

WHEEL/RAIL PROFILE DEVELOPMENT

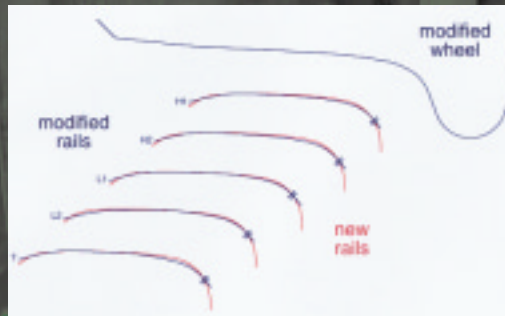
OPERATING ENVIRONMENT

- Pilbara Iron Ore transport
- high axle load (30+ ton)
- high stress/creepage
- no flange lubrication
- standard wheel/rail profiles
- typical wheel/rail materials



ISSUES

- high wheel and rail wear rate
- material flow
- sub-surface defects
- rolling contact fatigue
- high energy consumption
- high transport costs

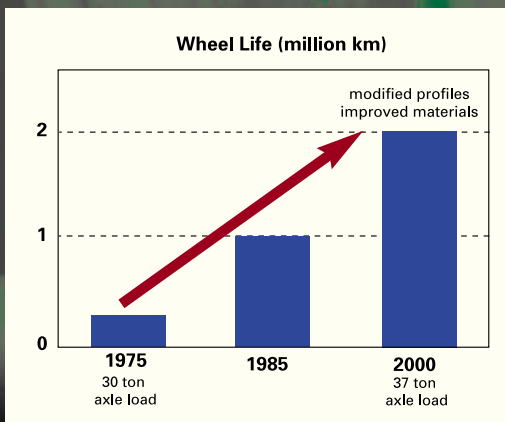


COUNTERMEASURES

- improved materials
- wear adapted profiles
- profile control

PROCESS

- development/implementation/refinement of profiles
- identify cost effective maintenance strategies
- scheduled maintenance based on time/distance/condition



BENEFITS

- high axle load capacity (35–40 ton)
- increased wheel life (800%)
- increased rail life (300%)
- lower life cycle costs
- lower energy consumption