



# Delivering strategic growth

AB Dynamics plc Interim results – 25 April 2023

**AB** DYNAMICS™

# Agenda

AB Dynamics today

Highlights

Financial results

Business review

Strategy update

Summary and outlook



Dr James Routh, Chief Executive Officer



Sarah Matthews-DeMers, Chief Financial Officer

# AB Dynamics today

## Track Testing Products & Services



- Driving Robots
- ADAS testing platforms
- Advanced track testing software
- ADAS testing dummies
- Track testing services
- Road based vehicle evaluation

**70% of revenue**

## Laboratory Testing and Simulation

### Simulation



- Full motion driving simulators
- Static simulators
- Physics based simulation software for ADAS, autonomy and sensor integration

**30% of revenue**

### Laboratory Testing Equipment



- Suspension Parameter Measurement Machine (SPMM)
- Large scale machine used to evaluate vehicle kinematics and compliance
- Steering testing systems
- Suspension NVH testing systems

## ABD Solutions



- Diversification into mining, defence and specialist vehicles
- Conversion of off-highway equipment to automated function
- Technology development largely complete

**Diversification**

Vehicle development end to end toolchain

# Highlights

Dr James Routh, Chief Executive Officer

# Continued strong financial performance, strategic progress and sustainable growth

Revenue

£49.0m

+30%

Adjusted\* operating profit

£7.8m

+37%

Adjusted\* operating margin

15.9%\*\*

+80 bps

EBITDA\*

£9.6m

+32%

Adjusted\* diluted EPS

27.5p

+38%

Net cash

£21.3m

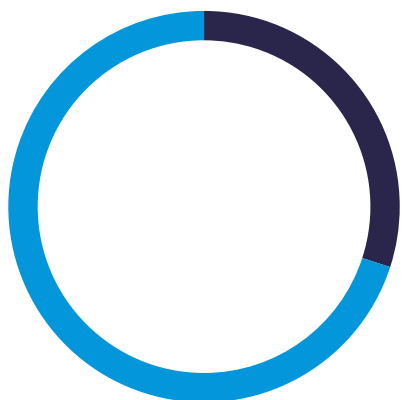
\* Before amortisation of acquired intangibles, acquisition related charges and exceptional items.

\*\* Excluding the investment in ABD Solutions, the operating margin was 18.0%.

# Results overview

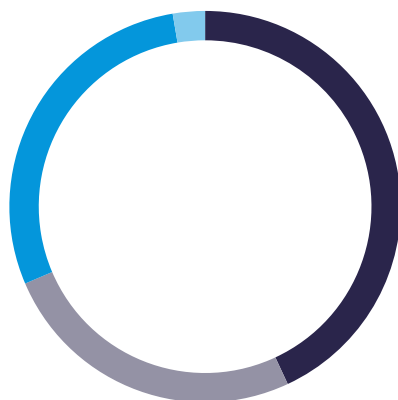
H1 2023 revenue of £49.0m +30%

## Revenue by sector



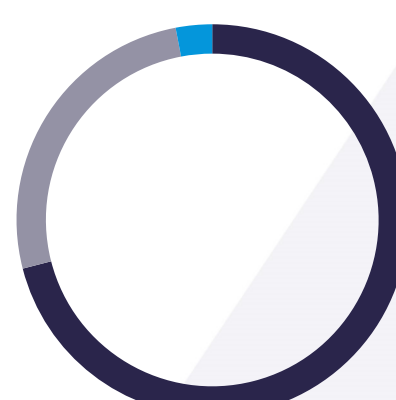
	£m	% of revenue
Laboratory testing and simulation	£14.7m	30%
Track testing	£34.3m	70%

## Revenue by geography



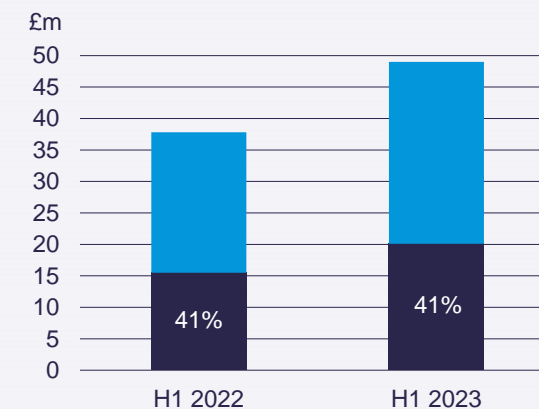
	£m	% of revenue
APAC (+21%)	£21.1m	43%
UK/EU (+32%)	£12.5m	25%
North America (+40%)	£14.1m	29%
ROW (+86%)	£1.3m	3%

## Revenue by customer category



	% of revenue
Automotive OEMs	71%
Service providers	26%
Tier 1 suppliers and technology	3%

## Proportion of recurring revenue



■ Recurring  
■ Original equipment

# Financial results

Sarah Matthews-DeMers, Chief Financial Officer

# Highlights

	H1 2023	H1 2022	Change
Revenue	<b>£49.0m</b>	£37.8m	<b>+30%</b>
Gross margin	<b>57.1%</b>	57.7%	<b>-60 bps</b>
EBITDA*	<b>£9.6m</b>	£7.3m	<b>+32%</b>
Adjusted* operating profit	<b>£7.8m</b>	£5.7m	<b>+37%</b>
Adjusted* operating margin	<b>15.9%</b>	15.1%	<b>+80 bps</b>
Adjusted* profit before tax	<b>£7.6m</b>	£5.5m	<b>+38%</b>
Adjusted* tax charge	<b>£1.3m</b>	£1.0m	<b>+30%</b>
Adjusted* tax rate	<b>16.5%</b>	18.0%	<b>-150 bps</b>
Adjusted* diluted earnings per share	<b>27.5p</b>	19.9p	<b>+38%</b>
Cash flow from operations*	<b>£9.5m</b>	£8.5m	<b>+12%</b>
Cash conversion	<b>99%</b>	116%	
Net cash	<b>£21.3m</b>	£27.7m	

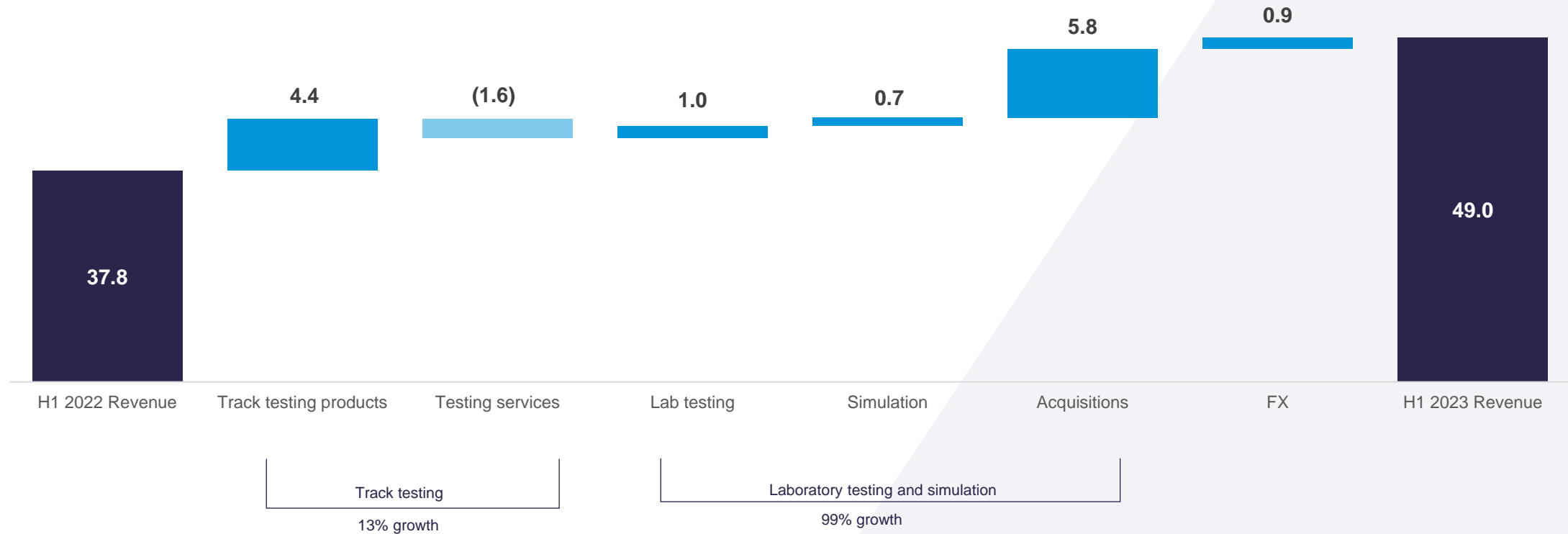
- Growth in organic revenue across both laboratory testing and simulation and track testing
- Gross margin reduction due to higher proportion of laboratory testing and simulation revenue
- Operating margin improved by 80 bps as a result of increased activity levels and operational improvements offset by the continued investment in ABD Solutions
- Significant net cash at period end of £21.3m after funding the initial consideration for the acquisition of Ansible Motion

\* Before amortisation of acquired intangibles, acquisition related charges and exceptional items.



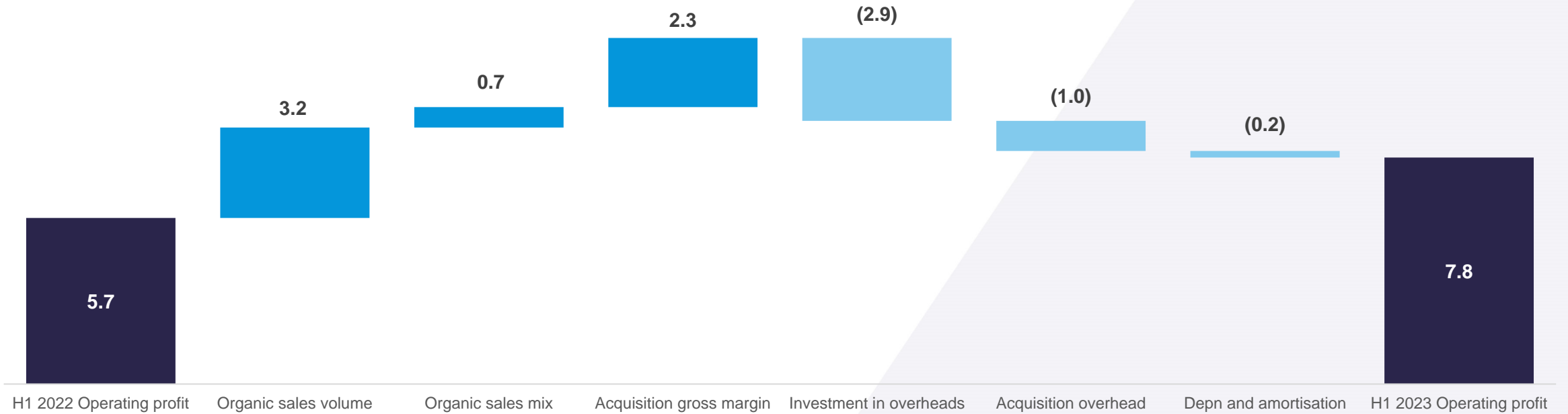
# Revenue

£m



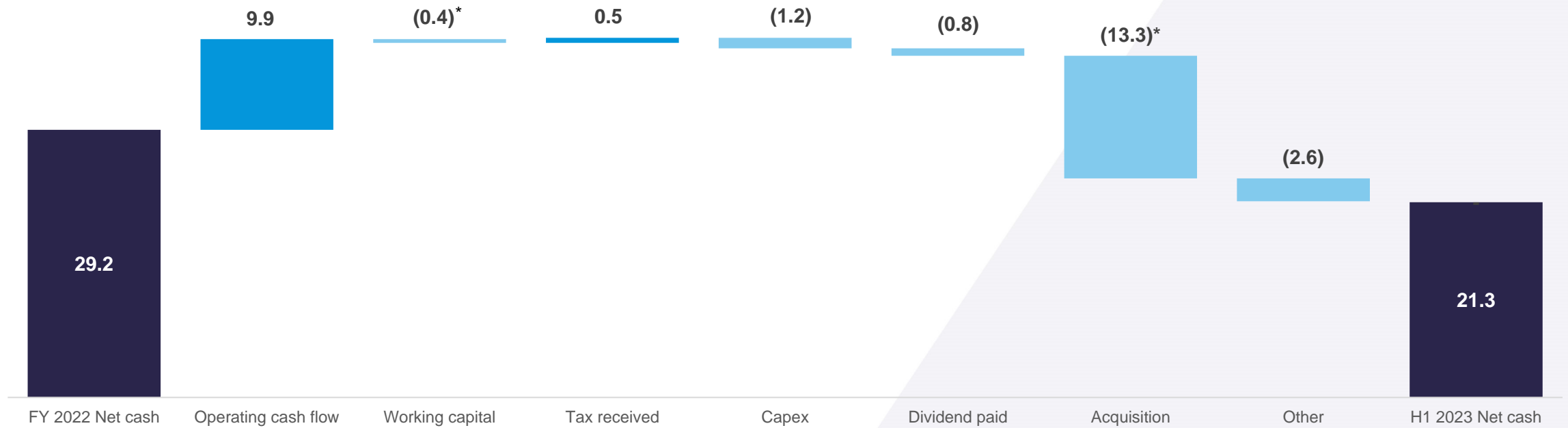
# Operating profit bridge

£m



# Net cash bridge

£m



\* The cash impact of the acquisition of Ansible Motion and the working capital movement has been adjusted to exclude settlement of a £2.1m bonus for pre-acquisition service to employees of the acquired entity which was funded by the previous owners.

# Constant currency

H1 2023 Constant currency analysis	H1 2023 As reported £m	H1 2023 Restated at 2022 rates £m	H1 2022 £m	Change %
Revenue	<b>49.0</b>	<b>48.1</b>	37.8	+27
Adjusted operating profit	<b>7.8</b>	<b>7.7</b>	5.7	+35

Average exchange rate	H1 2023	H1 2022
US\$	<b>1.19</b>	1.35
Euro	<b>1.14</b>	1.19
Yen	<b>164</b>	154

Sensitivity analysis	% of revenue	10% movement impact on revenue £m	10% movement impact on operating profit £m
US\$	<b>20%</b>	0.8	0.1
Euro	<b>22%</b>	1.0	0.2
Yen	<b>13%</b>	0.6	0.1
<b>Total</b>	<b>55%</b>	2.4	0.4

- Future guidance based on \$1.20, €1.15, ¥165

# Financial summary

- Strong revenue and profit growth despite macroeconomic challenges
- Operating margin improvement pre investment in ABD Solutions
- Our robust balance sheet enables investment in continuing to strengthen the business
- Acquisition of Ansible Motion delivering as expected

Cash conversion

99%

Operating margin excluding ABD Solutions

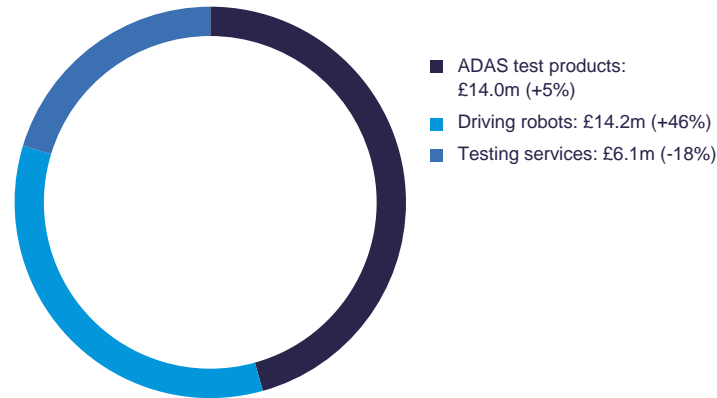
18.0%

# Business review

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# Track testing

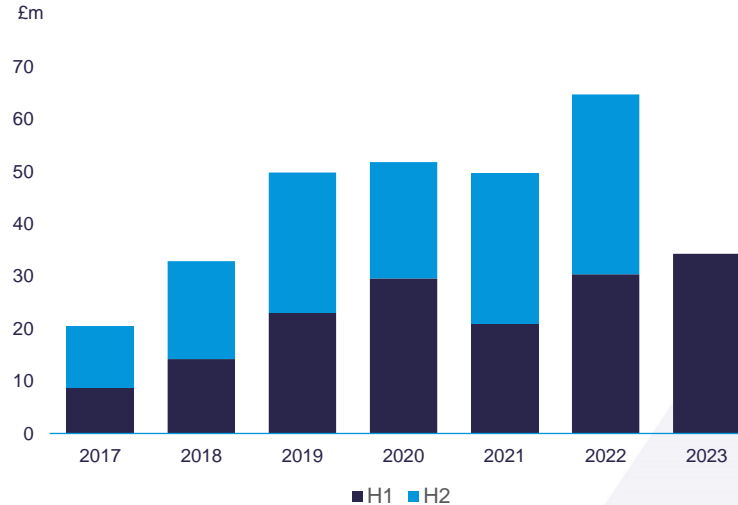
## Revenue by sector



£34.3m

+13%

## Track testing revenue

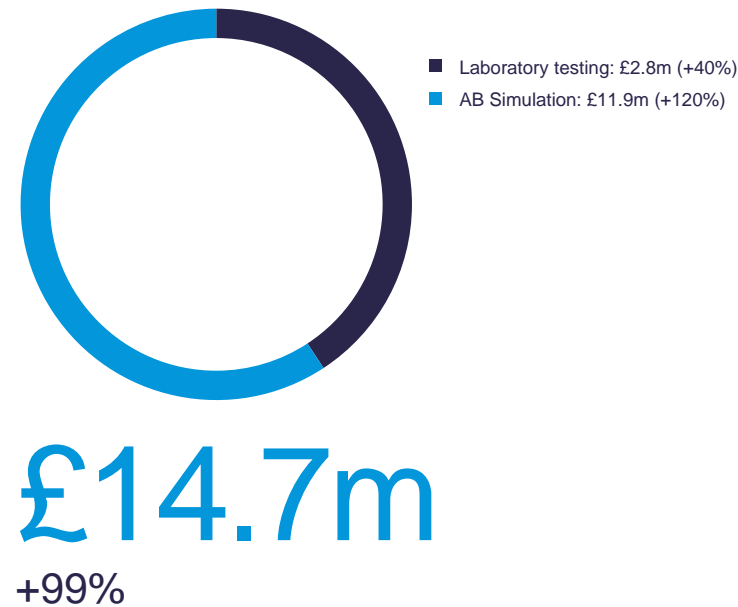


## Highlights

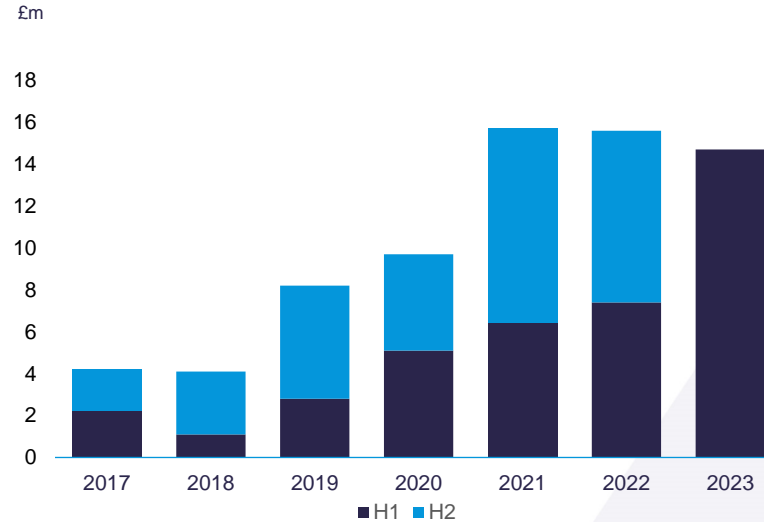
- Market drivers continue to support track testing activity levels
- Strong growth in driving robots with moderate growth in ADAS test products
- Weaker performance in testing services due to contract delays in US and China lockdowns
- Market launch of new LaunchPad Spin product and SM360/SP360 ADAS target products
- New simplified track testing software for NCAP applications
- Operational facilities development at California based test track

# Laboratory testing and simulation

## Revenue by sector



## Laboratory testing and simulation



## Highlights

- Very strong growth in simulation driven by contribution from Ansible Motion and a very good performance at rFpro
- rFpro released Ray Tracing capability for simulation software
- Development of Alpha simulator technology on schedule
- Successful integration of Ansible Motion, performing well and in line with expectations
- Laboratory testing revenues increased strongly due to delivery of large SPMM contracts and strong order backlog



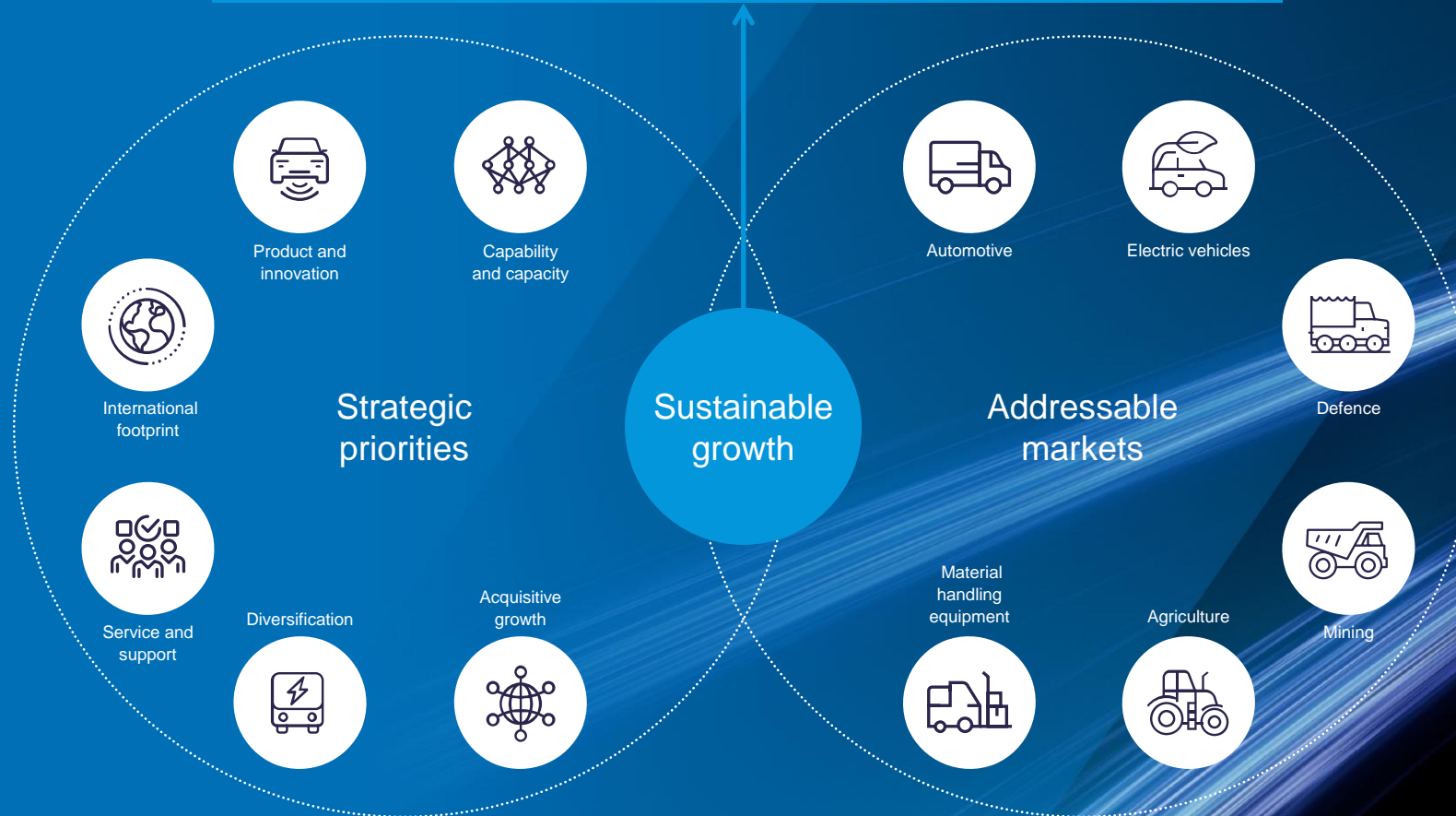
# Strategy update

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# Strategy

## Our purpose

We accelerate our customers' drive towards net zero emissions, improving road safety and the automation of vehicle applications through leadership and innovation in engineering and technology.



Building a broader based business to drive sustainable growth

# Progress against strategic priorities



## Product and innovation

- LaunchPad Spin development complete and ready for market launch
- Motorcycle and articulating pedestrian ADAS dummies launched and awaiting certification
- Launch of new simplified ADAS track testing software solution
- Durability testing system developed and launched
- rFpro Ray Tracing technology launch
- Alpha simulator product development continues as per plan



## Capability and capacity

- Operational improvement programme delivering good results in quality and delivery performance
- Rationalisation of UK manufacturing sites into Bradford on Avon completed
- New track and laboratory testing services facility nearing completion in California
- ERP system go-live in UK successfully delivered



## Diversification

- ABD Solutions technology development on plan and de-risked
- Delivery of Japanese R&D contract on schedule
- Numerous commercial opportunities with a particular focus on mining and port operations
- Signed MoU with Jevons Robotics in Australia
- Additional £1m contract for construction applications for a UK based customer



## Acquisitive growth

- Acquisition of Ansible Motion completed September 2022
- Integration of Ansible Motion complete and performing in line with expectations
- Good pipeline of further value-enhancing acquisitions

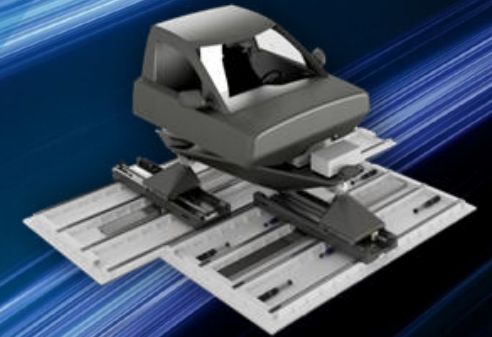
# AB Simulation progress

- **Integration of Ansible Motion and AB Dynamics simulator business**

- Single simulator business with critical mass, expertise, experience and product range to lead the global market
- Reviewing UK facilities requirements to deliver anticipated growth
- Integrated, single coherent product offering to meet customers' use cases and budgets
- Development of Alpha range with world-class dynamic performance and an efficient spatial footprint
- Building strategic global partnerships in North America and Asia Pacific

- **Developments in simulation software**

- rFpro's new technology significantly reduces dependence on real-world testing for the development of AVs and advanced future ADAS
- State-of-the-art ray tracing rendering delivers ultra-high fidelity and realistic simulation, designed to feed the perception systems used in AVs and simulating how vehicle sensors "see" the world
- Scalable "pay as you go" HPC solution in development



# ABD Solutions progress

- Mission to accelerate the automation of vehicle applications with a focus on mining, defence and specialist vehicles
- Technology programme on track including development of new robotic hardware and the Indigo Drive user interface
- Digital twin developed which provides operational environment validation and a platform for accelerated product testing
- Japanese mining R&D contract delivering as per plan
- New contract for construction industry applications for UK based customer
- Signed Memorandum of Understanding with Jevons Robotics in Australia for mining applications
- Focus on transition from technology development to commercialisation with negotiations ongoing around mining related contracts and scaling up the commercial team
- Strong pipeline of commercial opportunities in mining, specialist vehicles and port applications although timing remains uncertain



# Capital allocation framework to deliver sustainable compounding growth as well as growing returns to shareholders

1

Continuous organic investment and innovation to protect and grow core business

2

Organic investment into ABD Solutions driving growth in adjacent markets by leveraging core technology

Disciplined approach to investment, returns and capital efficiency

3

Complementary acquisitions contributing to one or more of the Group's stated strategies

4

Progressive dividend policy

# AB Dynamics tomorrow

## Organic growth



- Organic growth driven by regulation and rapid technology change
- Continuous new product development drives organic revenue growth
- Operating efficiencies drives margin expansion over the medium term

## ABD Solutions



- Transitioned from technology to commercialisation
- Significant market opportunity
- Opportunity to diversify the business and drive strong organic revenues

## Simulation



- Significantly enhanced simulation and software capabilities
- Expanded product range created through the acquisitions of rFpro and Ansible Motion
- Continued technology investment will drive organic growth

## Strong financial position



- Well capitalised providing scope for further value-enhancing growth investment through:
  - Technology and New Product Development
  - Carefully selected acquisitions

Sustainable growth, margin improvement and value creation

# Summary and outlook

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# Summary and outlook

- Strong revenue and operating profit growth of 30% and 37% respectively
- Particularly strong performance in Laboratory Testing and Simulation
- The Group has a solid order book providing visibility into H2 2023
- Continued investment in new product development, capabilities and operational improvements
- ABD Solutions delivering as per plan and transitioning from technical development to commercialisation
- Post-acquisition integration of Ansible Motion successfully completed and delivering in line with expectations
- Outlook
  - Long-term structural and regulatory growth drivers remain supportive of continued growth
  - Continued trading momentum provides confidence for H2 2023
  - Strong balance sheet supports continued investment in innovation and value-enhancing acquisitions



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# Alternative performance measures

	Cash flow impact			
	H1 2023 £m	H1 2022 £m	H1 2023 £m	H1 2022 £m
Amortisation of acquired intangibles	3.7	2.7	–	–
Acquisition related costs	0.4	–	0.4	–
ERP development costs	0.8	0.5	0.8	0.5
Acquisition related finance costs	0.8	–	–	–
Acquisition related bonus payment	–	–	2.1	–
<b>Total adjustments to profit before tax</b>	<b>5.7</b>	<b>3.2</b>	<b>3.3</b>	<b>0.5</b>

# Balance sheet

	H1 2023 £m	FY 2022 £m
Goodwill and intangibles	76.6	50.5
Property, plant and equipment	27.1	26.6
<b>Fixed assets</b>	<b>103.7</b>	<b>77.1</b>
Working capital	9.3	9.3
Asset held for sale	1.9	1.9
Net cash	21.3	29.2
<b>Net current assets</b>	<b>32.5</b>	<b>40.4</b>
Tax liabilities	(9.1)	(5.5)
Deferred consideration	(11.2)	–
<b>Net assets</b>	<b>115.9</b>	<b>112.0</b>

- Balance sheet remains robust demonstrating the Group's resilience to macroeconomic pressures
- Significant cash resources enable continued investment in growth opportunities, NPD and infrastructure
- Net cash position allows the Group to focus on its strategy for long-term sustainable growth
- Revolving credit facility extension to February 2026

# Simulator product range

Performance

## Static Simulators

### Theta Seat

Entry level simulator with active steering and brake for early model development



### Theta Cube

Extremely high-quality self-contained transportable simulator



### Sigma Series

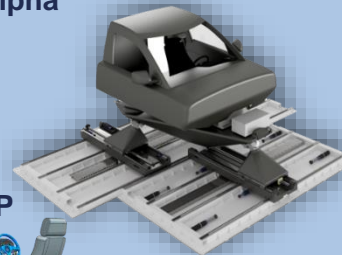
Fully immersive static simulator, featuring a real or replica vehicle cockpit and projection vision system



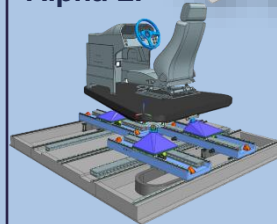
## Dynamic Simulators

### Under development

#### Alpha



#### Alpha LP



#### Alpha Series

New range of high frequency, low latency simulators currently under development. Designed to address the gap in the portfolio for competitively priced high-dynamic performance and low latency simulators

### Delta S3

High fidelity simulator with exceptionally large motion envelope for sustained cueing (featuring +/-180° yaw and scalable surge and sway)



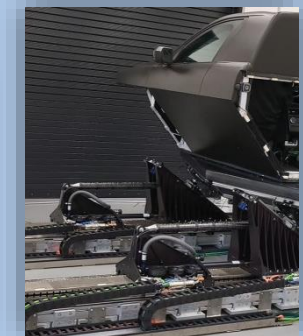
### Delta S3 Variants

High payload 1,000 Kg  
Extended travel 10m x 10m  
Multi-turn Yaw (>360°)  
Motorbike version



### aVDS

High dynamic response simulator primarily for motorsport applications with a pedigree from F1



### aVDS HP

High dynamic response simulator with high payload capability (700 Kg) for automotive applications

System Price

# Highly targeted acquisitions remain an important part of our value creation strategy

## Approach



- The market in which the Group operates for acquisitions is relatively large and fragmented
- The Group is active in identifying opportunities within the existing core automotive market, in addition to adjacent market sectors
- Any acquisition made by the Group should contribute to one or more of the Group's stated strategic priorities and should be value enhancing

## Evaluation



- Central resources to drive strategic development and specifically acquisitions
- Businesses should have a track record of sustainable revenue growth and strong gross margins, indicating a competitive market position with differentiated products and/or services
- Hybrid model of acquisitions operating as independent businesses whilst exploiting the synergies of being part of a larger Group

## Progress



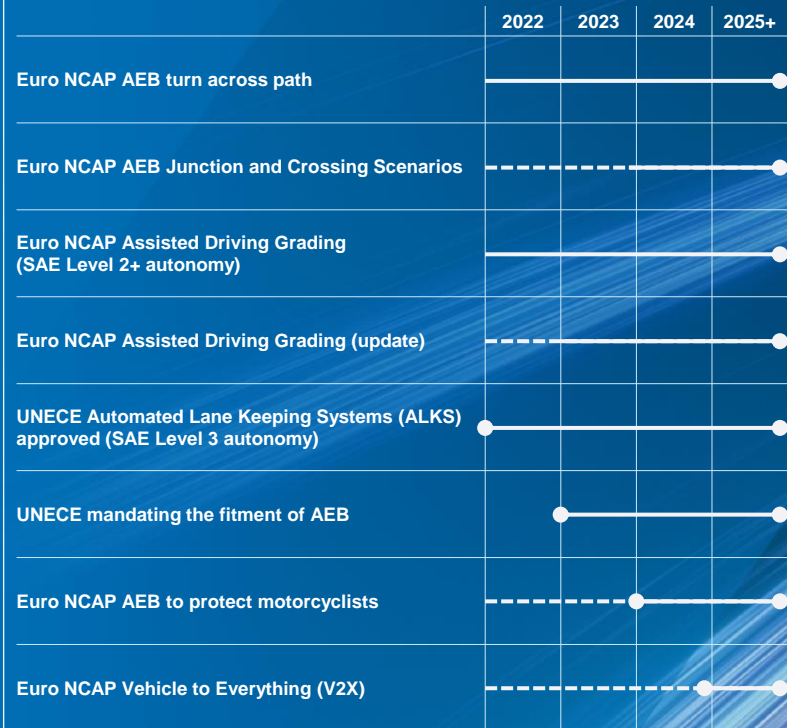
- Average of one acquisition delivered per year between FY 2019 and FY 2023
- Acquisitions to date are rFpro (simulation software), DRI (track testing), VadoTech (testing services) and Ansible Motion (DiL simulators)
- Good long-term pipeline of promising acquisition opportunities

Compounding organic growth through carefully selected, value-enhancing acquisitions

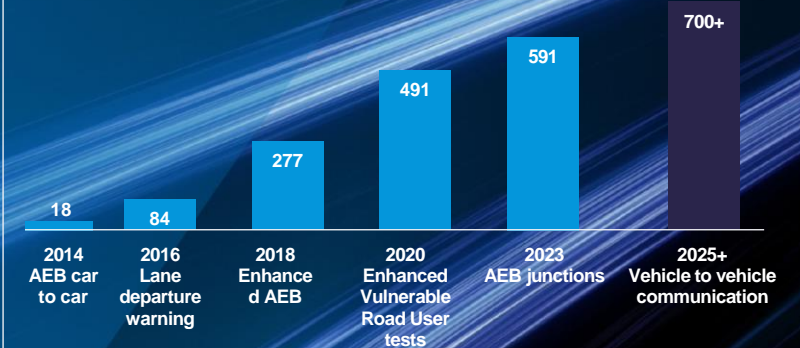
# Regulatory growth drivers

- Product development driven by future test scenarios
- Euro NCAP roadmap 2025-2030 launched:
  - New tests for automated driving functions
  - Enhancements to vehicle safety assist functions
  - The inclusion of testing of heavy trucks, expanding the newly introduced commercial vehicle rating scheme
  - Additional and enhanced categories of test targets to complement diversity in road users and increased sophistication of sensors

## Roadmap 2022–2025



## Euro NCAP test scenarios





# Regulatory growth drivers continued

## Roadmap 2026–2032

	2026	2029	2032
<b>Safe Driving</b>			
M1 Beyond Intelligent speed assistance	●		
M2 Driver Awareness: impaired driving to cognitive distraction	●	●	●
M3 AD Grading: Domain extension and driver engagement	●	●	●
<b>Crash Avoidance</b>			
M4: Improved robustness and real-world effectiveness	●	●	
M5: Leveraging vehicle connectivity		●	●
M6: Pedal misapplication	●		
<b>Crash Protection</b>			
M7: Senior protection: low severity testing with sled	●		
M8: Far-side and side pre-crash incentives	●	●	
M9: Protection equity through modelling	●	●	●
M10: Whiplash protection parity	●	●	●
M11: Passive VRU protection – A-pillar and micro-mobility	●	●	
<b>Post-Crash Protection</b>			
M12: Nest-gen updates including D-call and thermal scanning	●	●	



# Contact

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