SACEA Young Talent Meeting

22 September 2020

AGENDA:

1	Trysome Company Overview	Eddie Smith	Chief Executive Officer
2	Trysome Services	Jaco vd Merwe	National Service Manager
3	Trysome Product Offering	Oswald Olckers	Product Category Manager
4	Hexagon Mining Overview	Gregory Rappard	National Sales Manager
5	PDS System	Jey Mwepu	Hexagon Safety Lead Engineer
6	Questions & Answers	Andile Nyembe	Trysome Lead Engineer

TRYSOME
AUTO-ELECTRICAL ENGINEERING

Our business is keeping you moving!

About Us

- Established in **1991** by E.W. Smith
- Converted to a **(Pty) Ltd** in July 2012
- 30% Black Owned
- Employs approx. 400 people
- Instrumental in the development of Collision Awareness Systems in RSA – from simple camera & radar to sophisticated GPS-driven, integrated systems with intelligent algorithms

Branch Network

Branches

- Gauteng – Jet Park (Head Office)
- North West - Rustenburg
- Mpumalanga - Middelburg
- Western Cape – Cape Town
- Northern Cape – Kathu, Sishen & Kolomela
- KwaZulu Natal – Pinetown
- KwaZulu Natal – Richards Bay (HarnessPro)
- Zambia - Kitwe
- Mozambique - Tete
- Botswana (Jwaneng & Letlhakane)
- Ghana

Affiliate Companies

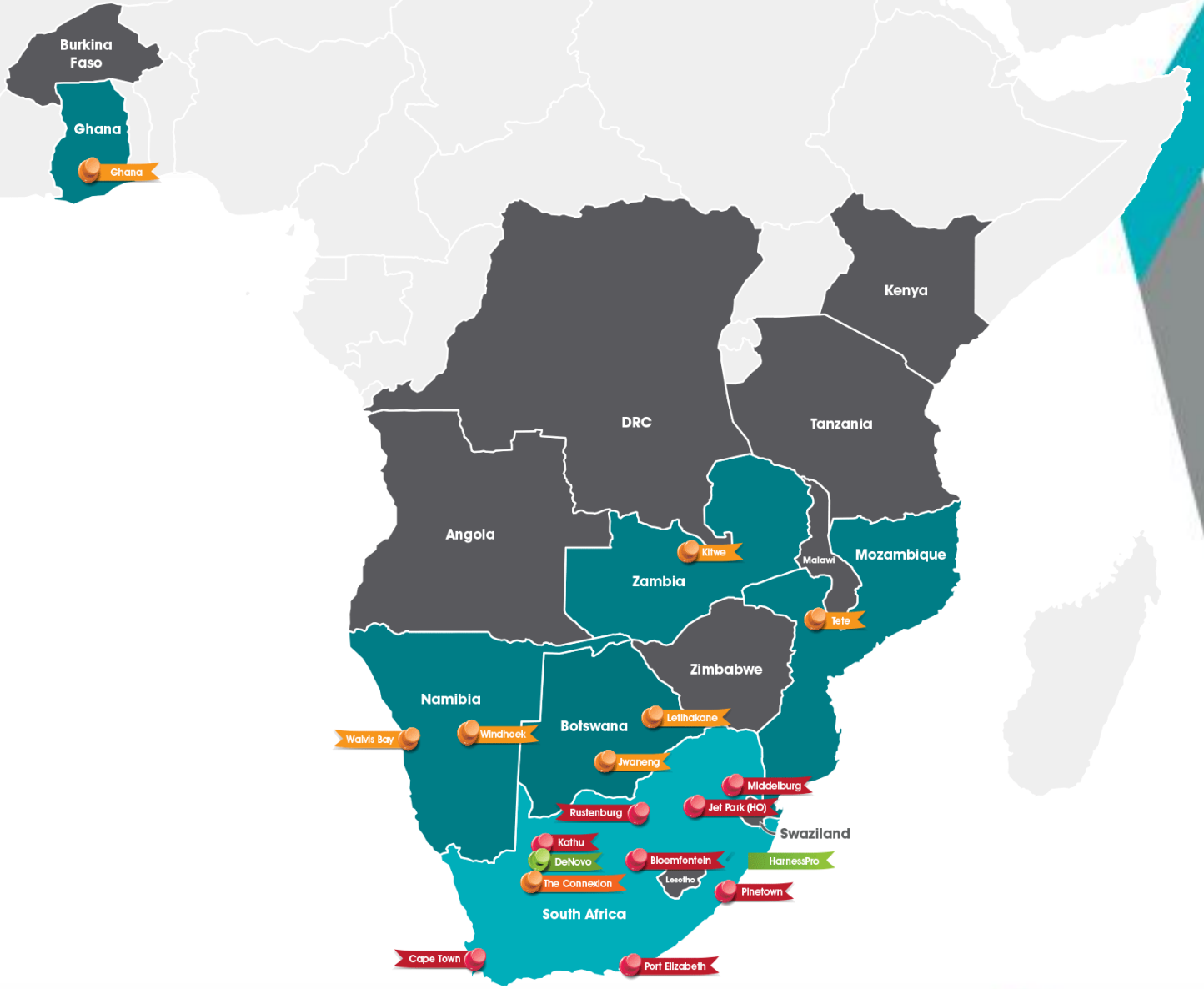
- DeNovo – Kathu, Sishen & Kolomela
- The ConneXion – Kathu & Kolomela

Authorised Distributors

- Namibia

Export Countries

- Angola
- Burkina Faso
- DRC
- Malawi
- Kenya
- Tanzania
- Zimbabwe
- Swaziland



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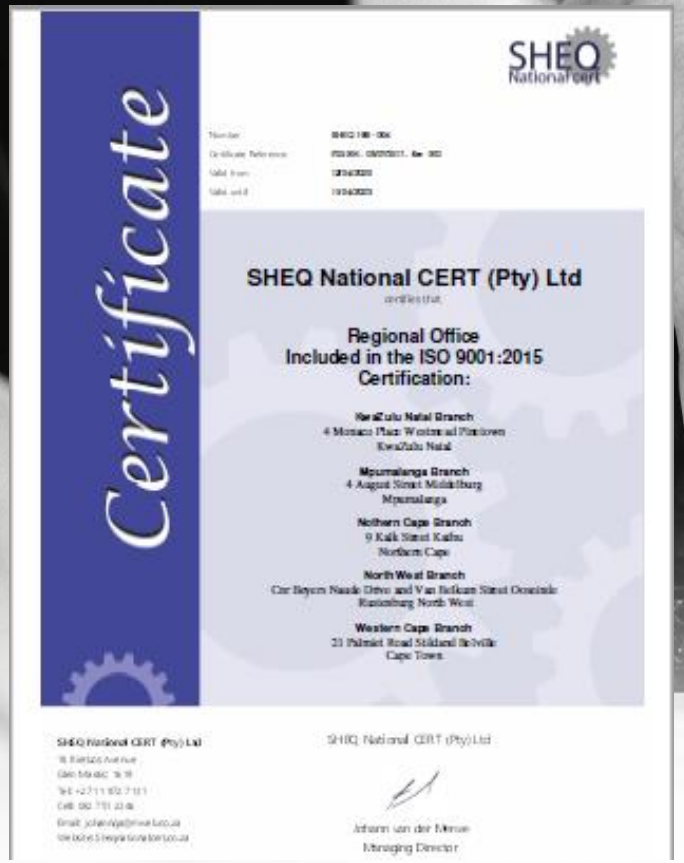
Accreditations



Certificate

SHEQ National CERT

SHEQ National CERT (Pty) Ltd

certifies that

Regional Office
Included in the ISO 9001:2015
Certification:

KwaZulu Natal Branch
4 Monaco Place Westmead Pinetown
KwaZulu Natal

Mpumalanga Branch
4 August Street Middelburg
Mpumalanga

Nothern Cape Branch
9 Kalk Street Kathu
Northern Cape

North West Branch
Cnr Beyers Naude Drive and Van Rensburg Street Oosrandc
Rustenburg North West

Western Cape Branch
21 Palmiet Road Stikland Bellville
Cape Town

SHEQ National CERT (Pty) Ltd

SHEQ National CERT (Pty) Ltd

Johann van der Merwe
Managing Director

RENAISSANCE
SA Ratings

This is to certify that

TRYSOME AUTO ELECTRICAL ENGINEERING (PTY) LTD

LEVEL 3 CONTRIBUTOR

MEASURED ENTITY:	
Company Name:	Trysome Auto Electrical Engineering (Pty) Ltd
Address:	7 Model Road, Witfield Ext 28, Jet Park, 1467
Registration Number:	2011/232954/07
VAT Number:	4690116851
BEE STATUS	
Scorecard:	Generic Scorecard - B-BBEE Codes of Good Practice (Gazette Number 36928) of 11 October 2013
Financial Period used:	01 Aug 2018 - 31 Jul 2019
B-BBEE Recognition Level:	110%
Black Owned:	30% Black Ownership
Black Women Owned:	18% Black Women Ownership
YES Initiative Enhancement:	YES
Empowering Supplier:	YES
Designated Group Supplier:	NO

Scorecard Information	Score	Target Score
Ownership	22.00	25.00
Management Control	7.46	19.00
Skills Development	14.36	20.00
Enterprise and Supplier Development	42.00	40.00
Socio-Economic Development	3.93	5.00
Total Score	89.75	109.00

Date Issued: 23 September 2019

Date Expired: 22 September 2020

Technical Signatory:

Certificate Number:

Signature:

sanas

Physical Address: 76 Gardenia Street, Lynnwood Ridge, Pretoria
Postal Address: 76 Gardenia Street, Lynnwood Ridge, Pretoria
Telephone: 012 348 1838 / 1790

Renaissance SA Rating (Pty) Ltd
Reg. (2004/031874/07)
Directors: J Lee, T Mbeenya,
A van den Berg, P Grobler

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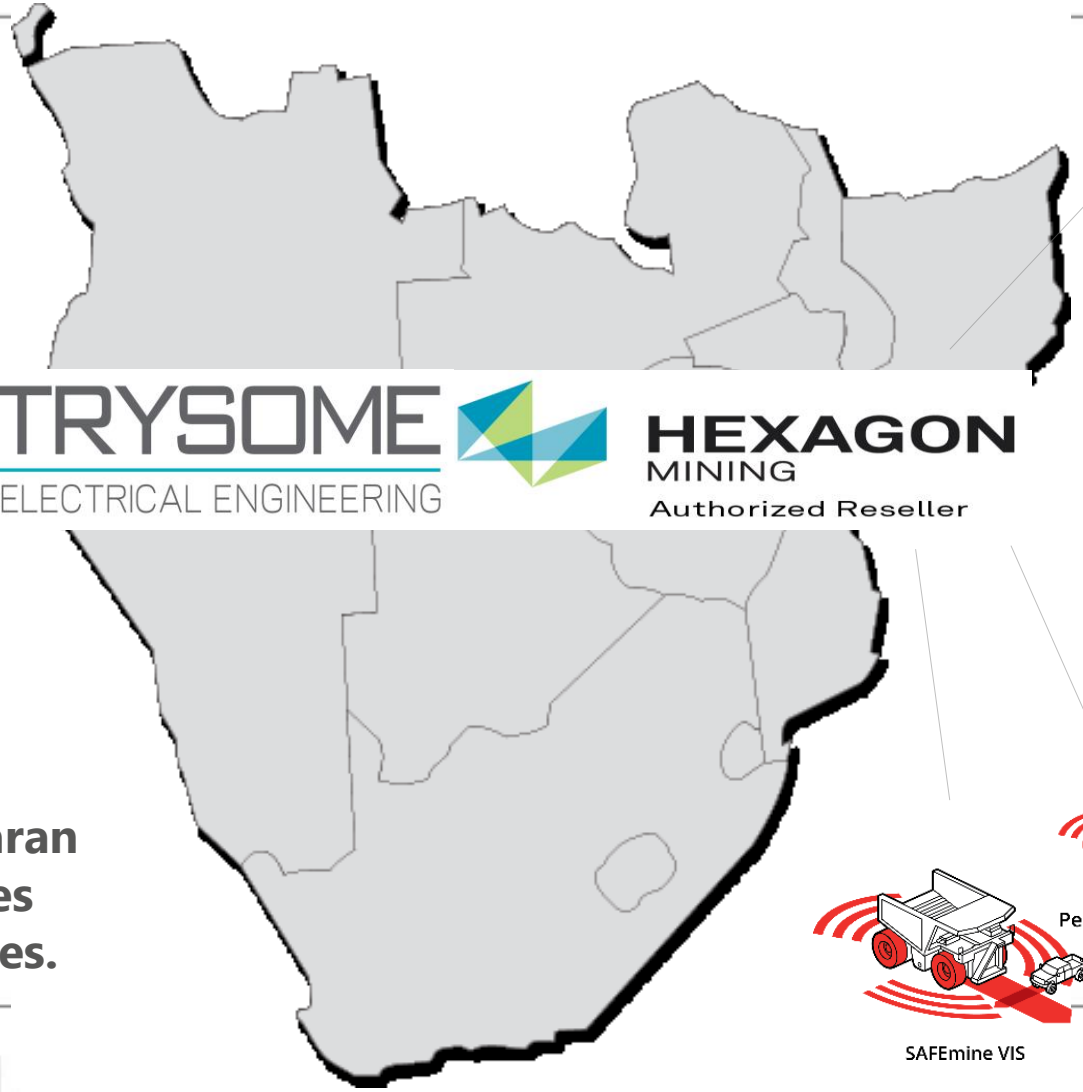
Trysome/Hexagon Mining Partnership

Distribution

Installation

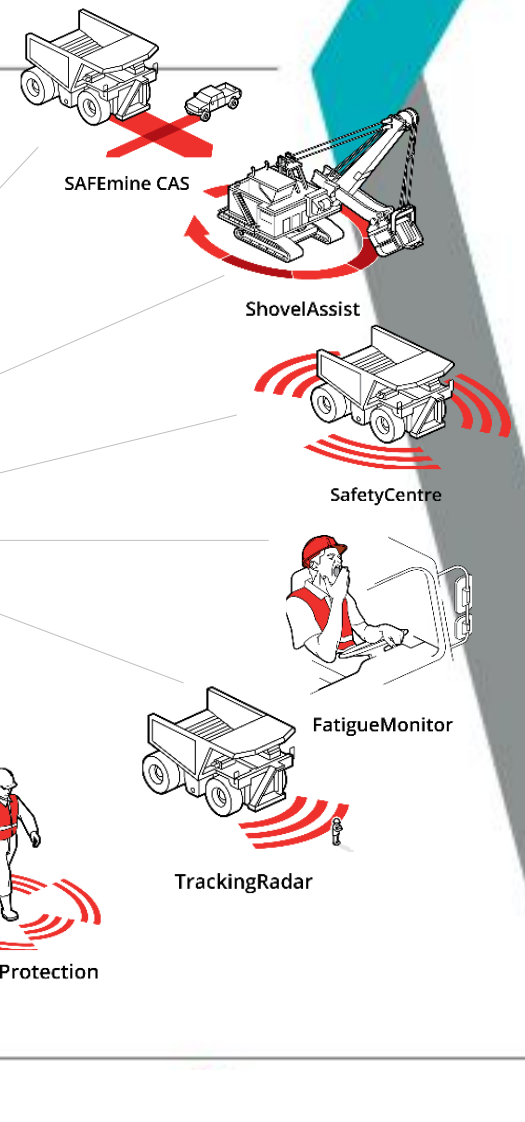
Maintenance

Man-on-Site



TRYSOME AUTO-ELECTRICAL ENGINEERING

HEXAGON MINING
Authorized Reseller



Trysome is Hexagon's sub-Saharan African partner for product sales and all technical support services.

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HarnessPro

HARNESSPRO
OPTIMISED WIRING SOLUTIONS

- Established in July 2016
- Manufacture of automotive harnesses and electrical wiring systems
- Applications:
  - General transport
  - Mining
  - Manufacturing
  - Military
  - Forestry
  - Agriculture
  - White goods (appliances)
  - Alternate energy

Optimised wiring solutions to keep you connected!

TRYSOME
AUTO-ELECTRICAL ENGINEERING

Our business is keeping you moving!

Service - Field Service

- High-calibre, certified **multi-skilled technicians** – auto-electrical, air-con, collision avoidance, cab filtration & fire suppression
- On-site repair services
- Fleet of > 150 retrofitted vehicles enabling ‘service on demand’
- Where there is a demand, a ‘man-on-site’ can be assigned
- Latest diagnostic equipment
- We boast a team of dedicated technicians for the fitment, service and maintenance of CAS systems

Service – TMT Reman. Workshop

- Well-equipped Remanufacturing Centre
- Caters for the repair & maintenance of rotating equipment
- Refurbished to OEM spec
- Broad range of exchange units are available at all times
- Latest state-of-the-art testing technology – all equipment regularly monitored and calibrated in accordance with ISO 9001

Manufacturing – TMT

TRYSOME.TMT

- Creating solutions for the industries we serve
- Refined engineering and customised products
- We research, design, prototype and test, before the final product is manufactured
- Adhering to strict quality controls
- Currently we are the only company that manufactures enclosures & harnesses to OEM spec
- Manufacture of complete air-con units
- Air-con parts, cab filtration as well as field service for Air-Con & Cab Filtration

The ConneXion

Trysome has recently launched The ConneXion, an auto-electrical services and fitment centre. At The Connexion we specialise in:

- Electrical Repairs
- Product Fitment
- Problematic Starting
- Air Conditioning
- Battery Testing, Fitment & Supply
- Back-up Alarm Systems Fitment & Fault Finding
- Headlight & Spot Light Adjustments
- CAS Installations for mining Contractors
- Mine Spec. Vehicle Fitments

TRYSOME
AUTO-ELECTRICAL ENGINEERING

Our business is keeping you moving!

Product & Service Pillars

Air Management

Collision Awareness Systems

Electrical Harnessing Components

Industrial Supplies

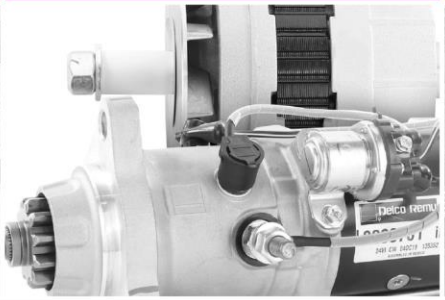
Lighting & Optics

Manufacturing, Service & Installation

Power Supply

Realtime Monitoring

Rotating Equipment



Safety Equipment

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AUTO-ELECTRICAL ENGINEERING

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Product Range

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AUTO-ELECTRICAL ENGINEERING

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Auto-Electrical Parts Supply

[Air Management]

- Air-Conditioners & Spare Parts
- Fire Suppression
- Cab Filtration & PreCleaners
- Field Service for Air-Con & Cab Filtration
- Air Quality Monitoring
- Tyre Pressure Monitoring Systems

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AUTO-ELECTRICAL ENGINEERING

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Auto-Electrical Parts Supply

[Harness Components]

- Connectors
- Sleeving
- Auto Wire
- Relays
- Switches
- Isolator Switches
- Fuses

Auto-Electrical Parts Supply

[Industrial Supplies]

- Tools, Diagnostics & Workshop Solutions
- Abrasives
- Consumables
- Adhesives & Fasteners
- Winches
- Vehicle Recovery Systems
- Vehicle Seat Protection

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AUTO-ELECTRICAL ENGINEERING

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Auto-Electrical Parts Supply

[Lighting]

- Work Lights
- Emergency & Signal Lighting
- Mine Light Bars
- Tail Lights
- Secondary Lighting
- Forward Lighting
- Automotive Globes

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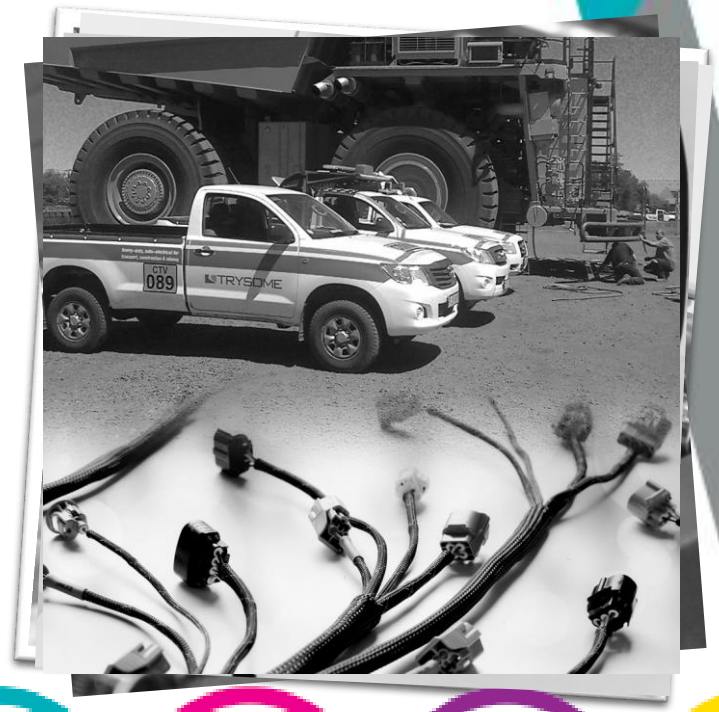
AUTO-ELECTRICAL ENGINEERING

Our business is keeping you moving!

Auto-Electrical Parts Supply

[Manufacturing]

- Air-con Units
- Panels
- Remote Controls
- Re-manufacture of Rotating Equipment
- Harness Repairs
- Battery Charging Bays



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Auto-Electrical Parts Supply

[Power Supply]

- Batteries
- Chargers
- Jump Starters
- Inverters
- Solar Panels
- Battery Accessories
- Generators & Accessories

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AUTO-ELECTRICAL ENGINEERING

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Auto-Electrical Parts Supply

[Real-Time Monitoring]

- Walz Volumetric Scanners
- Walz Portable Scales
- VEI On-board Weighing Systems
- Pervidi Paperless Inspections

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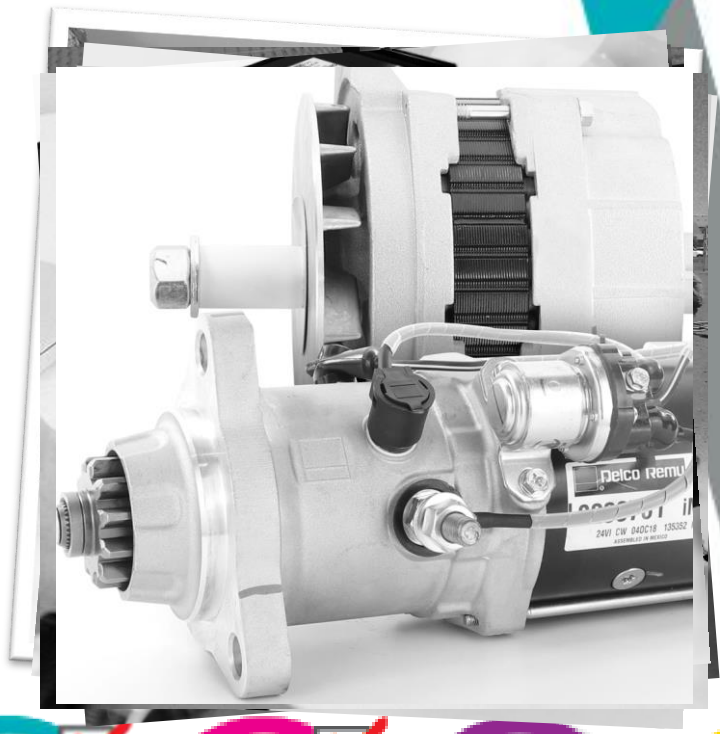
Auto-Electrical Parts Supply

[Rotating Equipment]

- Starters & Components
- Alternators & Components
- Pre-lub and QuickEvac System



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Auto-Electrical Parts Supply

[Safety Equipment]

- Back-up Alarms
- Forward Horns
- Safety Belts
- Gauges
- Wheel Chocks
- Flags

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Supplier Profile

TRYSOME
AUTO-ELECTRICAL ENGINEERING

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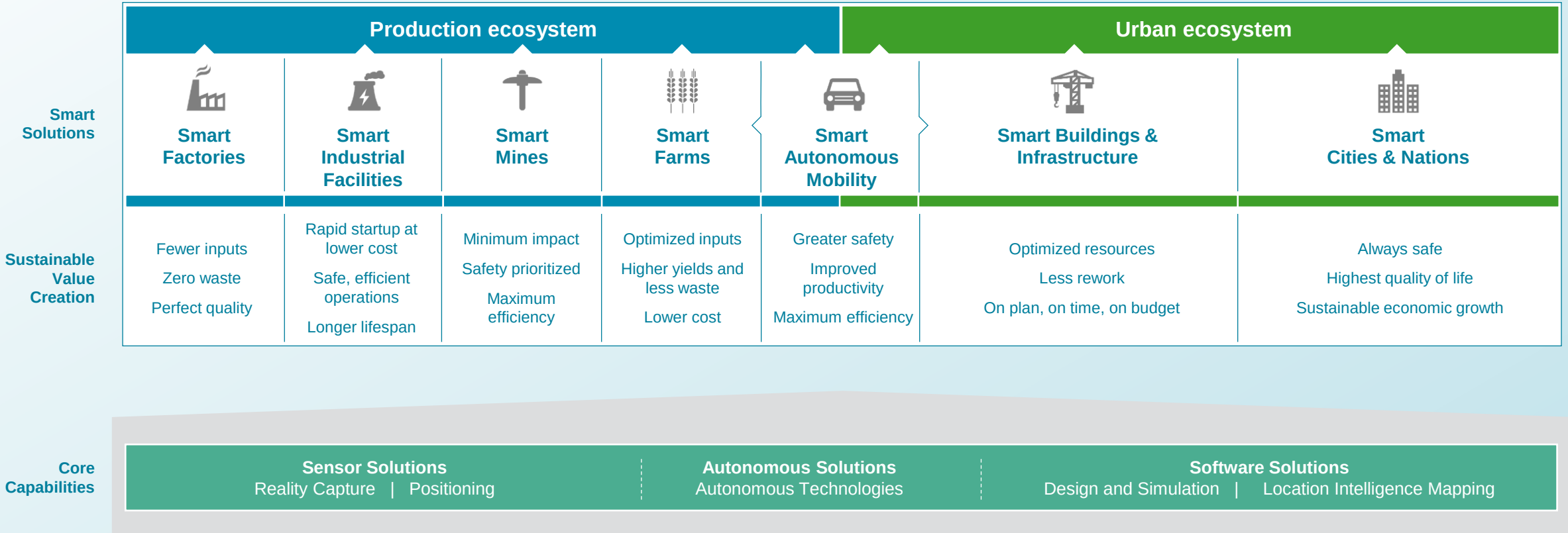
Portfolio overview

By putting data to work our smart solutions empower increasingly autonomous, connected ecosystems that drive sustainable value creation



HEXAGON

SOLUTIONS FOR THE LIFE OF YOUR MINE

HxGN MinePlan

HxGN MineOperate

HxGN MineProtect

HxGN Survey & Monitoring

HxGN MineEnterprise

Planning and scheduling optimization

UAVs for inspection, stockpile management, and safety monitoring

Fatigue Monitoring

Diverse mobile connected and protected workplace

Fleet management & health

Quantify post-blast fragmentation

Integrated remote operations

Real-time slope monitoring

Cloud based data HUB

24/7 support & on-going partner development

Digitized geological data

Operator Assist

IoT sensors for real time data capture

Real-time measurement of particle size distribution

D&B precision for surface or underground

Measure size to enhance real-time process control

Plant designs for maximum production

Equipment for survey & slope monitoring

Collision avoidance & vehicle intervention

Wearables for field maintenance & operator safety

24/7 SERVICES

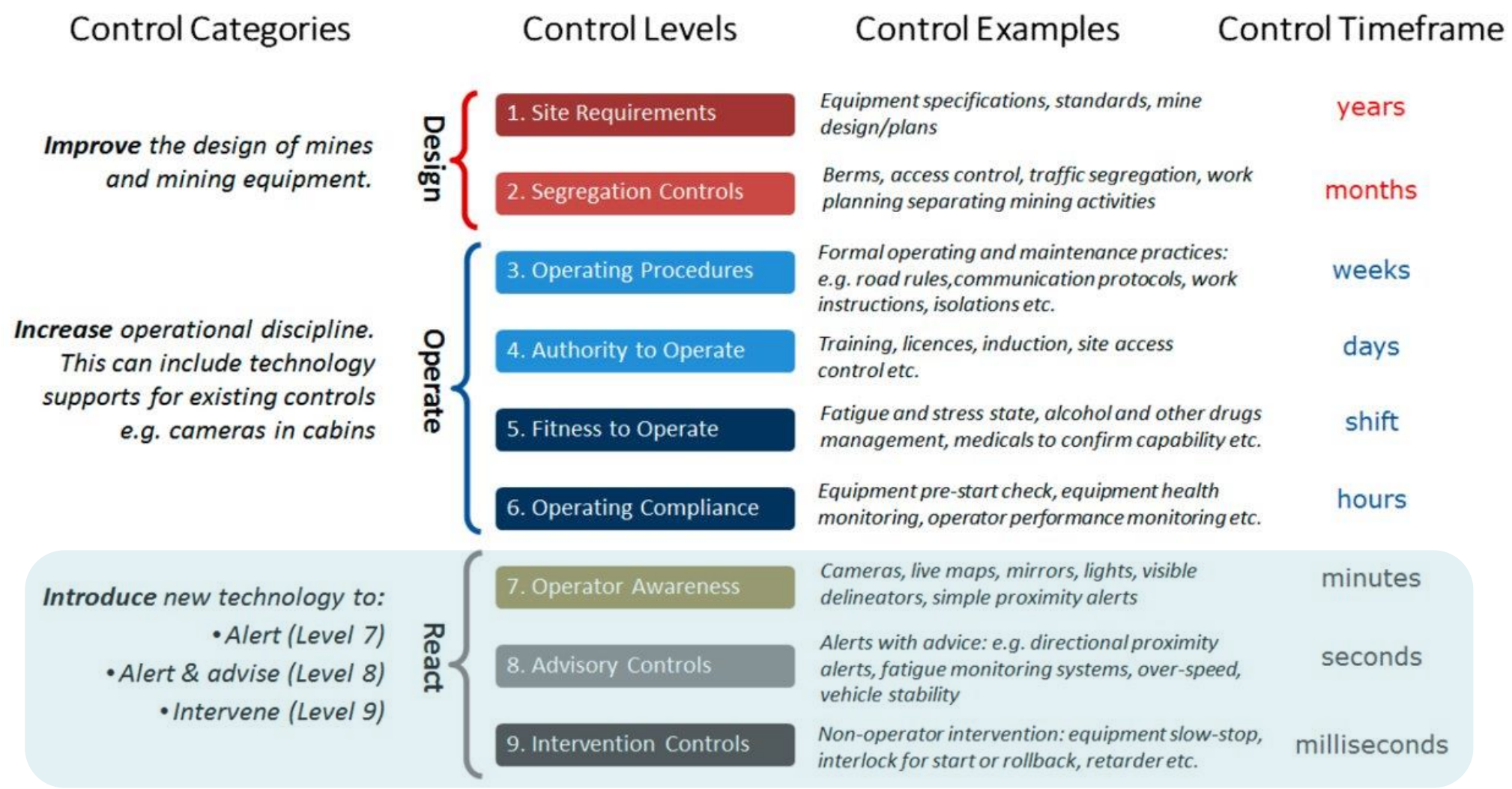
EXPLORE | PLAN | PRODUCE | OPERATE | PROTECT | SURVEY | MONITOR | ANALYZE | REPORT | OPTIMIZE

Underground task manager

HEXAGON MINING

EMESRT – 9-Level Control Model

The Earth Moving Equipment Safety Round Table



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Trackless Mobile Machineries Regulations

According to the Mine Health and Safety Act, the following regulations sets the standards of operation for different mining environments in terms of Proximity Detection Systems for electrical/battery operated TMM’s and diesel powered surface and underground TMM’s.

1. Collisions between trackless mobile machines and pedestrians MHSA 8.10.1

- Detection devices are to be fitted which will alarm both pedestrians and operators.
- Detect the presence of any pedestrian in the vicinity
- Alert both the operator of the pedestrian about the threat

2. Collisions between Trackless mobile machines MHSA 8.10.2

- Every trackless mobile machine must be provided with means to automatically detect the presence of any other trackless mobile machine within its vicinity
- The operators of both trackless mobile machines shall be warned of each other's presence by means of an effective warning

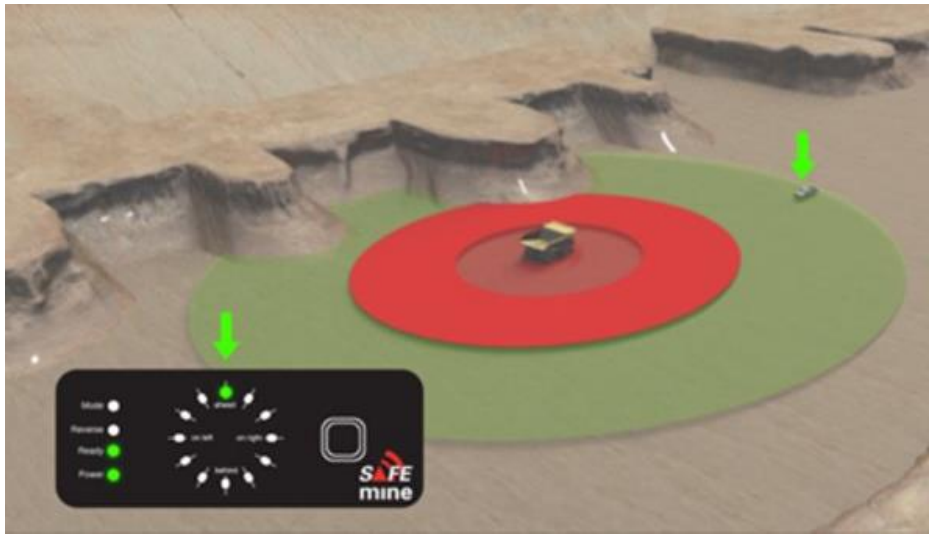
What is PDS / CAS

Proximity Detection System (PDS) or
Collision Avoidance System (CAS)
is a safety system that increases the TMM operators' situational awareness and provides alerts regarding imminent threats allowing normal operating procedures and providing real-time monitoring for preventive decisions.

Level 7 – Alert (situational awareness)

Level 8 – Alert and advise (advisory control)

Level 9 – Intervene (intervention controls)



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Typical VIS Features and Benefits

FEATURES	BENEFITS
LaunchAssist: inhibit vehicle propulsion at start-up	Initial start up incidents can be avoided with obstacles
SpeedAssist: inhibit vehicle propulsion if vehicle speed exceeds speed limit	Reduced Overspeed events
AssetProtect: hoist or propulsion is inhibited in a delimited area	Eliminate power line and ore pass incidents within geofenced areas
RampAssist: activation of retarder on geo-fenced area if vehicle speed is over the limit	Prevent run away trucks on declines by controlling speed
BrakeAssist: activation of service brakes to mitigate imminent collision if speed is below <10 km/h>	Incident/ Collision avoidance
TailgaitingProtect: activation of retarder or inhibit propulsion to maintain safe distance between two vehicles travelling in same direction	Avoid tailgating especially where there's excessive dust and bad road conditions which could lead to increased stopping distances

How to identify which TMMs require PDS/CAS?

- In general, when considering unwanted vehicle interactions, a risk based approach needs to be taken
- This means that a TMM risk assessment should be completed for each operation
- During the risk assessment your significant risk vehicles and risk controls are identified
- Ideally all vehicles operating within the “RED” area should be equipped with a L7/L8 PDS system
- For L9 PDS, priority should be given to the significant risk vehicles identified in the risk assessment (typically Haul Trucks in a surface operation)

HxGN MineProtect with MineEnterprise

Wi-Fi
LTE

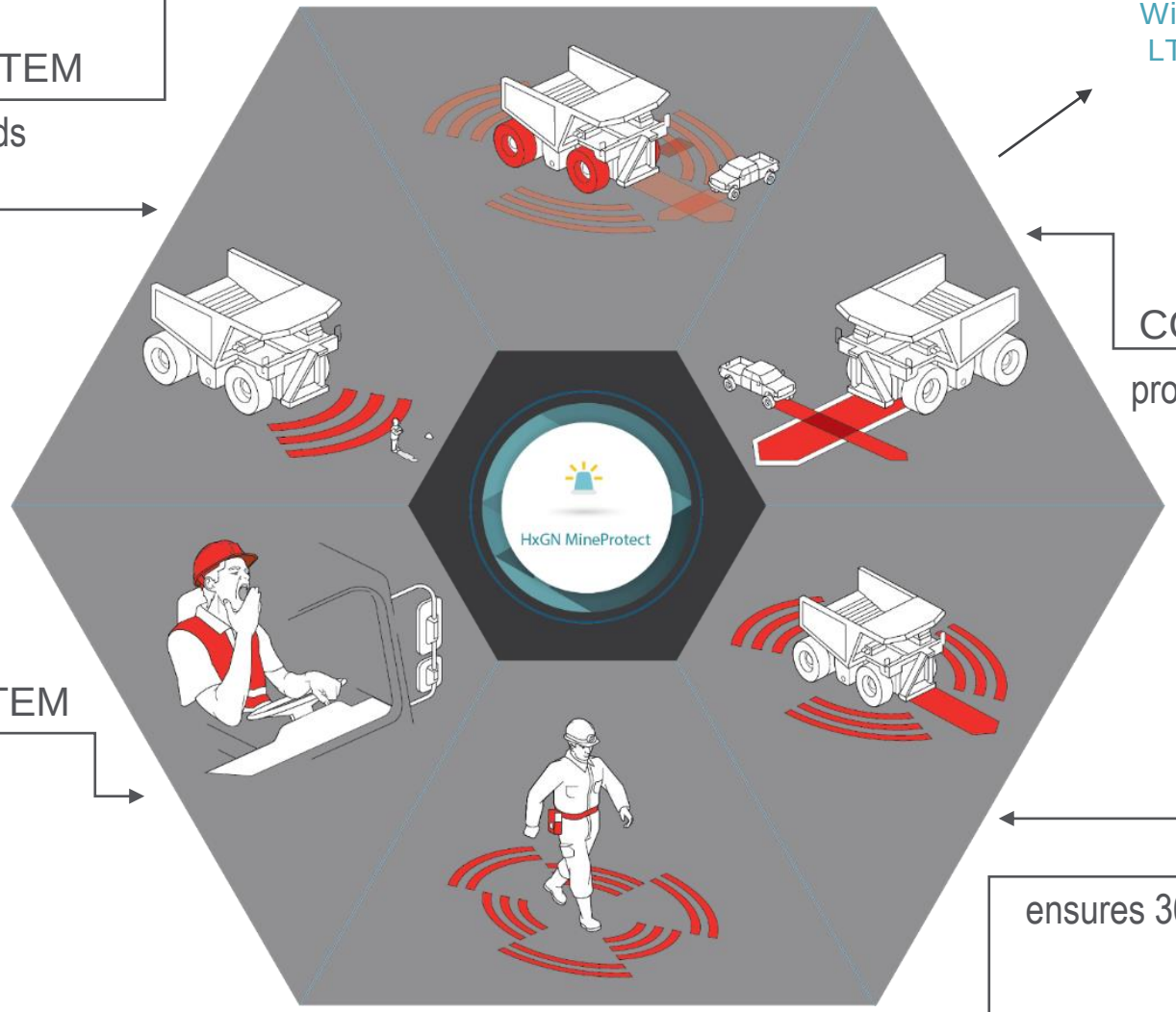
MineEnterprise –
Reporting and Analytics

VEHICLE INTERVENTION SYSTEM

recognizes and mitigates vehicle hazards

TRACKING RADAR

protects against potential threats
position and motion



COLLISION AVOIDANCE SYSTEM

protects equipment from surrounding assets

OPERATOR ALERTNESS SYSTEM

protects against fatigue and distraction

SAFETY CENTER

a smart camera system for CAS,
Tracking Radar

PERSONAL ALERT

ensures 360-degree visibility of pedestrians around
heavy equipment

HEXAGON

Hexagon Mining Services & Support EMEA

Paseka Chakela

Fleet Management Lead Engineer

BEng: Computer Systems

MEng: Computer Systems

Jey Mwepu

MineProtect Safety Lead Engineer

BEng: Electrical Eng

MEng: Electrical Eng

Ronald Chinamasa

MineProtect Fatigue Lead Engineer

BEng: Electronics Eng

Oliver Manyarara

MineEnterprise Lead Engineer

BSc Honours: Mining Eng

- 3 MineProtect OAS Project Engineers
- 5 MineProtect CAS Project Engineers
- 8 HW Technicians
- 2 MineEnterprise Reporting and Server Engineers
- 4 MinePlan Engineers
- 3 MineOperate Engineers

Trysome Engineering Resource Pool:

Andile Nyembe - Lead Engineer (GP)
* National Diploma: Electrical Eng.
* Current BTech Electrical Engineering
* Current BCom Business Management

Nyaniso Mzangwe - Electronics Engineer (GP)
* S4 National Diploma - Electronic Engineering
* A+ Certification
* C++ Programming Certificate

Simon Masemole - Electrical Engineer (GP)
* National N Diploma: Engineering
* N6 Engineering Certification
* Generic Programming Logics Certificate
* Electronic Equipment Mechanical Trade Certificate
* Current, GCC & PLC Instrumentations

Sipho Mayaba – Electrical Engineer (Northern Cape)
- Bachelor of Technology; Industrial Electronics Technologist

Bosa Ntshole – Electrical Engineer (Botswana)
* Bachelor Electrical & Electronic Engineering / Science
* Cisco Introduction to IoT Course
* Cisco IT Essentials
- Cisco CCNA 1 & 2 Routing and Switching Intro Networking

Thando Kotane – Technical Trainer
- National N Diploma: Engineering
- Trade Test Instrumentation (red seal)
- Occupational Trainer
- Assessor & Moderator
- ETPD
- QMS Training (ISO 9001)
- Technical Training Officer

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AUTO-ELECTRICAL ENGINEERING

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THANK YOU

We look forward to seeing
you soon for a Trysome site visit.