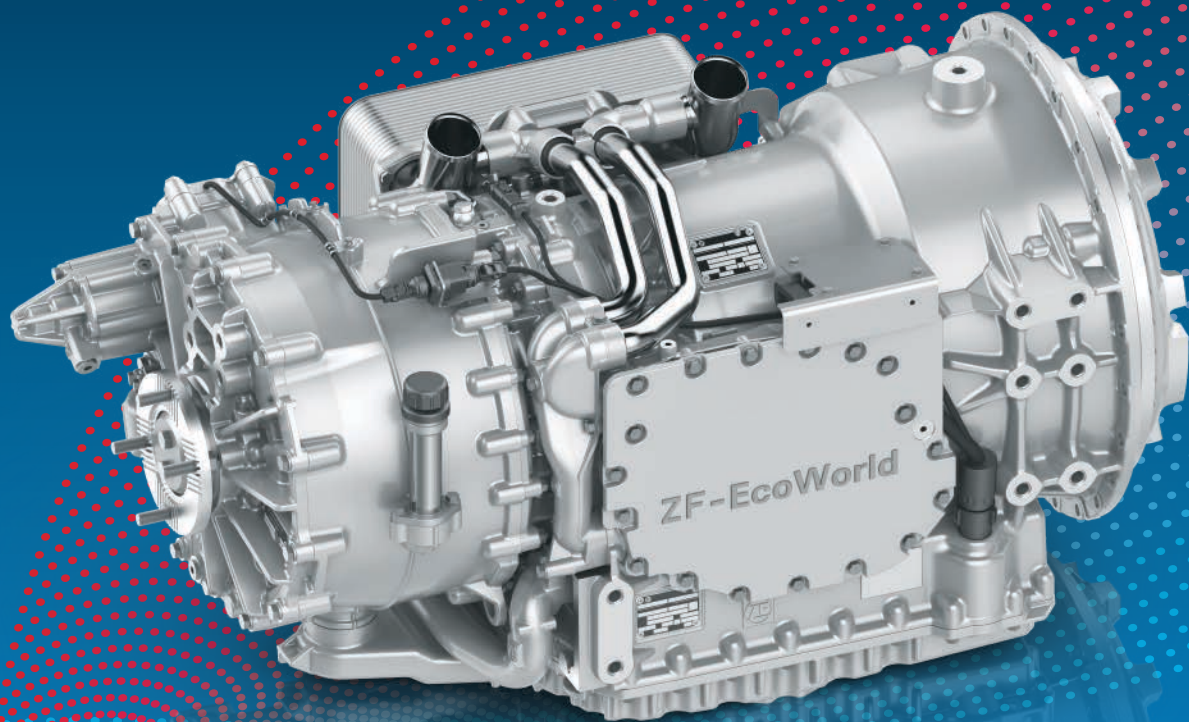




Economical and efficient

Powershift Transmission
ZF EcoWorld





Six speeds with integrated reversing function

Economical and efficient: Up to 20 percent fuel savings in comparison to hydrodynamic transmissions

The consistently further developed six-gear power-shift transmission ZF EcoWorld features an integrated reversing function and is used in DMUs (Diesel Multiple Units). It enables an unrestricted towing and coasting function which can save an additional five percent in fuel depending on the route, engine type and load condition. The transmission achieves maximum efficiency and is equipped with a powerful torque converter. All transmission functions are controlled by electronics fitted directly on the transmission (transmission control unit). ZF EcoWorld can be used for new vehicles and for the field of repowering.

Technical data

Transmission spacing	6.018
Weight (without oil)	492 kg
Drive power up to	600 kW
Max. speed up to	200 km/h

Highlights ZF EcoWorld

- Reversing gear integrated directly in the transmission
- New wheelset transmission allows a variety of applications
- Fuel savings of up to 20 percent compared to hydrodynamic transmissions
- Very compact, lightweight design
- Enables unrestricted towing and coasting function
- Repowering the powerpack extends the vehicle's service life and reduces operating costs
- Ready for hybrid applications in rail vehicles

Systematic enhancements

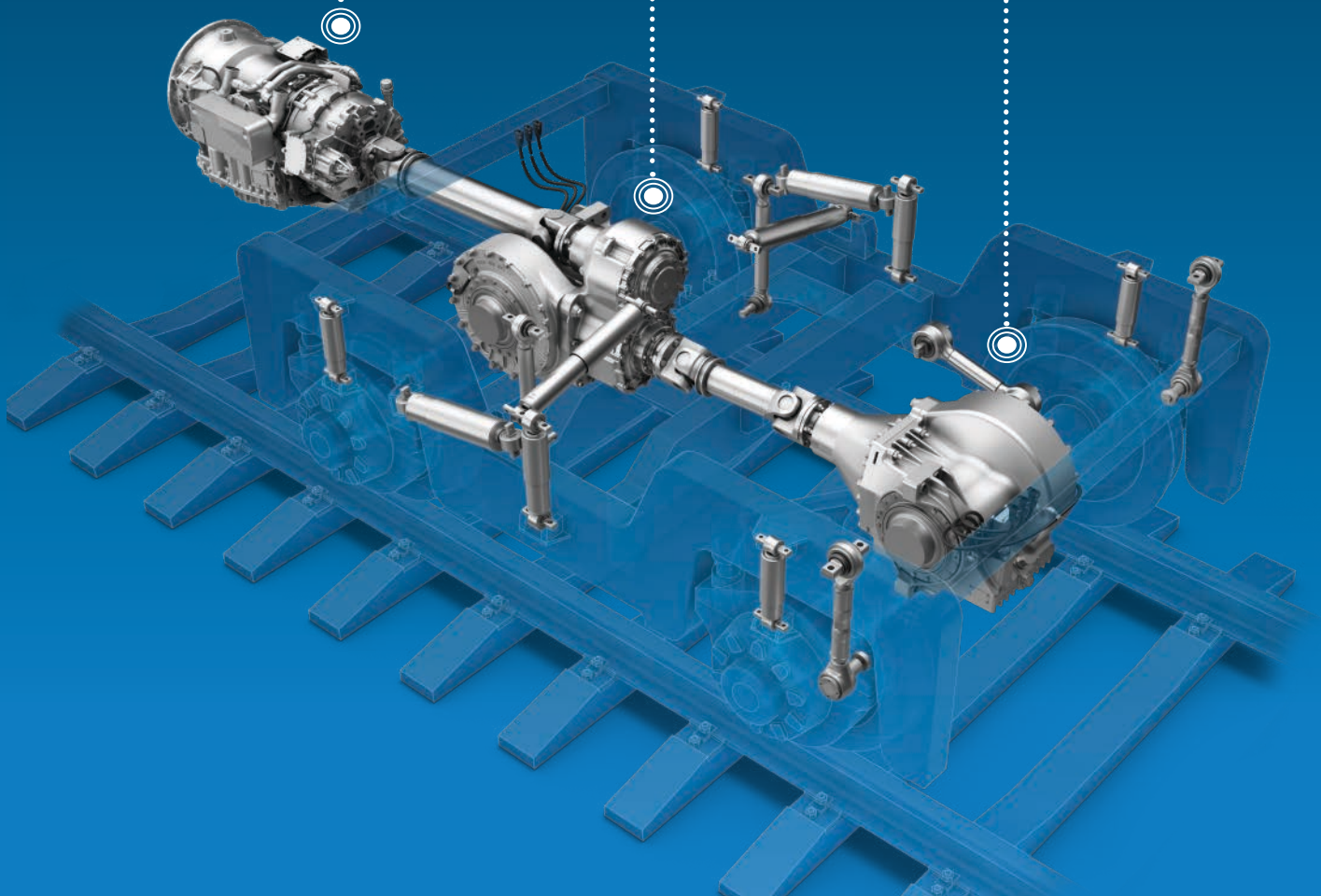
Parallel with the ZF-EcoWorld, ZF offers a newly developed wheelset transmission. The result is a new drive system that can be combined with a range of axle ratios, which opens further application fields. This makes it suitable for slow speed operations purposes as well as for fast rail vehicles in long-distance transport. At higher ratios, EcoWorld also handles steep gradient routes without difficulty.

Highlights ZF Wheelset Transmission

- Robust and tested components for utmost reliability
- Master- and slave-combination with hypoid gears
- Max. input torque: 12,000 Nm
- Max. input speed: 3,500 rpm
- Ratio variants: 1.8; 1.97; 2.21; 2.37; 2.59; 2.92; 3.25; 3.56; 4.0

Optional Condition Monitoring

Smart Typeplate, oil level sensor,
oil condition sensor, acceleration sensor,
bearing temperature monitoring



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