atlasMX-720 for mining

blind spot free vision for safe operation

use real-time imagery

to improve safety around machines

monitor all actions on site

while driving, manoeuvring and repositioning machines

detailed insight into events

with captured and recorded footage

increased safety

Vehicle operators must constantly monitor and review information in order to detect and assess hazards from inputs such as materials, real time events, and the environment. At the same time, they are dealing with the restricted vision of the heavy vehicle they are operating.

The atlasMX-720 is a high grade vision and event recording system designed to overcome these difficulties by providing **real-time imagery** and **object detection capabilities**. Implementing blind spot free surround vision with topVIEW and linking object detection to alarm functionality can result in greatly reduced risk of serious or fatal injury on-site.

Additionally, by recording the imagery **on a rolling loop**, a mine operator has the ability to review events whenever they do occur and to **enhance safety protocols** as a result. **Fast retrieval** of stored imagery can also assist in correct response to an event as it occurs.

The altasMX-720 vision and event recording system greatly **improves safety** for mine operators and their personnel. As well as the safety benefits, **significant savings** are achieved from the increase in site uptime and potential insurance premium reduction, making the atlasMX-720 a **must-have solution** for forward looking mine operators.

atlasMX-720

minimising risks

The atlasMX-720 supplies vision at 180° horizontally from every camera. Imagery is recorded in full high definition and utilises High Dynamic Range sensors to ensure **premium quality** in the harshest conditions, including weather extremes of both temperature (+65°) and rain (IP69K), and dusty bright sunlight. The operator gains blind spot free surround vision, and topVIEW enables a complete view of the vehicle with a single glance.

Object detection and automatic alarming, both in and outside the machine, will dramatically lower the risk of serious or fatal injury on-site, particularly at critical moments such as moving off from stationary.

A fifth camera can also be incorporated into the system to be used for a variety of purposes, e.g. for a high view of a dump truck's load bay, monitoring load completeness and potential discharge during transportation. In the event of discharge, the close range footage can be used to define the cause (over-loading, uneven distribution, speed of vehicle, etc.).

In the case of an event, imagery can be quickly retrieved via cellular data transfer. This enables immediate review of the event to expedite correct safety and emergency response to the site as well as to assist authorities in their efforts to investigate and rectify possible safety issues for the future.

system benefits

- **Incident Response:** Fast retrieval of imagery gives an instant view of reported incidents. A correct response can be activated immediately (e.g. cutting tools or lifting equipment).
- **Incident Review:** Review incidents, identify their cause, and improve safety regulations as a result.
- **Claim Mitigation:** Utilise footage to mitigate accident claims and to demonstrate safety checks were correctly performed.
- **Site Safety:** topVIEW enables total safety around the vehicle with one glance, especially when moving off from stationary or when manoeuvring into tight spaces.
- **Geofencing:** Areas of the site can be cordoned off via alarm functionality within the system (e.g. hazardous and protected areas or restricted access gates).
- **Ease of Use:** The system is designed to operate autonomously without any driver interaction (no menus to follow). Gridlines on each camera also allow easy estimation of distance to objects.
- **Machine and Site Uptime:** Achieve savings by reducing site disruptions, downtime for repair, and costs for replacement vehicle hire.

fast fact

Vehicles lead the list of "high potential incidents" for all mining sectors, 2012–15.

Source: Safety Performance & Health Report 2014–15, QLD Mines and Quarries

system highlights

high quality imagery

- Footage is recorded in **high definition** using **High Dynamic Range** (HDR) sensors for best possible image quality, even in poor lighting conditions.

environment-proof components

- The system utilises four smartMX-180 cameras built to withstand the **harshest environments** and **high pressure** wash downs (**IP69K**).
- Ratings for **temperature** (-40°C to +65°C), **vibration**, and **dust and water ingress** are all at the highest levels, ensuring operation even in toughest conditions.
- Cable connectors are all Swiss high quality **LEMO®** components.
- The tigerMX-5 server contains a **480GB SSD hard drive** and the housing is a **single cast** fanless design.
- Combined with the viewMT-101 **sunlight readable** LCD touch screen, this is the toughest, most fit-for-purpose, and powerful system on the market.

special purpose camera

- A fifth camera can be used **in a variety of locations** depending on the vehicle.
- An operator, therefore, has the benefit of 360° vision around his vehicles as well as vision and recorded footage at any other **location of interest**.

remote access

- In the case of an incident, either on-site or while roading, footage is able to be **immediately retrieved** remotely via the **built-in cellular module**.
- **Update software** and **wake up switched off systems** remotely by simply using an **SMS** code.
- Data can be downloaded automatically when in range of the base **Wi-Fi** hub without any interaction from the operator.

zero operator interaction

- The **built-in power management** of the atlasMX-720 allows a synchronised start and stop with vehicle operation (incl. cranking periods). No operator interaction is required.

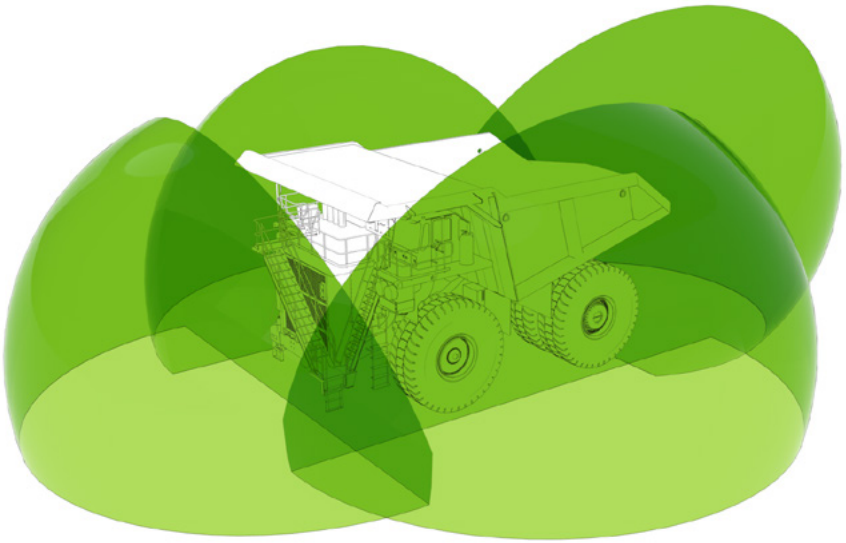
The atlas system represents a leap forward in safety and risk mitigation, which ultimately results in lower operating costs.

atlasMX-720 system
for 360° blind spot free vision

smartMX-180 camera

The smartMX-180 delivers high-quality streamed imagery for efficient and seamless monitoring of operations.

» Has a secure cast aluminium enclosure
» Uses industrial grade high sensitivity HDR image sensors
» Equipped with a powerful multi-core ARM® processor
» Operates from -40°C to +65°C
» Offers the highest available ingress protection (IP69K)



viewMT-101 display

The viewMT-101 displays clear and detailed footage in a wide viewing angle, to improve safety around vehicles.

» True sunlight readable 10.4" touch screen
» Variable backlight functionality for night operations
» Equipped with DEUTSCH and LEMO® connectors
» Configurable to wide angle or split-screen scenarios
» Compact design allows ease of set up
» Internal speaker for audio and warning tones

tigerMX-5 server

The tigerMX-5 records high resolution imagery providing conclusive evidence in the event of an incident.

» Provides two computer modules
» Processes footage of up to five smartMX-180 cameras
» CAN interface for vehicle communication
» Wi-Fi for enhanced compatibility
» Cellular module to connect to 3G/4G phone networks
» Tested for severe vibration and extreme temperature

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Vision in Motion

Black Moth's intelligent mobile vision and communication solutions improve worksite safety for heavy machinery. We provide cutting-edge technology and rugged products to support operations in a wide range of transport and heavy industries.

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