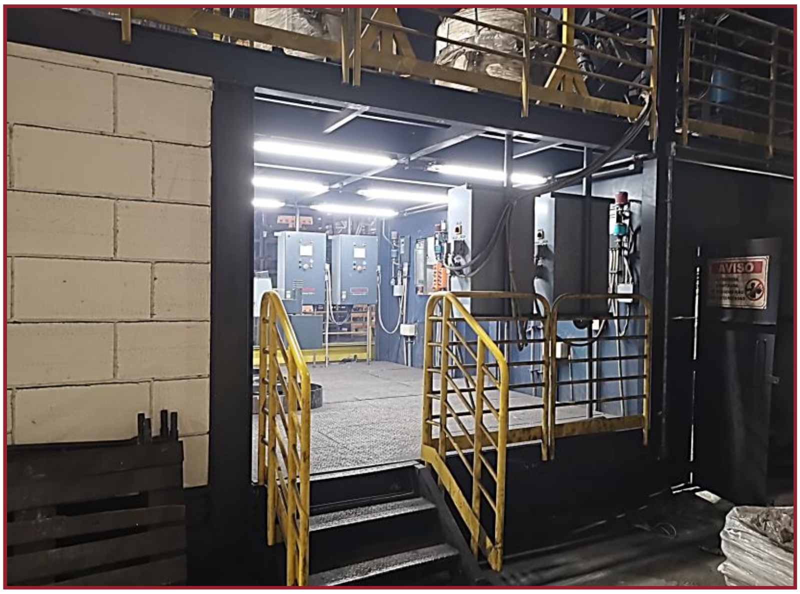
Five Waves Status Report

Introduced in 2002, the *Five Waves* strategy continues to provide the basis for how the company views the overall market development. Impacted by Covid, the full-year series production decreased from 3.3 million Engine Equivalents in 2019 to 2.5 million Engine Equivalents in 2020. The production status for each of the Five Waves, based on the full-year production rate of 2.5 million Engine Equivalents, is summarised in the following table:

Wave 1 V-Diesel Passenger Vehicle Engines in Europe	Annualised year-end production: 130,000 Engine Equivalents (6,500 tonnes) Series production for: Audi, Ford, Jaguar, Land Rover, Maserati and Volkswagen SinterCast-CGI Components: Cylinder blocks ranging from 2.7 to 4.4 litres Overview: European diesel penetration decreased from 31.6% in 2019 to 28% in 2020
Wave 2 Commercial Vehicle Engines Worldwide	Annualised year-end production: 880,000 Engine Equivalents (44,000 tonnes) Series production for: DAF, Ford-Otosan, Hyundai, Jiangling Motors, MAN, Navistar and Scania SinterCast-CGI Components: Cylinder blocks and cylinder heads ranging from 3.9 to 16.4 litres Overview: 25% decrease in 2020, with strong truck sales returning to North America in 4Q20
Wave 3 In-Line Passenger Vehicle Diesel Engines	Annualised year-end production: 460,000 Engine Equivalents (23,000 tonnes) SinterCast-CGI Components: Cummins 6.7 litre for Ram Super Duty pick ups Overview: 8% decrease in 2020 on resilient Super Duty sales
Wave 4 V-Diesel Passenger Vehicle Engines Beyond Europe	Annualised year-end production: 590,000 Engine Equivalents (29,500 tonnes) Series production for: Ford, Kia and Ram SinterCast-CGI Components: Cylinder blocks ranging from 3.0 to 6.7 litres Overview: Continued growth opportunity as North American pick ups provide diesel options
Wave 5 Passenger Vehicle Petrol Engines Worldwide	Annualised year-end production: 290,000 Engine Equivalents (14,500 tonnes) Series production for: Ford and Lincoln SinterCast-CGI Components: Cylinder blocks ranging from 2.7 to 3.0 litres Overview: Growth potential for additional engines and vehicle applications, including hybrids

Other Growth Opportunities

Automotive - Other than Passenger Vehicle Cylinder Blocks	Full-year production: 21,000 Engine Equivalents (1,050 tonnes) Series production for: Various OEMs and Tier I suppliers including BorgWarner and Honeywell SinterCast-CGI Components: Bedplates and turbocharger housings Overview: 68% reduction in 2020 due to reduced exhaust component production
Industrial Power	Full-year production: 95,000 Engine Equivalents (4,750 tonnes) Series production for: Allen Diesels, Cameron Compression, Caterpillar, Cummins, Deutz, Doosan, Federal Mogul, General Electric, Jenbacher, MAN, MTU, STX Engine and Waukesha SinterCast-CGI Components: Agriculture, marine, locomotive, off-road and stationary power Overview: 17% reduction in 2020. Growth opportunity as new products come on-stream



During 2020, the Teksid foundries in Brazil and Mexico both commissioned capacity and productivity upgrades to their System 3000 Plus installations

Note: All information as of 31 March 2021