

Innovation that Saves

Smartmine IoT

MINING MEETS EFFICIENCY,
BY TURNING DATA INTO PROFIT



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Systems

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The Road to Zero Harm

With the significant strides that has been made in the mining industry towards zero harm, workers are safer than ever in their environment. Even with the industry implementing various norms and standards towards a safer workplace, we still see incidents and injuries happening.



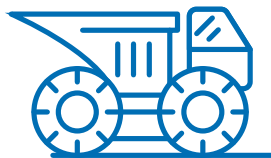
51

Fatalities



5406

Injuries



18

Transport and
mining fatalities



33

Injuries and fatalities caused by gas, falls of ground, machinery and other hazards

*Data provided by the minerals council of South Africa as of December 2019

The Problem With Traditional Mining Systems

Mining industries face the problem of having control rooms cluttered with various systems from different equipment providers. These systems often times do not display the correct information when it is required, which results in injury and loss of life.



Traditional systems not
designed for big data



Unsecured networks
and system architecture



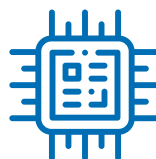
Cloud hosted
service fees



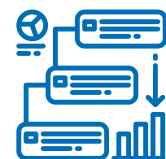
Slow adoption with digitisation
in the mining industry



Bandwidth and remote
connection issues



Failure of commercial
hardware in industrial
use scenarios



No defined data structure,
i.e. junk in junk out



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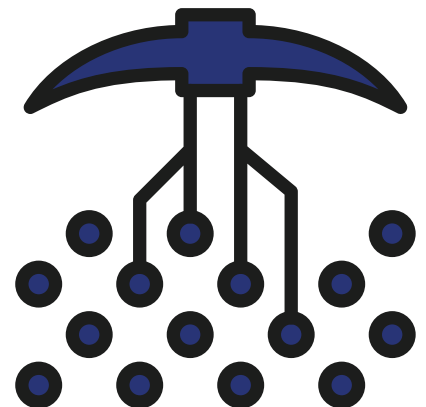
The Schauenburg Smartmine IoT Solution

“...Smartmine IoT is a scalable, rugged, powerful open architecture industry 4.0 IoT enterprise software platform that has the necessary resources available to process and control data in real time **at the source, fast enough wherever it is required...!**”



Benefits of Smartmine IoT

- IoT platform optimized for Health, Safety and Productivity in the Mining industry.
- Improved security.
- Rugged, distributed data-center, with fall-over protection.
- Fast real-time decision making at the data-source.
- Scalable Opportunities - more nodes within a cluster or even more clusters can be added, while distributing processing and storage capacity.
- Versatile, flexible and better reliability to adapt to many functionalities.
- Can be easily integrated into existing IT infrastructure.
- OEM independent.
- Advanced configuration management.
- Drop-in replacement for MIMACS II.
- Open APIs.
- Capable of handling high velocity and high volumes of data

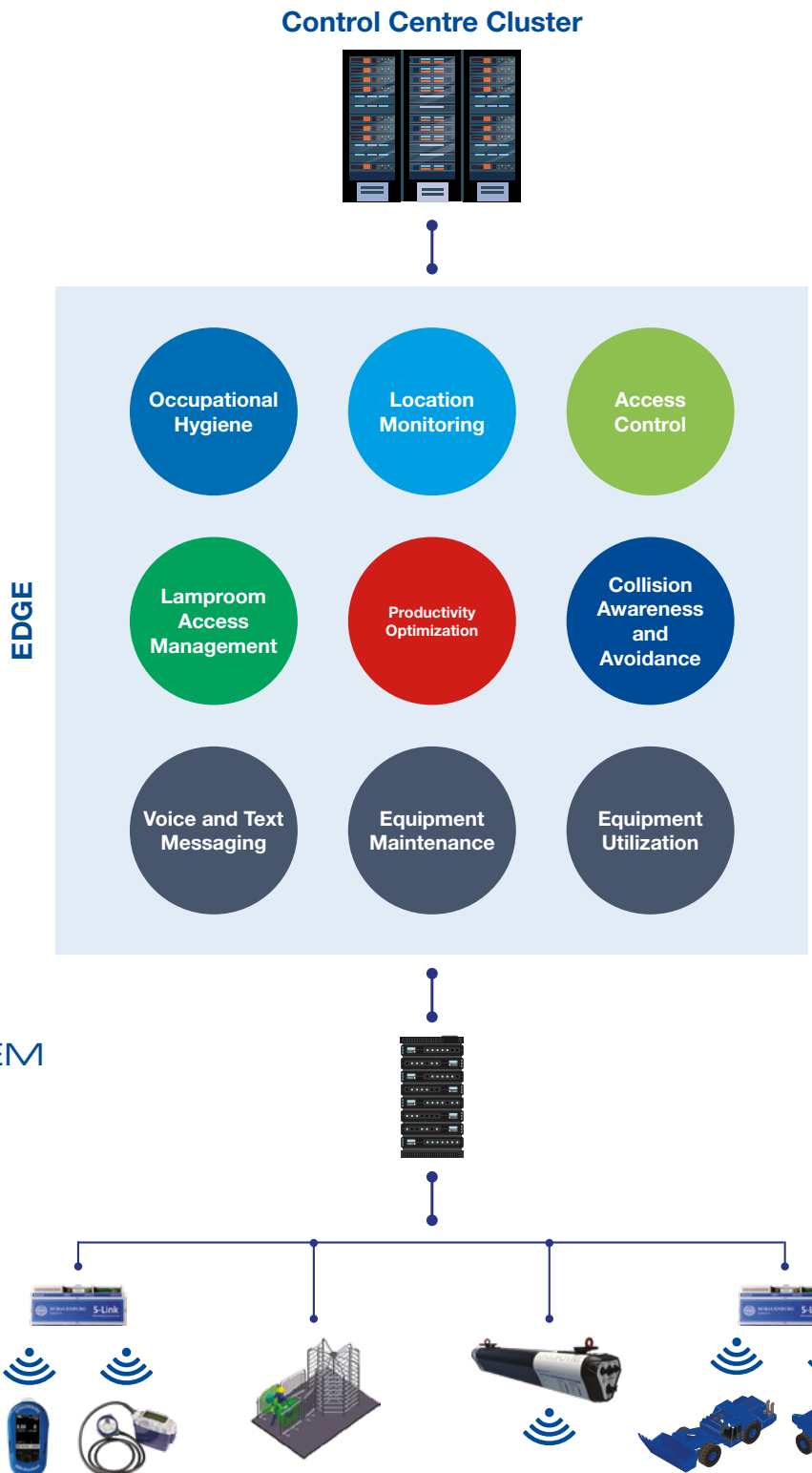


Value of Smartmine IoT

SERVICES EXPLORED

- 
Config Management
 Remotely maintain the configuration of sites, locations and equipment
- 
Licensing
 Enable solution suppliers to license UI's, dashboards and data access to clients
- 
Data Services
 Ease of maintenance, distribution and back-up of data
- 
Work-Flow Engines
 Controlled management of deployment configurations and maintenance activities
- 
Monitoring Services
 Remotely monitor and diagnose system, services and solutions
- 
Access Services
 Authenticate and authorise users of the system services and solutions
- 
Notification Services
 Report incidents, events, alerts, maintenance and support issues

USER APPLICATIONS



BENEFITS OF THE SMARTMINE IOT SYSTEM

- One to one (Schauenburg server to a single client) or one to many (Schauenburg server to several distributed nodes) client management enables deployment across various sites each managed by their own rules and licenses.
- Create the ability to create SMART connected applications.
- System wide connectivity through Wi-Fi (SchauPOYNT) and S-Link.
- Complies to all DMR regulations for Safety and Lamproom Management products and services.



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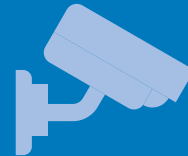
SmartMine IoT

TURNING DATA INTO PROFIT

Data Inputs



Data Inputs



Monitor



Diagnostics

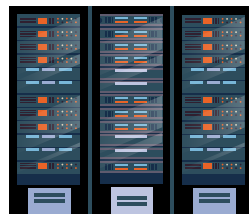
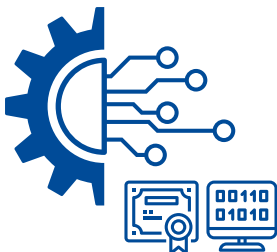


Analytics



Predictions

Digital Twin



Reports and Dashboards



Improvement



Health



Safety



Production



Revenue



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Smartmine IoT CENTER OVERVIEW



About Schauenburg Systems

Schauenburg (Pty) Ltd trading as Schauenburg Systems opened its doors for business in South Africa in 1972. An Original Equipment Manufacturer (OEM) for mine safety, Schauenburg offers the services of a system integrator with comprehensive turnkey solutions including a full bouquet of multi-disciplinary services and program management methodologies required to ensure a successful and cost effective solution for the full spectrum of mine safety solutions and management. Schauenburg has a country wide footprint and with its expertise in integrated systems, started its first IoT system in 2010 with the MIMACS integrated solution

Having the right mine safety equipment is crucial while working in a mine. Schauenburg's equipment will ensure that operational efforts are maximized, while keeping your team safe. This is why it's imperative to use the most reputable supplier for your mine safety equipment to ensure you are well secured.

At Schauenburg Systems, we have mine safety equipment that is designed for the harsh African mining environment. Schauenburg's protective gear helps prevent the risk of serious injury and to ensure that operational staff members are working in a safe and productive manner. In addition to body protection, Schauenburg also offers safety equipment apparatus that detects fire, hazardous and poisonous gases and heavy vehicle collision avoidance.

Schauenburg Systems offers high grade safety systems that complies with the mining industry's norms and standards. At Schauenburg Systems, we are committed to providing our clients with high quality mine safety equipment that ensures maximum protection of your mine workers. It is important to review the specifications of equipment and proceed with a company that you can trust, like Schauenburg Systems.

For all your mining needs, industry leader Schauenburg Systems is the only choice. Not only do we offer the latest mine safety equipment that will help you to keep your employees safe on the job site, we offer the latest mining equipment that will help you to get the job done safely.



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