MAST A BENEFITS FOR AUTOMOTIVE

• Design, simulation and analysis of advanced transmission and driveline systems applicable to all types of private, commercial, industrial and military vehicles
• NVH analysis, troubleshooting and optimisation
• Component durability analysis and design refinement
• Casing development and optimisation
• Shift quality improvement
• EV, HEV, CVT, AT and DCT design & analysis
• System efficiency studies and development
• Multi application - transfer cases, hub drives, gearboxes, engine timing, superchargers etc
• Interface with Gleason CAGE & Klingenberg KiMoS for bevel & hypoid gear design optimisation
MASTA provides engineers with a complete design, analysis and optimisation package for all types of automotive transmissions. From simple concept design validation to complex transmission modelling and analysis, MASTA has consistently proven its value to the ever changing and developing automotive industry.

**NVH ANALYSIS**
- System NVH analysis and optimisation
- Transmission error and optimisation
- Gear whine and electric motor excitation
- Mode shape analysis

**MACROGEOMETRY OPTIMISATION & DESIGN SPACE SEARCH**
- Optimise tooth numbers and centre distances based on packaging constraints
- Optimise specific gears in gear train whilst fixing others
- Perform candidate creating, filtering and dominant candidate search to identify best designs

**MICROGEOMETRY & TOOTH CONTACT OPTIMISATION**
- Gear tooth micro geometry optimisation
- Loaded tooth contact analysis
- Transmission error optimisation and root stress analysis

**COMPONENT ANALYSIS**
- Component rating to multiple industry recognised standards for gears, bearings, shafts and couplings

**GEAR MANUFACTURING & SIMULATION**
- Gear cutter design and simulation
- Drivetrain simulation
- Maximise design efficiency with cutter design database
- Use manufactured gear designs in analyses

**SYSTEM DEFLECTION ANALYSIS**
- Finite element model inclusion for casing or shafts
- Housing and shaft deflection
- 3D visualisation of deflections, loading and stresses
- Detailed component durability analysis options

**COMPLEX TRANSMISSION & DRIVELINE CONFIGURATIONS**
- Design entire transmission and driveline systems using a comprehensive selection of components and design databases
- From concept design comparisons to detailed transmission modelling

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**Fully Featured Evaluation**
- Dedicated support team
- Access to online client portal

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To find out more, visit [www.smartmt.com](http://www.smartmt.com)