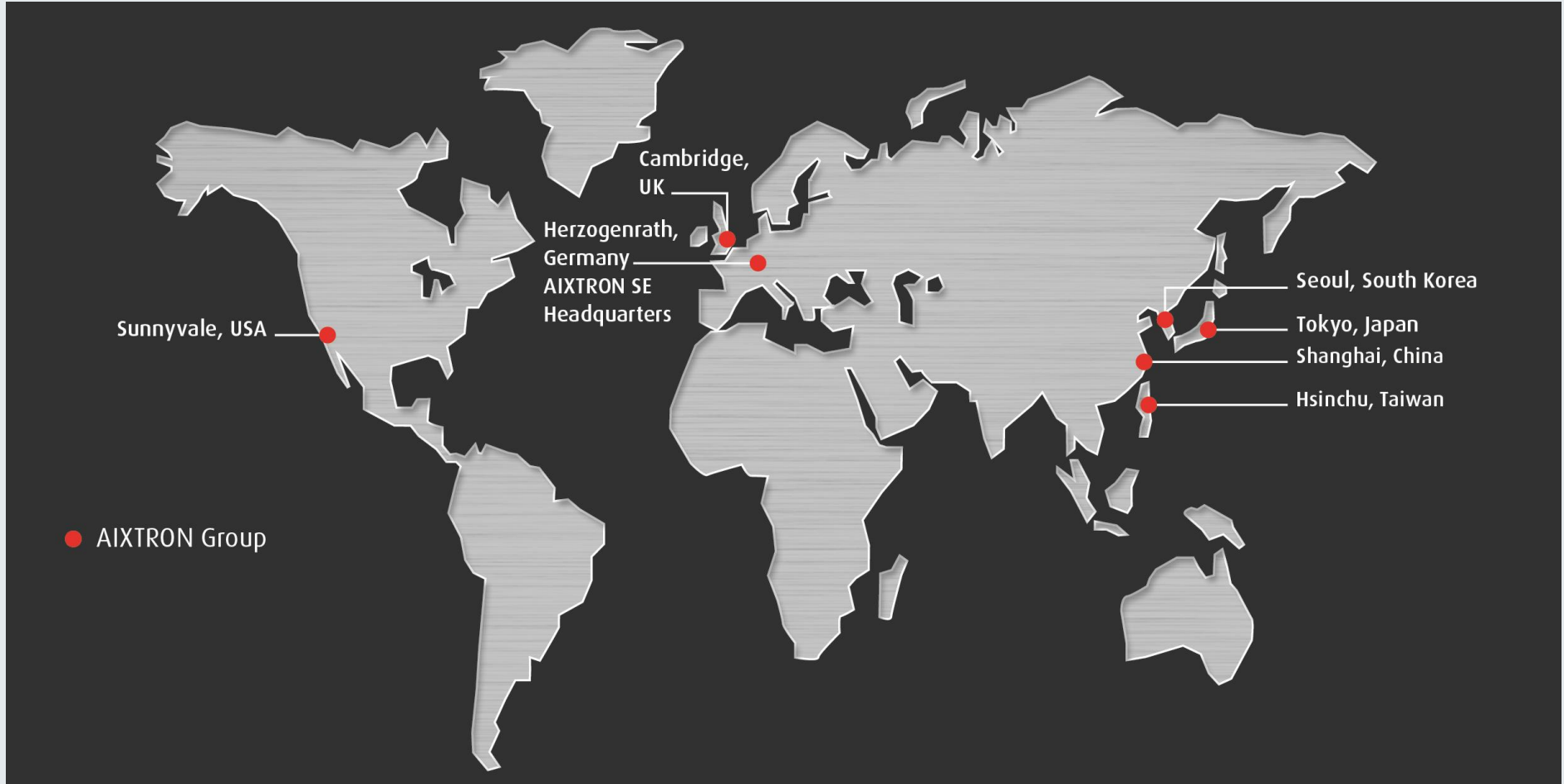
Our registered trademarks: AIXACT[®], AIXTRON[®], Atomic Level SolutionS[®], Close Coupled Showerhead[®], CRIUS[®], Gas Foil Rotation[®], OVPD[®], Planetary Reactor[®], PVPD[®], TriJet[®], Optacap[™]

Who we are



- Headquarters based in Herzogenrath, Germany
- Worldwide presence with 12 sales/representatives offices and production facilities
- Company founded in 1983 – over 30 years of experience
- ~730 employees
- Technology leader in deposition systems
- More than 3,000 deposition systems delivered all over the world
- State of the art R&D center and demo facilities
- Annual R&D budget of approx. € 60 Million

Global Presence



Our Vision

Technology. Materials. Performance.

Technology.

We are the **recognized technology leader** in complex material deposition.

Materials.

We **enable our customers** to successfully shape the markets of the future, exploiting the potential offered by **new materials**.

Performance.

We **deliver the performance** driving **economic success** through our expertise, our employees and the quality of our products.

Our Technology. Your FUTURE.

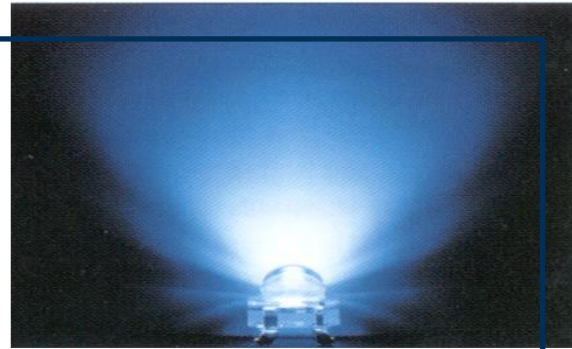
AIXTRON

Compound Semiconductors

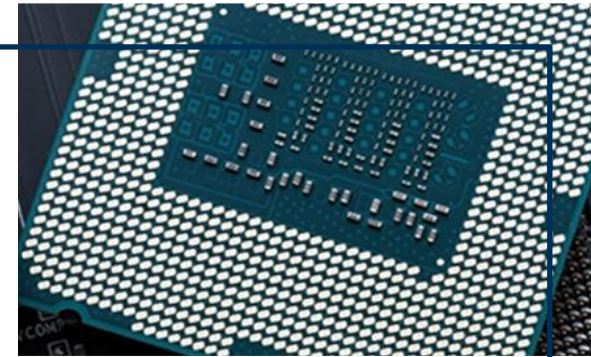
Silicon Semiconductors

Organic

Carbon



LED Lighting



Memory & Logic


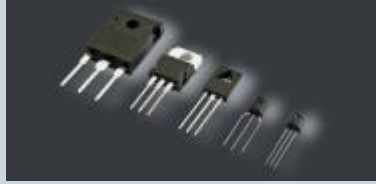
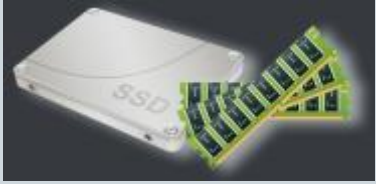




OLED



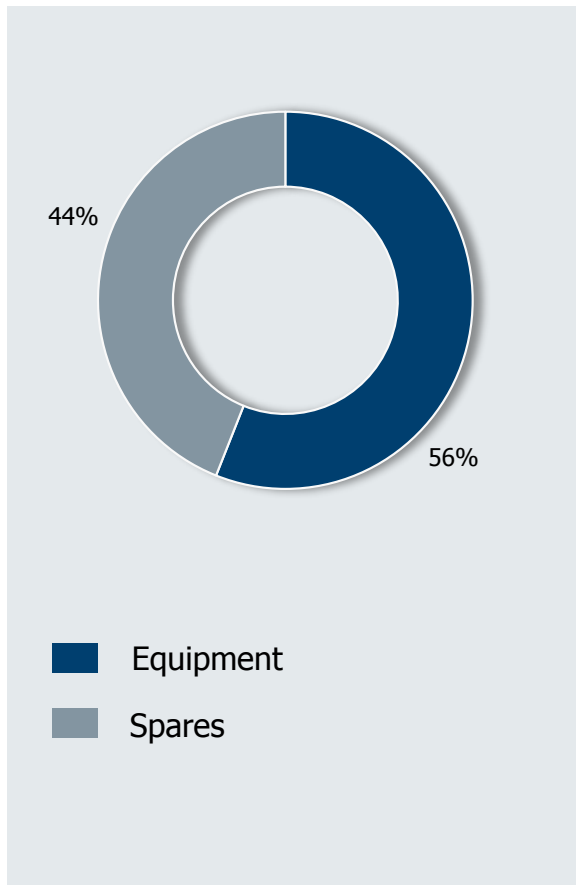
Power Management

Our Technology Portfolio

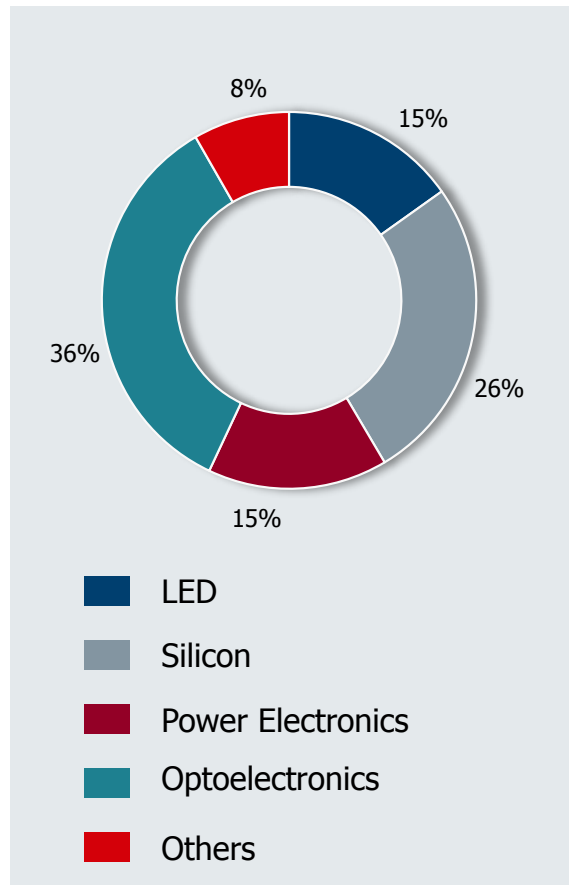
Compound Semiconductors		Silicon Semiconductors	Organic	Carbon
MOCVD		ALD/MOCVD	OVPD®/PVPD®/TFE	PECVD
LEDs, Lasers and Optoelectronics	Power Management GaN / SiC	Silicon Semiconductors	Organic Electronics	Graphene, CNTs and CNWs
<ul style="list-style-type: none"> • LEDs for display: TVs, mobile phones, tablets, etc. • LEDs for lighting • LEDs for automotive • LEDs for datacom • Lasers for telecom, consumer electronics • Photovoltaics 	<ul style="list-style-type: none"> • RF transistors • AC-DC converters • DC-DC converters • Solar inverters • Motor drives in industrial applications automotive and consumer electronics 	<ul style="list-style-type: none"> • DRAM Dielectric and Metal Electrode • Flash Inter Poly Dielectric and Metals • ReRAM and PCRAM Active element and Electrode • Logic Gate stack • Logic High Mobility Channel 	<ul style="list-style-type: none"> • OLEDs for display: TVs, mobile phones, tablets, etc. • Thin Film Encapsulation • OLEDs for lighting • Organic, flexible electronics • Organic Photovoltaics 	<ul style="list-style-type: none"> • Transistors • Interconnects • Flexible Electronics • Energy Storage • Sensors, etc.
				
Established Markets with Fluctuating Demand	Increasing Equipment Demand Expected by: 2015 and beyond	Increasing Equipment Demand Potential for 2015 and beyond	Equipment Demand Expected by: 2016/2017	Increasing Equipment Demand Expected by: 2018 and beyond

Revenue Analysis

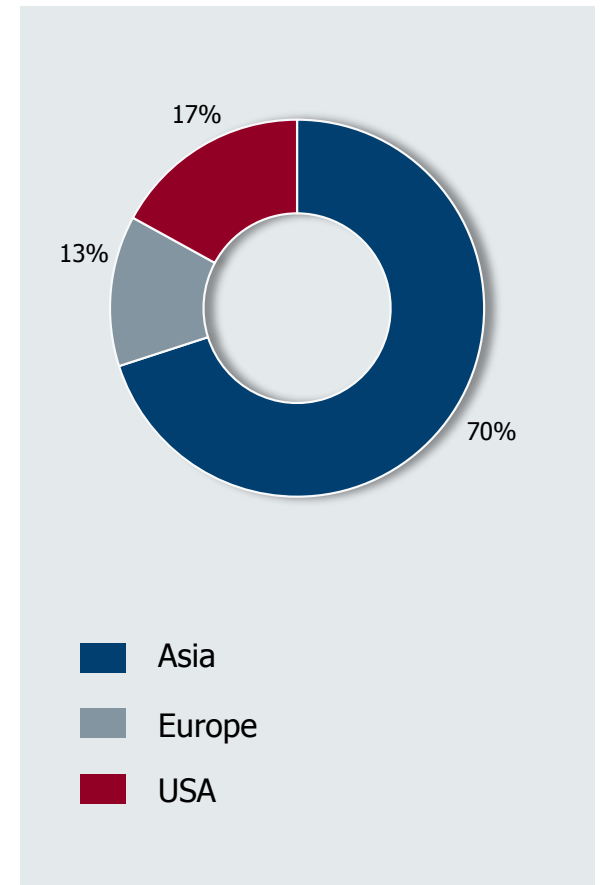
Q1/2016:
by equipment & spares



Q1/2016:
by end application
(equipment only)



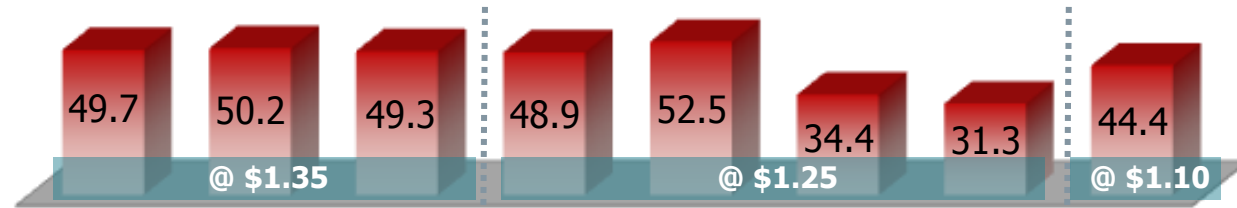
Q1/2016:
by region



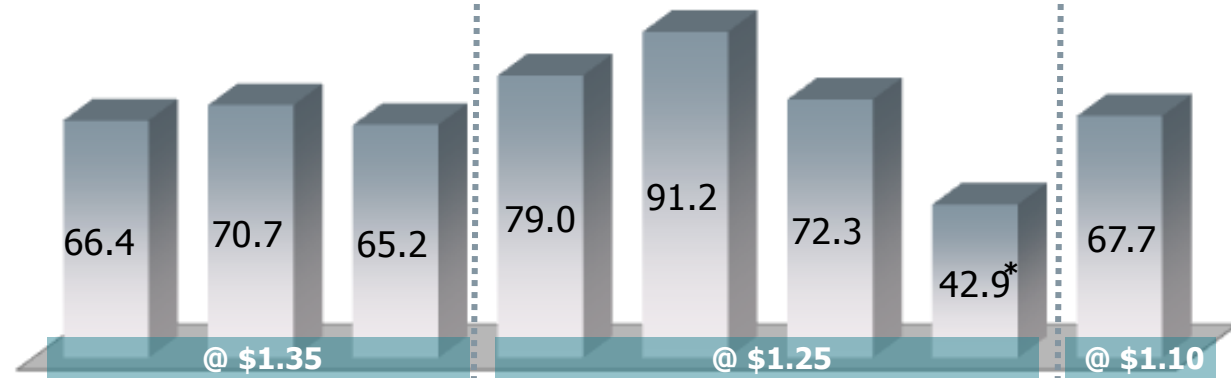
24 - Month Business Development

(€ million)

Total Order Intake

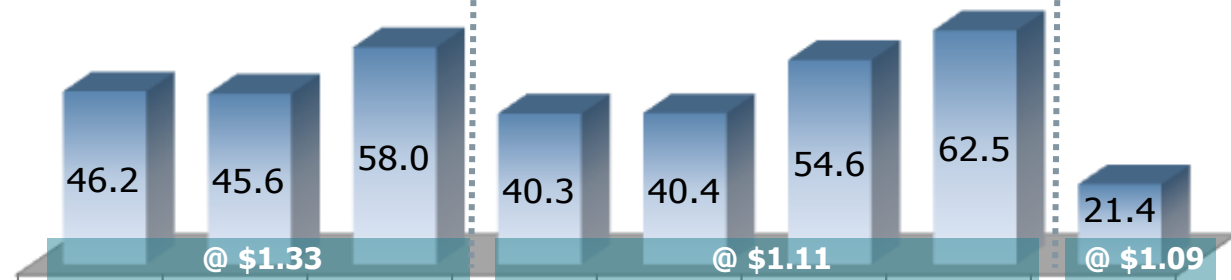


**Equipment (only)
Order Backlog**



*) revalued on Jan.1, 2016 to €46.7m at \$1.10/€

**Total Revenues
(incl. equipment,
service, spare parts)**



Q2/2014 Q3/2014 Q4/2014 Q1/2015 Q2/2015 Q3/2015 Q4/2015 Q1/2016

USD order intake and backlog were recorded at the prevailing budget rate (2016: \$1.10/€)

USD revenues were converted at the actual period average FX rate (Q1/2015: \$1.09/€)

Consolidated Income Statement*

(€ million)	Q1/16	Q1/15	+/-	Q1/16	Q4/15	+/-
Revenues	21.4	40.3	-47%	21.4	62.5	-66%
Cost of sales	18.3	31.5	-42%	18.3	42.8	-57%
Gross profit	3.1	8.8	-65%	3.1	19.6	-84%
Gross Margin	15%	22%	-7 pp	15%	31%	-16 pp
Selling expenses	2.9	3.3	-12%	2.9	2.6	12%
General & admin expenses	3.8	4.3	-12%	3.8	4.2	-10%
R&D	13.3	12.9	3%	13.3	14.4	-8%
Net other op.(income)/expenses	-2.2	-3.0	27%	-2.2	0.0	n.m.
EBITDA	-11.7	-6.4	-83%	-11.7	1.3	n.m.
EBIT	-14.7	-8.8	-67%	-14.7	-1.5	n.m.
EBIT Margin	-69%	-22%	-47 pp	-69%	-2%	-67 pp
Result before tax	-14.6	-8.5	-72%	-14.6	-1.4	n.m.
Pre-Tax Margin	-68%	-21%	-47 pp	-68%	-2%	-66 pp
Net result	-15.5	-9.5	-63%	-15.5	-1.9	n.m.
Net Return on Sales	-72%	-23%	-49 pp	-72%	-3%	-69 pp

*) rounded figures; may not add up

Consolidated Statement of Financial Position*

(€ million)	31/3/16	31/12/15	31/3/15
Property, plant & equipment	79.0	81.3	79.4
Goodwill	74.6	75.9	65.7
Other intangible assets	6.0	6.4	2.3
Others	3.3	3.9	5.0
Non-current assets	162.9	167.6	152.5
Inventories, WIP & Finished Goods	73.6	70.8	88.8
Trade receivables	18.2	26.0	26.2
Others	9.1	8.2	12.3
Cash & Cash Equivalents incl. CD	181.9	209.4	263.2
Current Assets	282.8	314.4	390.5
Shareholders' equity	375.6	396.5	419.2
Non-current liabilities	3.0	3.6	1.3
Trade payables	8.8	9.8	12.8
Advance payments from customers	32.1	24.0	79.6
Others	26.2	48.0	30.1
Current liabilities	67.1	81.8	122.4
Balance Sheet total	445.7	482.0	543.0

*) rounded figures; may not add up

Consolidated Statement of Cash Flows*

(€ million)	Q1/16	Q1/15	Q1/16	Q4/15
Cash Flow from operating activities	-19.4	-10.1	-19.4	-32.1
Cash Flow from investing activities	7.1	11.3	7.1	30.1
Cash Flow from financing activities	0.0	0.0	0.0	0.0
Exchange rate changes	-2.7	6.2	-2.7	0.8
Net change in Cash & Cash Equivalents	-15.0	7.4	-15.0	-1.2
Cash & Cash Equivalents (beginning of period)	116.3	116.6	116.3	117.5
Cash & Cash Equivalents (end of period)	101.3	124.0	101.3	116.3
Change in Cash deposits	-12.2	-14.8	-12.2	-33.0
Free Cash Flow**	-20.3	-12.1	-20.3	-35.0
Capex	0.9	3.5	0.9	2.9

*) rounded figures; may not add up

**) Acquisition cost adjusted; Operating CF + Investing CF + Changes in Cash Deposits

Market Prospects

Short-Term

- Further increasing adoption of LEDs for Solid State Lighting
- Increased emergence of wide band gap GaN or SiC based devices for energy efficient power management
- Development of next generation NAND and DRAM memory devices
- Further progress in the development of GaN-on-Silicon LEDs and Wafer Level Packaging

Mid- to Long-Term


- Development of new wide-band-gap applications such as RF and System-on-Chip with integrated power management
- Progress in the development of large area OLED devices requiring efficient deposition technologies
- Progress in the development of flexible and rigid OLED devices requiring thin-film encapsulation
- Increased development activity for specialized compound solar cell applications, e.g. multi junction, CPV
- Increasing requirements for High-k and interconnects, implying a new approach to production technologies
- Progress in the development of future logic chips applying wide band gap and high electron mobility materials (III-V-on-Silicon)
- Development of applications using Carbon Nanomaterials (Carbon Nanotubes, Carbon Nanowires, Graphene)
- Development of alternative LED applications such as Visual Light Communication technology, (deep) UV



Our *technology*. YOUR FUTURE.


AIXTRON — Key Enabler for Innovative Future

New Complex Materials




Compound Semiconductors

- GaAs/ GaN (Sensors)
- GaN/SiC (RF/Power – Mobile)
- GaAs/InP (Laser - Datacom)
- GaN (LED – LiFi)



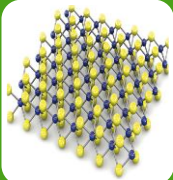
Silicon Semiconductors

- III-V (Next-generation Logic – Real-time Processing)
- Innovative materials (Memory - Big Data)



Organic

- Display, Lighting
- Flexible Electronics
- Organic Photovoltaics

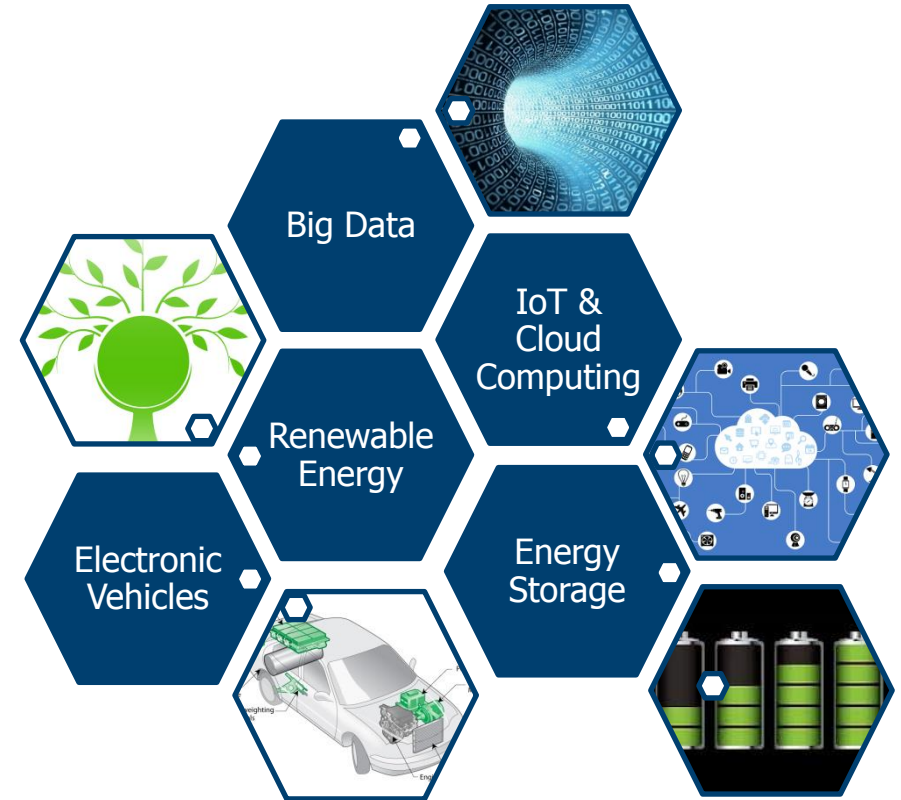


Carbon Nano Structures

- Graphene (Energy Storage)
- 2D materials (Smart Sensors, Energy Storage)

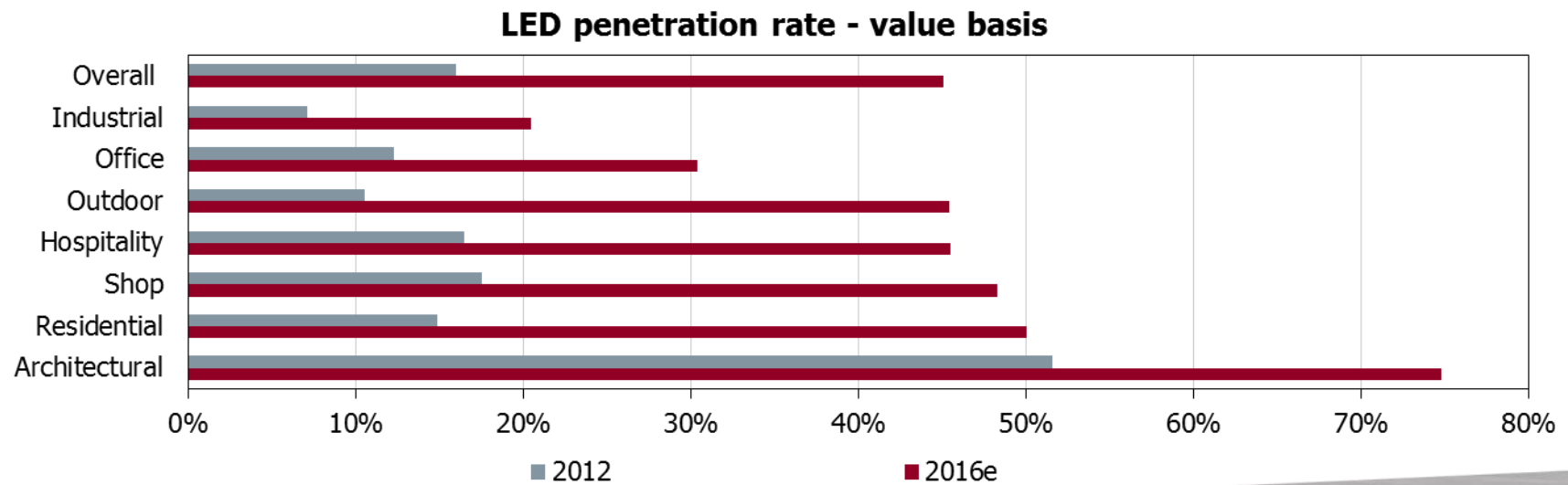
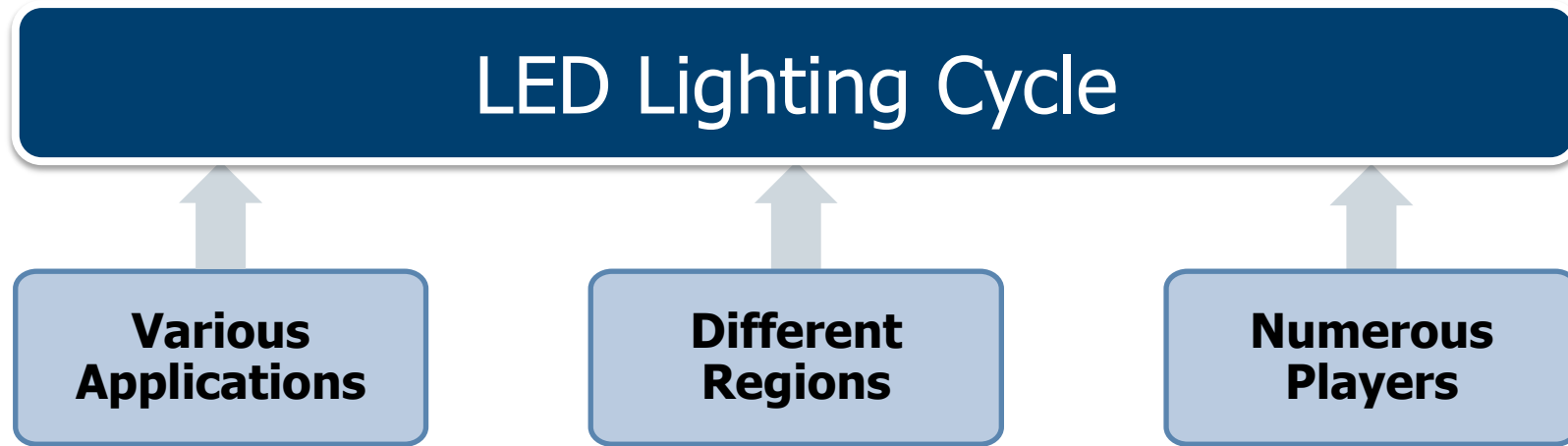
Tech Trends

AIXTRON
Our technology. Your future.



LED Lighting Market: Multiple Tipping Points

Source: : AIXTRON, McKinsey 2012



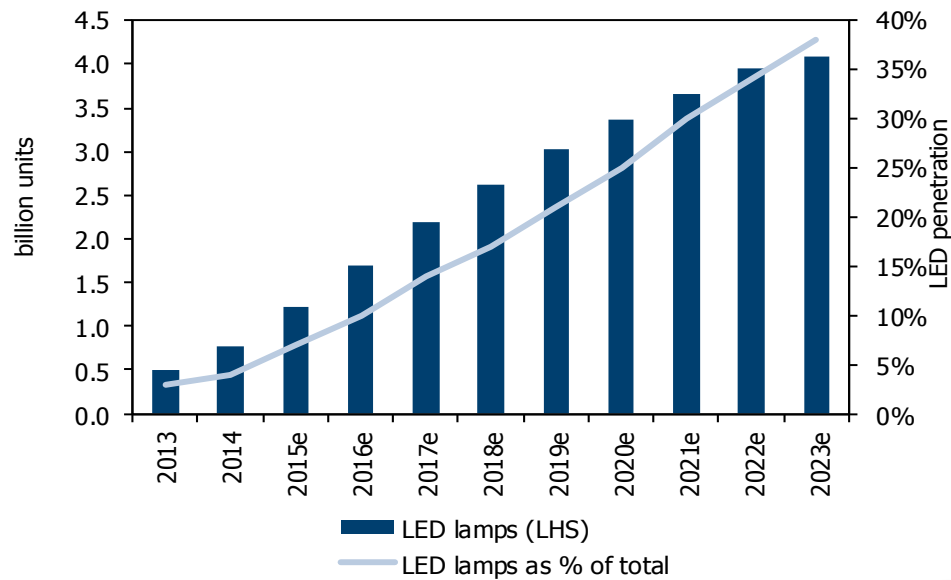
LED Lighting Market Estimates

Source: IHS Q1/2016, Strategies Unlimited

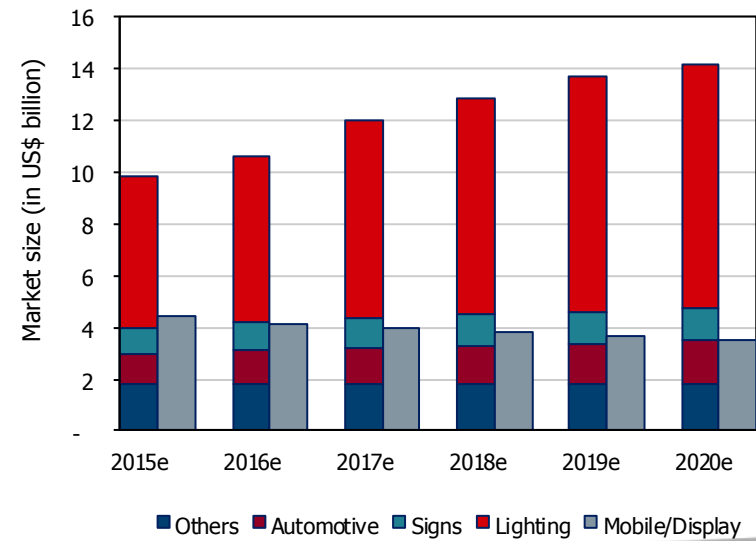
Globalization and urbanization to drive LED lighting opportunities:

- Emerging countries: need for energy efficient lighting solutions
- Developed countries: SSL driven by expanding renovation market
- Outdoor: Early adoption streetlight replacement market
- Commercial: LED Light Bulb reaching price tipping point

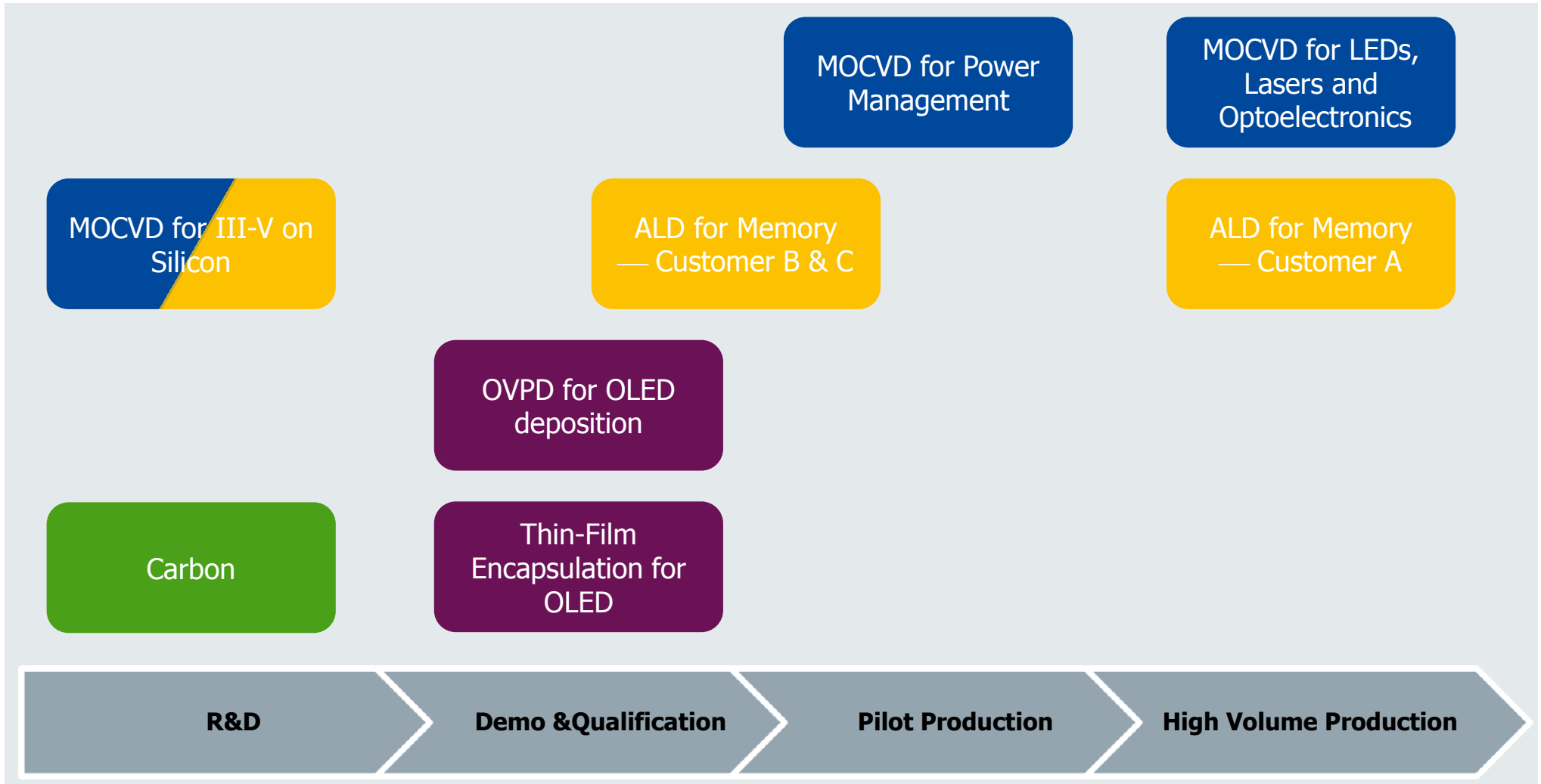
Global LED lamp shipments



LED Market Forecast



Technology Position

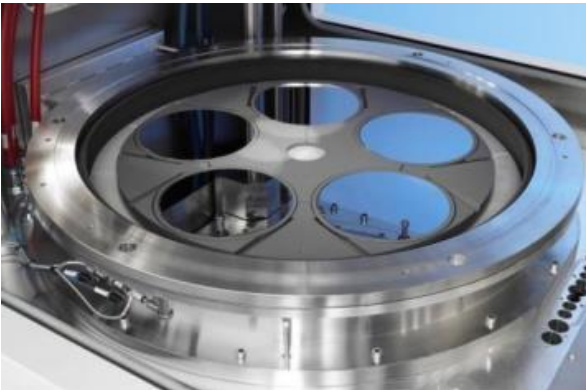


Compound Semiconductors – MOCVD

Two Reactor Technologies — Planetary Reactor® & Close Coupled Showerhead® (CCS)

- Addressing multiple industries
- Established industry standard & market leading
- Configurable, extendable common platform
- Introduced the latest MOCVD technology - AIX R6

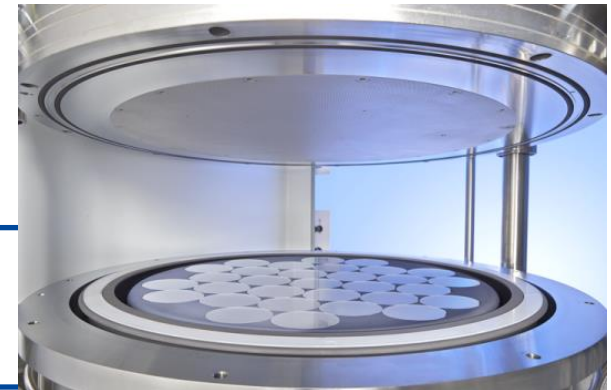
Planetary Reactor®
AIX G5+, 5x8








- Unique Planetary reactor design
- Horizontal reactor type

- Patented CCS Technology
- Vertical reactor design

Close Coupled Showerhead®
AIX R6, 31x4"



Compound Semiconductors – Wide Band Gap (WBG) Power Electronics

Consumer Electronics & IT		Automotive	Energy	Industrial
Power Management		Power Switching		
30V	600V	1.2 kV	≥2kV	
<ul style="list-style-type: none"> • Electronic appliances • Computing • Wireless charging • Power supplies • PFC 	<ul style="list-style-type: none"> • Infotainment • GPS • Connected car • Autonomous driving • EMI/EMC • Adaptive cruise control 	<ul style="list-style-type: none"> • General automotive electronic • HEV/EV • Charging station • Inverter / motor drives • Converter • Radar test applications 	<ul style="list-style-type: none"> • Power Grid / Smart meter / appliances • Solar / Wind inverters • Solar / Wind power DC distribution • storage • UPS 	<ul style="list-style-type: none"> • UPS • Industrial machines • Building • Mining, oil, gas power generation • Shipping/Rail 
GaN	GaN / SiC		SiC	

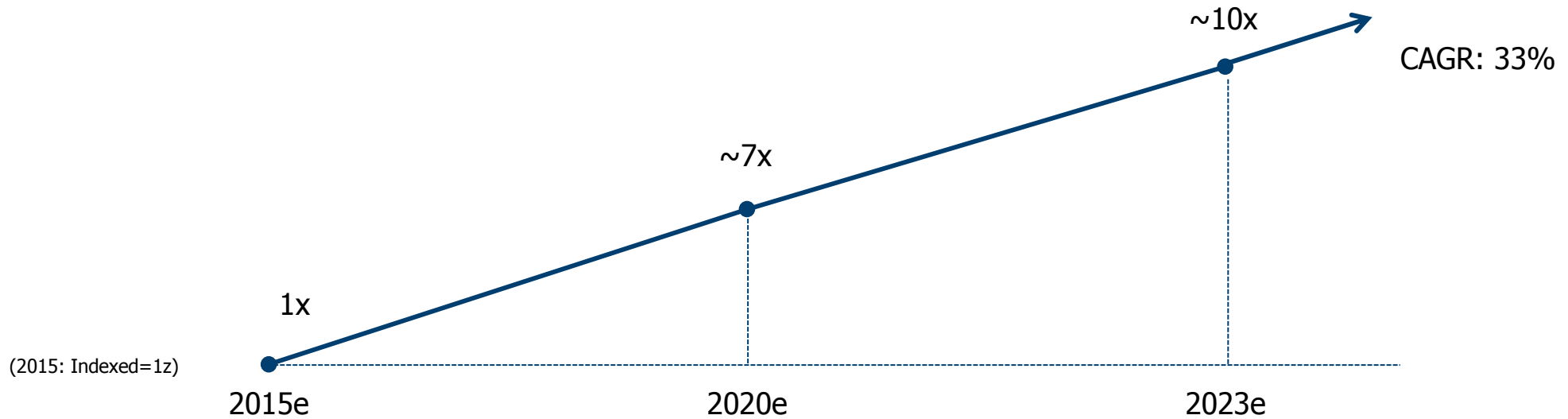
Volume segment

Niche segment

Compound Semiconductors – Wide Band Gap (WBG) Power Electronics

Source: DOE, IHS Q4/2014

WBG GaN and SiC based Power Management Device Shipments

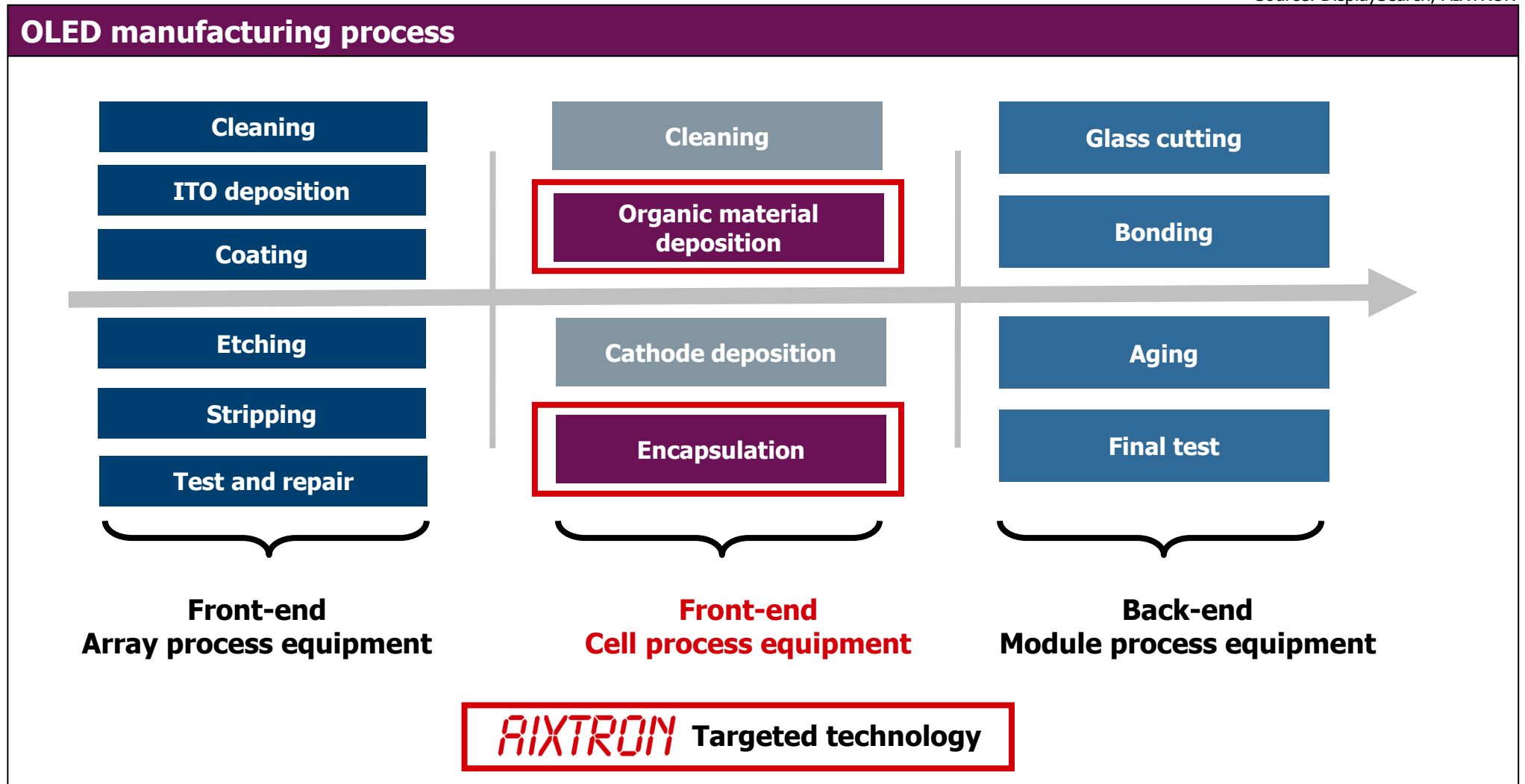


- Reduced Energy Losses
- High Voltage Range
- Improved power quality
- Higher frequencies
- Higher-temperature operation

WBG Power Electronics: Smaller, Faster, and More Efficient

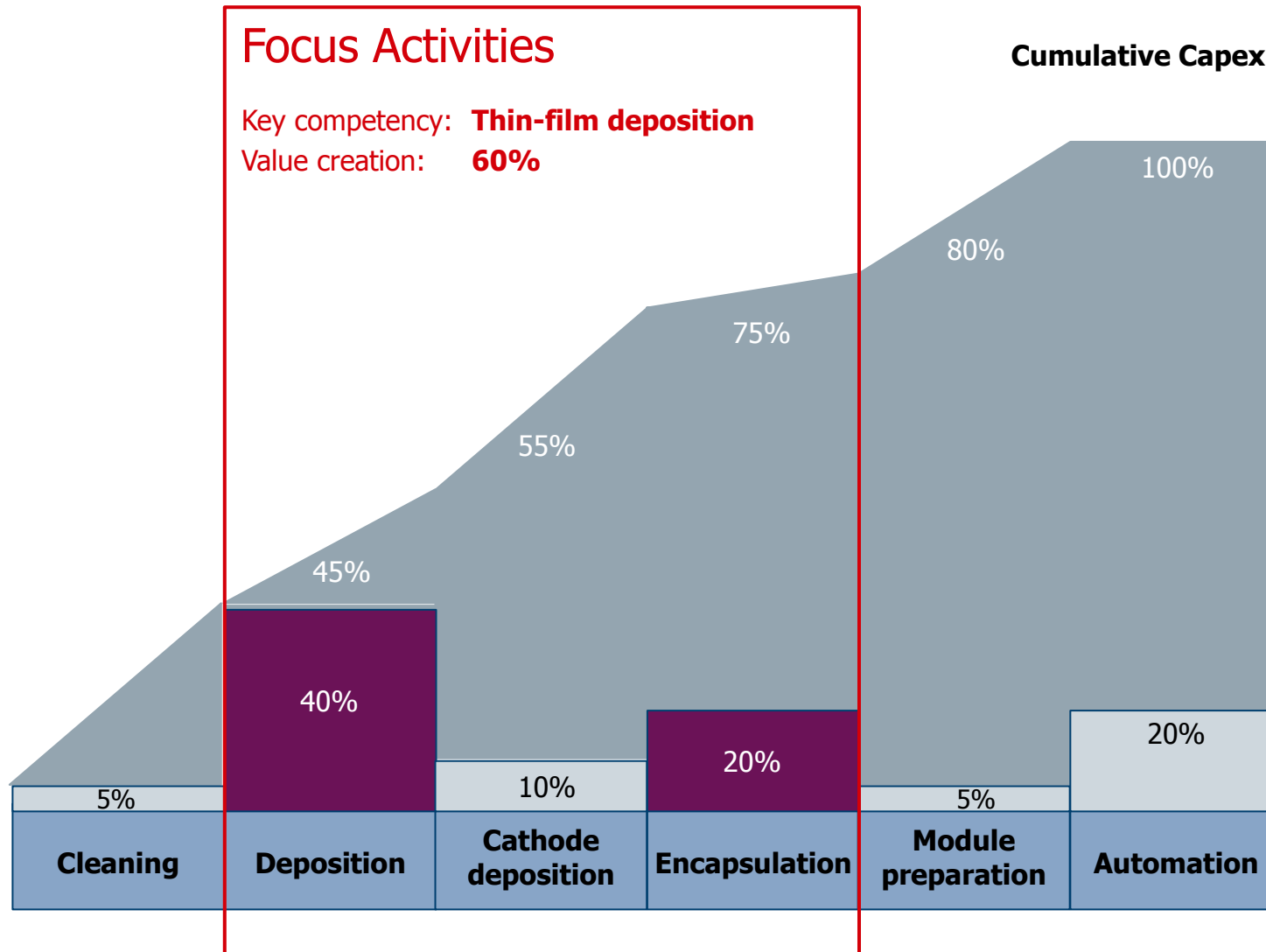
Organic Electronics – OVPD[®] + Encapsulation

Source: DisplaySearch, AIXTRON



Organic Electronics – Front-end Process Equipment

Source: IHS; AIXTRON internal estimates



Organic Electronics – OVPD®

Product Description – OVPD

- Proprietary carrier-gas enhanced gas phase deposition approach for organic thin films*
- Based on AIXTRON's core competence of carrier gas enhanced vapour phase deposition
- Free scalability: suitable for all relevant substrate generations
- Manufacturing technology applicable for OLED displays, OLED lighting, organic semiconductors, and organic photovoltaic
- Proprietary STExS™ evaporation source technology: low thermal stress, high rates, continuous operation

"Disruptive deposition technology for cost efficient OLED manufacturing"

Product Features

- High deposition rates for high throughput
 - Reduced thermal stress for organic materials
-
- High material utilization efficiency
 - Flexible process control
-
- Simplified scaling due to
 - Close Coupled Showerhead and
 - Decoupled source technology
-
- Flexible integration solutions batch and inline
 - Reduced number of deposition chamber and footprint
 - Scalable: Available for substrate sizes up to Gen8.5 (=2.3 x 2.5 m²)



OVPD demonstrator OLAD (Organic Large Area Demonstrator)
(optimized for Generation 8.5 substrate sizes)

Organic Electronics – OPTACAP™ PECVD

Product Description – OptaCap™ PECVD

- Proprietary PECVD technology based on linear plasma sources
- Based on AIXTRON's core competence of carrier gas enhanced vapour phase deposition
- Free scalability: suitable for all relevant substrate generations
- Manufacturing technology applicable for barrier applications, i.e. thin film encapsulation: highly flexible, low film stress, high transparent, high water and oxygen permeation barrier,

"Disruptive deposition technology for cost efficient deposition of flexible barrier films"

Product Features

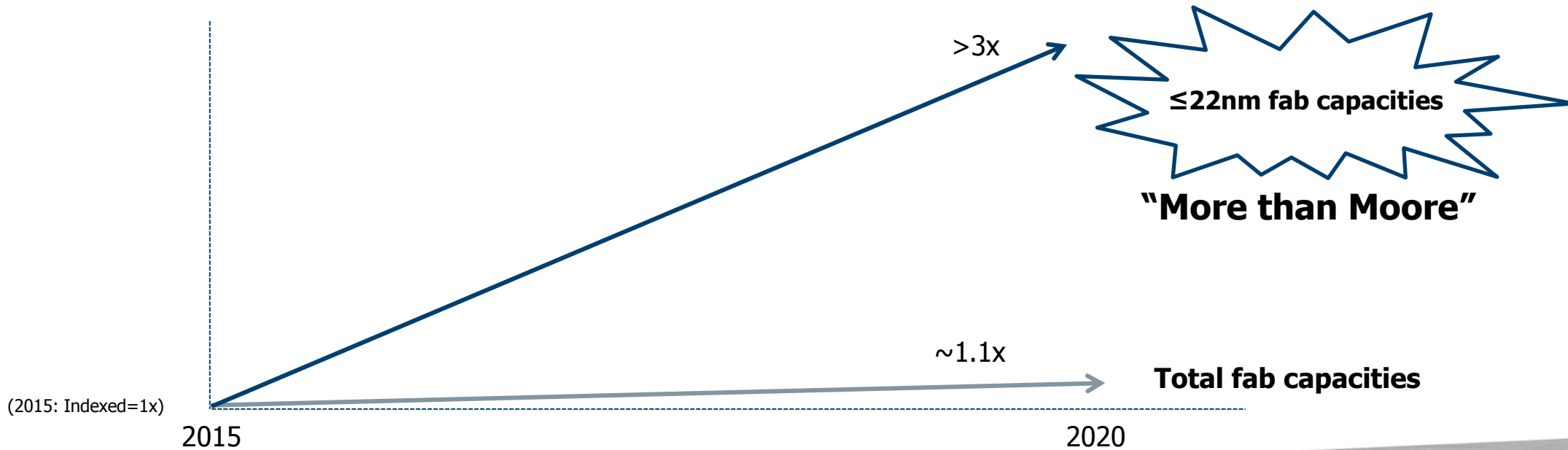
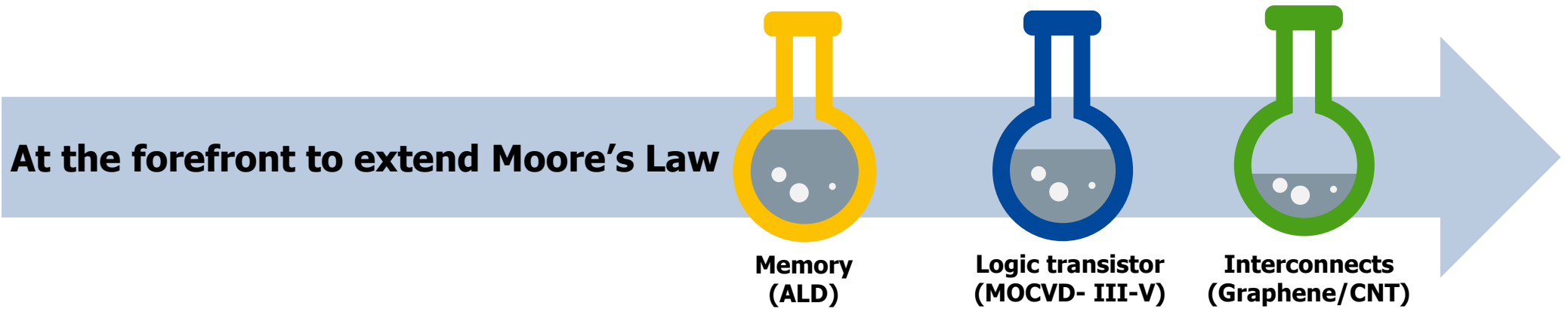
- High deposition rates for high throughput
- Flexible process control
- Simplified scaling due to
 - Linear PECVD source technology
 - Multiple source configurations
- Scalable: Available for substrate sizes up to Gen3.5, future: up to Gen8.5
- Highly flexible SiNx-based barrier films at high rates
- Low temperature process (<80°) with low film stress



OPTACAP-200
200x200 mm² Substrates

Silicon Semiconductors – Leading Edge Technologies

Source: Gartner 2016



Silicon Semiconductors - ALD

Product Description – ALD

- 300mm ALD Technology
- QXP-8300 Mini-batch system
- High throughput : 2 Process Chambers – 8 stations
- Up to 3 vaporizers and one bubbler
- Applications : DRAM, Logic and Flash High k Dielectric
Metal electrode : ReRAM and PCRAM Active elements
- Proven in HVM with >40% lower CoO and >90% Uptime in DRAM and Flash Fabs

“Best-in class technology, state of the art deposition system, lowest CoO”

Product Features

- Up to 3 patented TriJet vaporizers
- Small volume confined process space ensure short ALD cycle time
- > 40 % less precursor consumption
- Efficient purge
- Isolated multi wafer processing with > 40% higher throughput
- Close Coupled Showerhead for uniform distribution
- Flexibility and ease of maintenance



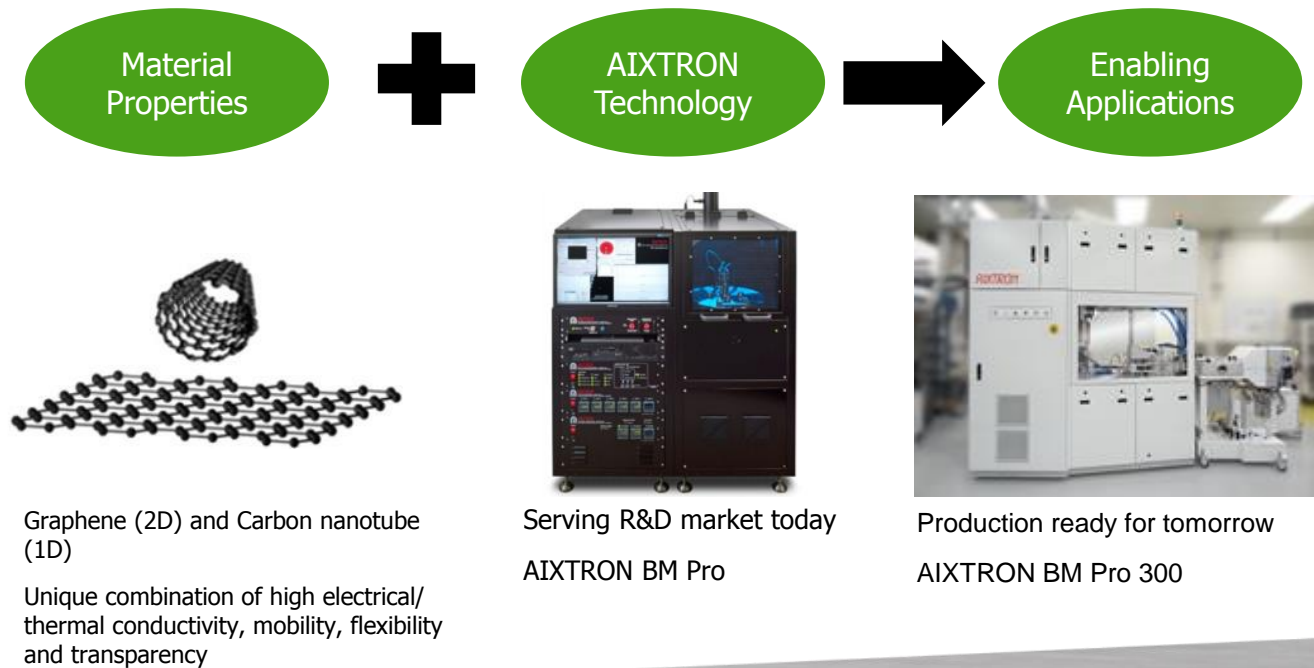
Carbon Nanomaterials – PECVD

Graphene and Carbon Nanotube Deposition Systems

- Proprietary thermal and plasma enhanced chemical vapour deposition technology
- Excellent uniformity and reproducibility with fast turnaround cycle times
- BM platform: BM R&D (2-inch), BM Pro (4-inch and 6-inch), BM GB (4-inch glovebox), BM HT (high temperature, 1,700C), BM300T (300mm)
- Graphene and carbon nanotube films for electronics, energy storage, thermal management, sensors and flexible/transparent applications

Product features

- Fast response heater and turnaround
 - Thermal CVD
 - Substrate and top heating
-
- Closed loop infrared wafer temperature control
 - Plasma enhanced CVD with frequency control
 - Flexible processing for different applications
-
- Low cost of ownership
 - Easy maintenance and cleaning
 - User management features and growth library



Consolidated Income Statement*

(€ million)	2015	2014	2013
Revenues	197.8	193.8	182.9
Cost of sales	147.9	154.1**	204.7**
Gross profit	49.8	39.7**	-21.8**
Gross Margin	25%	21%	-12%
Selling expenses	11.5	14.1**	14.5**
General & admin expenses	16.3	19.3	18.2
R&D	55.4	66.7	57.2
Net other op.(income)/expenses	-6.7	-2.2	-16.0
EBITDA	-16.4	-41.3	-67.9
EBIT	-26.7	-58.3	-95.7
EBIT Margin	-14%	-30%	-52%
Result before tax	-26.0	-57.1	-95.2
Pre-Tax Margin	-13%	-29%	-52%
Net result	-29.2	-62.5	-101.0
Net Return on Sales	-15%	-32%	-55%

*) rounded figures; may not add up

**) 2013 and 2014 figures changed to be comparable with 2015

Consolidated Statement of Financial Position*

(€ million)	31/12/15	31/12/14	31/12/13
Property, plant & equipment	81.3	77.3	79.9
Goodwill	75.9	64.8	64.1
Other intangible assets	6.4	2.5	3.1
Others	3.9	4.6	5.7
Non-current assets	167.6	149.2	152.7
Inventories, WIP & Finished Goods	70.8	81.7	66.2
Trade receivables	26.0	26.3	27.7
Others	8.2	8.3	10.3
Cash & Cash Equivalents incl. CD	209.4	268.1	306.3
Current Assets	314.4	384.4	410.5
Shareholders' equity	396.5	415.7	465.4
Non-current liabilities	3.6	1.3	2.4
Trade payables	9.8	16.4	13.5
Advance payments from customers	24.0	66.9	46.2
Others	48.0	33.2	35.7
Current liabilities	81.8	116.5	95.4
Balance Sheet total	482.0	533.5	563.2

*) rounded figures; may not add up

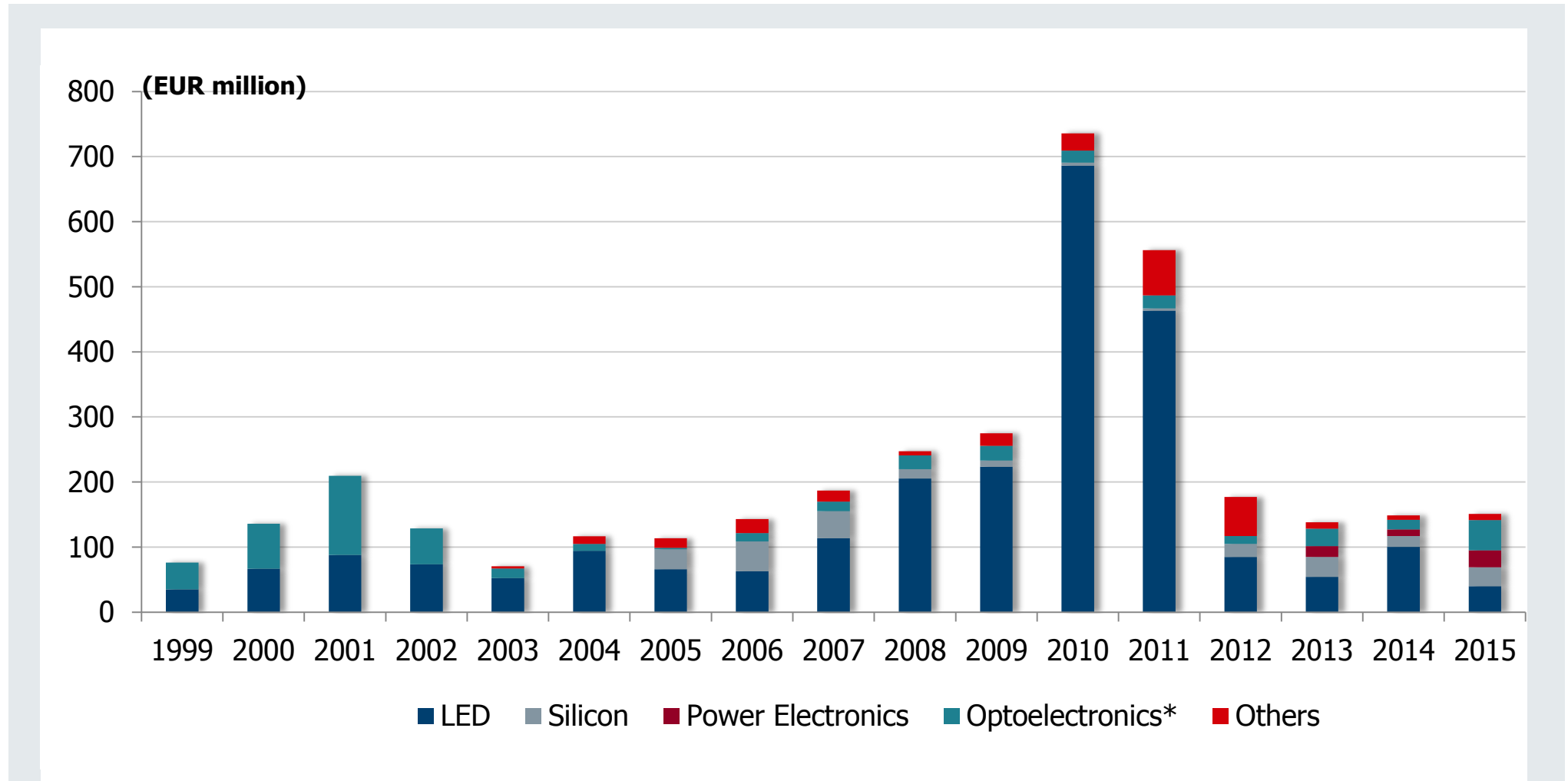
Consolidated Statement of Cash Flows*

(€ million)	2015	2014	2013
Cash Flow from operating activities	-45.7	-33.8	8.2
Cash Flow from investing activities	41.2	-23.2	-39.7
Cash Flow from financing activities	-0.1	0.2	101.6
Exchange rate changes	4.3	5.9	-2.4
Net change in Cash & Cash Equivalents	-0.3	-50.9	67.7
Cash & Cash Equivalents (beginning of period)	116.6	167.5	99.7
Cash & Cash Equivalents (end of period)	116.3	116.6	167.5
Change in Cash deposits	-60.5	9.9	30.4
Free Cash Flow**	-57.3	-47.0	-1.1
Capex	13.3	13.4	10.1

*) rounded figures; may not add up

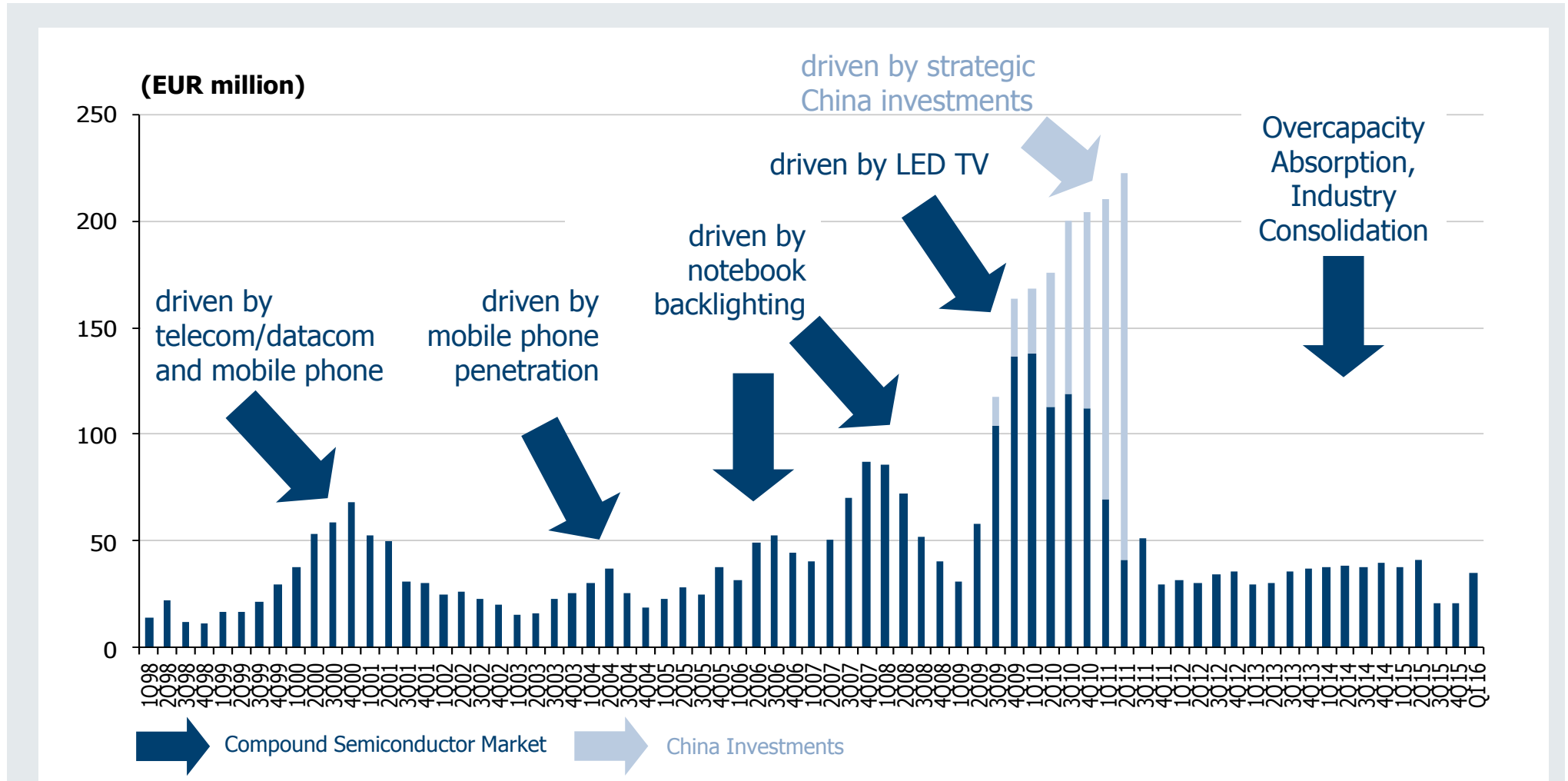
***) Operating CF + Investing CF + Changes in Cash Deposits, adjusted for acquisition effects

Annual Equipment Revenues by Application (excl. spares)



* Optoelectronics includes applications in Consumer Optoelectronics, Telecom/Datacom, Solar, etc.

Equipment Order Intake per Quarter



Global Presence



AIXTRON SE Headquarters
Herzogenrath, Germany

Core of AIXTRON's activities is the Technology and R&D Center near Aachen.

Focus on engineering and process development in MOCVD and organic semiconductors.



AIXTRON Ltd.
Cambridge, United Kingdom

Focus on key MOCVD reactor component technology, carbon-based nanotechnology systems, state of the art innovation and production of R&D tools.



AIXTRON Inc.
Sunnyvale, California, USA

Focus on silicon applications for leading suppliers of DRAM and CMOS.

Financial Calendar & Contact Data

- May 25, 2016 Annual General Meeting, Aachen
- July 26, 2016 H1/2016 Results, Conference Call
- October 25, 2016 9M/2016 Results, Conference Call
- February 2017 FY/2016 Results, Conference Call

For further information please contact:

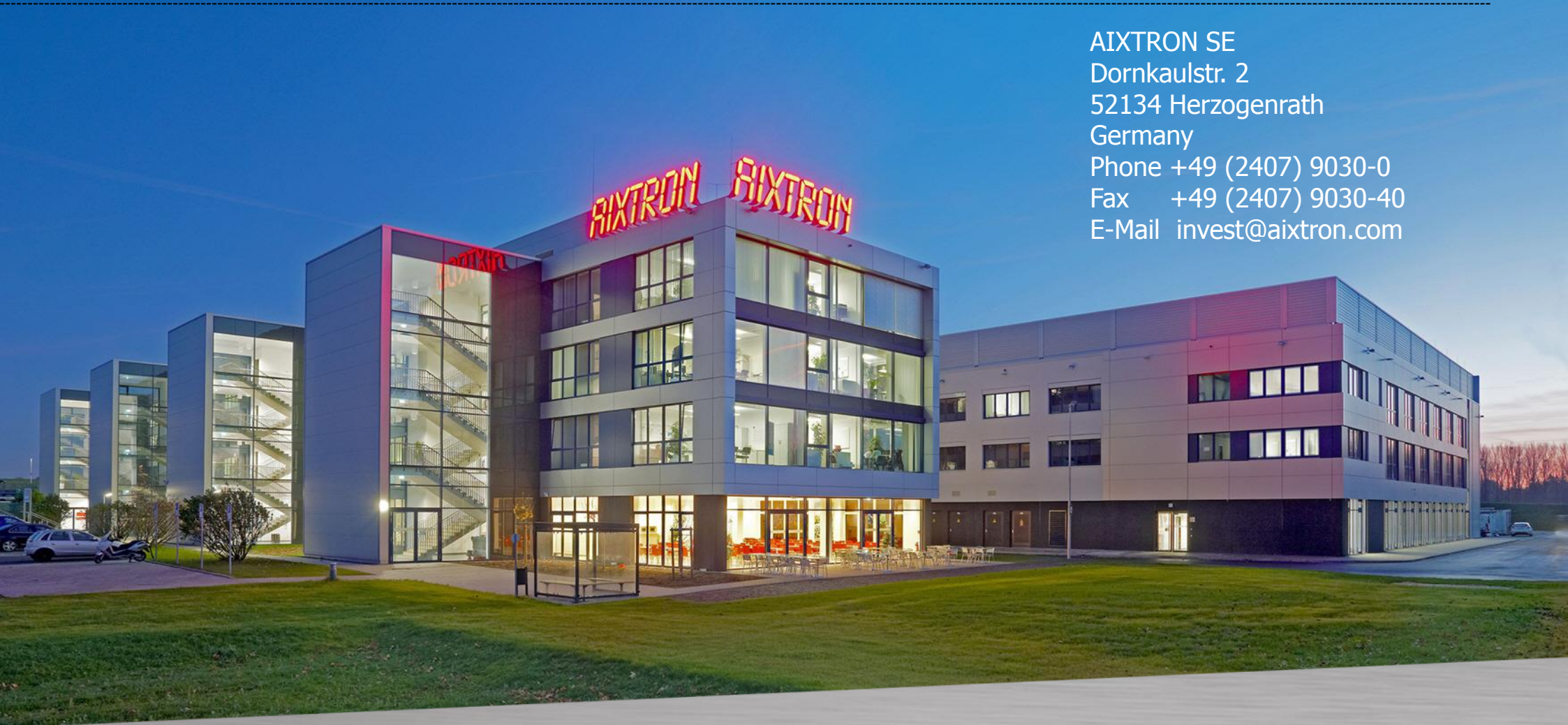
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Thank you very much for your attention.

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