

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. The production status for each of the *Five Waves*, based on the annualised year-end production rate of 2.2 million Engine Equivalents, is summarised in the following table:

Wave 1 V-Diesel Passenger Vehicle Engines in Europe	Annualised year-end production: 290,000 Engine Equivalents (14,500 tonnes) Series production for: Audi, Chrysler, Jaguar, Jeep, Lancia, Land Rover, Maserati, Porsche and Volkswagen SinterCast-CGI Components: Cylinder blocks ranging from 3.0 to 4.4 litres Overview: Stable production in 2016. The majority of V-diesels in Europe are now produced in CGI
Wave 2 Commercial Vehicle Engines Worldwide	Annualised year-end production: 795,000 Engine Equivalents (39,750 tonnes) Series production for: DAF, Ford-Otosan, Hyundai, MAN, Navistar and Scania SinterCast-CGI Components: Cylinder blocks and cylinder heads ranging from 3.9 to 16.4 litres Overview: Increased production in 2016 with near-term and long-term global growth opportunity
Wave 3 In-Line Passenger Vehicle Diesel Engines	Current status: Product development underway Overview: Long-term potential depends on performance demands, downsizing and emissions legislation
Wave 4 V-Diesel Passenger Vehicle Engines Beyond Europe	Annualised year-end production: 750,000 Engine Equivalents (37,500 tonnes) Series production for: Ford, Hyundai, Jeep, Kia, Nissan and Ram SinterCast-CGI Components: Cylinder blocks ranging from 2.7 to 6.7 litres Overview: Increased production in 2016 with strong contribution from Super Duty pick-up demand
Wave 5 Passenger Vehicle Petrol Engines Worldwide	Annualised year-end production: 250,000 Engine Equivalents (12,500 tonnes) Series production for: Ford and Lincoln SinterCast-CGI Components: Cylinder blocks ranging from 2.7 to 3.0 litres Overview: Stable production in 2016 with growth potential for petrol applications

Other Growth Opportunities

Automotive - Other than Passenger Vehicle Cylinder Blocks	Annualised year-end production: 40,000 Engine Equivalents (2,000 tonnes) Series production for: Various OEMs and Tier I suppliers including BorgWarner and Honeywell SinterCast-CGI Components: Exhaust manifolds, turbocharger housings and bedplates Overview: Decreased production in fourth quarter affected year-end annualisation. Actual full-year: 50,000 Engine Equivalents
Industrial Power	Annualised year-end production: 45,000 Engine Equivalents (2,250 tonnes) Series Production for: Allen Diesels, Cameron Compression, Cummins, Deutz, Doosan, Federal Mogul, General Electric, Jenbacher, MAN and MTU SinterCast-CGI components: Agricultural, marine, locomotive, off-road and stationary power applications Overview: Decreased demand from rail, mining, oil and gas activities in 2016. Actual full-year: 60,000 Engine Equivalents

Note: All information as of 15 March 2017