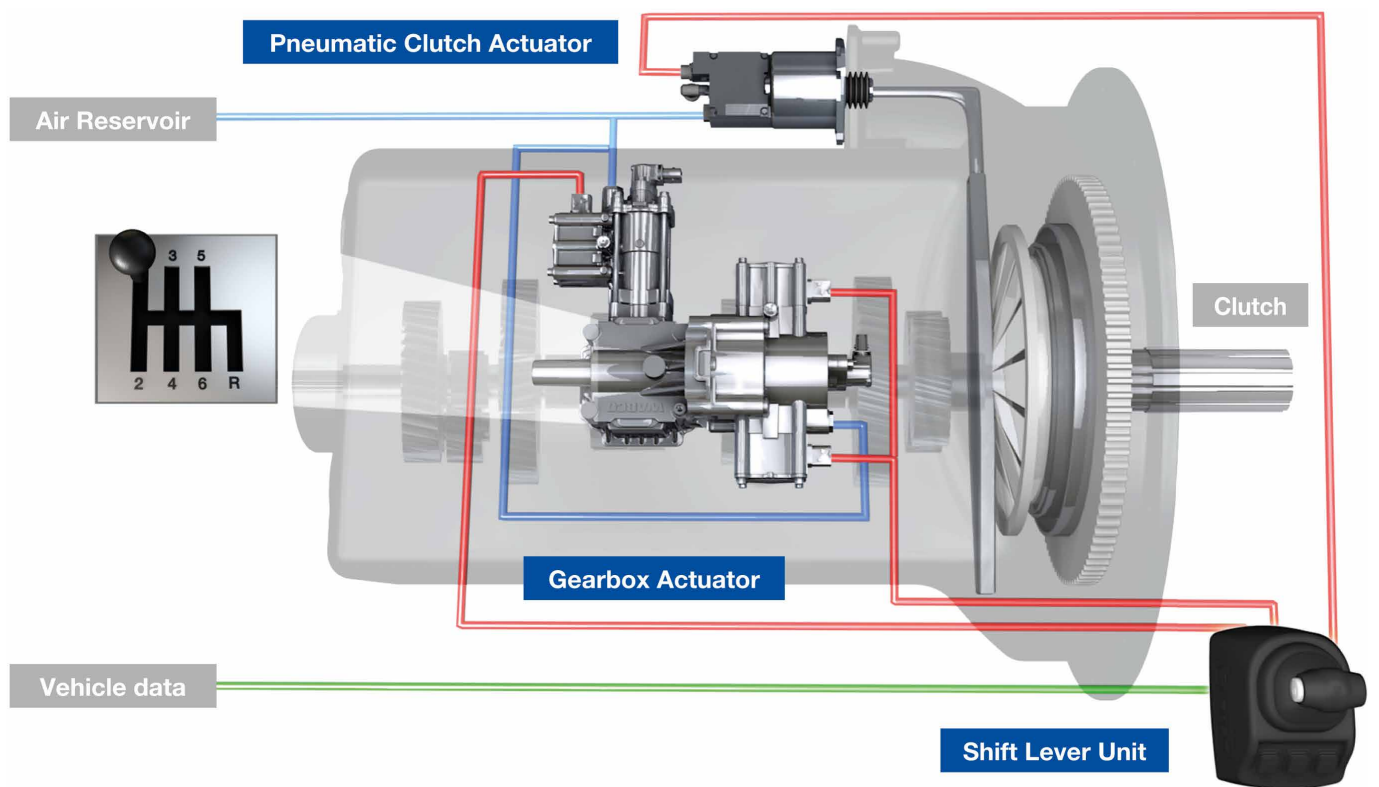


OptiDrive™

MODULAR TRANSMISSION AUTOMATION



WABCO

Mobilizing Vehicle Intelligence

TECHNICAL FEATURES AND COMPONENTS

- Comes as standardized, complete system including hardware and software to allow automation of manual transmissions
- Easily adapts to a wide range of manual gearboxes through innovative modularity
- Patented technology enables fully autonomous gear shifting and clutching
- Software algorithm provides optimized real-time gear shift strategy
- Allows for easy calibration of main AMT functions to a wide range of applications
- Available for 5-speed up to 18-speed applications
- Designed for constant and synchro-mesh gearboxes
- Seamlessly integrates with CV-industry's hybrid drives
- Interacts with other control systems like ABS or ESC to improve vehicle safety



SHIFT LEVER UNIT (SLU)

- Provides intuitive system control and operation
- Allows to switch between manual and automatic gear-shifting mode
- Enables choice between different operating modes



ELECTRONIC CONTROL UNIT

- Available as stand-alone cabin-mounted variant or integrated into SLU
- Hosts software algorithm, which provides optimized real-time gear shift strategy to select gears based on incoming information



GEAR SHIFT ACTUATOR

- Executes up- and down shifting procedures
- Variants available for constant- and synchro-mesh gearboxes



PNEUMATIC CLUTCH ACTUATOR

- Opens and closes clutch during gear-shift process
- Available as 3" and 4.5" variant



RANGE & SPLIT CYLINDER

- Additional system components
- Enable transmission automation from 9-speed to 18-speed applications

VALUE TO FLEETS AND DRIVERS

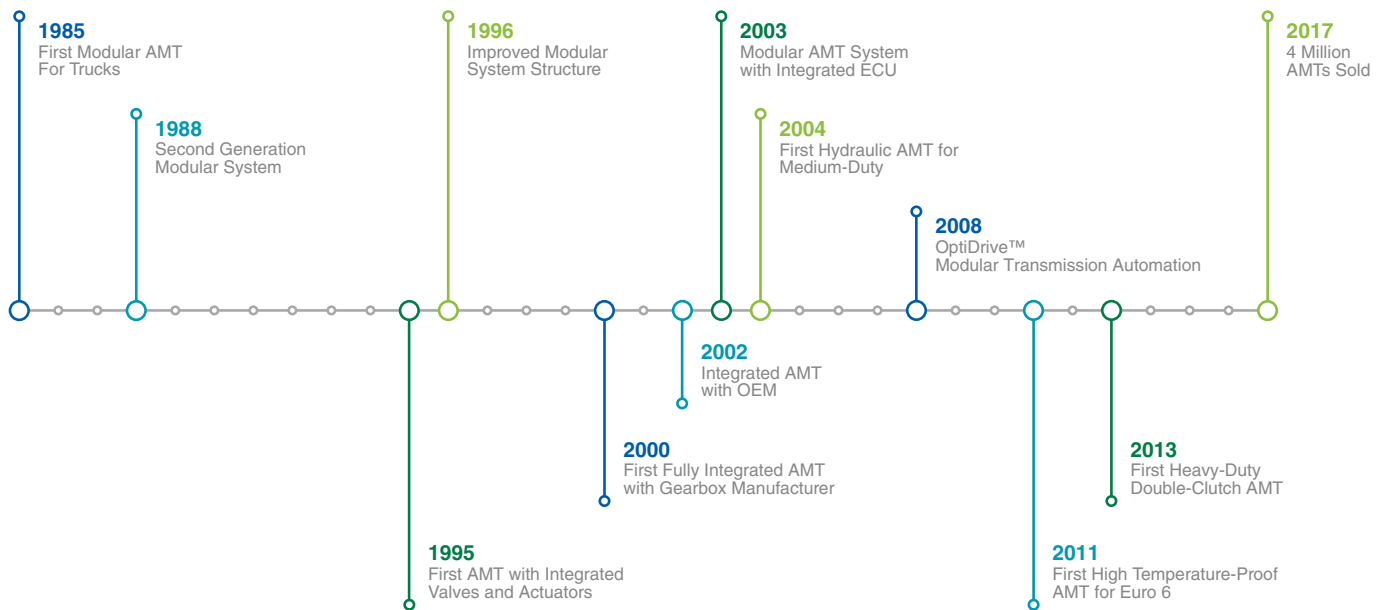
- Achieves up to 5% fuel savings compared to manual transmission
- Reduces mechanical wear lowering maintenance costs and vehicle downtime
- Minimizes driver fatigue by releasing driver from clutch and shift operations
- Simplified vehicle handling aids driver recruitment and retention
- Improves driver effectiveness across all levels of experience
- Enables comfortable, smoother and safer driving to ensure cargo delivery on time

VALUE TO TRUCK AND BUS MANUFACTURERS

- Applies to different light-, medium- and heavy-duty vehicles
- System's flexibility shortens time-to-market by up to 40%
- Reduces development cost by more than 80% compared to a customized AMT solution
- Offers unique calibration tool myOptiDrive™ to tailor system performance to specific customer preferences
- Experienced application engineers support customers from concept to serial production
- Leaves an environmentally cleaner footprint

	Automate 6-Speed	Automate 9-Speed	Automate 16-Speed
Gear Actuator	✓	✓	✓
Range Cylinder		✓	✓
Split Cylinder			✓
Pneumatic Clutch Actuator 3"	✓		
Pneumatic Clutch Actuator 4.5"		✓	✓
ECU	✓	✓	✓

WABCO'S UNIQUE AMT HERITAGE



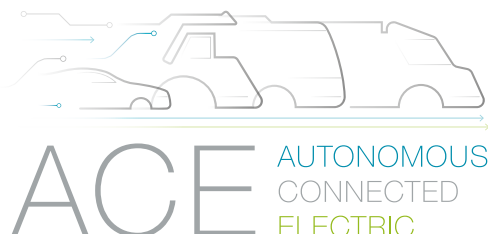
THE WABCO DIFFERENCE

- Modular standard transmission automation with a broad variety of customization options
- Cost-effective solution already from small volume applications onwards
- Winner of the 2010 Automotive News PACE™ Award
- World market leading transmission automation supplier with over 4 million AMT solutions sold
- More than 30 years of experience in pioneering transmission control systems
- First-to-market in 1986 with AMT technology

For further product details contact your WABCO representative

About WABCO

WABCO (NYSE: WBC) is a leading global supplier of technologies and services that improve the safety, efficiency and connectivity of commercial vehicles. Originating from the Westinghouse Air Brake Company founded nearly 150 years ago, WABCO continues to pioneer breakthrough innovations to enable autonomous driving in the commercial vehicle industry. Today, leading truck, bus and trailer brands worldwide rely on WABCO's differentiating technologies, including advanced driver assistance, braking, steering and stability control systems. Powered by its vision for accident-free driving and greener transportation solutions, WABCO is also at the forefront of advanced fleet management systems that contribute to commercial fleet efficiency. In 2018, WABCO reported sales of \$3.8 billion and more than 16,000 employees in 40 countries. For more information, visit www.wabco-auto.com.



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