

# CLEAN SLATE DESIGN

Clean Slate Design provides mechanical engineering services to the mining, off-road, mobile, and heavy-duty equipment industry.

## SERVICES PROVIDED

- 3D design models (Solidworks)
- 2D drawings and design documentation
- Machine customization and improvement
- Powertrain installation design
- FEA and stress analysis
- Project management
- Failure analysis
- Design review and analysis
- Design proposals
- Government funding applications

## KEY PERSONNEL



**Rob Whiteford, P.Eng.**

- Mechanical engineer with 15 years design experience
- 10 years design of underground mobile mining equipment (Trucks, LHD's, jumbos etc.)
- Design experience with vehicle frames, ROPS, powertrain installations (engines, transmissions, axles, cooling systems), hood design, boom and bucket design, hybrid diesel-electric systems
- Problem solving in manufacturing and in the field
- Project manager for machine re-designs and prototype machines



**Olli Matikainen, P.Eng., MBA**

- Mechanical engineer with 30 years experience in mobile, heavy-duty, off-road equipment design
- 15 years engineering management
- Mining, construction, forestry, transit bus design
- Experience with structural, powertrain, hydraulics, electrical and controls systems
- Project proposals and project management
- Product testing and failure analysis

## CLEAN SLATE DESIGN

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