# ADVANCED BRAKING TECHNOLOGY

ACCELERATED ENTITLEMENT OFFER AUGUST 2018



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# **COMPANY** OVERVIEW

ASX Code	ABV
Share Price	A\$0.003
Market Capitalisation	A\$6.7M
12-Month (High – Low)	\$0.007 - \$0.002
Revenue (FY18 - Unaudited)	A\$8.0m
Loss (FY18 - Unaudited)	A\$1.46m
Top 20 Shareholders	Hold 43%



Advanced Braking Technology Ltd (ABT), listed on the ASX (ASX:ABV), develops and distributes high performance, sealed brakes to the automotive, transport, and mining industries.

The company's founding product is the **ABT Failsafe** brake, which uses the award-winning and patented **sealed integrated braking system technology.** It has been used by **blue-chip customers for 20+ years.** 

The newly developed **Terra Dura**® polymer encased brake is being rolled-out globally and has the **potential to drive significant growth into new markets**.

**ABT's strong patent portfolio** dramatically restricts competition and provides exciting licensing potential.



# INVESTMENT HIGHLIGHTS



#### NEW PRODUCT TO DRIVE GROWTH

ABT launched their mass market product, the Terra Dura ® polymer encased brake, in January 2018. Strong initial uptake by blue-chip miners.

#### MARKET LEADING TECHNOLOGY

With over \$30M spent on R&D, ABT's technology is validated by blue-chip customers globally and faces virtually no competition.

#### Q GLOBAL PRODUCTS & MARKETS

Operating in a multi-billion dollar industry with potential for significant success through licensing deals to meet rising international and domestic demand.

#### Ø STRONG REVENUES − SET FOR GROWTH

Verging on break-even, the Company is underpinned by ~A\$8.0m in revenue (FY18 unaudited). ABT's pipeline has the potential to deliver significant YoY growth.

#### **Q** GLOBAL DISTRIBUTION PARTNERSHIPS

Comprehensive distribution and channel partner engagement model with 18+ distributors globally (and growing).

#### **Q** STRONG IP POSITION

Strong patent portfolio with a wide-breadth of patents in key global markets.

# KEY Products













# ACCELERATED ENTITLEMENT OFFER



# ACCELERATED ENTITLEMENT OFFER



The Offer	One (1) for three (3) pro-rata, accelerated non- renounceable entitlement offer
Issue Price	\$0.002 (0.2 cents)
Shares subscribed for under the Institutional component of the Entitlement offer	219,720,665
Shares to be Issued under the Retail Entitlement component of the Entitlement Offer*	521,652,981
Total Proceeds from Offer*	A\$1,482,747
Director participation	All Directors have subscribed for their full entitlement totalling approx \$227,000 under the Institutional Entitlement Offer. The Chairman and CEO intend to participate in the Shortfall, subject to shareholder approval and availability.

# ACCELERATED RIGHTS ISSUE **TIMETABLE**



Announcement of Entitlement Offer, Appendix 3B, Cleansing Notice	<b>Pre market Open</b> – Thursday 2 August 2018
Institutional Offer	Thursday 2 August 2018
Suspension	Monday 6 August 2018
Announcement of results of Institutional Offer	<b>Pre open</b> – Tuesday 7 August 2018
Normal Trading commences Record Date (date for determining entitlements of eligible shareholders to participate in the Offer as at 5:00pm (WST)	Tuesday 7 August 2018
<b>Offer Document Dispatched to Shareholders</b> (expected date of dispatch of offer document, entitlement and acceptance forms)	Friday 10th August 2018
Retail Entitlement Offer Opens	Friday 10th August 2018
Quotation of securities issued under the Institutional Offer	Monday 13 <sup>th</sup> August 2018
Last day to extend retail offer close date	Friday 17 <sup>th</sup> August 2018
Retail Entitlement Offer - Closing Date* 5:00pm (WST)	Wednesday 22nd August 2018
Announcement of results of Retail Offer	Monday 27thAugust 2018
ASX Notified of Shortfall	Wednesday 29th August 2018
Quotation of securities issued under retail offer	Thursday 30 <sup>th</sup> August 2018
Dispatch holding statements*	Friday 31st August 2018

\*This timetable is indicative only. The directors may vary these dates subject to the ASX Listing Rules. An extension of the closing date will delay the anticipated date for issue of the New Shares. The directors of ABT also reserve the right not to proceed with the whole or part of the Entitlement Offer any time prior to the issue of the New Shares under the Entitlement Offer. In that event, the relevant application monies (without interest) will be returned in full to applicants.

# USE OF FUNDS



<b>Phase 1:</b> Domestic blue-chip customers	Australia: Roll-out Terra Dura
and capitalising on successful D <u>-</u> Max trial	Enter <b>Europe</b> via an Isuzu distributor
Phase 2: Continued application	Significant expansion in <b>Canada</b>
development and entry of large global markets	Enter <b>Chile</b> 's vast mining market

# USE OF FUNDS – PHASE 1 AUSTRALIA ROLL-OUT TERRA DURA



Madad	<ul> <li>Strive to multiply the Australian revenue over a four-year period</li> <li>Terra Dura® expands addressable market from 50 underground to &gt;200 open cut</li> </ul>
Market	mines
	\$40m+ market opportunity
	Terra Dura - LandCruiser 70 is most common Australian mining vehicle
Products	ABT Failsafe - Service Australian underground mines
	<ul> <li>Next generation Failsafe Emergency brake addresses truck and bus 'roll away' incidents and accidents</li> </ul>
	<ul> <li>Mining - Operators, Blue Chips, Tier Ones, Contractors, Vehicle Dealers</li> </ul>
Customers & Applications	<ul> <li>Use long-established relations with existing customers to migrate from underground applications to exploiting vast opportunities across open cut mines</li> </ul>
	Civil construction opportunities following positive feedback from Lendlease
Go-to-market	Direct selling
Approach	<ul> <li>Distribution partners</li> </ul>
	Q1 – Q2 FY19 : Completion of Terra Dura trials with various blue-chip mining customers and subsequent roll-out across mine site fleets
Next Milestones	Q2 FY19 : First order for construction application
	Q3 FY19 : Launch Terra Dura front axle application

# USE OF FUNDS – PHASE 1 ENTER EUROPE



Market	<ul> <li>Significant opportunity across Europe for Isuzu D-Max application</li> <li>Finalise relationship with Northern Europe distributor</li> <li>Additional European Distributor has interests and opportunities in Germany and Eastern Europe</li> <li>ABT believes this is a A\$60m+ market opportunity across Europe</li> </ul>
Products	<ul> <li>Terra Dura Isuzu D-Max application – to be fitted to a 'ruggedize D-Max' edition. Dealer-fit.</li> </ul>
	<ul> <li>Direct selling to Distributor. Develop key account understanding and management.</li> </ul>
Go-to-market	<ul> <li>Access to additional European Distributors and on-sellers on basis of success with foundation Distributor.</li> </ul>
Approach	<ul> <li>Joint promotional activities and co-branding already agreed in-principle</li> </ul>
	<ul> <li>Will form a dedicated ABT sales structures in CY19</li> </ul>
Next Milestones	<ul> <li>Q2 FY19 : Launch of Terra Dura D-Max and first shipment to European Distributor</li> <li>Q4 FY19 : Targeted first order from next major European group</li> </ul>

# USE OF FUNDS – PHASE 2 EXPANSION CANADA



Market	<ul> <li>Immense revenue potential given both the size of the Canadian mining market and the volumes underpinning the North American Light Duty Vehicles</li> <li>A\$60m+ market opportunity</li> </ul>
Products	<ul> <li>Terra Dura application for a selected range of North American Light Duty Vehicles</li> </ul>
Customers & Applications	<ul><li>Mining</li><li>Adjacent markets</li></ul>
Go-to-market Approach	<ul> <li>Distribution Partners         <ul> <li>Expand long-established relations with Mobile Parts International and Miller Technologies</li> </ul> </li> <li>Will form a dedicated ABT sales structures in CY20</li> </ul>
Next Milestones	• Q3 FY 19: Kick-off of first new application work for accelerated growth opportunities

# USE OF FUNDS – PHASE 2 ENTER CHILE



Market	<ul> <li>Significant opportunities across the vast Chilean mining market</li> <li>Access a few dozen mining operations with fleets sizes of 200 – 2000 vehicles</li> <li>\$40m+ market opportunity</li> </ul>
Products	<ul> <li>Terra Dura – Mitsubishi Triton</li> <li>Failsafe and Emergency Failsafe opportunities given the very challenging Andean terrain</li> </ul>
Customers & Applications	<ul> <li>Mining</li> <li>Targeting mining companies like Codelco, largest mining company in Chile, state owned\Largest copper miner in the world, holding 20% of global reserves</li> </ul>
Go-to-market Approach	<ul> <li>Distribution vi key tier-one supplier into Chilean mining sector</li> <li>Co-promotion opportunities and ABT to support creation of market pull.</li> <li>May require ABT sales structure for local support and relation management</li> </ul>
Next Milestones	<ul> <li>Q1 FY19: Evaluation of first Failsafe application</li> <li>Q1 FY20: First order and shipment of Terra Dura Mitsubishi Triton</li> </ul>

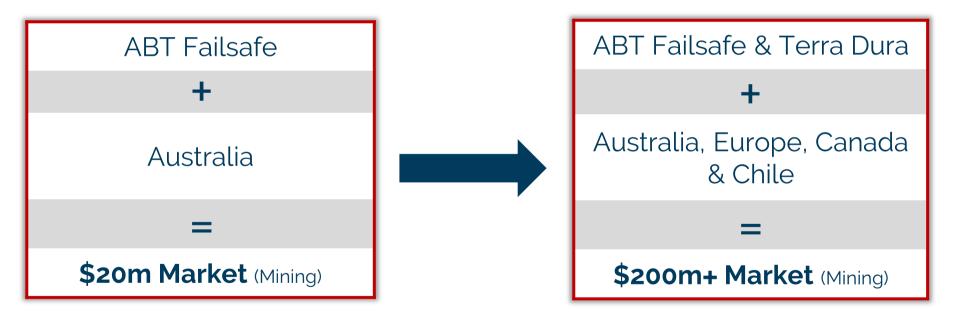
# ABT TRANSFORMATION



# ABT TRANSFORMATION FY18 – FY22



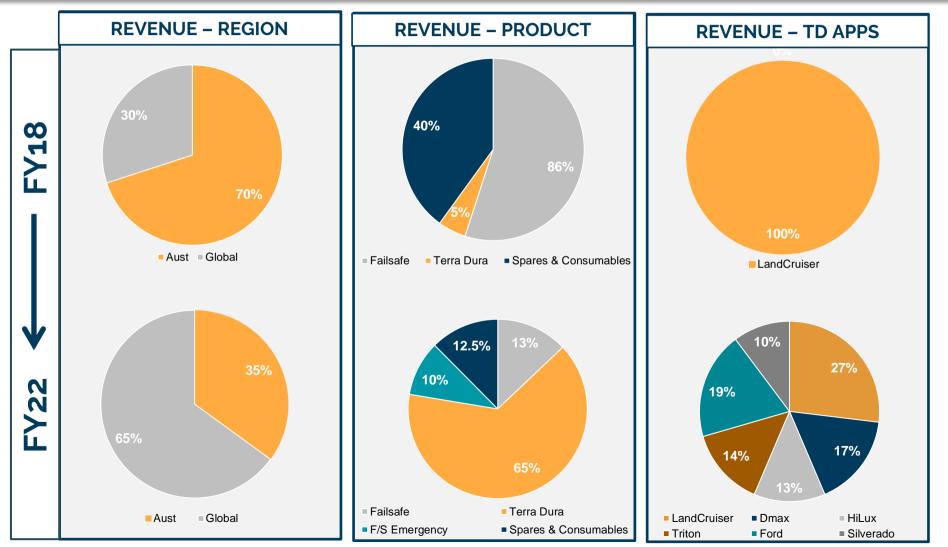
ABT has developed a robust growth strategy, founded on systematic product & vehicle application development and regional expansion via strategic partners



Given the lack of competition, ABT endeavours to effectively execute this strategy and impact the \$200m addressable mining market

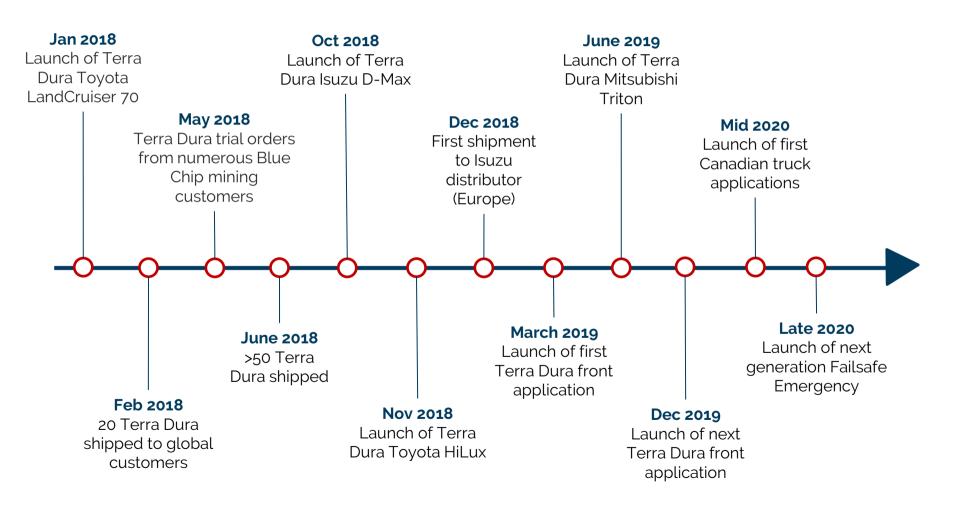
# ABT TRANSFORMATION FY18 – FY22





# GROWTH PATHWAY





## OUR **TRANSFORMATION** AND **VISION** IP BACKED PRODUCTS FOR **GLOBAL APPLICATIONS**



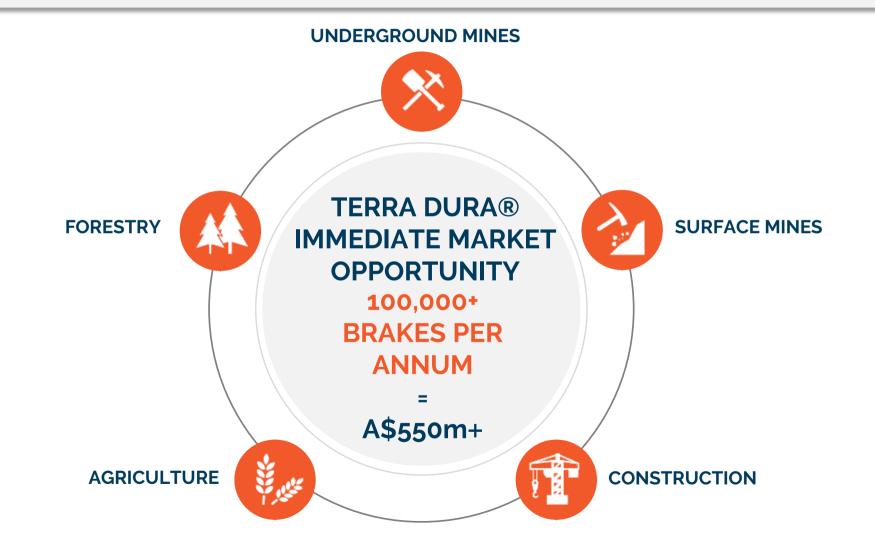
From	То
A single product line	Multiple <b>product lines</b>
Niche market (underground mining)	Mass market (harsh environments)
An order taker	Innovative solution provider
A domestic focus	A global leader
Focus on direct selling	Highly scalable, international distribution partners
Concentrated customer and market portfolio	A <b>balanced portfolio</b> of products, customers, geographies, and applications
Engineering driven product development	New product introductions providing <b>solutions for customers</b> and an attractive Rol
Supply side constraints	Scalable and robust supply chain
Loss generating	Profit generating

# MINING & BEYOND



# MARKET OPPORTUNITIES MINING & BEYOND





# BOARD AND MANAGEMENT



#### PETER HILDEBRANDT

**Chief Executive Officer** Expansive international management experience in automotive and industrial markets. Executive MBA, with a track record in technology and innovation driven applications. Started late August 2017.



DAVID SLACK Non-Executive Director With more than 40 years experience as a professional investor, David is currently the founding managing director of Karara Capital, a fund manager with over \$3.8B of Australian Equities under management.



**DAGMAR PARSONS** 

Non-Executive Chairman Dagmar has more than 25 years' experience in the mining and resources industry across a range of functions, working in senior executive roles with Worley Parsons, AECOM and Downer.



ADAM LEVINE Non-Executive Director

A lawyer by profession, Adam has over 20 years national and global experience in structuring and executing private equity investments and corporate finance transactions both as a legal advisor and a principal investor.



**GRAHAM ATKINSON** 

#### **Chief Financial Officer**

Fellow Certified Practicing Accountant with forty years' experience across a wide range of industries including, manufacturing, resources, health care, retail/wholesale, health and industrial services.

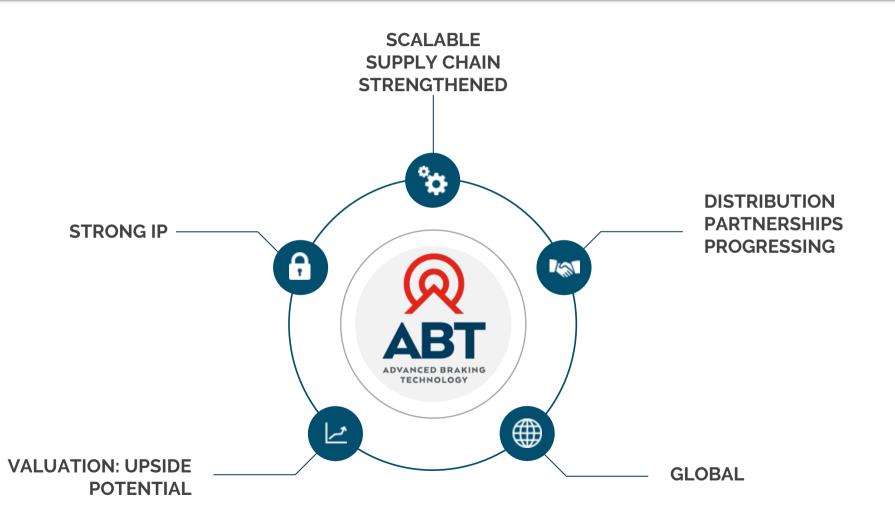


MARK LINDH Non-Executive Director A corporate advisor with more than 15 years of experience in advising mining and resources companies with a particular focus on the energy sector.



# INVESTMENT HIGHLIGHTS







# APPENDIX

## ABT FAILSAFE THE SAFETY SOLUTION



۵BT



CAPABILITIES	Integrated failsafe braking system – brake applied when: door opened, ignition off, seatbelt off, emergency button activated Fully enclosed wet brake
SELLING POINT	Regulation mandates " <b>FAILSAFE</b> " capabilities for vehicles used in underground mines (AUS, CAN, ZAF)
/ REGULATION	Enclosed brake protects components, enhancing durability and reducing maintenance costs
TARGET MARKET	Underground mines
MARKET SIZE	20,000+ vehicles
PRICE	~A <b>\$11,000 per set (2 wheels)</b>
PAYBACK	12 – 18 Months
CUSTOMERS	Leading blue-chip miners (e,g. BHP, Rio Tinto, South32, Newcrest, Yancoal)
PATENT PROTECTION	Long term patent coverage in key global markets
COMPETITION	Not approved for road use & cannot exceed 40 km/ph



TERRA DURA THE GROWTH DRIVER



**ABT** 

CAPABILITIES	Polymer encased, fully sealed, dry brake "Plug and Play" installation
SELLING POINT	Encased brake protects components, enhancing durability, <b>significantly</b> <b>reducing maintenance costs</b> Reduced risk of brake failure
IMMEDIATE TARGET MARKET	Surface mines, Underground mines, Construction, Forestry, Agriculture
MARKET SIZE	Immediate – 100,000+ vehicles Next phase – 500,000+ vehicles
PRICE	~A\$5,500 per set (2 wheels)
	3 - 6 Months - <b>savings of ~A\$10,000</b>
РАҮВАСК	<b>p.a</b> . per vehicle)
PAYBACK CUSTOMERS	•
	p.a. per vehicle) Fully paid trials (by customer) underway with leading blue-chip
CUSTOMERS	<ul> <li>p.a. per vehicle)</li> <li>Fully paid trials (by customer) underway with leading blue-chip miners</li> <li>Long term patent coverage in key</li> </ul>

## TERRA DURA COMPETITIVE ADVANTAGES





## SAFETY

Top braking performance remains completely unaffected by water, mud, or contaminants.

## LESS DOWNTIME

Removes the need for frequent servicing to replace worn or damaged brake parts.

### LOWER RUNNING COSTS

Labour and part replacement savings can pay back installation costs in as little as 3 months.

# ENVIRONMENTALLY FRIENDLY

Fully enclosed design results in zero braking emissions.

## LAST LONGER

Even under extreme conditions Terra Dura brake pads can last up to 50,000 km. ✓ EASY INSTALLATION

Can be self-installed and serviced by a qualified mechanic.



# TERRA DURA TEST RESULTS



#### **ROUGH ROAD TESTING**

- Loops of gravel road with mud and water holes
- In total, over 6,000 km of both rough road and normal road use
- Reached high speeds of up to 100km/h

#### RESULTS

#### Factory Brake

- Factory brake found with **fully worn pads** and **failed hub seal**
- If left unchecked, this would have resulted in a **costly rebuild of front axle**

#### Terra Dura

- Terra Dura® internals remained dry, the hub to spline wear was minimal and pad wear measures were less than 1mm
- Terra Dura® presented **no wheel bearing issues**
- Terra Dura® had no loss in brake performance

#### **DUST INGRESS TESTING**

 Test (IP6x standard) to determine product seal quality

#### RESULTS

• No dust ingress, providing further evidence that the Terra Dura® will protect its internal brake components from external, deteriorative particulates.

#### **COLD CLIMATE TESTING**

- US Military Standard Test (thermal shock), multiple cycles at -50°C
- Two field trials at Canadian Mines

#### RESULTS

- Testing revealed no excessive wear, damage or degradation,
- In field Terra Dura® operated without any problems and met performance expectations,

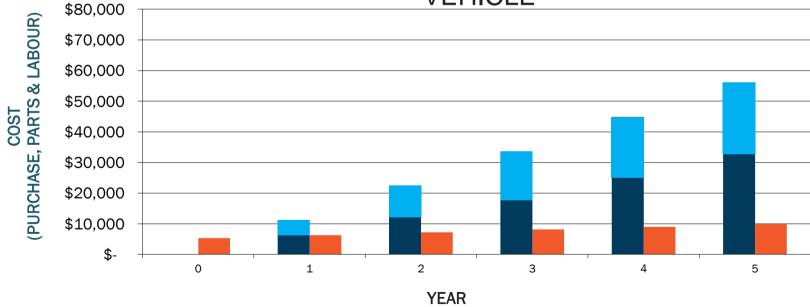


- Terra Dura<sup>®</sup> can save A\$40,000+ over 5 years, per vehicle
- Payback in as little as 3 months





## TOTAL ACCUMULATIVE COST OF OWNERSHIP PER VEHICLE





# TRENDS AND OPPORTUNITIES TERRA DURA



#### MINING

The mining industry is experiencing a strong resurgence, with commodity prices increasing and companies increasing their spend globally. These tailwinds support a broad roll-out of Terra Dura<sup>®</sup> into the surface mining market.

#### CONSTRUCTION

Infrastructure spend in Australia and abroad is at all time highs, set to reach \$9 trillion by 2025.<sup>1</sup> Terra Dura<sup>®</sup> is a perfect fit and supports entry into this enormous market.

### **DEMAND DRIVERS**

- Emissions: Concerns about dust and particulates from friction brakes
- Accidents: Concerns about truck and public transport incidents in particular
- Industry: Safety and OH&S
- Electrification of vehicles
- Untapped global markets



#### **APPLICATIONS**

Vehicle sales in Australia hitting record highs. Terra Dura<sup>®</sup> will initially supply for:



Toyota Landcruiser 70





1. https://www.treasurers.org/node/10297

# OUR FOCUS

The company has achieved targeted production run rates for first Terra Dura® applications and prepares to fulfill a significant expansion into international markets on the basis of more products to follow.

Management have carried out structural adjustments via the deployment of supply chain excellence, and development of a comprehensive distribution and channel partner engagement model that will support the projected growth trajectory over the next 12 months.





# BUSINESS MODEL



#### **OUTSOURCED MANUFACTURING**

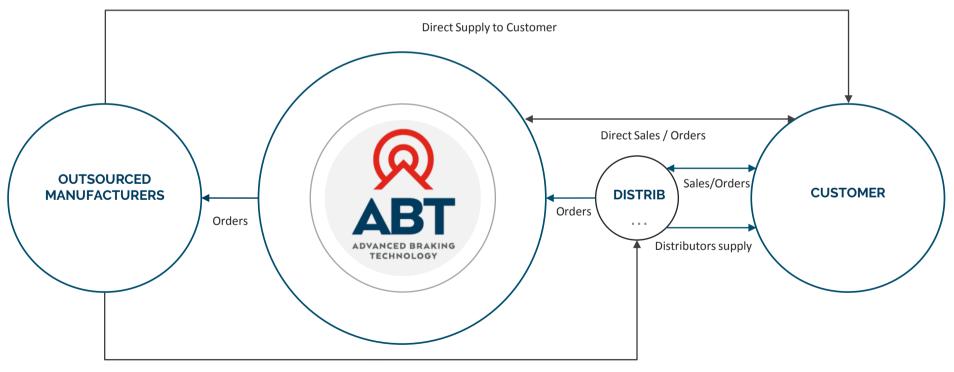
- Manufacturer(s) assemble and ship direct to end customer or distributor
- ABT holds minimal inventory

#### **ABT FOCUSES ON:**

- Direct sales
- Partner relations
- Research & Development
- Opportunity development

#### DISTRIBUTORS

 18+ distributors globally to drive international growth



**Direct Supply to Distributor** 

# GLOBAL DISTRIBUTORS



ABT is well-positioned to take innovative solutions to market and capture additional business development opportunities globally with:

- → 18+ distributors across key global markets.
- → Additional distributors to be engaged to enhance market penetration.

