

# Guidelines and Instructions

- This presentation contains detailed information about **Garrett Motion** worldwide. It is intended for external audiences.
- You are not permitted to release any Garrett business, industrial or financial information other than those listed in this presentation.
- You can copy/paste the slides you need and build a customized deck but please do not modify the slides.
- You may leave a printed copy of this presentation to your customers. If ever they request an electronic copy, please hand out a PDF copy only.
- Our holding company name is **Garrett Motion Inc.** When stating our company name in text, please use **Garrett Motion** the first time and then use **Garrett** only. **No acronym is allowed.**
- Garrett's Nasdaq stock market symbol is **GTX**. The stock exchange symbol is to be used only in connection with the company's Nasdaq listing and not as an abbreviation of the company name.
- The use of the letter 'G' as a standalone symbol is not permitted.



May 2022

# COMPANY OVERVIEW

**Garrett**  
ADVANCING MOTION



WHO WE ARE



# Garrett mission

Garrett is a cutting-edge technology provider that enables vehicles to become cleaner, more efficient and connected.

We lead the development of innovative and differentiated solutions which empower the transportation industry to redefine and further advance motion.





# Pioneering technology solutions provider



## Turbo Technology

- Reduce fuel usage
- Reduce exhaust emissions
- Enhance engine performance



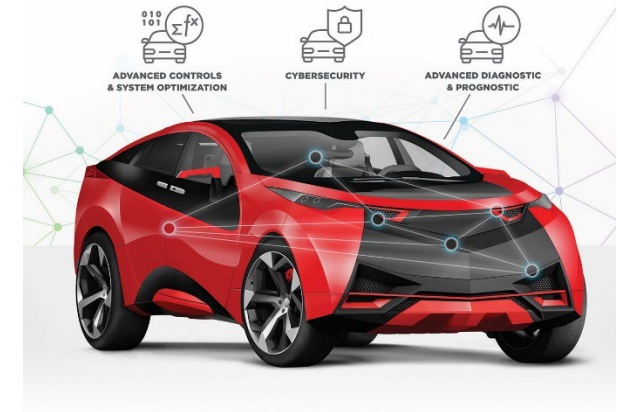
## Electric & Hybrid

- Optimize fuel economy
- Step toward a zero emissions future
- More responsive driving



## Connected Vehicles

- Protect vehicles against cyber attacks
- Diagnose and predict anomalies
- Avoid breakdown and liabilities



# Garrett at a glance

**\$3.6B**

Revenue in 2021

**~7,500**

Employees

**~1,250**

Engineers

**40**

Vehicle manufacturers served globally

**5**

R&D centers

**11**

“Close-to-customer”  
engineering centers

**5**

Software development  
centers

**1,600+**

Patents issued or pending

**13**

State-of-the-art  
manufacturing facilities

**100+**

New applications annually

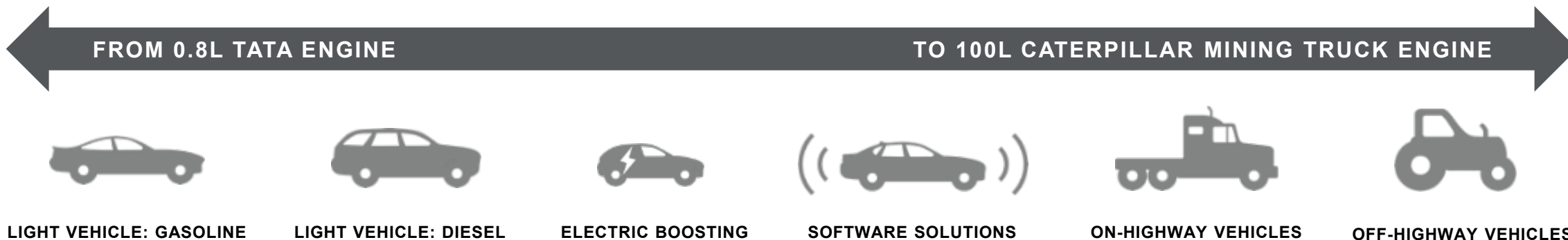
**50,000+**

Turbos / day

**110M+**

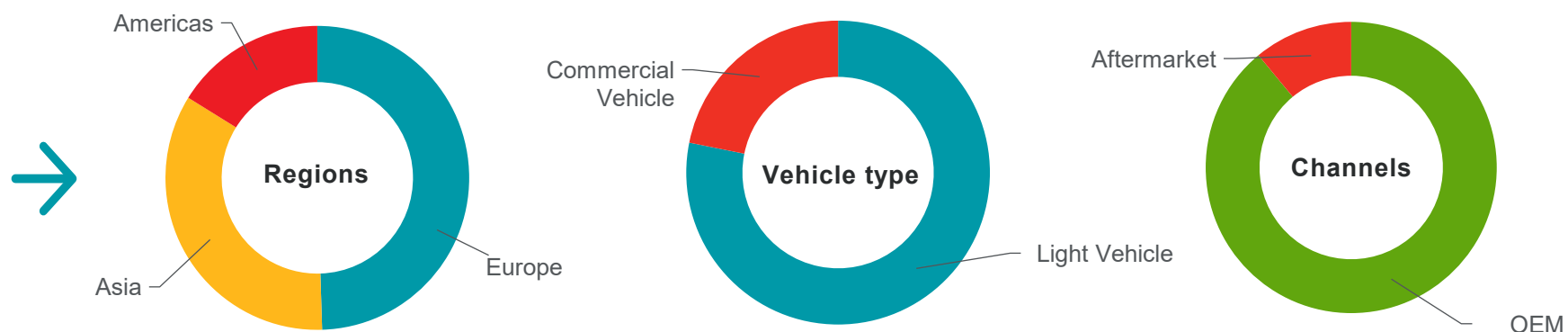
Garrett turbos in use globally

# Broad product portfolio, serving all markets



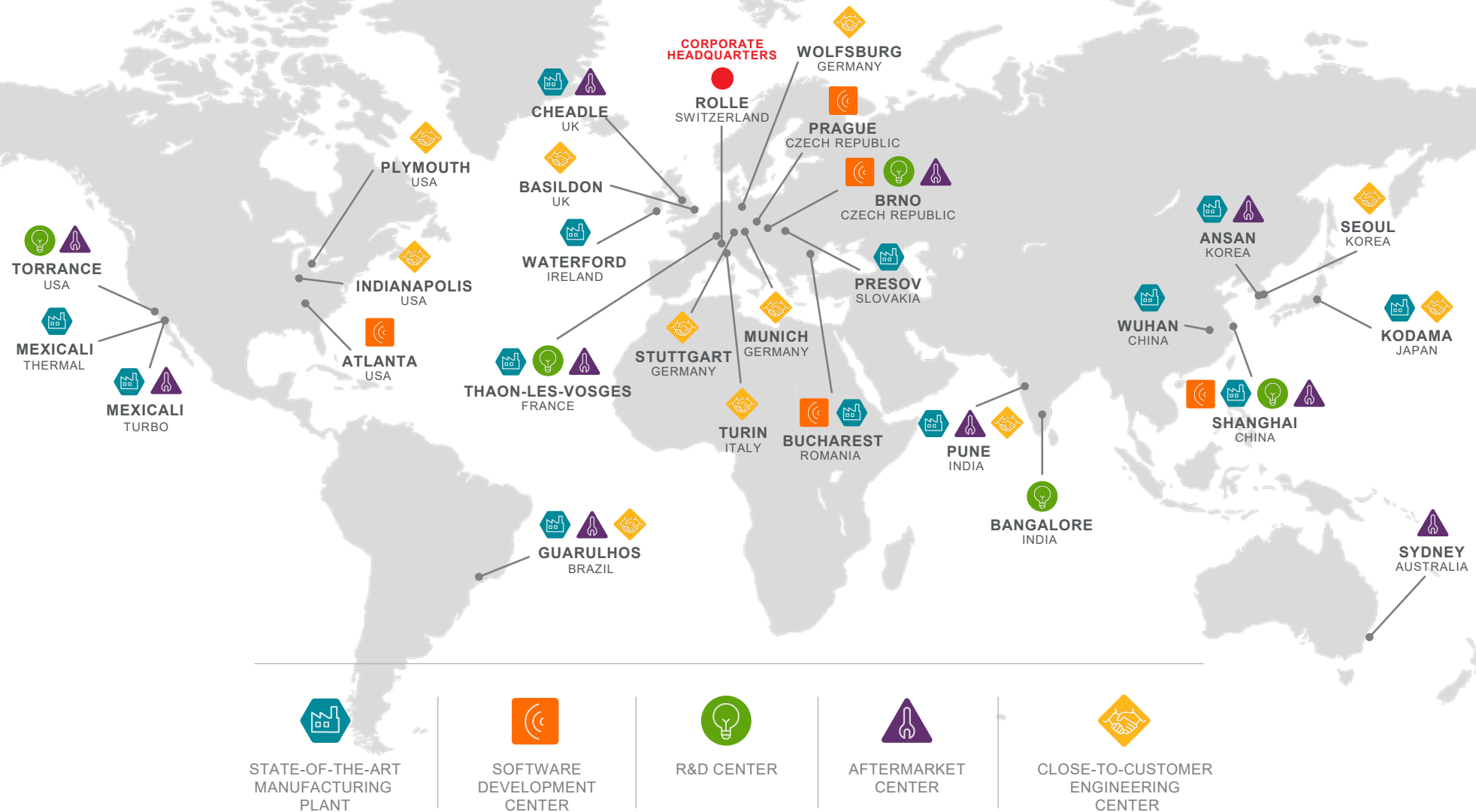
## Revenue in 2021

**\$3.6B**



**All vehicles, all segments, all regions**

# Global footprint, local player





# Differentiated integrated supply chain strategy



## Differentiated internal manufacturing technologies

- Home-grown “industry firsts” (including high-speed electron-beam, laser welding and more)
- Proprietary super high-speed balancing
- 100+ manufacturing patents and trade secrets

## Standardized manufacturing processes

- Global engine programs sourced from multiple plants
- Maximized flexibility and assets utilization
- Resilience to industrial risks

**13**

State-of-the-art manufacturing facilities

**50,000+**

Turbos / day

**110+**

New applications annually

# Long-term customer relationships with 40+ manufacturers

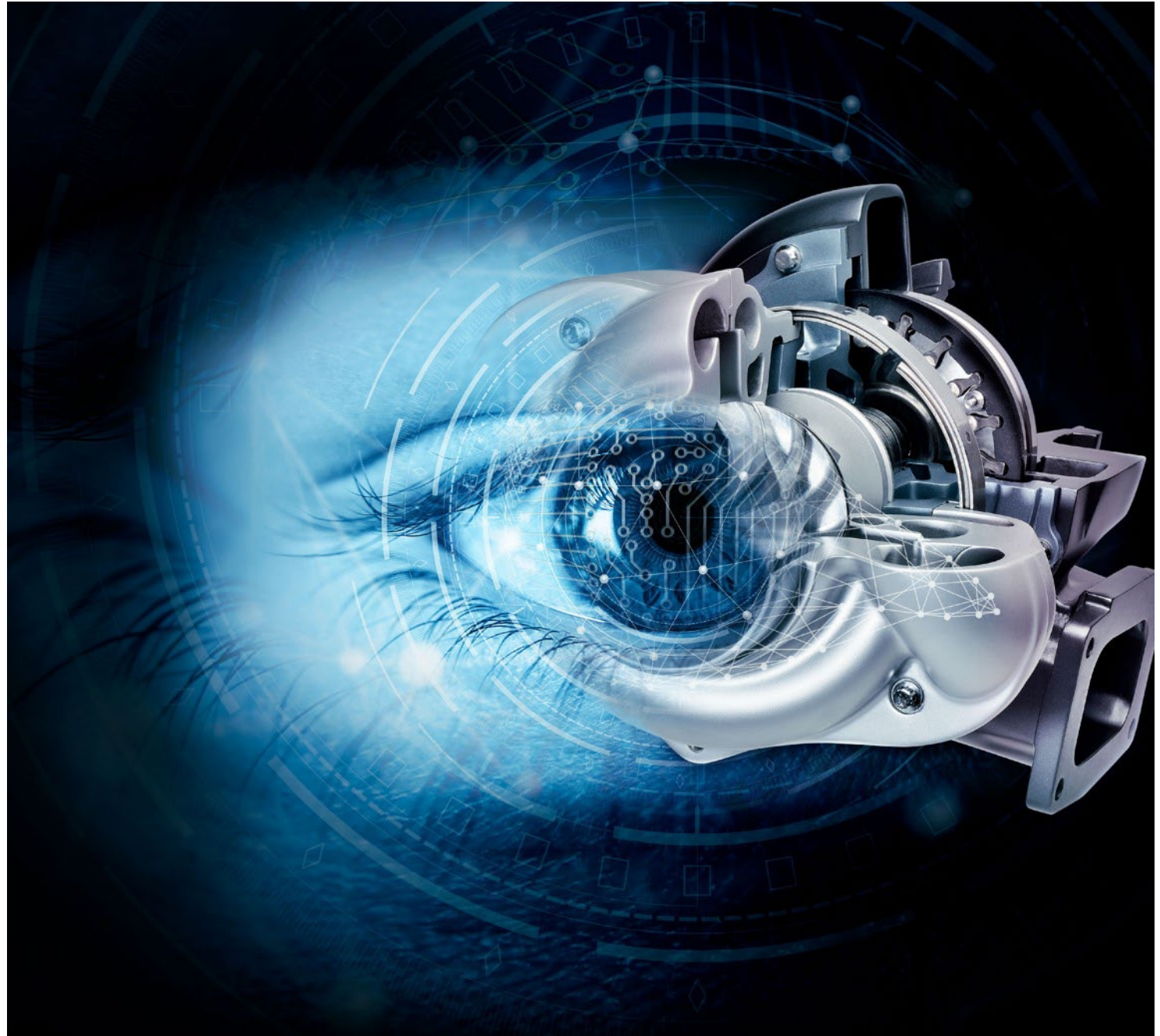


**SINGLE SUPPLIER PER ENGINE**  
**20+ YEARS CYCLE**



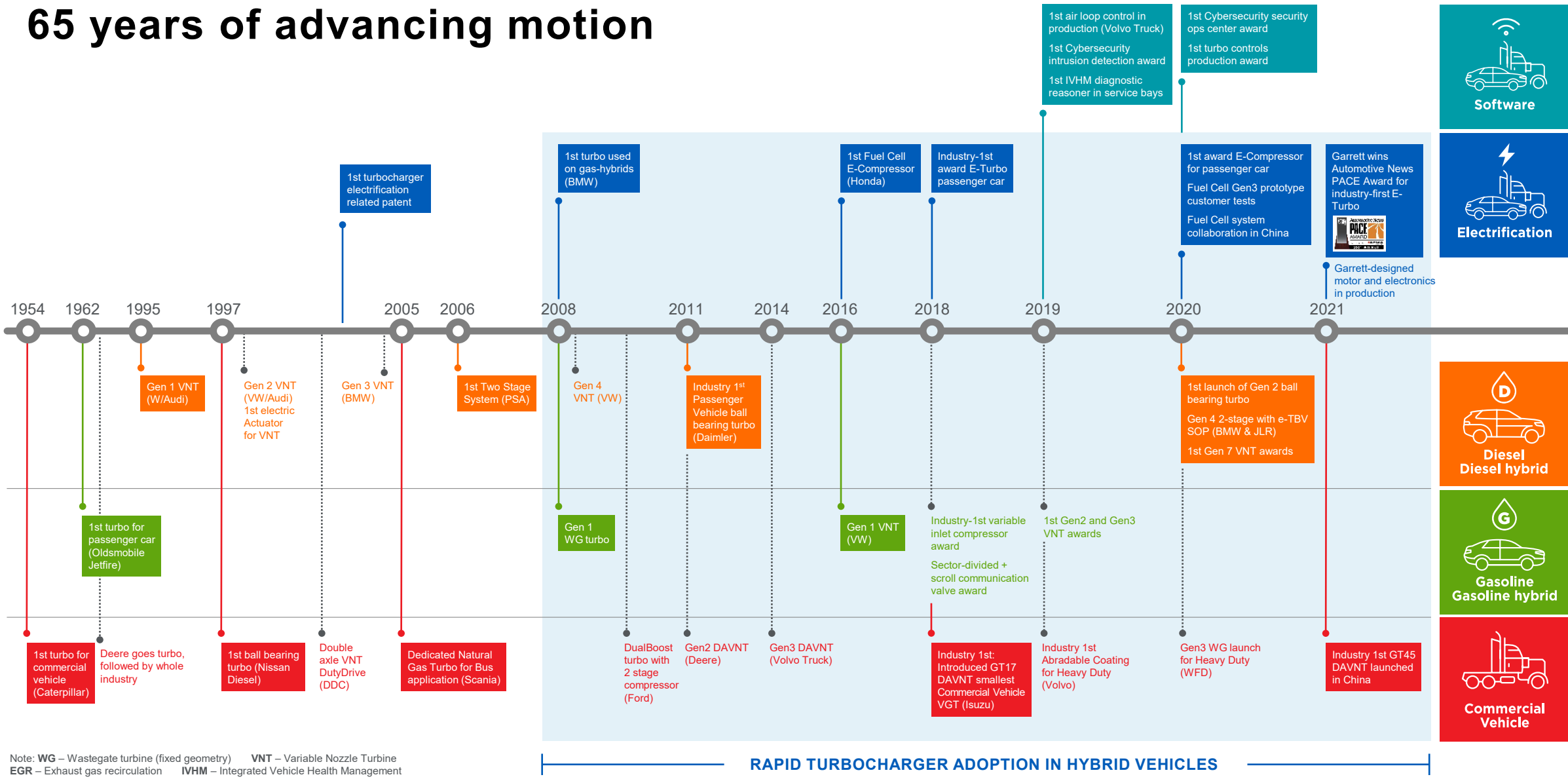
Early engagement leads to long-term global business relationships

# TECHNOLOGY DIFFERENTIATION








# 65 years of advancing motion



Accelerating technology innovation



# Garrett's differentiated technology offering

	TURBOCHARGERS	ELECTRIC & HYBRID	CONNECTED VEHICLE SOFTWARE
			
INNOVATIVE SOLUTIONS	<ul style="list-style-type: none"> <li>• Variable Geometry Turbine</li> <li>• Wastegate</li> <li>• Two Stage</li> </ul>	<ul style="list-style-type: none"> <li>• Award-winning E-Turbo technology</li> <li>• Two Stage Electric Compressor for Hydrogen Fuel Cell</li> <li>• 48V Electric Compressor</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Controls &amp; System Optimization</li> <li>• Cybersecurity</li> <li>• Advanced Diagnostic &amp; Prognostic</li> </ul>
BENEFITS	<ul style="list-style-type: none"> <li>• Fuel economy</li> <li>• Compliance with emissions standards</li> <li>• Reliability and asset uptime</li> </ul>	<ul style="list-style-type: none"> <li>• Improved CO2 for hybrid powertrains</li> <li>• Enhanced driving pleasure</li> <li>• Full portfolio of E-Boosting solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Safety &amp; security</li> <li>• Reliability / assured functionality</li> <li>• Vehicle uptime</li> </ul>

# Turbocharging – technology at the cutting edge

Journal bearing clearance

**0.0004 inches of oil film**

**7 times thinner than human hair**

Average compressor flow

**20 cubic meters per minute**

**the capacity of a utility van**

Wheels tip speed

**1,300 miles per hour**

**supersonic, more than 1.7 times  
the speed of sound**

Being shaken

**at 25g vibration level**

**fighter jets can withstand ~14g**

From 50,000 RPM to 200,000 RPM

**in less than 2 seconds**

**3 seconds for F-16 engine to  
spool up to maximum thrust**

Rotor group rotating speed

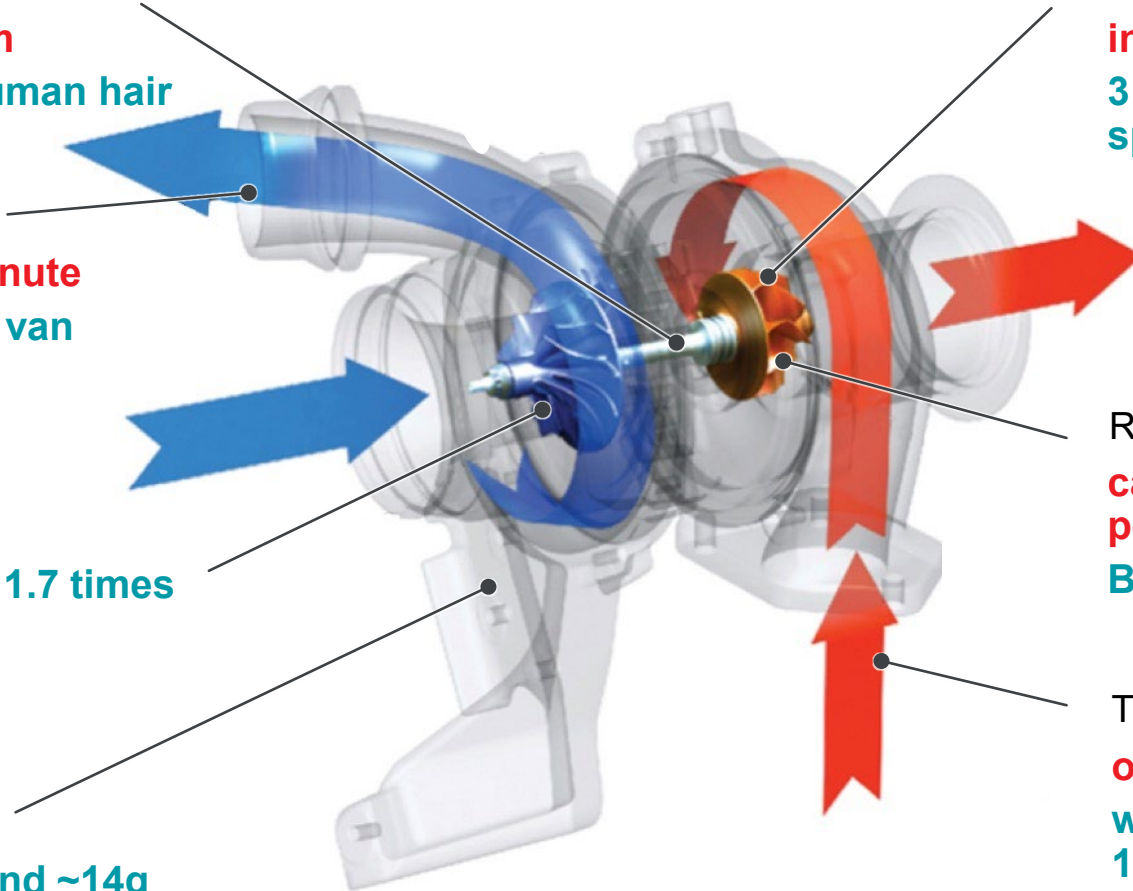
**can reach 350,000 revolutions  
per minute**

**B787 engines reach only 14,000 RPM**

Turbine inlet temperature

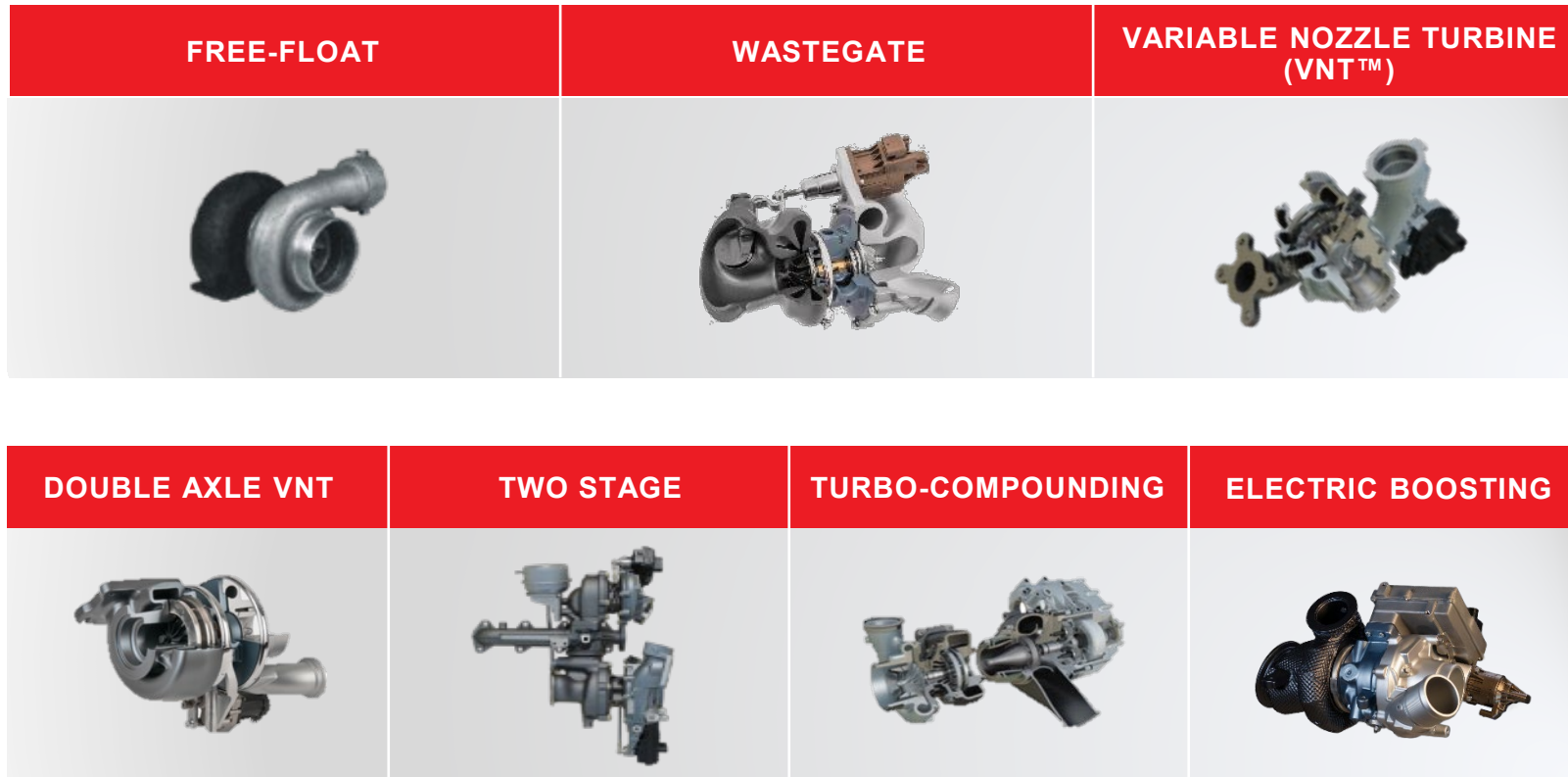
**over 1,900 degrees Fahrenheit**

**window glass melts at  
1,800 degrees Fahrenheit**



# Garrett light & commercial vehicle turbo technologies

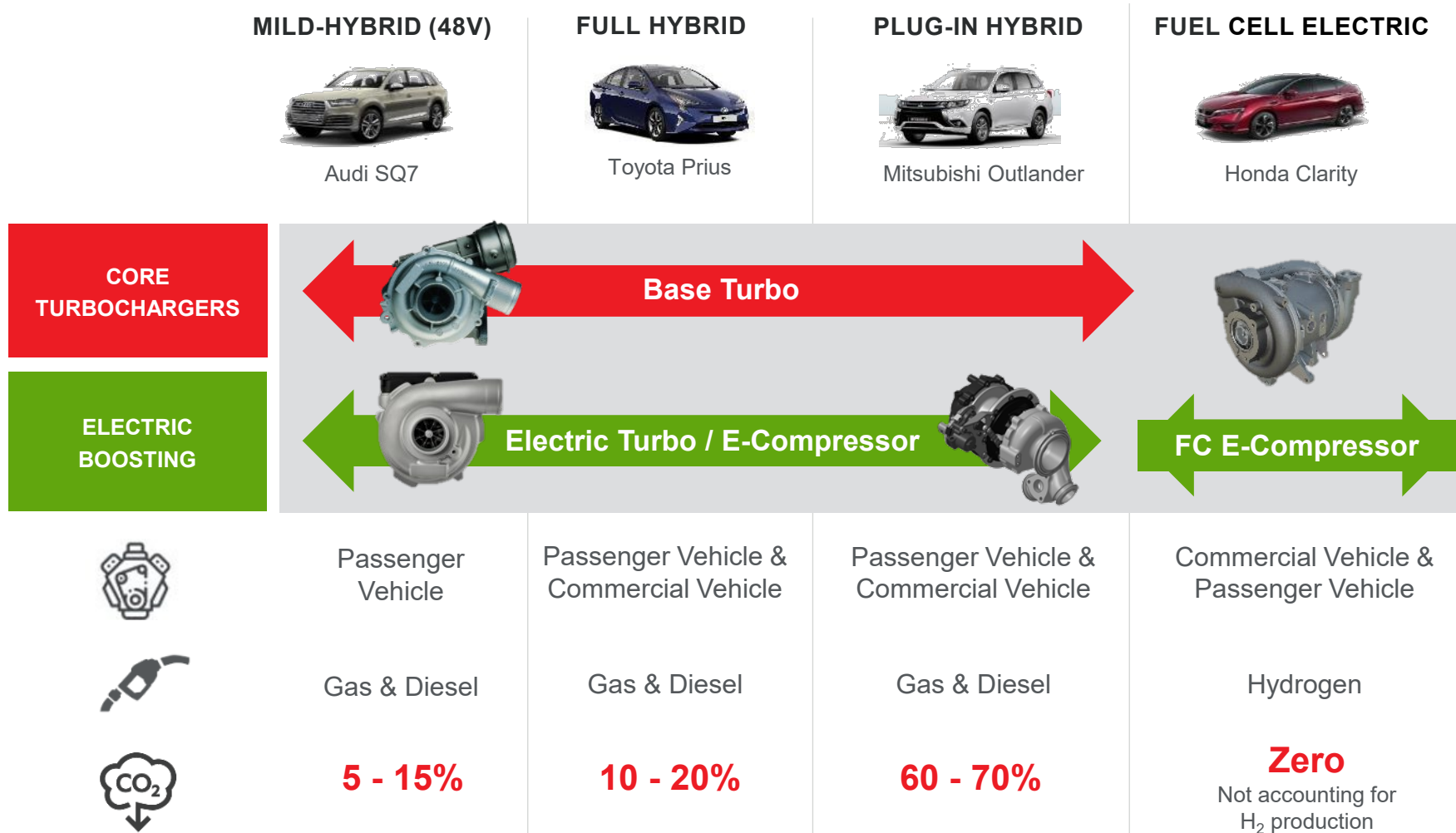
## Turbos



## Benefits

- Broadest portfolio with dedicated engineering support
- Fuel efficiency through state-of-the-art aerodynamics, bearing systems and control
- Higher performance, better fuel economy and emissions control enabled by innovative variable nozzle turbine designs
- Optimized for transient behavior to improve drivability and enhance driving pleasure




# Turbocharging electrified powertrains



- 76% hybrid powertrains and 100% hydrogen fuel cell powertrains turbocharged by 2025
- Full CO<sub>2</sub> potential unlocked with electric boosting
- Hydrogen fuel cell electric vehicles require high performance E-Compressor



# Garrett electric boosting offering

	<b>ELECTRIC COMPRESSOR</b> Mild Hybrid Full Hybrid Plug-in Hybrid	<b>ELECTRIC TURBO</b> Mild Hybrid Full Hybrid Plug-in Hybrid	<b>TWO STAGE ELECTRIC COMPRESSOR FOR FUEL CELLS</b> Fuel Cell Electric
			
<b>CUSTOMER BENEFITS</b>	<ul style="list-style-type: none"> <li>• Full speed within 0.25s</li> <li>• 2-3% better fuel economy</li> <li>• 20% NOx reduction (Diesel)</li> <li>• Enables Lambda 1 (Gasoline)</li> </ul>	<ul style="list-style-type: none"> <li>• 4x faster than a conventional turbo</li> <li>• 2-4% better fuel economy (regen)</li> <li>• 20% NOx reduction (Diesel)</li> <li>• Enables Lambda 1 (Gasoline)</li> </ul>	<ul style="list-style-type: none"> <li>• Enables 40% downsizing of fuel cell stack</li> <li>• Reduces volume, weight and cost</li> <li>• Optimal power consumption due to architecture &amp; high-efficiency design</li> </ul>
<b>GARRETT EXPERIENCE</b>	<ul style="list-style-type: none"> <li>• Specific aerodynamics</li> <li>• High-speed electric machines</li> <li>• System integration</li> </ul>	<ul style="list-style-type: none"> <li>• System packaging</li> <li>• High-speed electric machines</li> <li>• Boost and energy management</li> </ul>	<ul style="list-style-type: none"> <li>• Innovative high-efficiency aerodynamics</li> <li>• High-speed electric machines</li> <li>• Air bearing</li> </ul>
<b>ARCHITECTURE</b>	<ul style="list-style-type: none"> <li>• Aerodynamics and motor matched for optimal speed</li> <li>• Sealed for life bearings</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated turbo &amp; high-speed motor/generator</li> <li>• Stand alone or Integrated Power Electronics</li> </ul>	<ul style="list-style-type: none"> <li>• Two Stage series compressors</li> <li>• 100% oil-free foil bearing technology to avoid pollution of fuel cell stack with oil and provide the lowest noise &amp; vibration possible</li> </ul>

# Garrett connected vehicle software

## MULTIPLYING COMPLEXITY

### Internal Combustion Engine

Aftertreatment + E-boosting + . . .



### Electrified Powertrain

Hybridization + battery SOC/SOH, etc.



### Autonomy

Sensors + actuators + . . .



### Connected

Threat surfaces + updates + . . .

## UNSOLVED CHALLENGES

Optimize complex systems

Validate for real-world

Ensure in-use compliance

Detect health degradation

Diagnose accurately

Differentiate fault vs. hack

## GARRETT SOLUTIONS AND DIFFERENTIATORS

### Advanced Controls and System Optimization

*We solve complex automotive challenges, advancing controls technology*

- Fuel, energy and emissions optimization
- Reduced development time
- Best-in-class algorithms and performance
- *Industrial process controls heritage*
- *+30 patents*
- *In production*



### Advanced Diagnostic and Prognostic

*We make complex diagnostic simple, advancing vehicle health management technology*

- Improved diagnostic accuracy
- Reduction of warranty costs
- Improved fleet uptime
- *Aircraft health management heritage*
- *25+ patents*
- *In production*



### Cybersecurity

*We make connected cars cyber resilient and compliant, advancing vehicle security*

- Best-in-class detection rate and false positive
- Best-in-class on-board footprint
- Holistic off board forensic capabilities
- *Industrial security management heritage*
- *50+ proprietary algorithms*
- *SOP 2021*



**New challenges require new technologies for control, health and security management**

**AFTERMARKET**

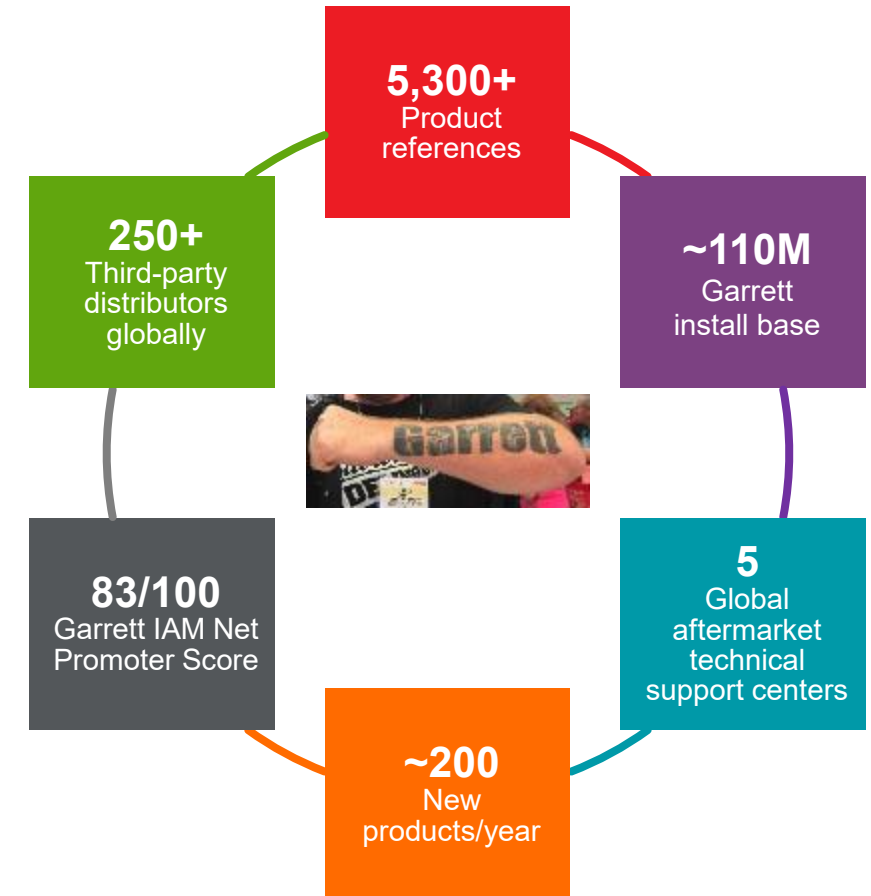


# Strong aftermarket platform with brand equity

## Broad aftermarket product portfolio

ORIGINAL EQUIPMENT / INDEPENDENT AFTERMARKET		<ul style="list-style-type: none"><li>• Original supply ensuring emission compliance</li><li>• Distributors network</li></ul>
REMANUFACTURE		<ul style="list-style-type: none"><li>• Remanufacturing of OE design</li><li>• Economic alternative with no trade-off on quality/durability</li></ul>
RED BOOST		<ul style="list-style-type: none"><li>• Economic turbo for high growth regions, with good reliability</li><li>• Original production line, portfolio expansion</li></ul>
PERFORMANCE & MOTORSPORTS		<ul style="list-style-type: none"><li>• Higher power, with reliability</li><li>• 50+ years of racing support</li></ul>

## #1 in global brand awareness

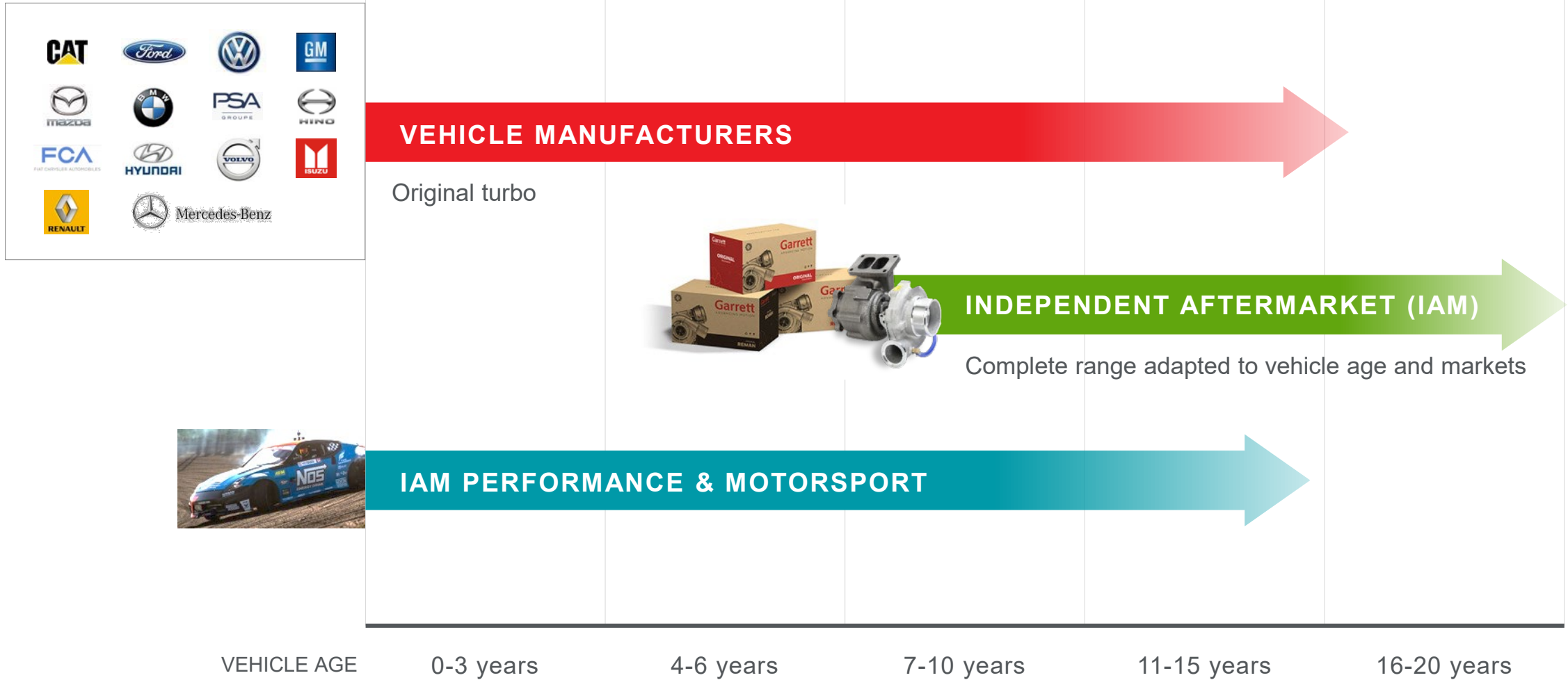


Note: IAM – Independent aftermarket

Broad aftermarket portfolio serving a large install base globally



# Garrett aftermarket channels



# Garrett motorsport technology

## Redefining the limits

### CUSTOMISED TECHNICAL COMPETENCIES

- **Fuel Cell Compressors:** One and two stage mixed flow compressor stages with oil-less bearing technology to eliminate contamination of FC stack and lowest NVH.
- **Electric Turbos:** Efficiency-optimized turbos combined with high-speed electric machines for max transient (performance) and energy recuperation (fuel efficiency).
- **High-Temperature VNT™ turbos:** Robust 1050°C VNT turbine for both Diesel and Gasoline engines.

#### Also available:

High-temperature, thin-wall (HK30) turbine housing castings

High-temperature (MarM-247) turbine wheel materials

High efficiency dual row ball bearing cartridges

Lightweight Titanium and Magnesium components

## Championship wins

29  
21  
14  
11  
10  
8  
7  
7  
6  
6  
6

#### FIA World Rally Car

100% since 2002

#### 24 Hours of Le Mans

100% since 2000

#### Indianapolis 500

#### CART / Champ Car

67% win rate

#### American Le Mans Series

#### IMSA GTP / GTO

#### FIA World Touring Car

100% since turbo engine rule

#### Global Rallycross

100% since series introduced

#### Super Formula

Turbo engines starting 2014

#### Super GT

Turbo engines starting 2014

#### FIA World Rallycross

Inaugural season 2014



# SUSTAINABILITY

*WeCare<sup>4</sup>*



## **CLEANER, SAFER VEHICLES**

We help make vehicles cleaner and safer through cutting-edge technologies



## **CULTURE OF INNOVATION**

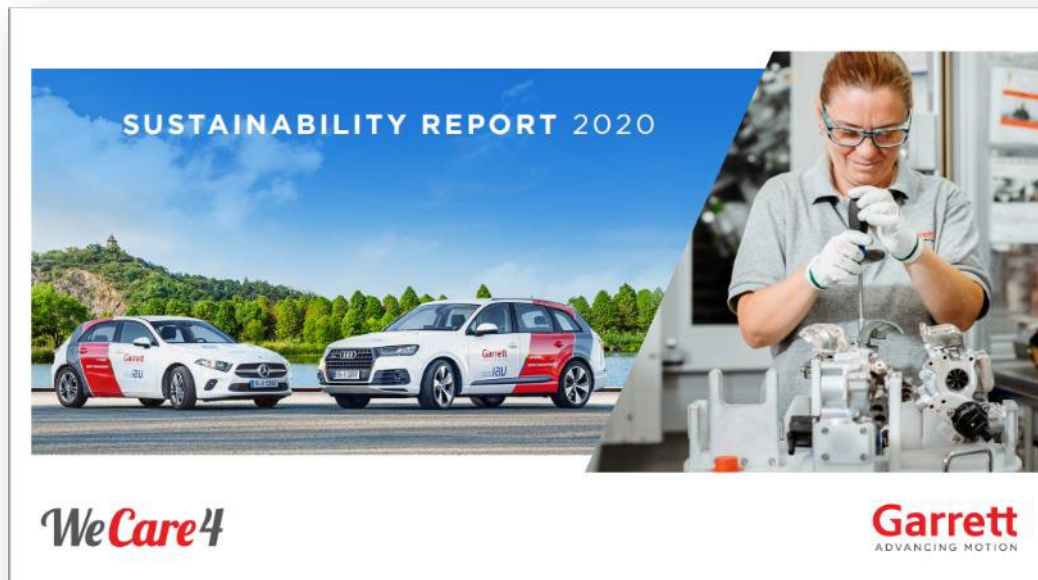
We invest in a culture of continuous innovation to deliver on our mission



## **RESPONSIBLE OPERATIONS**

We operate responsibly to ensure the long-term impact of our mission

# Garrett 2020 WeCare4 Sustainability Report

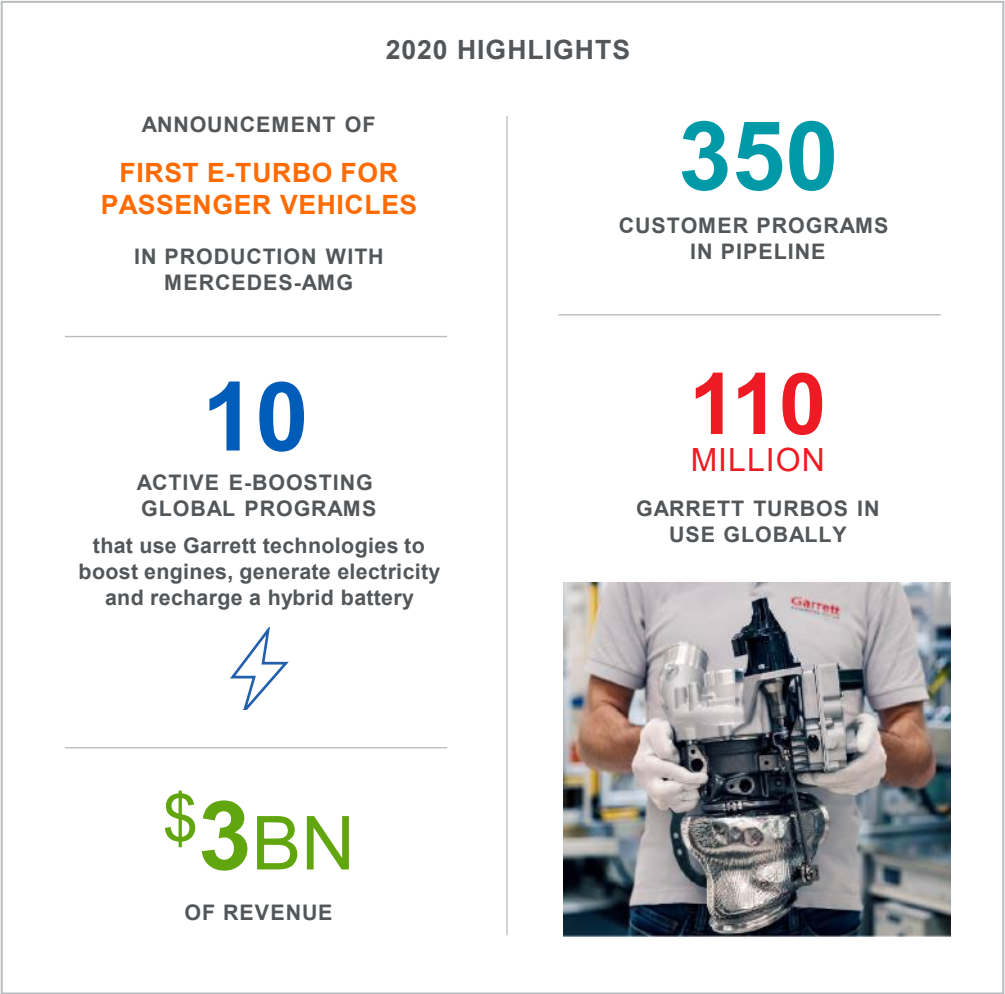
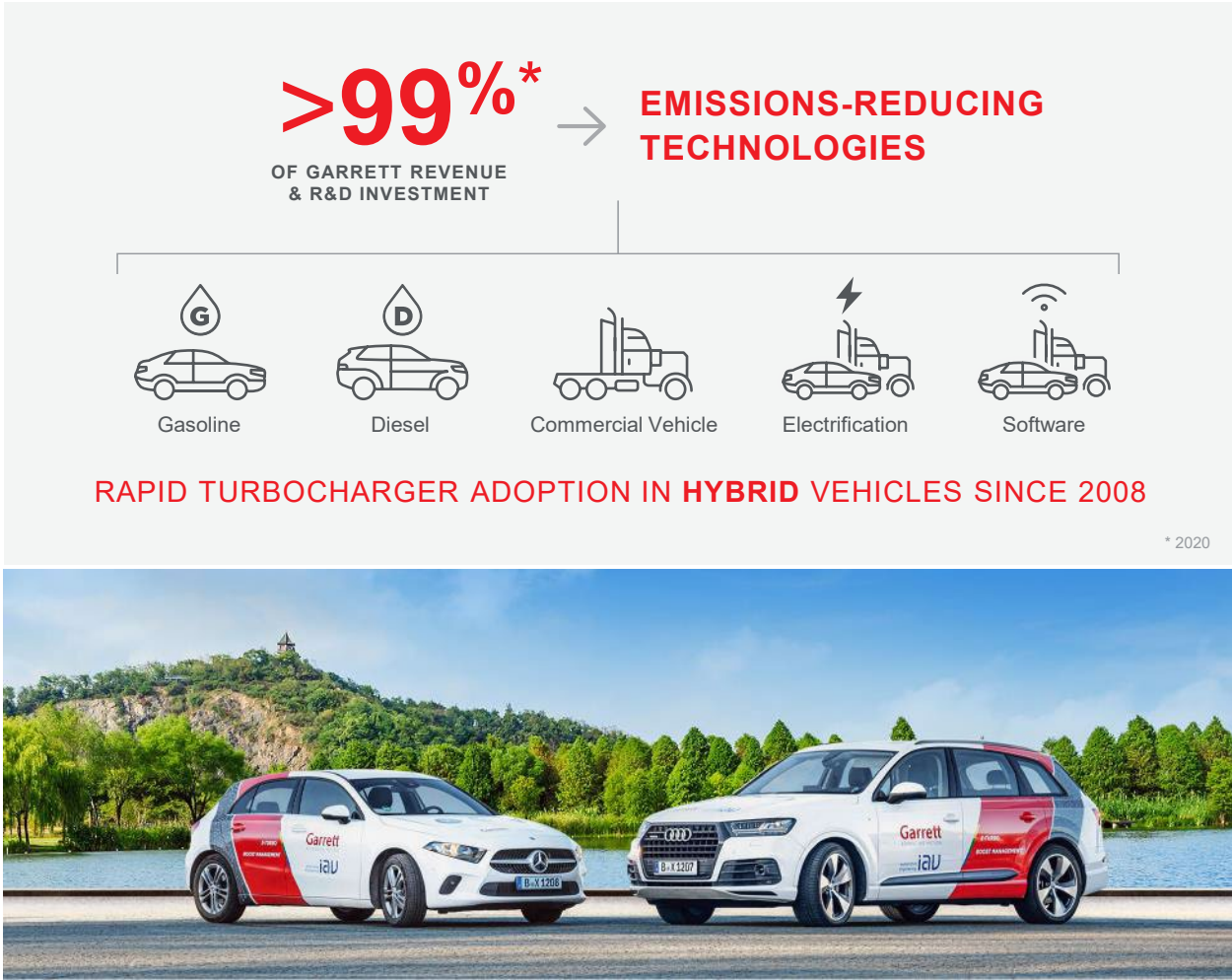


- Overview of Garrett sustainability activities
- Key performance indicators
- Targets on diversity, environmental management and business ethics





# Cleaner, safer vehicles



# Culture of innovation



## CARING

**FIRST EMPLOYEE  
ENGAGEMENT  
SURVEY**  
PILOT WITH 1/3 OF  
WORKFORCE

LAUNCH OF  
  
**GLOBAL ONLINE  
WELLBEING  
RESOURCES**



**VIRTUAL GEMBAS**  
WITH GARRETT LEADERS TO MONITOR  
THE LOCAL IMPLEMENTATION OF  
GARRETT GOLDEN RULES

**>3000  
PEOPLE**

IMPACTED BY LOCAL  
GARRETT COMMUNITY  
OUTREACH

  
**COVID RELIEF EFFORTS  
STEM EDUCATION**

## INCLUDING



FIRST PUBLIC METRICS  
AND TARGET FOR  
GENDER DIVERSITY



↓  
**2025 AMBITION  
25%**

  
**>1000  
EMPLOYEES**  
ACROSS  
**12  
COUNTRIES**

CREATED THE GARRETT  
INCLUSION CHAIN  
IN SUPPORT OF  
UNICEF'S COVID-19  
SOLIDARITY FUND

## ENABLING

IMPLEMENTATION OF  
**A NEW  
LEARNING  
RATING SYSTEM**  
TO CONTINUOUSLY  
IMPROVE OUR  
LEARNING CATALOG

LAUNCH OF  
  
**INTERNSHIP &  
GRADUATE  
PROGRAM**  
100+ STUDENTS  
IN 10 COUNTRIES

FIRST **STEM** MONTH



Photo taken before the pandemic

# Operating responsibly



## ENVIRONMENTAL MANAGEMENT



IMPROVED CDP\* CLIMATE  
CHANGE SCORE TO

**B**

\*Carbon Disclosure Project

**FIRST PUBLICATION OF OUR  
ENVIRONMENTAL ANNUAL SCORECARD**  
(GREENHOUSE GAS, ENERGY, WATER, WASTE)



PUBLIC TARGETS TO REDUCE

**GREENHOUSE  
GAS EMISSIONS  
AND ENERGY USAGE**  
PER TURBO

**WASTE  
AND  
WATER USAGE**  
PER TURBO

\*Per USD million



**100%**

OF GARRETT MANUFACTURING  
SITES ARE ISO 14001 CERTIFIED



Photo taken before the pandemic

## STAKEHOLDER PROTECTION



FIRST CAMPAIGN IN  
ALL LANGUAGES TO PROMOTE

**GARRETT'S INTEGRITY HELPLINE**

**3-5**

**VIRTUAL SUPPLIER  
GEMBA WALKS**

EACH WEEK (FROM Q4 2020)  
TO MONITOR COVID-19 SAFETY MEASURES

LAUNCH OF



**FIRST SUPPLIER  
SUSTAINABILITY ASSESSMENT**



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