RAIL/WHEEL PROFILE DEVELOPMENT

VARIOUS OPERATING ENVIRONMENTS:
- Heavy Haul
- General Passenger & Freight
- Mass Transit
- High Speed

COMMON ISSUES & CONCERNS:
- High Wheel and Rail Wear
- Rolling Contact Fatigue (RCF) and Deformation
- Surface and Sub-surface Defects
- High Energy Consumption
- Risk of Transverse Defect Development and Rail Break
- Noise and Vibration
- Poor ride quality

COUNTER MEASURES:
- Appropriate Wheel/Rail Profile design and Compatibility
- Improved Materials
- Suitable Profile Implementation and Maintenance Practices/Strategies
- Friction Management
- Monitoring and development

PROCESS:
- Wheel-Rail Contact Simulation and Analysis
- Development/Implementation/Refinement of Wheel and Rail Profiles
- Cost Effective Maintenance Strategies
- Development of suitable standards and procedures
- Scheduled Maintenance Based on Time/Distance/Condition

BENEFITS:
- Higher Axle Load Capacity
- Increased Wheel and Rail Life (reduced wear)
- Reduced Maintenance Requirement and Life Cycle Cost
- Lower Energy Consumption
- Reduced RCF and Deformation
- Reduced Risk of Defect Development
- Reduced noise and vibration
- Facilitate desired ride quality