

# Flasheye Load Finder 24.01

## An award-winning lidar software solution

Winner of  
Swedish  
Mining  
Innovation  
Award 2022

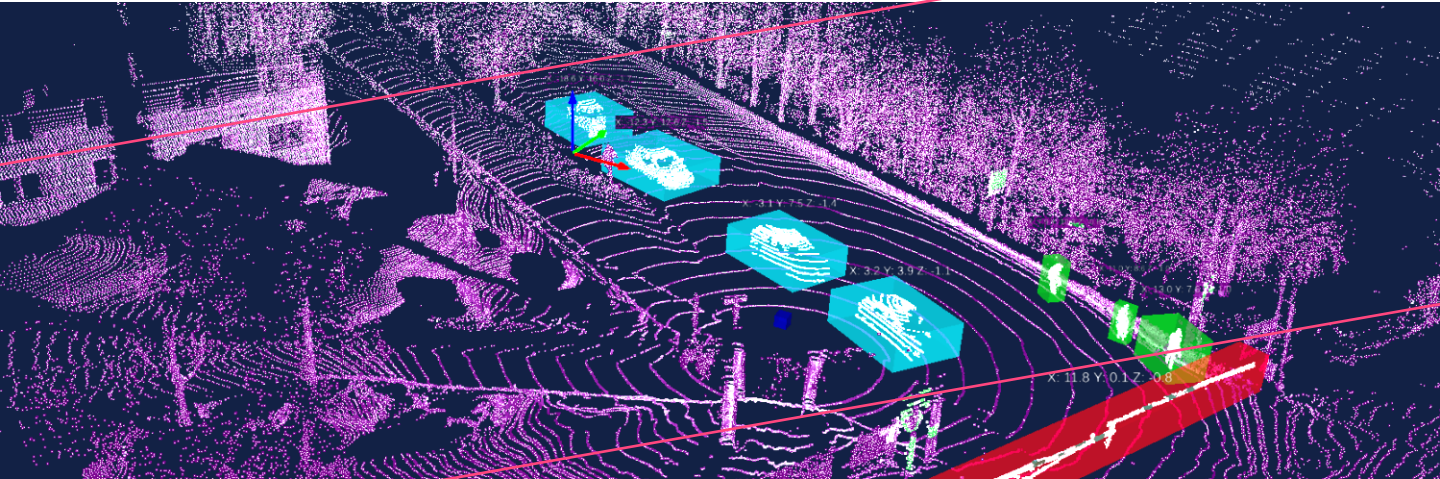
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Become more **autonomous**, **efficient**, and **safe**. Flasheye's Load Finder enables industries to digitalize the vehicles on the premises. With real time data collection, classification and volume measurements decisions can be faster, processed optimized and maintenance costs reduced.

3D laser technology, like lidar, is an active sensing device sending out laser pulses, making it independent of light conditions and more robust.

Flasheye's **Load Finder** allows you to detect overloaded vehicles, and measure loaded volume with reliable real-time information. The unique part is that you don't need tags or wearables on vehicles or people if it is not suitable.



Save X0 000 EUR of installation costs compared to other smart systems



No need of specialized hardware and multi-brand support



Optimize the processes and get a better understanding of what vehicles are on the site



Open platform, integrate with industrial control systems and protocols

## Features

### Scan vehicles

Vehicles moving below the sensor are scanned where each 3D scan is an accurate 3D representation of a particular vehicle. This is the first step of building the complete Flasheye Load Finder solution and perform analytic functions to better understand what kind of vehicles are present on the site.

### Classification

Each scanned vehicle is classified and compared with already known vehicle references. This allows for creation of logic on how each type of vehicle is to be handled by diverting it to a specific area, counting or access control.

### Overload detection

Detect overloaded vehicles to reduce the number of accidents requiring maintenance of the infrastructure which is caused by overloaded vehicles. Each vehicle is compared to a threshold and if the threshold is exceeded, it creates an event which is configured according to the customer need.

### Volumetric scanning

Knowing the loaded volume of a moving vehicle enables the site management to evaluate loading efficiency, better understanding of the logistics and make better decisions. By measuring loaded volume accurately with Flasheye's solution it allows for an understanding of how much material is moved where and when for bulk materials.

### Fragmentation

Detection and classification of material type hauled by the scanned vehicle. With this module it is possible to distinguish between fine and more coarse materials

### Integrate with existing setup

Vehicle scans and the extracted data is integrated into already existing systems which provides a familiarity for the site operators and enhances the already existing systems with data which has before been unachivable.

### LPU (Lidar processing unit)

Recommended system requirements

- Equivalent of ~4000 CPU marks of processor power per 1M points/sec and at least 2 cores per sensor
- ~5GB RAM and ~100GB disk space per sensor
- Linux OS for running Docker containers

This is used in some systems:

- Splitters and injectors for sensors with no PoE connection
- Switches and modules for digital I/O

### Performance

The system has built-in self-diagnostics to prevent errors and ensure the best possible performance. The self-diagnostics include dirt detection, anti-tampering, sensor analytics, and system monitoring. This data can activate other systems or be sent as alarms.

### Integrations

External integrations:

- OPC UA
- Digital Outputs
- MQTT
- RFID/tag solutions

### Other

Accuracy >5%  
 Max speed: 50km/h  
 Min distance between vehicles: 2m

Data

	Data type	OPC UA (PLC/DCS e.g. 800xA or S7)	MQTT
Monitoring	<b>Vehicle measurements</b>		
	Height		
	Length		
	Width	✓	✓
	Vehicle class (customizable)		
	Overheight alarm		
	<b>Load measurements</b>		
	Load volume compared to tare		
	Overload alarm		
	3D model of vehicle	✓	✓
	Fragmentation estimate		
	<b>Tracking</b>		
	ID		
	Position		
	Speed	✓	✓
Heading			
Sensor name			
Object class			
<b>Self diagnostics</b>			
Dirt detection	✓	✓	
Anti-tampering			

\* Digitals output does not support variable metadata.