



EnTrans
CONSULTING

Environmental & Transportation Solutions

Mechanical Design & R&D

Services: We provide comprehensive mechanical design and research & development services, including conceptual design, Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), 3D CAD modeling, Design for Manufacturing (DFM), 2D drafting and detailing, Bill of Materials (BOM) management, design of material handling systems and powertrains, and functional testing.

Area of Experience

- Design for Manufacturing
- Design for Assembly
- Prototyping & Product Development
- Material Handling System Design
- Modelling and Simulation
- Finite Element Analysis
- Troubleshooting & Root Cause Analysis
- Technical Documentation & Support
- Training

Sample Projects

- **Single-stage bevel gearbox:** Reverse engineering and failure analysis in accordance with AGMA/ANSI 2001-D04 specifications.
- **Vertical telescopic mast:** Design of a specialized mechanism for drilling and inspection of reinforced concrete infrastructure.
- **Gypsum production line:** Technical review and inspection for a leading industrial company in Egypt.
- **Skid-mounted fuel tank:** Horizontal tank designed to comply with UL 142 standards for above-ground steel tanks.
- **MSW material handling systems:** Design of customizable equipment for municipal solid waste treatment, including rotary trommels and belt conveyors.
- **Industrial magnetic separators:** Design for continuous operation on active production lines.

