FULLY MOBILE SURGE LOADER
Mine Smarter, Load Quicker

Key Benefits
Up to 40% improved truck and shovel system performance
Up to 95% shovel utilisation
Up to 98% average target payload

www.mmdsizers.com
Truck and shovel mining systems have barely changed in more than 100 years. In the twenty-first century the same safety issues remain, shovels still need to wait for trucks and trucks for shovels, driving down productivity and cost efficiency. Whilst an in-pit sizing and conveying (IPSC) system offers solution, this approach does not suit every operation and budget. Enter the MMD Fully Mobile Surge Loader. Integrating seamlessly with the latest automated truck and shovel installations or traditional manned systems, the Surge Loader can revolutionise mining operations and unlock the true potential of high value equipment – delivering up to 40% higher productivity.
INCREASED PRODUCTIVITY
Adding a Fully Mobile Surge Loader to a truck and shovel system typically increases shovel utilisation to around 95% and boosts production rates by up to 40%.

SAFER OPERATION
Every mine aims for zero harm. The Fully Mobile Surge Loader represents a major step forward: delivering reduced shock loading to trucks and eliminating complicated reversing in the loading area to create a safer, more secure environment.

PRECISE PAYLOADS
The numerous sensors onboard the Fully Mobile Surge Loader guide trucks into the optimal loading position and intelligently monitors the payload to deliver a consistently high fill rate up to 98%.

FULLY AUTONOMOUS OPERATION
Equipped with intelligent monitoring systems, the manless Fully Mobile Surge Loader autonomously reacts to the ever-changing mining conditions.

KEY COMPONENTS
The Fully Mobile Surge Loader is a truly intelligent unit loaded with tried and trusted heavy-duty equipment, delivering high availability and low maintenance to keep your material flowing.

1. Heavy Duty Apron Feeder
At the heart of the Fully Mobile Surge Loader, the Apron Feeder accepts material dumped by shovel – even onto empty feeder plates – and delivers a regulated flow of material to the truck fleet. MMD have produced industry leading feeders for more than 30 years, so nobody better understands the rigours of mining life.

2. Technology
Cutting-edge technology enables the Fully Mobile Surge Loader to deliver exceptional performance plus easy fault diagnosis and maintenance monitoring.

3. Chassis
Based on the tried and trusted Fully Mobile Sizer Station, the chassis and superstructure was designed with the latest Finite Element Analysis techniques and globally recognised design codes. The result? A firm foundation that can perform optimally even in the harshest mining conditions.

4. Power
For maximum flexibility, the Fully Mobile Surge Loader can be powered electrically or by an onboard diesel engine.

5. Hopper
The large truck-shaped hopper offers a familiar environment for shovel operators and optimises loading to minimise shovel dump cycle time.

6. Heavy Duty Tracks
A wide range of MMD Heavy Duty Tracks are available to meet the needs of the mine and ground conditions. Already used on Mobile Sizer Stations and the MMD Atlas Transporter, our tracks provide exceptional reliability, and their wide pitch difference offers manoeuvrability that far exceeds that of conventional shovels.
Shovel Operation

The Fully Mobile Surge Loader provides a generously sized target area for the shovel to dig and load material continuously, whilst remaining within the optimum swing angle to deliver maximum efficiency. The shovel’s operation is simple and prescribed, only needing to be relocated to a new position when all material within its reach has been excavated.

Shovel Benefits:
- Improves shovel utilisation
- Maximises shovel working capacity
- No hang time waiting for trucks
- Fixed dump position provides simple and safe repeatable dig and load operation
- Improves safety by decoupling truck and shovel activity

OPERATION, SAFETY & PRODUCTIVITY

Designed for safe reliable performance, so your operators can concentrate on production.

Operating 24 hours a day the fully mobile surge loader is fully autonomous during processing, constantly monitoring and reacting to mine conditions for optimum productivity.

Almost any truck and shovel mining system can benefit; it acts as a mobile storage bunker between the shovel and a continuous flow of trucks. The Surge Loader completely decouples the two operations, resulting in faster, safer and more accurate loading, whilst also facilitating the loading of a variety of truck types and capacities from a single shovel. This overcomes a long standing issue of truck/shovel incompatibility.

Truck Loading Cycle Time Comparison

<table>
<thead>
<tr>
<th>Shovel &amp; Truck Operation</th>
<th>D10 FMSL System</th>
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<tbody>
<tr>
<td>Truck Loading Cycle Time</td>
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<tr>
<td>Non-Productive Truck Spacing Time</td>
<td>Productive Loading Time</td>
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<tr>
<td>seconds</td>
<td>120t Shovel / 360t Trucks</td>
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Truck Fleet Operation

Trucks are identified by RFID and guided into the optimum loading position. The feeder automatically starts regulated loading to the truck and sensors detect when to stop the loading process. When signalled, the truck simply drives away to the dump location – truck after truck after truck, all loaded to optimum capacity and operating with maximum efficiency.

Truck Fleet Benefits:
- Simple truck drive-through operation without reversing increases safety and productivity
- Controlled feed minimises dynamic loading and vibration for a safer environment, less fatigued operator and reduced truck wear
- Safer loading further away from the working bench
- Eliminates truck underfilling or overfilling
- Precision loading prevents spillage and uneven wear
- Minimises truck bunching

System Relocation

The Fully Mobile Surge Loader can be safely relocated by the shovel operator or via remote control. Monitoring systems such as geofencing and collision detection deliver complete safety.
MORE THAN A MOBILE FEEDER

Far more than just a feeder on tracks, the Fully Mobile Surge Loader is an intelligent, autonomous material stockpiling and delivery system. Integrating with existing or new truck and shovel operations, the Surge Loader incorporates the latest technology to deliver the right amounts at the right time to your mixed haulage fleet. What’s more, it can easily be incorporated into an autonomous mining installation and monitored via cloud-based systems, enabling you to track mine performance from anywhere in the world.
CUSTOMISED ANALYSIS REPORT

Discover how much the Fully Mobile Surge Loader could boost your mine’s performance, our analysis service will provide the answer. Using sophisticated computer-based modelling, we’ll develop a simulation that demonstrates just what a difference the Surge Loader could make. All you have to do is complete our questionnaire, and we’ll take it from there.

RANGE

We will tailor the Fully Mobile Surge Loader to the precise requirements of your mine. Whatever your surge capacity or truck fleet size, we will deliver the perfect solution to optimise your performance.

<table>
<thead>
<tr>
<th>Type</th>
<th>Peak Rated Throughput*</th>
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<tr>
<td>D4</td>
<td>≈3,000 MTPH</td>
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<tr>
<td>D7</td>
<td>≈7,000 MTPH</td>
</tr>
<tr>
<td>D10</td>
<td>≈15,000 MTPH</td>
</tr>
<tr>
<td>D11</td>
<td>&gt;15,000 MTPH</td>
</tr>
</tbody>
</table>

*Material and feed equipment dependant

TECHNICAL SPECIFICATIONS (D10 TYPE)

Each Surge Loader is configured to the precise technical specification required by your mine.

**US Short Tons
MMD is a leading designer and manufacturer of mineral processing equipment and services for the mining, metallurgical, industrial minerals and alumina industries, among many others.

We have fully equipped centers around the world to deliver a proactive service to your operation. When you buy from us, you can expect comprehensive training from experts, enabling you to get the most from your Fully Mobile Surge Loader.