Modern electrified drive trains require an adjusted testing environment

Flexible Three-Dyno Transmission Test Bench

Input
- 251 kW permanent magnetic synchronous motor
- Max. torque: 600 Nm @ 4000 rpm
- Max. speed: 9000 rpm (up to 18000 rpm via belt drive)
- Electric machine is able to simulate cyclic irregularity of combustion engine (0.078 kg m² inertia)

Output (2x)
- 286 kW asynchronous motor
- Max. torque: 3400 Nm @ 1515 rpm
- Max. speed: 4080 rpm

Control and automation system, damage detection system, oil & box conditioning

xDCT Family: Extremely Compact 7- and 10-Speed DCTs

Concept
- Layout, Gear Stepping, Shift Pattern

Design
- Gear Set, Actuation, Housing

Simulation
- Durability, NVH, Shift-Comfort

Testing
- Lubrication, Efficiency, Durability

280 Nm 7-xDCT prototype gear set compared to conventional 250 Nm 7-speed DCT gear set

Costs
- - 10%
Axial Length
- - 13%
Weight
- - 15%