

The background of the slide is a long-exposure photograph of a tunnel. The perspective is from the center of the tunnel, looking towards the exit. The walls and floor of the tunnel are blurred into streaks of light, primarily in shades of blue and purple, with some orange and yellow light trails. The sky at the end of the tunnel is a bright, clear blue.

**PARAGON**

**paragon GmbH & Co. KGaA**

**Earnings Call H1**

Delbrück | August 22, 2024



# NEWS

Trends

Software-defined cars:  
Why the hoped-for sales are so far away

„Electric cars pose  
new challenges for  
acousticians“

Car interior:  
Smart AI vs. switches and buttons

Suppliers

Weak supply business: Continental lowers  
forecast

Recaro insolvency:  
Traditional brand in a  
downward spiral

Up to 14,000 jobs lost:  
Massive job cuts planned at ZF

1st Half-year 2024

## Automobile Manufacturers

Weak start to the year for German  
manufacturers  
Weak first quarters for German manufacturers  
increase concerns in the industry about a difficult  
automotive year in 2024

New registrations of  
Mercedes sink down

VW Group's market share  
in China has fallen by 5%  
within 4 and a half years

S-Class: Mercedes is cutting back on shift  
- but the luxury problem goes much  
deeper

Electric lull, EU tariffs  
and the U.S. election  
are hampering the  
Automotive industry

Far Eastern companies  
outperform their competitors  
in electric drives and digital  
cockpits technologically  
superior to the West.

Combustion engine sales in China collapse -  
Western car manufacturers plummet

Car boom country India -  
but now for real  
Germany will be overtaken in 2027  
Yes, India is growing brutally.

China: Every second  
new car is electrified

Markets

# News Flow doesn't worry us

paragon depends on the call-off behavior of current customers ...

- ❑ Main headwind: Weak sales of well-known premium OEM with impact on kinematics

... but paragon is in a robust position:

- ❑ Stable market leadership in addressed segments, extremely high single-source share
- ❑ Profitability supported by high-margin products and cost savings
- ❑ Development center and production plant in Kunshan benefits from market growth in China
- ❑ Products not threatened by disruptive innovations:
  - Desire for more health protection and comfort essential
  - Speakers and microphones irreplaceable
  - Continuous optimization of aerodynamics goes on
- ❑ No impact by trends such as transformation/digitalization/autonomous driving/software-defined cars
- ❑ Product portfolio regardless of drive type, production not energy-intensive

## Executive Summary

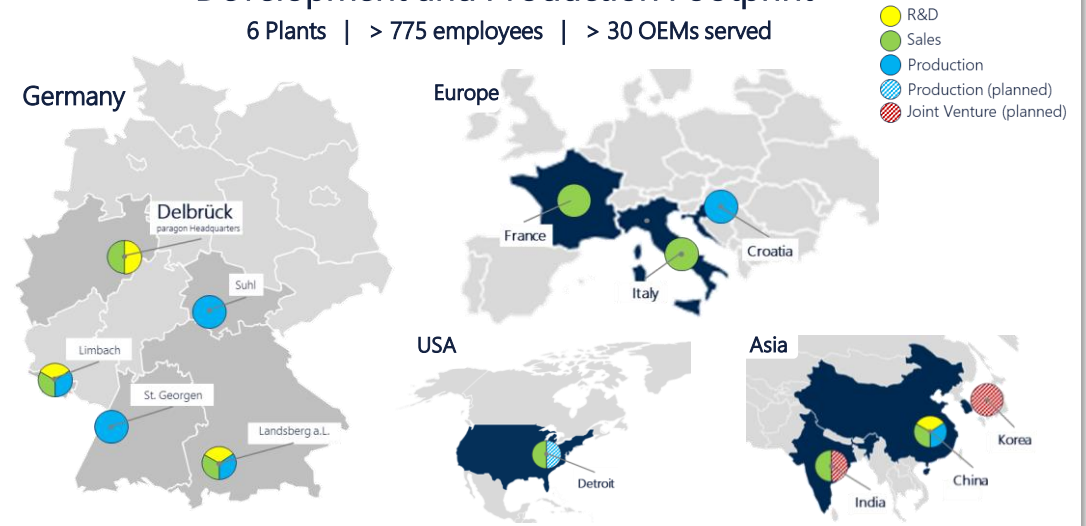
### Overview

#### Business Description

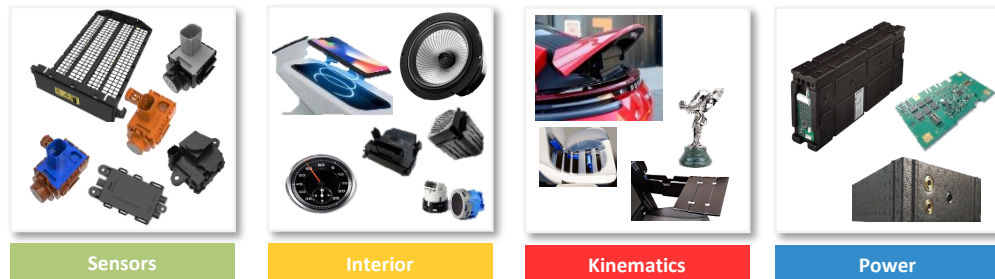
- paragon is a **product pioneer** for the automotive industry with long lasting relationships with a high number of blue-chip customers
- The company proactively develops **proprietary products along the global megatrends** to address issues the premium automotive OEMs may not even have considered yet
- paragon has strong engineering and deep value creation capabilities that enable variable **innovative solutions across car lines and customers**
- Deep footprint** in the automotive industry with an ability to adapt on moving market trends
- Booked business until 2028 amounts to > EUR 750m

#### Development and Production Footprint

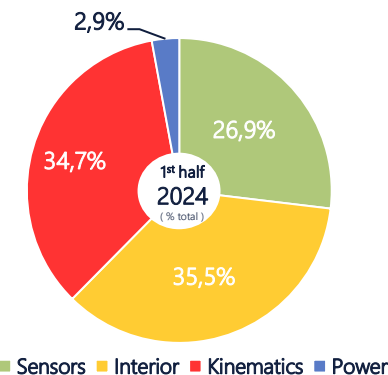
6 Plants | > 775 employees | > 30 OEMs served



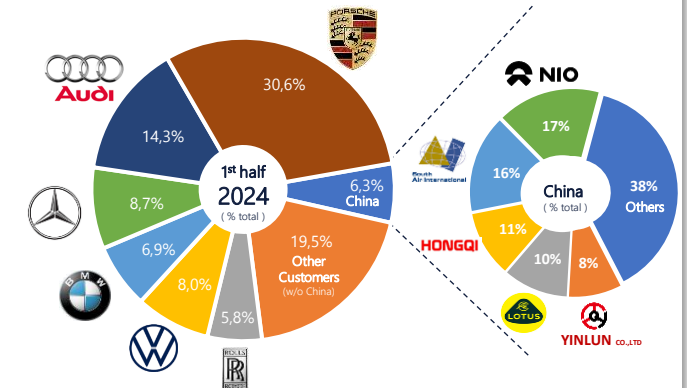
#### Broad Product Portfolio



#### Revenue (by Business Unit)



#### Revenue (by Customer)





# Executive Summary

## paragon in a Nutshell

### Investment Highlights

**>36yrs**  
Experience  
founded 1988

paragon benefits from  
**8** out of **12**  
**Global Megatrends**

**No Dependency**  
of Type of Drive or  
Energy Costs \*)

**>150m**  
Air Quality  
Sensors  
sold

**8.7%**  
CAGR  
(2013-2023)

Risk diversification  
**Broad Portfolio**  
>30 OEMs | > 220 Vehicles  
> 300 Products

**90%**  
**Single-Source**  
Share

**Market Leader**  
in most of  
**25**  
Product Groups

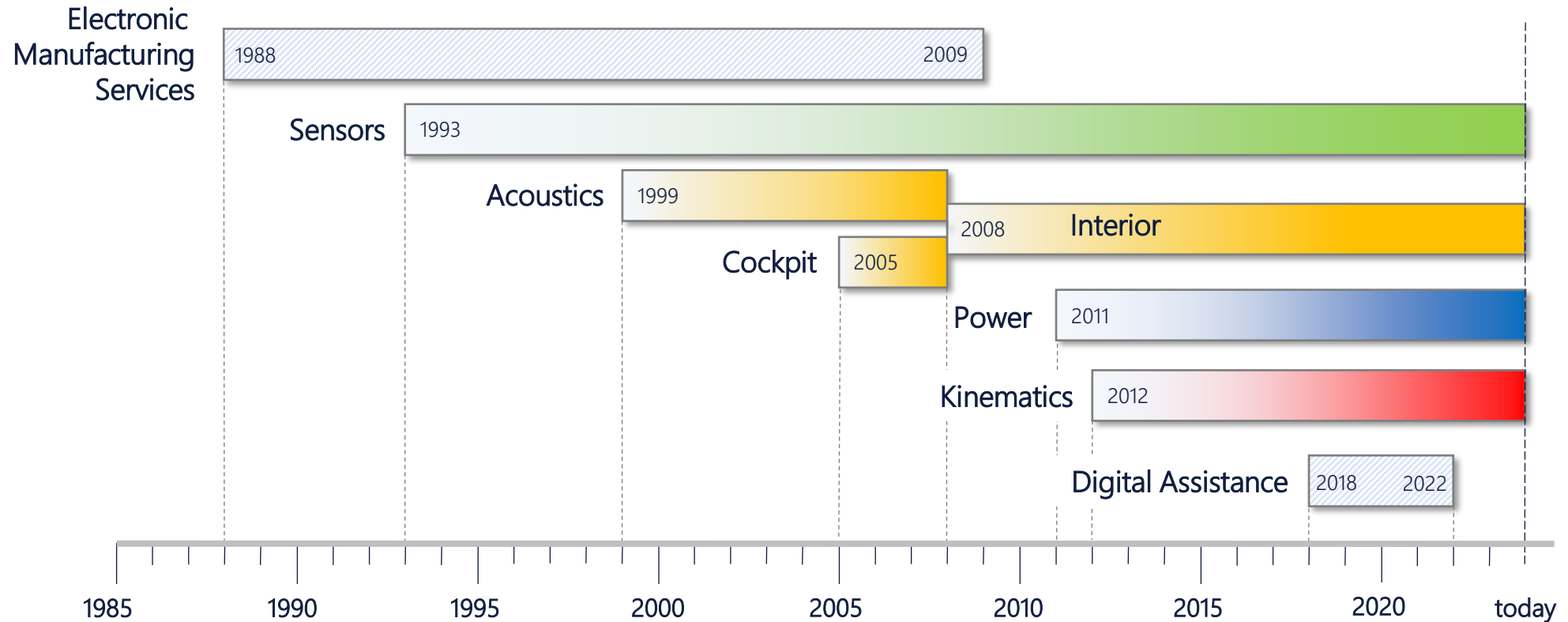
**13%**  
of 779 employees  
in R&D

Substantial  
**Operational**  
**Improvement Plan**

High Automation  
**>125 Production Lines** with  
**31 Robots**

Every  
**7th**  
new vehicle is equipped with  
paragon technology  
**Globally**

# History of paragon



Since more than 36 Years, paragon has build-up an Automotive Tier 1 with Proprietary Products

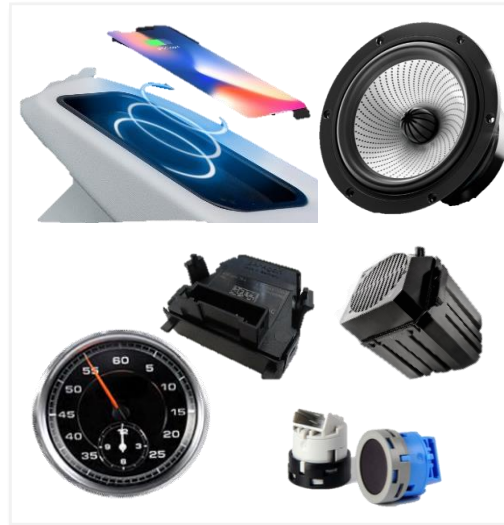
The Products and Customers

**Product Portfolio Today - Overview**

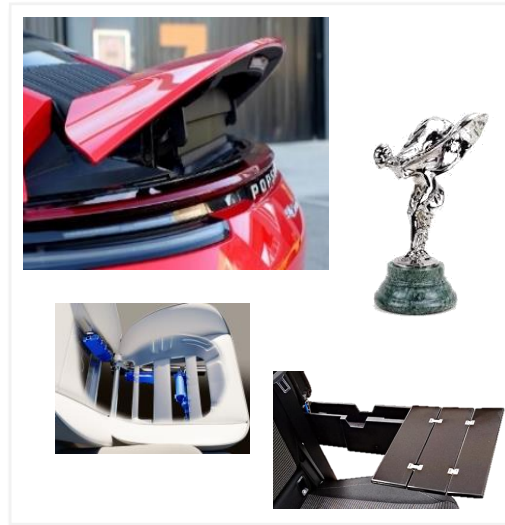
\* ) ... of H1/2024 revenues



**Sensors** 27% \*)



**Interior** 36% \*)



**Kinematics** 34% \*)

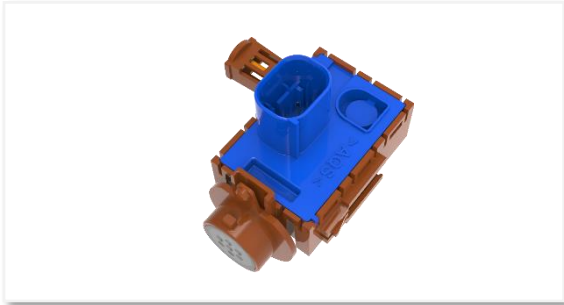


**Power** 3% \*)

In-Cabin Wellbeing

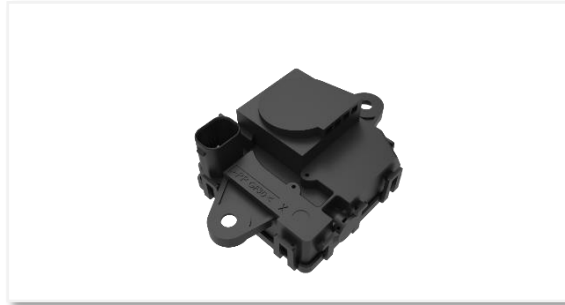
CO<sub>2</sub>-Reduction

# Product Portfolio Today - Sensors



**Air Quality Sensor**

- Automatic control of the vehicle recirculation flap
- Reduction of dangerous emissions inside the cabin
- Advanced technology for detection of toxic gases and unpleasant smell
- High-sophisticated SW-algorithms for detection of special traffic situations
- Over 150 million pcs. produced



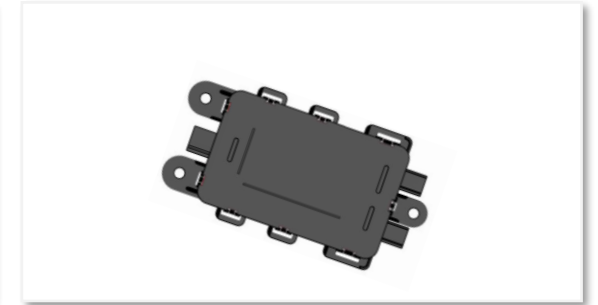
**DUSTDETECT**

- Measurement of particulate matter outside and in-cabin
- Exterior and interior installation
- Laser sensor with optical particle counting
- Size discrimination PM1, PM2.5 and PM10



**DUSTPROTECT**

- High-voltage plasma filter cleans air inside vehicle's cabin by filtering particles and viruses
- Much better than state of the art filtration systems
- Saving space, energy, waste and costs in comparison to HEPA
- Constant efficiency over lifetime



**Air Quality Improver**

- Fresh air effect by artificial ionization
- Enhancing of well-being of vehicle passengers
- Fine dusts, gases and smells are bound by negative ions
- Reduction of germs and bacteria in vehicle interior through physical air treatment

**World market leader for In-Cabin Air-Quality**



# The Products and Customers

## Product Portfolio Today - Interior



### Loudspeakers

Broad product spectrum incl. sound systems and signal processing

Tweeters, midranges, woofers, subwoofers, headrest and ultimate speakers

Special solutions like exciters, air motion transformers, high-temperature exhaust speakers, external speakers for e-vehicles

Small to high volumes, entry to award-winning high-end levels

White label branding possible (e.g. B&O, Bespoke Audio, ETON)



### Microphones

Multiple use cases such as voice assistance, vehicle noise control, handsfree and in-car communication, road and wind noise cancellation, external microphones for autonomous driving

Clever combination of acoustical mechanics and adaptive electronic filter

Very low wind sensitivity by active and passive elements

Analogue and digital interfaces

Cutting edge tech and efficient manufacturing



### Instruments

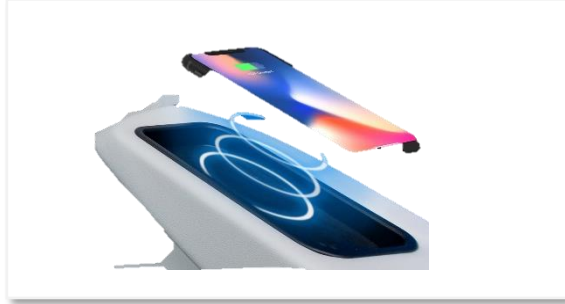
Market leader with very well-known chronometers, analogue clocks, compasses and control applications

The choice for premium and luxury cars

Many more analogue and hybrid instruments for any use case

Own design team to meet any customer requirement

Inhouse stepper motor and plastic parts development and mass production



### Wireless Charging

High efficiency wireless charger based on Qi-standard

Patented active cooling system

Self diagnostic

Member of Wireless Power Consortium (WPC) since 2013

### In-Cabin Wellbeing

# Product Portfolio Today - Kinematics



## Spoilers

Electro-mechanical systems for high variety of vehicles

Application in sportscars, hatch, station cars, SUVs, e-vehicles and trucks

High innovation and realization competence

Range extension for e-vehicle by reduction of air resistance



## Actuators

Drive systems for active spoilers and seat adjustment

Integrated electronics and sensors for advanced vehicle architecture

Multi-stage gear reduction with powerful DC-motors

Fast operation of heavy loads



## Folding Tables

Special folding system to minimize space

Various electronic interfaces (wireless charging, USB-C, displays and keyboards)

Lightweight through use of magnesium and aluminum

Resists head impact

Meets various crash requirements



## Special Kinematics

Tailor-made solutions with cost-effective development

Electrical lowering mechanism of hood ornament

Anti-theft and pedestrian crash protection

Wind deflectors for convertible cars and motorcycles

Easy operation with 3D-movement

## High-sophisticated Kinematics for Exterior and Interior

The Products and Customers

**Product Portfolio Today - Power**



**Battery Management Systems**

Huge background with ECU projects  
 Predictive algorithms  
 Intelligent balancing  
 SW-based safety concept incl. top-edge SOC/SOH-calculation  
 New quiescent current concept (deep-sleep and transport modes for extended shelf life)



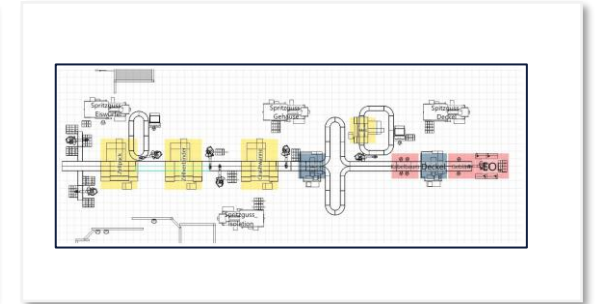
**Traction Batteries**

Lightweight concepts  
 Use of Flow-Shape-Design technology  
 Embedded battery safety  
 "Lord of the cells" battery management



**Flow-Shape-Design**

Expanded foam as case for battery systems and modules  
 Substitution of conventional metal housing  
 Less weight/space/costs  
 Absorption of shocks/vibration/temperature  
 Licenses available



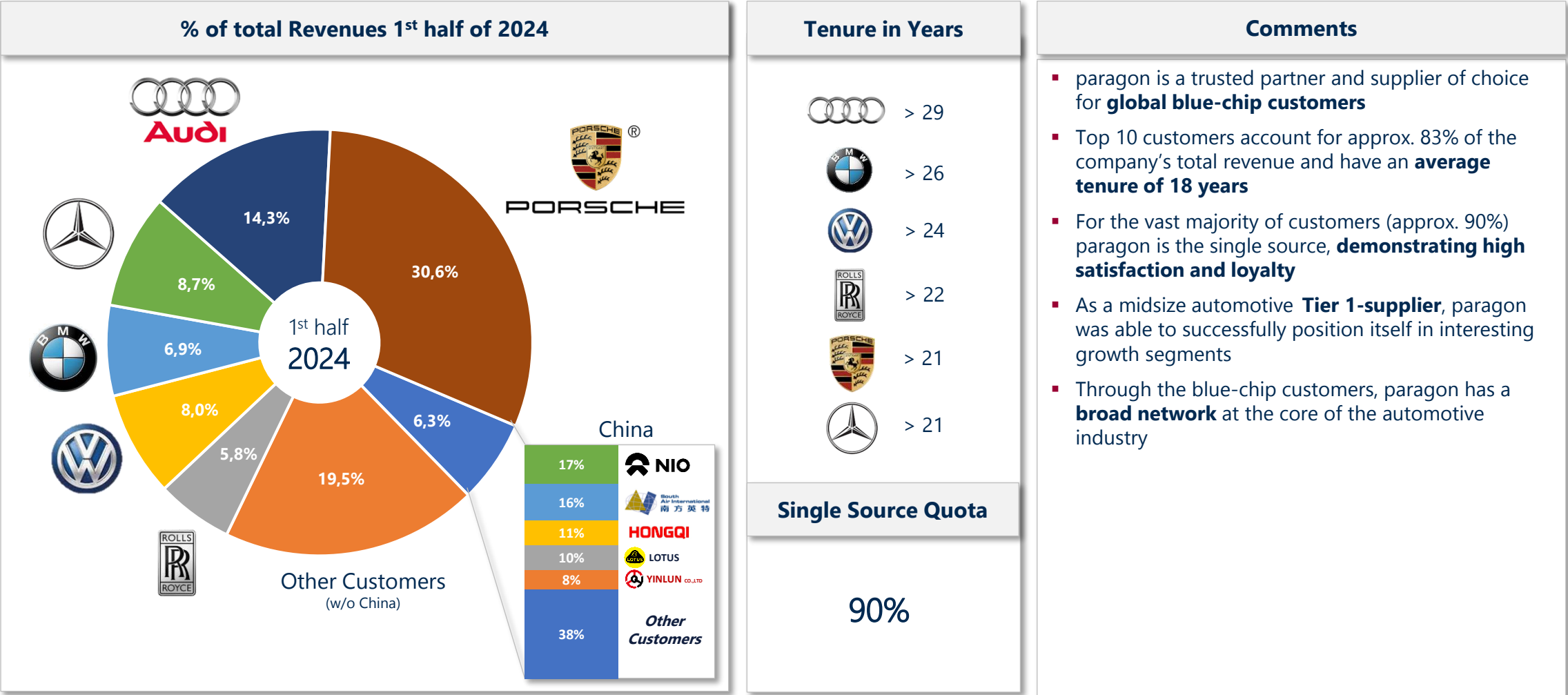
**Consulting**

Technology transfer in regards of Flow-Shape-Design  
 Projecting and realization of production lines  
 In-house production of test equipment  
 Turn-key projects

**Game-Changing Battery Technologies**

The Products and Customers

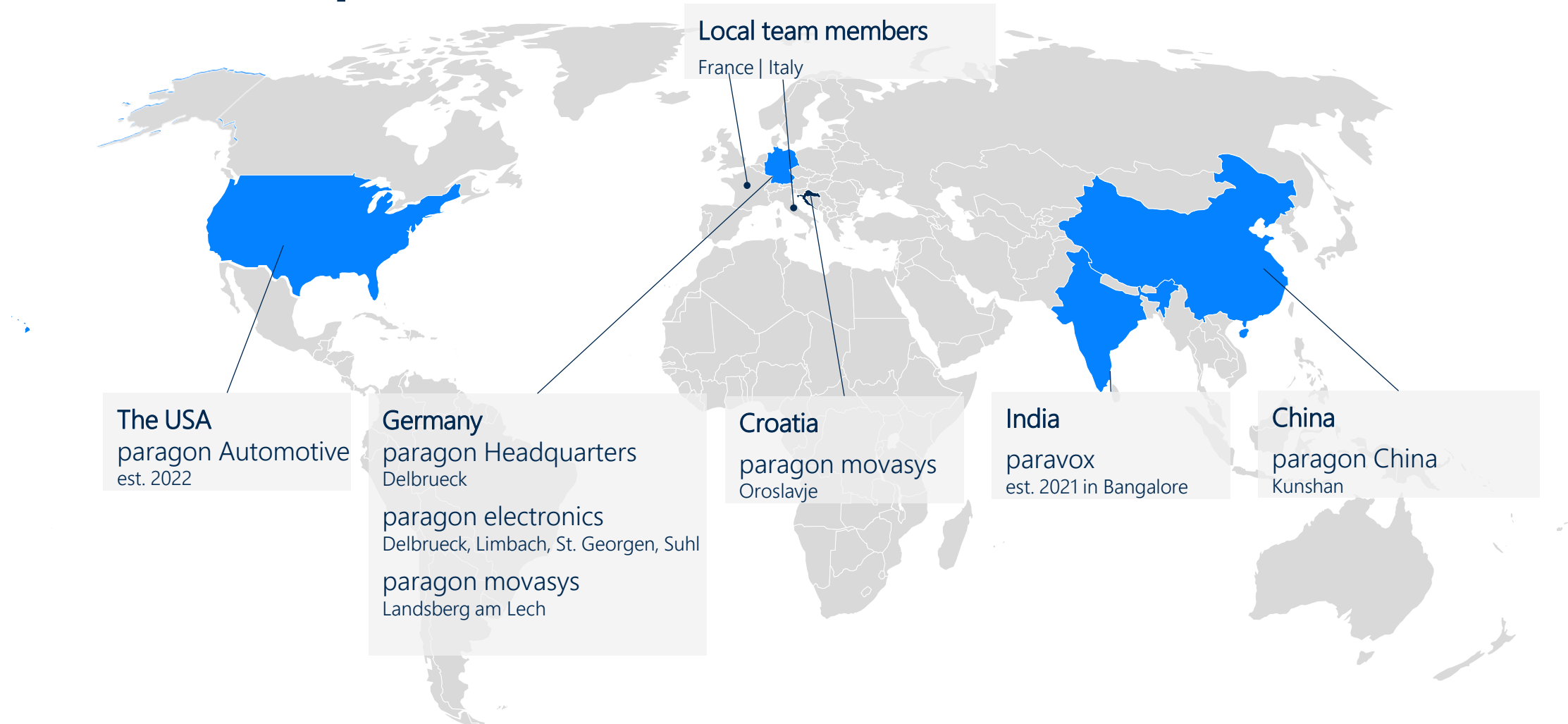
# paragon's Premium Automotive Customers





# The Products and Customers

## Global Footprint



# The Products and Customers

## Continuation of Regional Expansion



**Comments**

	<ul style="list-style-type: none"><li>✓ Finalization of localization of products</li><li>✓ Increasing of internal production</li><li>✓ Offering full paragon product portfolio</li><li>✓ R&amp;D for special product variants for Chinese and Korean market</li></ul>
	<ul style="list-style-type: none"><li>✓ Establishing of Detroit sales office</li><li>▪ Preparing later production location</li></ul>
	<ul style="list-style-type: none"><li>✓ Sales cooperation with Indian Tier 1</li><li>▪ Joint Venture with Indian Tier 1 (planned)</li></ul>
	<ul style="list-style-type: none"><li>▪ Joint Venture with Korean Tier (planned)</li></ul>

“Revenue development in line with expectations”

“Operating profitability significantly improved (EBITDA-ratio: 11.3%)”

“Positive operating cash flow at EUR 2.6m”

# P&L Development paragon – First Half 2024

Income Statement in MEUR	H1/2023	H1/2024
Revenues	86,6	75,4
Other own work capitalized	0,3	1,6
Change of finished goods	-1,3	0,7
Other operating income	2,8	2,1
<b>Total operating performance</b>	<b>88,4</b>	<b>79,8</b>
Costs of materials	-46,9	-42,0
Personnel expenses	-22,8	-21,2
Other operating expenses	-10,6	-8,1
<b>EBITDA (cont. Operations)</b>	<b>8,1</b>	<b>8,5</b>
Depreciation & amortization	-6,9	-6,3
<b>EBIT</b>	<b>1,2</b>	<b>2,2</b>
Interests	-7,4	-3,2
Taxes	0,6	0,0
<b>Earnings (continued operations)</b>	<b>-5,6</b>	<b>-1,0</b>
(Discontinued operations)	7,0	N.A.
<b>Earning (cont. &amp; disc. operations)</b>	<b>1,4</b>	<b>-1,0</b>

Comments	
❑	As expected, revenues fell to EUR 75.4m after 6 months following the sale of the starter battery business in fall 2023 (H1/2023: EUR 86.6m)
❑	Current sales trend also reflects the slow recovery in customer call-off behavior (mainly reduced volumes of different kinematics for a premium OEM)
❑	Despite the challenging market environment, EBITDA improved from EUR 8.1m (prior-year period, ratio 9.3%) to EUR 8.5m thanks to various optimization measures - EBITDA ratio now at 11.3%
❑	Reduced net debt leads to a significant reduction in financing expenses
❑	Results from continued operations significantly improved from EUR -5.6m in H1/2023 to EUR -1.0m in first half of 2024



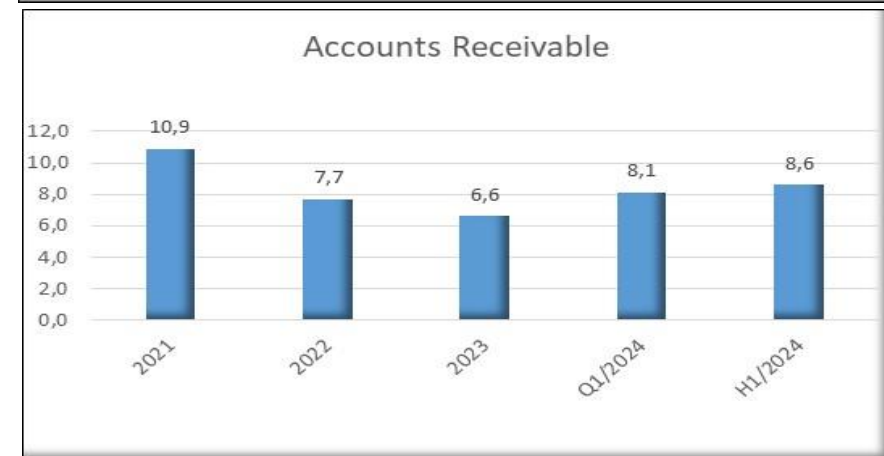
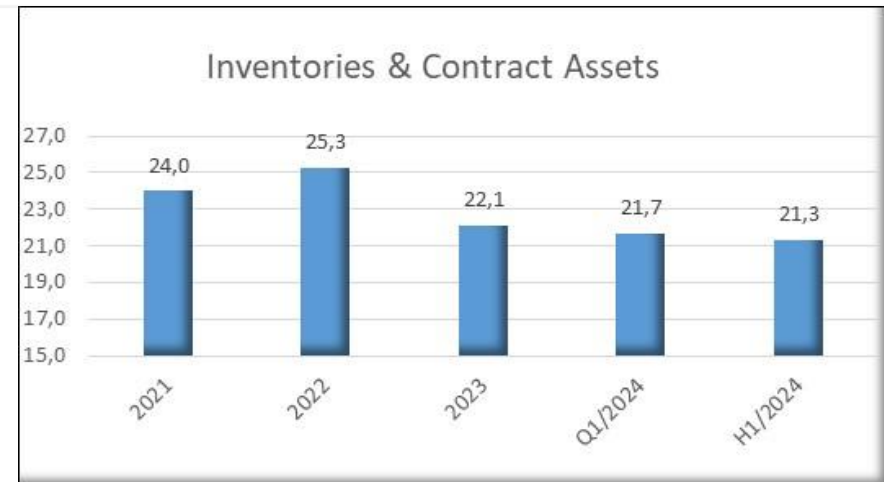
## Focus on Working Capital Management

### – Inventories & Contract Assets

- Slight decrease by EUR 0.8m compared to December 2023 due to working capital management
- Further inventory management activities ongoing

### – Accounts Receivable

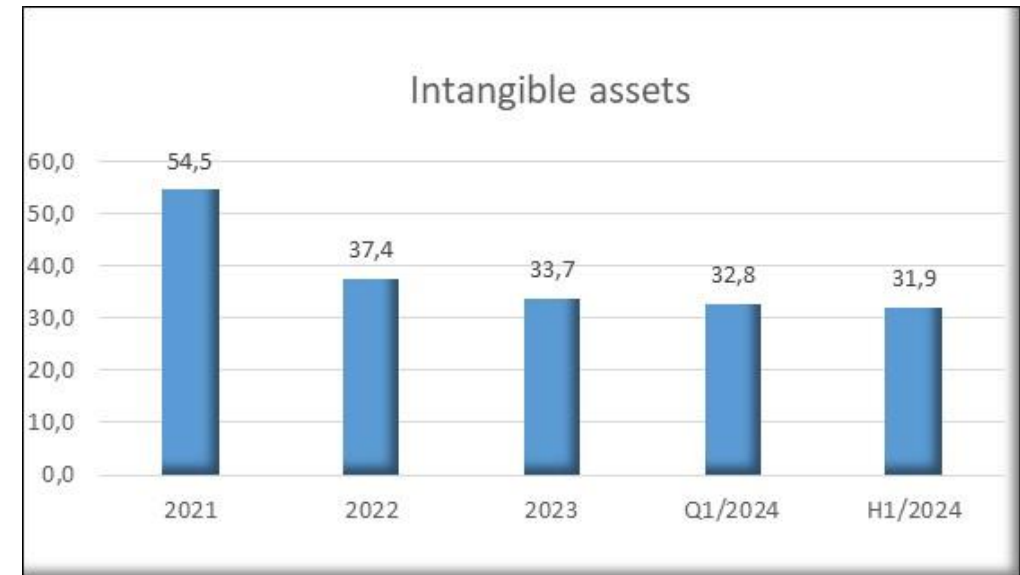
- + EUR 2.0m compared to December 2023 due to normal seasonal fluctuation



# Intangible Assets further decreased

## – Intangible assets

- ❑ 2022: Decrease of EUR 13.7m due to sale of paragon semvox to CARIAD
- ❑ 2023: Decrease of EUR 3.7m due to planned amortization as well as the asset deal with Clarios
- ❑ H1/2024: Decrease due to planned amortization
- ❑ Thereof EUR 2.5m intangible assets acquired in business acquisitions, which are amortized on a scheduled basis
- ❑ Thereof EUR 18.0m IAS 38 projects, which are amortized on a scheduled basis

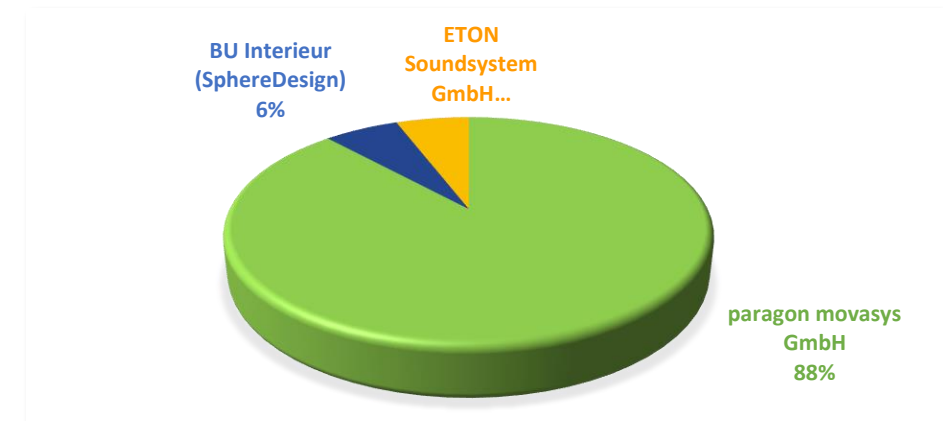
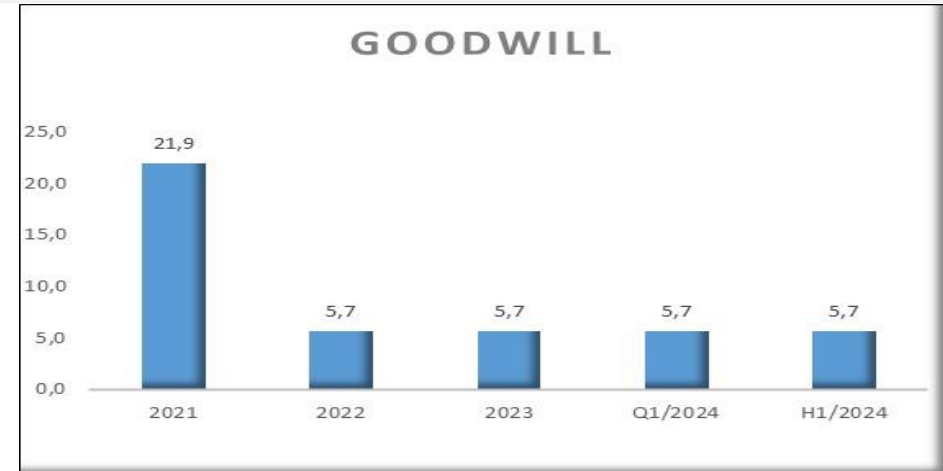


The Financials

# Goodwill reduced

**Inventories**

- ❑ Goodwill amounts to EUR 5.7m
- ❑ Goodwill related to paragon semvox GmbH (EUR 16.1m) (73.5%) sold to CARIAD SE
- ❑ Reduction of Goodwill by appr. ¾ (EUR 16.1m)
- ❑ EUR 5.1m relates to paragon movasys GmbH (largest BU)
- ❑ EUR 0.3m each are attributable to SphereDesign GmbH and ETON Soundsysteme GmbH



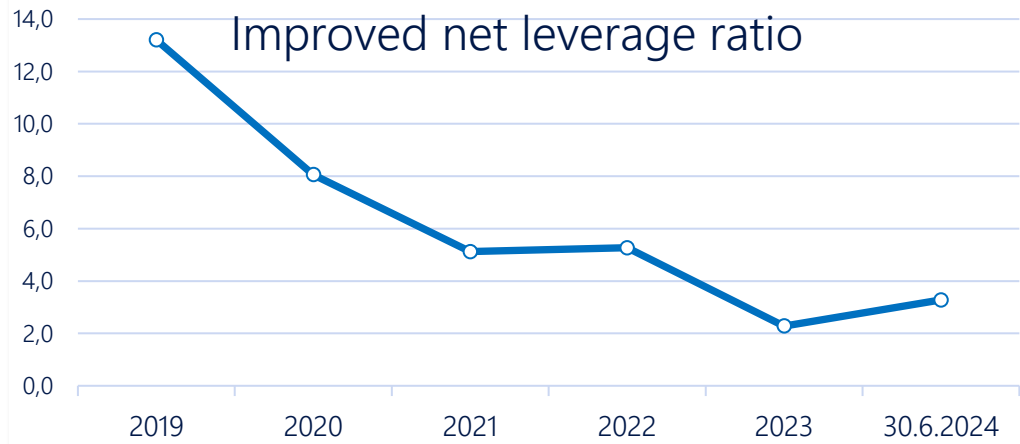
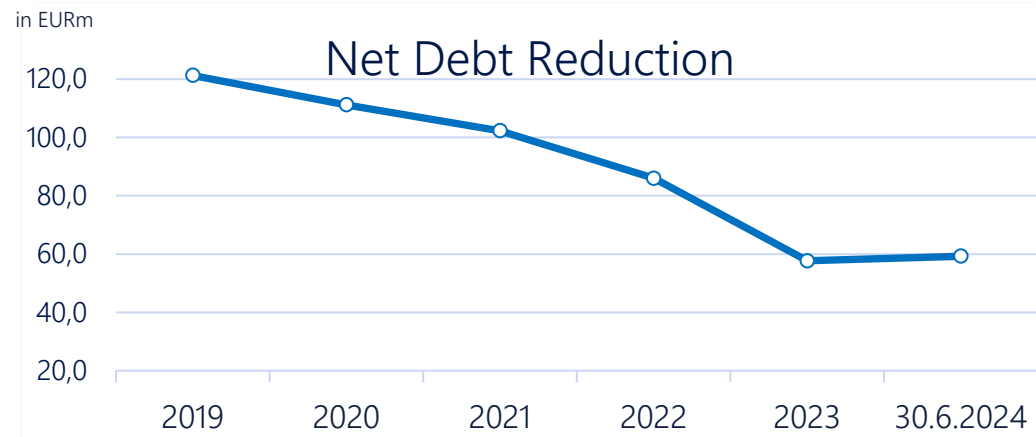
# EUR-Bond: Buy-back Program

- Nominal-Volume: EUR 50.0m
- Details:
  - Nominal volume (“Rahmennominal”) reduced to EUR 45.2m in 2023
  - Interest rate dependent on net leverage ratio confirmed by auditor at year end
  - Down from 9.25% to 7.5% from January 5, 2024, on
  - Bond is due July 5, 2027
- Buy back program:
  - **Actual terms and conditions give paragon the right to chose from different options to reduce the outstanding volume after selling paragon semvox GmbH**
  - Current repurchasing program of EUR 20.1m fulfills terms and conditions completely
  - paragon has to comply with the Market Abuse Regulation; daily trading is limited - until today paragon acquired EUR 0.6m
  - If repurchasing program isn’t successful until July 5, 2025, program could be prolonged or followed by a second repurchasing program
  - Only final maturity in three years is decisive – too far away in time as anyone could have an already fixed solution on hand
  - paragon has different options for repayment in mind (new bond, syndicated loan, or combination of both)



# The Financials

## Substantial Debt Reduction



### Comments

#### Net Debt Reduction

- ▣ Since end of 2019 net debt was reduced by more than 50% from EUR 121.3m to EUR 59.2m
- ▣ Average monthly reduction in the last 54 months was EUR 1.2m
- ▣ paragon has achieved a solid base

#### Improved Net Leverage Ratio ("NLR")

- ▣ NLR significantly improved from 13.2 to 3.3 due to reduced debt level and improved profitability
- ▣ Interest rate of bond depends on net leverage ratio; Reduced NLR led to an interest rate of 7.5% from Jan 5, 2024, on

## H1/2024: Highlights at a Glance

Increase of operating cash flow from EUR -5.4m to EUR +2.6m

Moderate recovery of automotive industry expected in H2/2024

Product launches in H2 - Revenue target of EUR 160 to 165 valid

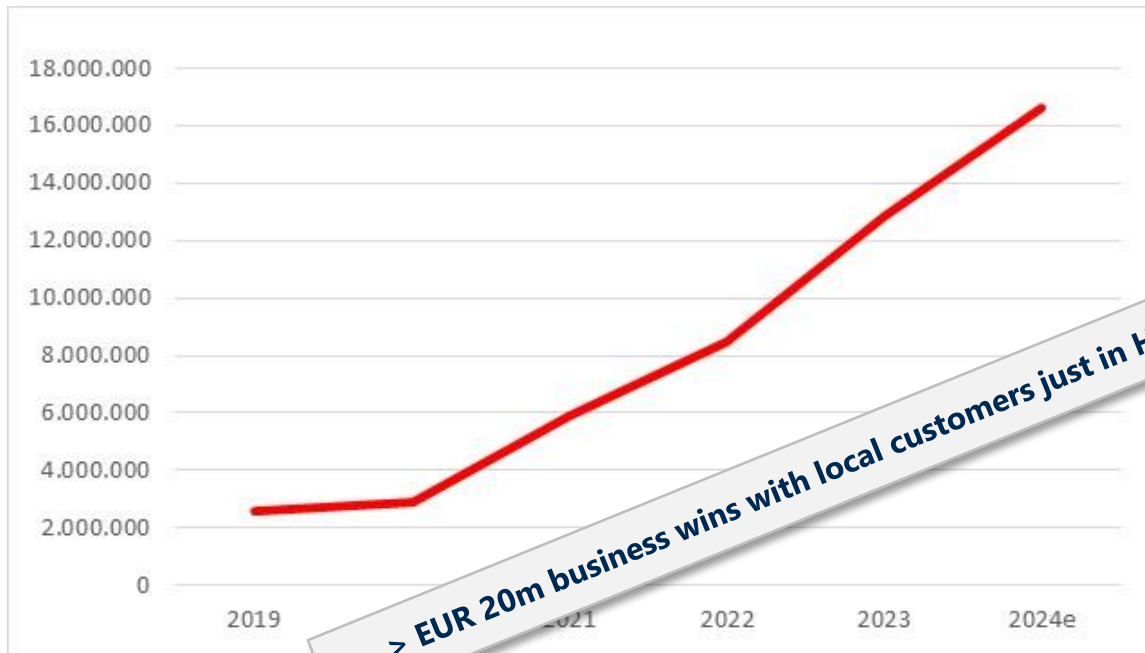
EBITDA target of EUR 18 to 20m underpinned by various measures

Slightly positive earnings expected for FY 2024

The Strategy

# China Strategy: Local for Local

Growth path with Chinese customers

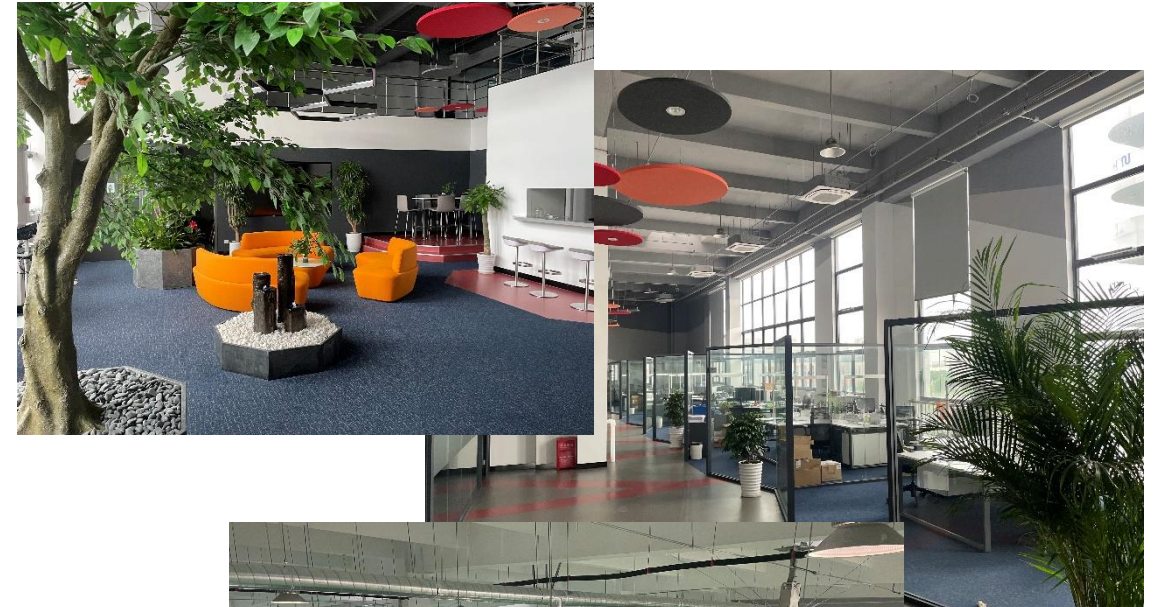


Customer Base

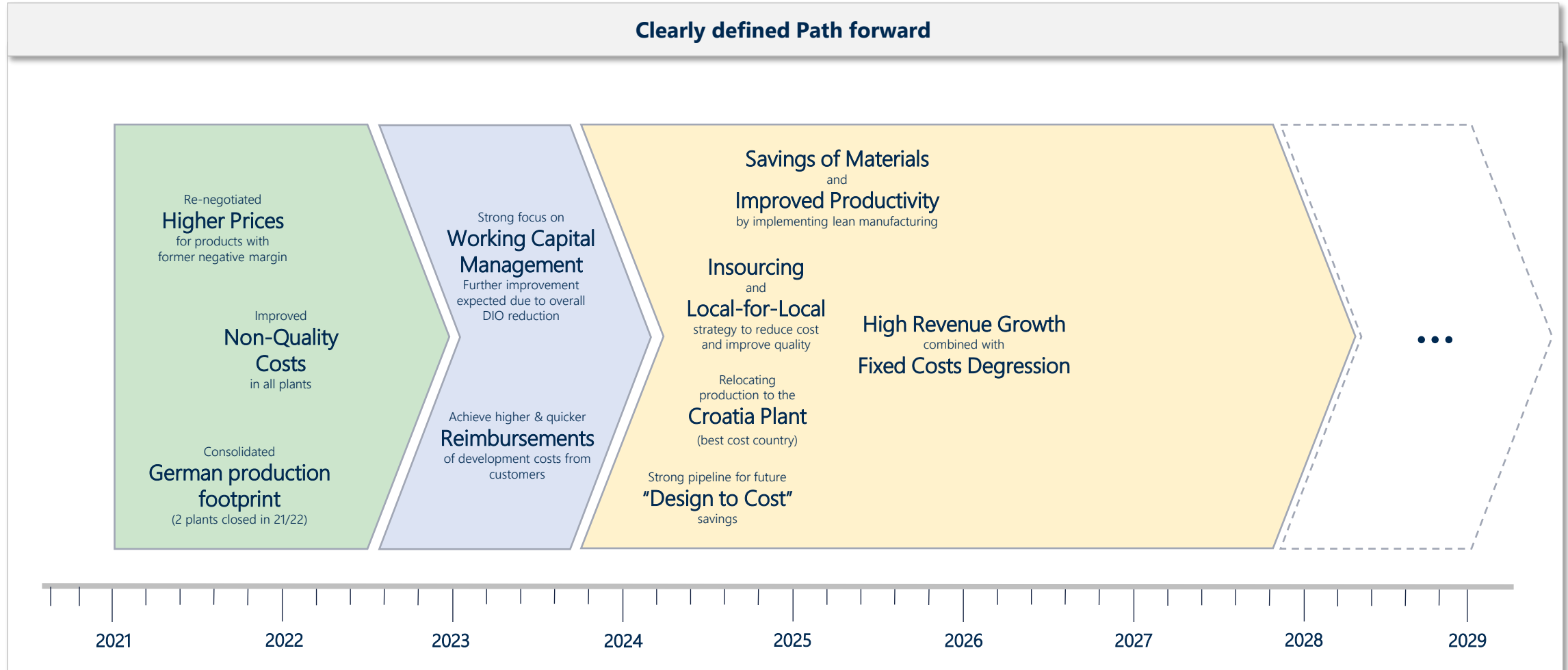


## H1/2024: New Concept Plant inaugurated in Kunshan (China)

- ❑ Move from 2015' plant in the neighborhood to state-of-the-art facility
- ❑ 6 months construction time – relocation took only 3 weeks with production ongoing
- ❑ More than 4,000 sqm production and office space for 70 employees
- ❑ Production of i.a. air quality products, adaptive spoilers, and cable harnesses for 30+ customers
- ❑ Competent R&D-team has developed products adapted to Chinese market
- ❑ Cornerstone for further growth together with Chinese OEMs ("Local-for-Local")
- ❑ Plant acts as concept for all future paragon-plants worldwide



## paragon's Substantial Operational Improvement Plan





# The Strategy

## Potential Order Volume pending

Order Volume of current Projects over Lifetime (in EURm)	Comments										
<table border="1"> <caption>Order Volume of current Projects over Lifetime (in EURm)</caption> <thead> <tr> <th>Category</th> <th>Order Volume (EURm)</th> </tr> </thead> <tbody> <tr> <td>Sensors</td> <td>350</td> </tr> <tr> <td>Interior</td> <td>260</td> </tr> <tr> <td>Kinematics</td> <td>120</td> </tr> <tr> <td>Power</td> <td>150</td> </tr> </tbody> </table>	Category	Order Volume (EURm)	Sensors	350	Interior	260	Kinematics	120	Power	150	<ul style="list-style-type: none"> <li>❑ Currently, paragon is working in parallel on <b>advanced engineering projects and paid proof-of-concepts ("POC")</b> on a <b>record-breaking level</b></li> <li>❑ These projects reflect a <b>potential order volume</b> over lifetime in total of <b>EUR 880m</b></li> </ul>
Category	Order Volume (EURm)										
Sensors	350										
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