SHU POWDERS

CORPORATE SUSTAINABILITY REPORT

2022

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Shu Powders produces various fine Cobalt powders for the global hard metals, diamond tools and battery industries. Shu Powders' manufacturing site is located at Cato Ridge, near Durban, South Africa, since 2008.

This is Shu Powders' eighths Corporate Sustainability Report (CSR) in South Africa. This report highlights our corporate sustainability performance in consecutive years since 2015. Our reporting focuses on the health and safety, environmental, and social responsibilities critical to our key stakeholders including shareholders, customers, employees, local communities, governments and suppliers.

We are a reputable manufacturer - committed to continual improvement in safety, health and environmental performance. This is non-negotiable in our drive towards Zero Harm.

- We believe that all injuries and environmental incidents are preventable;
- The safety of our employees, visitors and contractors is a non-negotiable value;
- We are committed to the protection of the environment, including the prevention of pollution, and
- Leaders at all levels in the organization are role models in the management of safety and environmental matters.

Shu Powders affirms the central importance of sustainability for communities, in the present and the future, for the integrity of human beings, culture, society, economic wellbeing, environmental responsibility and the way of life of the people.

In October 2016, Jingmen GEM Co Ltd. from Hubei China became the leading shareholder in Shu Powders Ltd. GEM was founded in 2001 and is the first stock listed recycling company in China employing over 5000 people in 16 circular economy industrial parks. The Jingmen plant is a certified national education centre for circular economy and open to the public. GEM's philosophy is "Limited Resources, Unlimited Recycling". GEM actively advocates "Urban Mining".

In April 2021, Shu Powders and its shareholder and distributor Specialty Metals Resources (SMR) entered into a long terms recycling agreement with the hard metal recycling company H.C. Starck (Masan group) in Germany. Under this agreement SMR converts the Cobalt intermediate from HCST's hard metal recycling process and returns Cobalt powder from Shu Powders. In 2022, 120 MT of Co powder were recycled through HCST and Shu Powders.

Executive Summary

Shu Powders maintains an integrated SHEQ management system based on ISO 9001:2015 for Quality, ISO 14001:2015 for Environment, and ISO 45001:2018 for Occupational Health and Safety. Apart from the international standards, Shu Powders is a five-star company according to the NOSA star grading system in South Africa.

In pursuit of its vision for a dust-free work environment, Shu Powders has commissioned a state-of-the-art Pneumatic Powder Conveying system. This is a closed-loop system designed to eliminate all manual handling and exposure of Cobalt during its processing along the value chain.

Shu Powders Ltd has been sourcing Cobalt raw materials through its related companies GEM Co. and SMR Ltd. GEM Co is sourcing from Glencore's Katanga operation in the DRC and from Cobalt scraps. GEM is a world leader in Cobalt recycling. In Dec 2020, GEM Co. Ltd and Glencore extended their long-term strategic cobalt partnership. Under the terms of the agreement, Glencore will provide around 150,000 tonnes of cobalt contained in hydroxide for GEM between 2020 and 2029. Glencore and GEM are committing each other to annual audits under OECD-aligned standards, specifically, the Cobalt Refiner Supply Chain Due Diligence Standard developed by the Responsible Minerals Initiative (RMI), Responsible Cobalt Initiative (RCI) and Chinese Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC). This shared commitment will help to demonstrate strong responsible sourcing practices and transparency across multiple points along the supply chain.

Highlights	Priorities for 2022
▪ Successful installation and commissioning of the pneumatic powder conveying system in H1 2022. ▪ The Solar system nears completion, occupying above 90% of the site's roof space. ▪ The Circularity project was started with Cobalt recycling at our Co refinery partner Incasa in Brazil: 120 MT of Co powder returned. Ni:Co solvent extraction line to be completed in 05-2023. ▪ Achieving NOSA 5-Star ranking for the 3rd consecutive year. ▪ Zero Lost Time Injuries. Zero environmental incidents.	• Installation of pneumatic powder conveying system reducing dust • Installation of the solar system. • Starting 1st year of Co recycling contract with partners HC Starck Germany and Incasa, Brazil. • Maintaining Zero exceedances in Cobalt in Blood and in Urine • Zero Lost Time Injuries. Zero environmental incidents. • Usage of thermal energy in furnace off-gas.
Lowlights	**Priorities for 2023**
• The threshold for Cobalt in Urine was tightened, from 50ug/g Creatinine to 15ug/L urine, 24 employees exceeded this limit, but stayed under the old limit with few exceptions. • Furnace off-gas heat was reduced by lower ratio H2 (ammonia) to Co (from 4 to 2.3 stoichiometric ratio). Reduced heat to be consider for other options than CoCO3 decomposing.	• Completion of the solar system installation and improving Carbon footprint. • Targeting Zero Cobalt in Urine non-conformances. • Zero Lost Time Injuries. Zero environmental incidents. • Applying for EcoVadis scoring 2023. • Applying for Lean Diamond Award 2023. • Drafting plan for pneumatic powder transfer of last process steps (phase 3: blender to granulators and packaging machine).

Key Performance Indicators (KPI)

Health & Safety
Environmental
Social

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Description	Targets / Limits		2022 Actual	2021 Actual	2020 Actual	2019 Actual	2018 Actual	2Year Trend
Bio monitoring (new standard in 2022) (No. of Co in blood non-conformances)	0		25	0	0	1	1	
Dust monitoring between work stations (new standard in 2022) (mg/m^3)	<0.04*		0.001	0.001	0.001	0.001	0.001	
Dust monitoring at work stations (new standard in 2022) (mg/m^3)	<4*		0.01	0.01	0.01	0.01	0.01	
Dust fall out – general ($mg/m^2/day$)	<1200*		87	N/A[1]	N/A[1]	13	13	
Dust fall out - Cobalt ($mg/m^2/mth$)	<2		N/A[1]	N/A[1]	N/A[1]	0.13	0.13	
Lost time incidents (No.)	0		0	0	0	1	1	
Noise (dB)	<85*		84	78	78	78	78	
Water consumption (l/kg Co)	≦20		9	19	22	15	16	
Electricity consumption (kWh/kgCo)	≦7		6.7	8.7	7.4	8.3	8.7	
Fuel consumption (ml/kg Co)	≦5		129	9.2	17.5	7.3	1.0	
Hazardous waste (g/kg Co)	≦30		22	31	39	16	19	
Environmental incidents & complaints with compensation (No.)	0 0		0 0	0 0	0 0	0 0	0 0	
Employment permanent (%) Employment temporary (%)	≧70 ≦30		70 30	64 36	93 7	100 0	100 0	
Training (hrs per employee)	±20		15	18	20	16	20	
Contribution to community (% of EBITDA)	≧0.4		0..3	0.2	0.24	0.5	0.5	

(*) -referring to legal limits ([1]) – on hold during and after COVID pandemic

Health and Safety

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Risk Assessments & Employee Participation

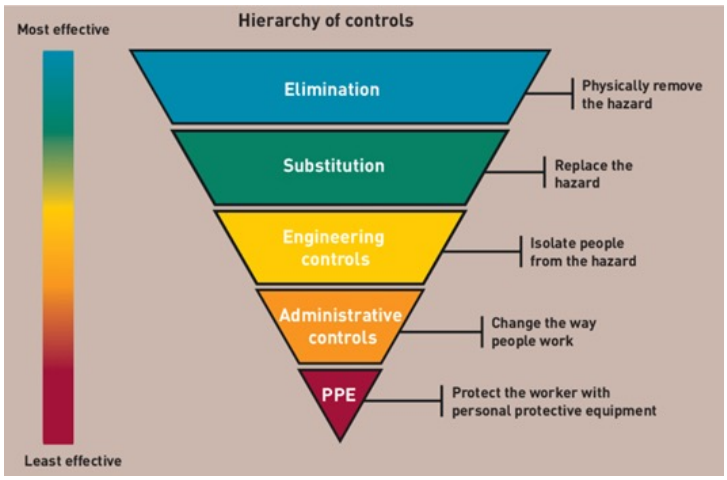
Shu Powders has obligations under the Occupational Health and Safety Act 85 of 1993 (OHS Act) as well as the General Administrative Regulations 2003 (GAR) to manage risks to health and safety so far as is reasonably practicable.

Our risk management approach involves identification and assessment of risks followed by elimination of risks in the first instance or where this is not practicable, minimizing those risks so far as reasonably practicable.

Our risk management approach is important for three main reasons:

- So that the Shu Powders' duty of care to its workers, customers, contractors, visitors and others that work can be met, as part of the legislative health and safety requirements.
- Out of concern for the health and safety of workers, contractors, visitors and others at Shu Powders.
- It makes good business sense and is cost effective.

Workers are an integral part of risk assessments, they are involved in the hazard identification, risk assessment and risk control processes. This is supported by an established process of communication, consultation, and participation. Health and Safety Representatives exist in their respective work areas and they form a HSE committee which meets at least once every quarter, and wherever is necessary.



When considering Risk Control measures, the Hierarchy of Controls methodology is always adopted in order to ensure an effective process.

Workplace hazard identification, assessment and control is an on-going process. And is undertaken at various times, including:

- If it has not been done before.
- When a hazard has been identified
- When a change to the workplace may introduce or change a hazard. Such as when changes occur to the work equipment, practices, procedures or environment.
- As part of responding to a workplace incident, even where an injury has not occurred.
- Where new information about a risk becomes available or concerns about a risk are raised by workers
- At regularly scheduled times appropriate to the workplace.

Health and Safety

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Bio-Monitoring

Bio-Monitoring of chemical exposure in the workplace is of critical importance in the assessment of health risks and forms an integral part of the company overall occupational health strategy. We consider biological monitoring as an important tool in the prevention of occupational diseases related to those exposed to chemicals on a regular basis. A complete medical programme is in place consisting of Pre-employment, Annual, and Exit medicals for all employees – whether contract or permanent. All the medicals consist of the following examinations:

- Physical examination
- Eye Test
- Audiometric Testing
- Chest X-ray
- Lung Function
- Cobalt in Urine and Blood samples

No employee had his Cobalt in Blood exceeding the recommended levels of 25mg/L since year 2019. This is a great achievement since Cobalt dust is one of the company's top three hazards thus reducing dust emissions is a priority.

In the event that an employee got an exceedance of Cobalt in Urine or Blood, the employee is removed from exposure for minimum of two weeks and a thorough Root Cause Analysis comprising of the Occupational medical practitioner, the area's Health and Safety Representative and the area's Manager. The Root Cause Analysis is followed by a review of current control measures, safe work procedures, and a refresher training on proper PPE use and hygiene.

Health and Safety

Bio-Monitoring

On 29 March 2021, the Minister of the Department of Employment and Labour published the Regulations for Hazardous Chemical Agents, 202. The changes introduced are far reaching in their with regards to seeking compliance but they are a great move in the direction of ensuring a health workplace. The changes came into effect on 29 September 2022 (18 months after the promulgation of the Regulations).

The changes are meant to align South African Standards with the global practice in terms of the UN Globally Harmonized System.

Specific changes which impact on Shu Powders are as follows:

1. The permissible dust levels in work areas were revised from 0.1mg/M^3 to 0.04mg/M^3.

2. Thresholds for Cobalt in Urine which were not clear in the South African legislation were introduced and is at 15ug Co/ L of urine. This is against a self-imposed limit of 50ug Co/g Creatinine.

Shu Powders has undertaken a transition period and results are compared to both the old and the new standards

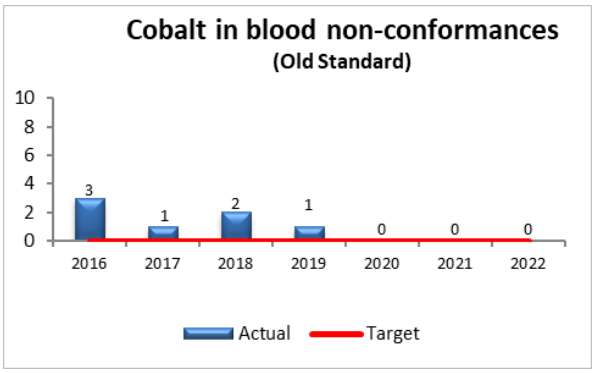

Fig 1. Cobalt in urine non-conformances: All employees were within limits according to the Old threshold.

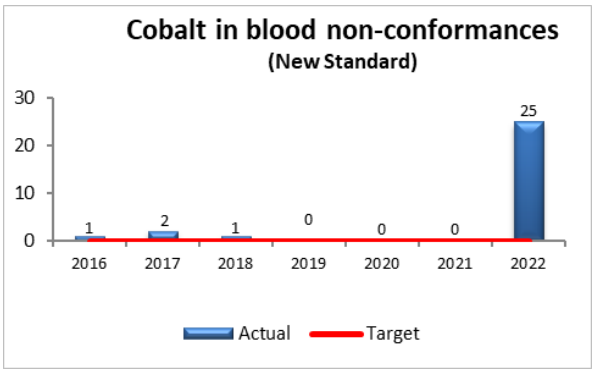

Fig 2. Cobalt in urine non-conformances: 25 employees were above limits according to the new threshold.

Health and Safety

Dust Monitoring

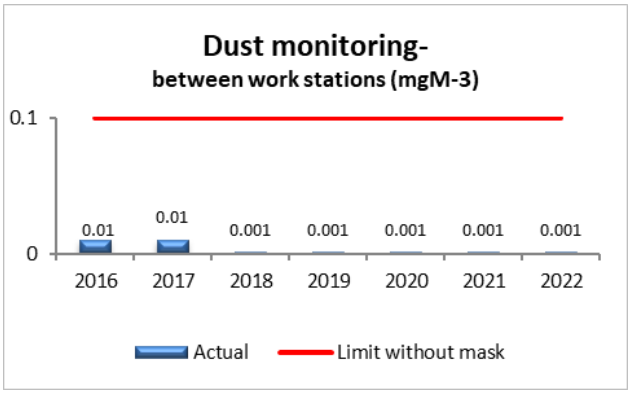

Fig 2a: Dust Monitoring between Work Stations: Dust generation at work stations and during conveying has reduced significantly due to the pneumatic powder transfer. Our goal is to make sure that there is no need to wear a full face mask between work stations. Employees in the general factory environment will wear only paper masks and only at work stations can use full face mask.

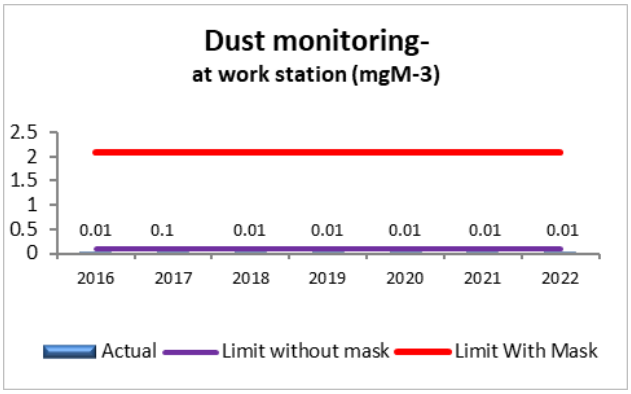

Fig 2b: Dust Monitoring at Work Stations: The pneumatic Powder Transfer eliminates most of the work areas where there was manual handling and exposure to dust by employees. Besides the reduction of dust, reduction of work areas of manual handling is a great success in eliminating employee exposure.

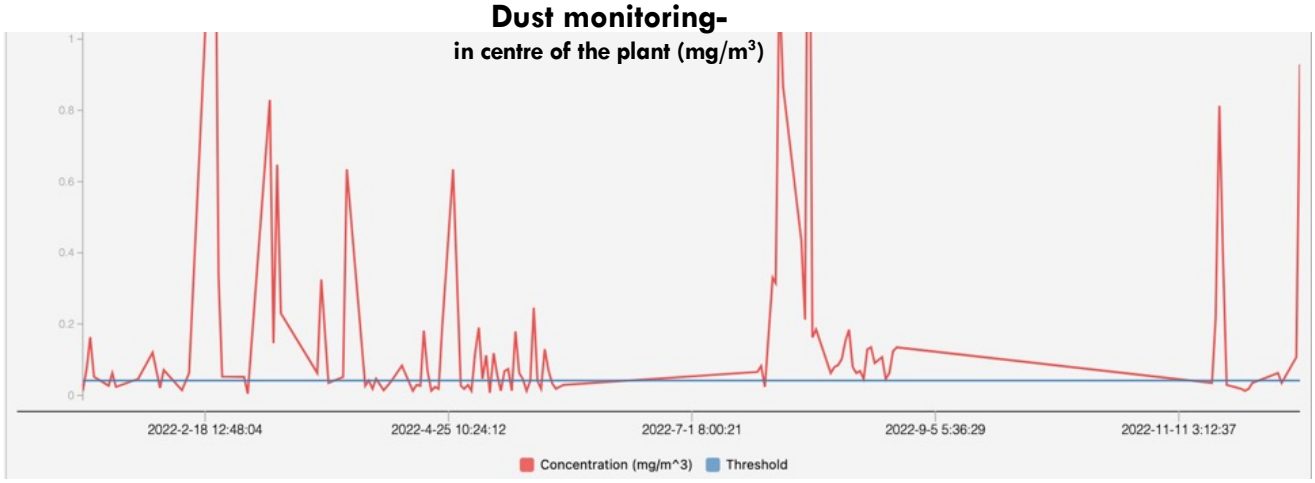

Fig 3: Dust Monitoring in center of plant:
Since 2022, Shu Powders is monitoring dust in the center of the plant on a daily basis. It is tracked in the new SCADA system (Supervisory Control and Data Acquisition). The dust detector is as it is also used by authorities. In most cases, dust is below the previous threshold of 0.1 but above 0.04 in too many cases. The average dust level is 0.17 mg/m^3 including all outliers and incidents related to load shedding and others. We will see improvements moving forward and seeing this number cut in half including outliers.

Health and Safety

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Dust Reduction

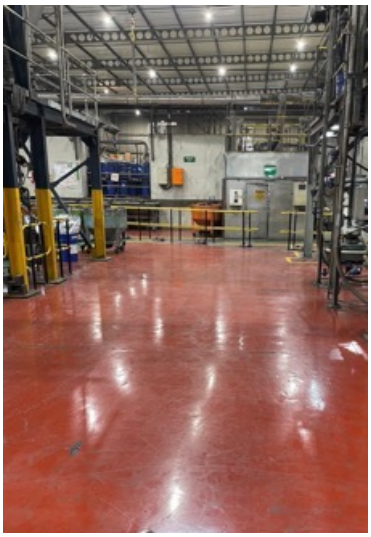

Fig 3: Dust reduction through pneumatic powder transfer:

- Over the years, Shu Powders has invested in further automation and digitalization. It started with automated furnace loading and automated drum packaging in 2016/2017.
- In H1 2022, Shu Powders is commissioned the pneumatic powder transfer system connecting the furnace crusher to the jet mill and the jet mill to the blenders.
- There are several benefits.
    - There is less dust in the plant and less possibility for contamination.
    - Secondly, there are no trolleys required to transport material from work station to work station. It allowed the company to reduce general workers on the floor from 8 to 3 per shit. This means less people that could potentially be exposed to Cobalt dust.
    - Finaly the oxygen content in the powder can be reduced as the material is protected against the environment.
- The company plans to extend the pneumatic powder transfer from blenders to granulators and packaging machine in 2024. By then, the powder process will be entirely closed from furnace loading to packaging of finished product. It will further reduce dust and allow to further reduce the number of general workers per shift.

Health and Safety

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Lost Time Incidents

Shu Powders is committed to the health and safety of its employees, visitors and contractors, this includes the protection of the environment and the prevention of pollution, and the protection of property against damage. The target for SHEQ incidences is Zero. This commitment is demonstrated by various ways among them, leading by example, formal training given to employees; awareness through tool box talks, posters, the safety day. For every incident which occurs, a Root Cause Analysis is carried out to find a lasting solution to the incident.

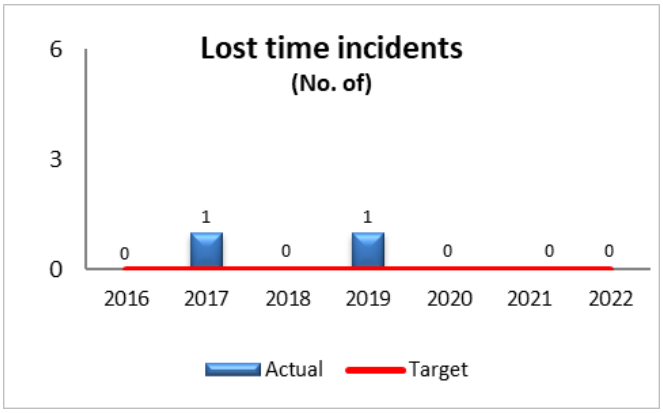


Fig 6, LTI: The year 2022 is the 3rd consecutive year without an LTI. This is a great accomplishment since it is evidence that the Integrated Management System in place is delivering what it is supposed to.

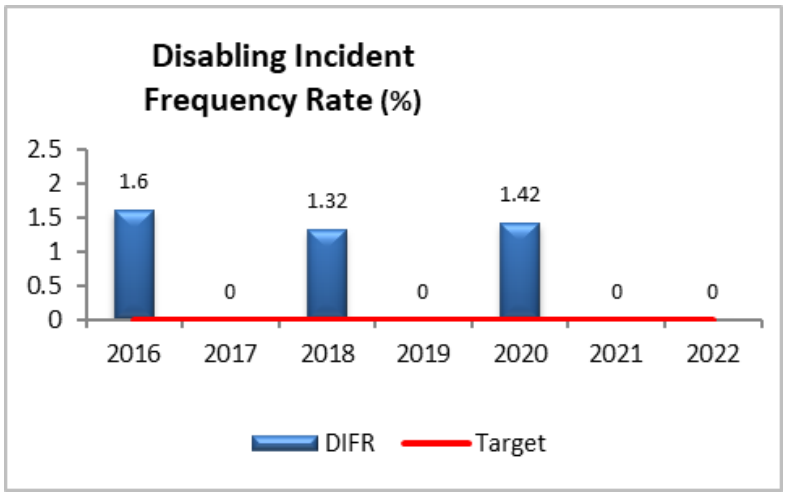
Lost Time Incidents since 2018:

The last incident was in 2018, in June, when an employee fell from height in the course of doing work. He was taken to hospital and booked off sick.

Health and Safety – NOSA Performance

Lost Time Incidents

In addition to the ISO 45001 system that forms part of the Integrated Management System, Shu Powders also implements the NOSA CMB 253N Standard of Health and Safety. South Africa is the origin of this standard and it is spreading across the globe as one of the flagships in H&S. Performance is a function of the Effort Score and the DFR (Disabling Frequency Rate) and is given a rating on a Five –Star scale. The 5-Star is the highest ranking, and an organization that achieves consistently the 5-Star is elevated to the NOSCAR – which is the highest grade an organization can achieve.



The Disabling Frequency Rate is decreasing over the years..

We pride ourselves with our current 5 Star grading – having had Zero lost time Injuries in 2019, 2020, 2021 and 2022.

Health and Safety – NOSA Performance

Effort Score

In addition to the DIFR, the NOSA system have got an additional performance indicator. This is the Effort Score and is a function of the following HSE pillars:

- Commitment & HSE Management Policy
- Planning of the NOSA HSE Management System
- Implementation & Operation of the HSE Management System
- NOSA HSE Management System Evaluation & Corrective Action
- HSE System Review.

We managed to maintain a high Effort Score of 91.2 but we fell short of achieving our voluntary target of a 95% Effort Score, which was going to see us elevated to Platinum category., the highest an organization can attain.

Environmental

Water consumption

The importance of saving water cannot be over emphasised, South Africa faces significant water challenges due to the combination of its rapidly growing population and increasingly unreliable rainfall patterns due to climate change. The water problem is further exacerbated by the fact that South Africa is a relatively dry country, with an average annual rainfall of about 464mm (compared to a world average of about 860mm).

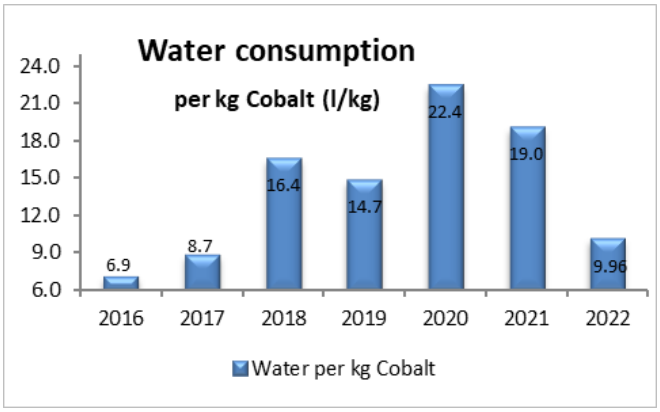


Fig 7, Water consumption:

- Thanks to the installation of a leak detection software, training and awareness, the water consumption further improved.
- Most of the water consumption is for staff hygene as plant water is recycled. 2022 was a high production year with same staff, hence coefficient coming down.
- In 2016, 2017, authorities used defective metering.
- Jojo tanks are used to recover rain water form the warehouse roofs that refills the colling water ponds.
- Shu Powders also has a 200m^3 water reserve filled with municipal water. 70m^3 are used as a fire water reserve.

Electricity consumption

Although the South African energy crisis, characterized by continuous blackouts of electricity, began in the later months of 2007, they have been most severe in the year 2022 and the problem still persist through to 2024. During these periods, power is rationed between different electrical grid areas across the country and within municipal area. Electricity consumption has decreased significantly due to the unavailability of electricity and producing instead, using diesel.

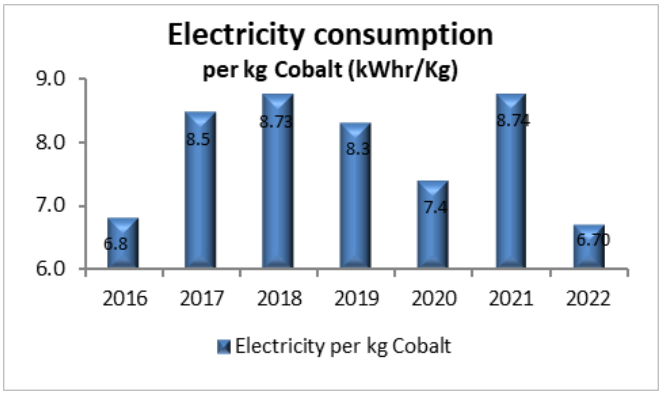


Fig 8, Electricity consumption: Electricity usage decreased significantly as it is substituted with diesel.

Environmental

Fuel consumption

Although the company invested in a major solar installation project, covering above 90% of the site roof space, we are still relying on the diesel generator to power operations during loadshedding periods, this has seen fuel consumption sky rocket.

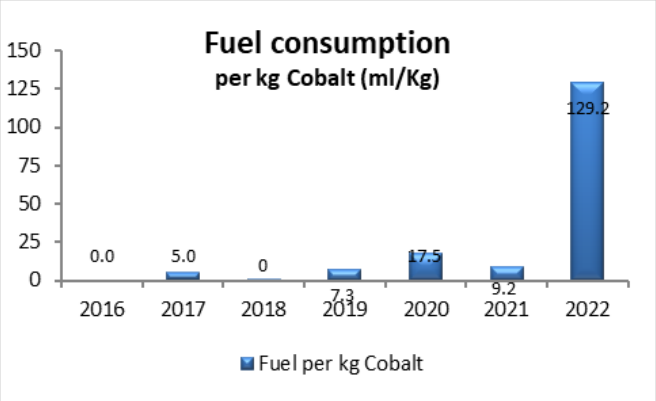
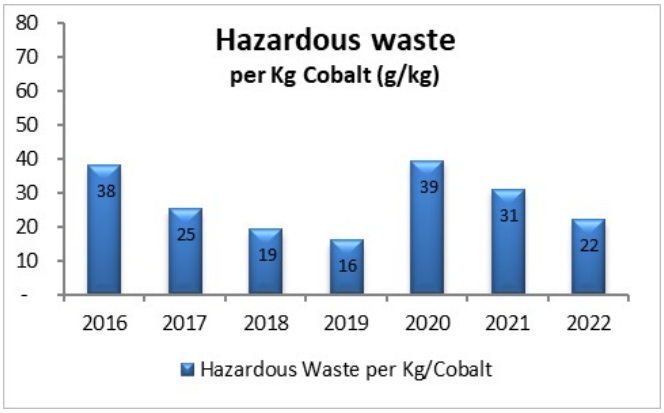


Fig 9, Fuel consumption: Fuel consumption has increased substantially like never before, this is a reflection of the seriousness of loadshedding.

Waste Managemet

Separation-at-source is the heart of recycling. Shu Powders has done just that in an effort to improve recycling and avoid waste to the landfill.



Pict 10. Hazardous waste: Hazardous waste quantities have decreased. This is due to continuous cleaning and reuse of used raw material big bags and pallets. The cleaning was interrupted in the COVID years 2020 and 2021 and resumed in 2022.

Environmental

Incidents and Complaints

Shu Powders has an obligation to ensure that we comply to all legal requirements and satisfy expectations – from both the authorities and other interested parties. Our environmentally friendly operations have seen us being in undisturbed co-existence with communities around us, neighbours, the authorities and employees, registering zero complaints since 2016.

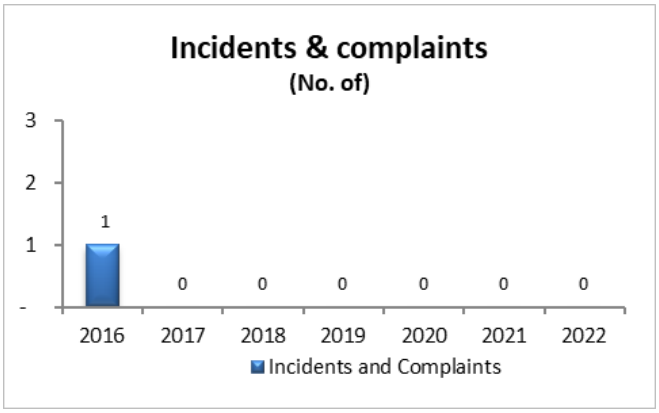


Fig 11, Incidents and complaints: The overall trend is positive as there was no complaint since 2016.

Incidents:

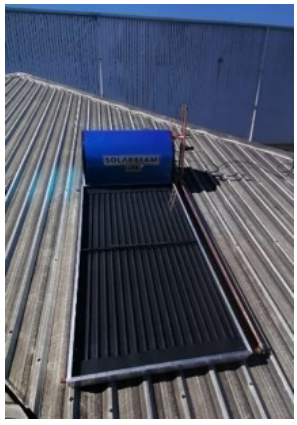
- Years 2016 – 2021: there were no environmental incidents or complaints
- 2015 - June, a valve on the ammonia surge tank was mistakenly open leading to the release of some ammonia vapour.
- 2014 - no environmental incidents.
- 2013 – December, the lab conservancy tank was full and as a result the drains were filling up. 5000 Litres of the contents were pumped into a bulk plastic tank. The liquid effluent was eventually collected by an accredited waste removal company.

Corrective and Preventative Action Reports were raised for each incident.

Outlook

Shu Powders is investing in solar power to replace 20% of its grid requirements with renewable energies. Majority of plant roofs will be covered with solar panels. In addition, electric hot water geysers are being replaced by solar powered hot water.

Solar panels covering most of Shu Powder roof space to generate electricity.



Hot water geysers being replaced by solar.

Environmental

Photovoltaic System

Fig 12a,b, Solar Panels: Installation in 09-2024

Fig 12c, Solar Panel Inverters:
Seven inverters installed for 630 kW.

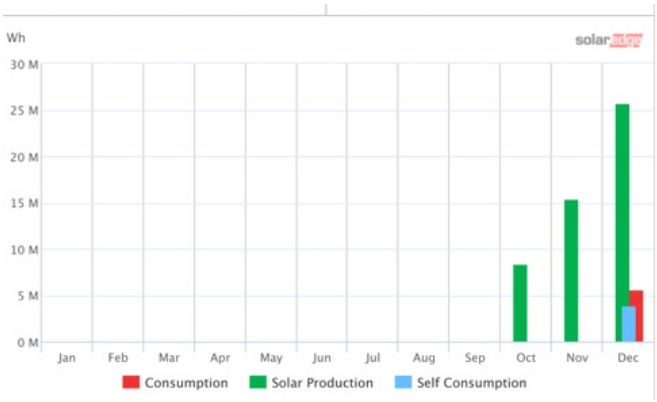


Fig 12d, Solar Edge dashboard:

- Online app is informing about power generation by the PV system, self consumption on a daily, monthly and annual basis.
- So far, Eskom does not allow to feedback into the grid. This will only be possible with a dedicated line in 2025.
- Also, the PV system cannot run during loadshedding as it could damage the diesel generator in case power demand droping below generator capacity range of 40% to 90%.

Environmental

Circularity - Cobalt recycling

- Many of the larger hard metal manufacturers such a Sandvik or Mitsubishi Materials Corp. have announced ambitious targets for circularity, notably 90% or 80% by 2030.
- Following this guidance, SMR (Shu Powders parent company with 40% shares) has entered into a 3 year Cobalt recycling contract with partner HC Starck from Germany. HCST recycles hard metal scrap by extracting tungsten and returning WC powder. The Cobalt fraction (average 10%) is recycled at SMR's partner Incasa in Brazil and Co powder is returned by Shu Powders.
- Incasa is investing in a 600 MT/y Cobalt refinery specialized on recycling. It has operated a 80MT Cobalt pilot plant already since 2018. Incasa then started building a 50MT/mth Co:Ni solvent extraction line in 2022 where equipment was delayed due to COVID-19. In a next step, Incasa will convert the Co pilot plant into a DEHPA line in 2023 that further removes impurities prior to Co:Ni separation. Finally leaching capacity is upgraded in 2024 to reach the full 600 MT/y.

Fig 12c, Incasa Co refinery:
Installation starting of the new Co:Ni separation line using solvent extraction technology early 2022.

Fig 12c, Incasa Co refinery:
Installation nearing completion of the new Co:Ni separation line mid 2022.

Social

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Employment

There was a slight increase in the workforce due to increased activities in the warehousing department.

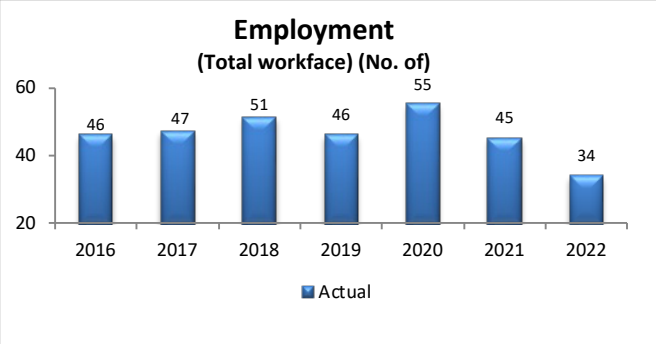


Fig 12, Total workforce: Workforce was lost as a result of the industrial strike. An entire new workforce was trained in 2021. Automation and digitalization has allowed to reduce from 8 to 3 general workers per shift. There are an additional 8 students on Chieta grants working at Shu.

Fig 12a, Employment full time: Several general workers that joined Shu after the industrial strike joined the company on permanent contract as per SA labor law.

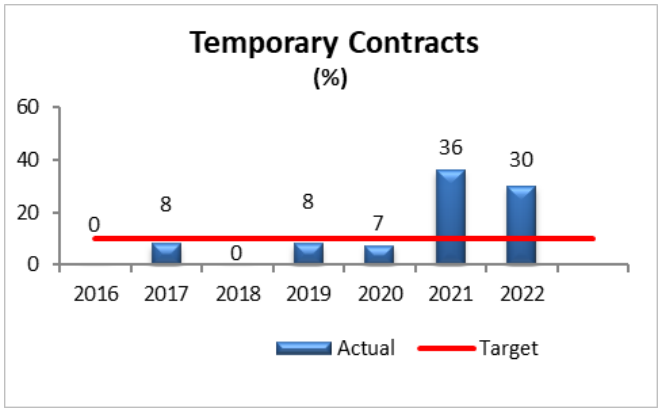


Fig 12b, Employment contract: The ratio of temporary employees fell due to workers being given permanent employment.

Social

Training

Shu Powders maintains a robust training and development program that ensures that employees have a consistent experience and background knowledge. Shu Powders is enjoying these benefits out of training;

- Improved employee performance
- Improved employee satisfaction and morale
- Addressing of weaknesses
- Increased productivity and adherence to quality standards
- Increased innovation in new strategies and products
- Reduced employee turnover
- Enhanced company reputation and profile

Apart from HSE compliance training, Shu Powders has changed its approach to more strategic, long term courses, which empowers employees with higher skills. This empowers employees, giving them more control over their jobs, especially machine operators. This addresses such issues as breakdowns, and call outs.

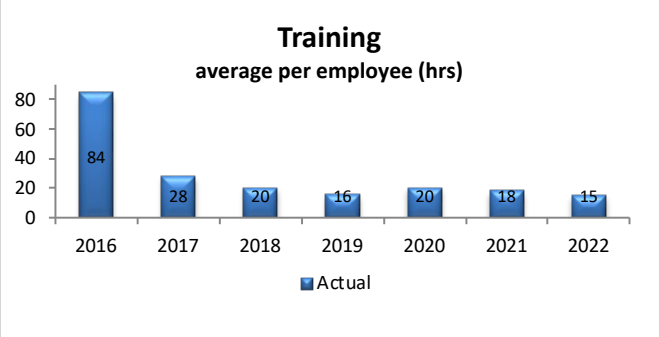


Fig 13, Training:

- The company targets about 20 hours per employee per year.
- New general workers being given the relevant training; this is also due to new processes and equipment being introduced in the factory, especially the pneumatic powder transfer.

Social

Contribution to the local community

Shu Powders targets to contribute about 0.4% of its earnings to the local community. In 2022, Cobalt powder sales collapse in the second half and so did Cobalt prices. it was therefore not possible to reach that target under the circumstances. However, Shu Powders keeps sponsoring National Youth's Day or the National Women's Day in its Ward 1.

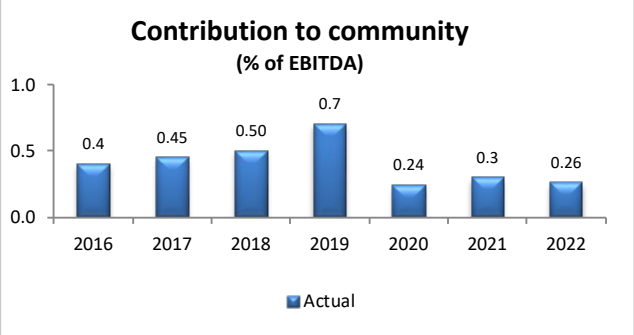


Fig 14, Contribution to the community : Shu's contribution to the community as a share of earnings remained stable in spite of difficult economic circumstances.

Raw Material Sourcing

DR Congo issues

On January 19, 2016, Amnesty International published a report titled "This is What We Die For", outlining allegations against companies directly involved in the trade of cobalt sourced from artisanal mining as well as against some of the world's largest technology firms down the supply chain. [Ref 4] In the report Amnesty documents human rights abuses in DRC's artisanal cobalt mining sector such as child labour and hazardous and unhealthy working conditions (Fig 16).
In November 2018, Amnesty International published a follow-up report: "Time to Recharge" – Corporate action and inaction to tackle abuses in the cobalt supply chain. Many downstream companies have been slow or resistant to adopt clear policies for due diligence in their cobalt supply chains.

Fig 16a, Amnesty International Report: A video clip is available under http://youtu.be/7x4ASxHIrE

Fig16b, Amnesty International Follow Up Report: Some corporations have taken action since 2016 but many others have not.

Note:

- On March 29, 2016, the London Metal Bulletin published articles stating that China's refineries imported almost a quarter of million tonnes of cobalt concentrate from the DRC in 2015, according to China import statistics. [Ref 5]
- These concentrates have been produced in dangerous conditions or by children in artisanal mines in the DRC.
- Six companies from China have been identified to import at total of over 224 750 MT of cobalt concentrate in 2016.
- Among these six companies is the cobalt powder producer **Nanjing Hanrui**. [Ref 5]
- Note that the company GEM was the only larger Chinese Cobalt refinery not listed in above article [Ref 5].

Raw Material Sourcing

DR Congo issues

Throughout the cobalt supply chain an increasing number of companies have started to focus on responsible sourcing and supply chain due diligence. The battery supply chain in particular has been faced with growing pressure directed at its responsible sourcing practices, not just from NGOs like Amnesty International but also from the media, regulatory and legislative bodies and consumer organizations. Efforts by the cobalt industry to create a more responsible supply chain have resulted in progress on several fronts during.

Fig 17, Initiatives ensure materials are mined and sourced in accordance with the due diligence guidance on human rights as set forth by the OECD (Organization for Economic Co-Operation and Development)

Name	Year	Scope	Participants
RMI - Responsible Materials Initiative	2008	Founded by members of the Responsible Business Alliance and the Global e-Sustainability Initiative, the RMI has become one of the most utilized and respected resource for companies addressing responsible mineral sourcing issues in their supply chains. The RMI offers companies an independent minerals assurance process to identify verified smelters and refiners that have systems in place to responsibly source minerals according to approved global standards.	Over 300 members, including numerous technology, auto and mining companies such as Amazon, Boeing, BASF, Dell, Ford, HP, Huawei, IBM, Samsung, Toshiba. RCI - Responsible Cobalt
RCI - Responsible Cobalt Initiative	2016	Initiated by the China Chamber of Commerce of Metals, Minerals and Chemicals Importers and Exporters (CCCMC), with support from the OECD. Members undertake collective action in addressing social and environmental risks in the cobalt supply chain while developing due diligence tools for risk assessment and supplier management for cobalt smelters and refiners.	Over 30 members, including Apple, HP, Huawei, Samsung, Volvo, Daimler, BMW, Huayou and GEM. CIRAF - Cobalt Industry
CIRAF - Responsible Assessment Framework	2017	Introduced by the Cobalt Institute (CI), CIRAF seeks to identify material issues and risks within the cobalt sector for CI members and their customers. It is a good practice based framework that provides guidance to its members on the assessment and reporting of core issues pertaining to environmental stewardship, health and safety and human rights.	Numerous members of the Cobalt Institute, including Glencore, Umicore, Freeport Cobalt, Shu Powders
RSBN - Responsible Sourcing Blockchain Network	2019	Formed by Huayou Cobalt, Ford Motors, LG Chem, IBM and RCS Global. The consortium ran a successful pilot project which, using the IBM Blockchain Platform, traced and validated ethically sourced cobalt to demonstrate the responsible production and processing of cobalt in the mine to battery supply chain. Members are now actively applying the RSBN solution to its supply chains.	Huayou Cobalt, Ford Motors, LG Chem, IBM, Fiat Chrysler, Glencore, Volvo Cars.
CFDI - Cobalt for Development Initiative	2019	The CFDI is a cross-industry scheme that promotes sustainable cobalt mining in the DRC. The initiative is to establish a framework through which it can work with the ASM sector to procure metal while contributing to regional development by initiating training schemes and by engaging with local authorities.	VW, BMW, BASF, Samsuing, Google and others.

Raw Material Sourcing

DR Congo issues

RMI has become the standard for Cobalt powder producers. GEM (Shu Powders) and its competitors Umicore and Freeport are listed as "conformant cobalt refiners". http://www.responsiblemineralsinitiative.org/responsible-minerals-assurance-process/smelter-refiner-lists/cobalt-refiners-list/conformant-cobalt-refiners/?

Efforts by the cobalt industry to create a more responsible supply chain have resulted in progress on several fronts.

Name	Year	Scope	Participants
FCA - Fair Cobalt Alliance	2020	The alliance was launched as action platform for organizations along the supply chain who can engage and play a role in the transition to a fair production system. It seeks to transform small-scale mining in the DRC by supporting communities and improving overall mining conditions. It will seek to connect cobalt from ASM operations to the supply chains of global manufacturers.	Glencore, Huayou, Tesla, Fairphone, Sono Motors, Signify and others.
IRMA Initiative for Responsible Mining Assurance	2020	Together with Alliance for Responsible Mining (ARM), IRMA developed the "Standard for Responsible Mining" as a framework for raw material supply chains. The framework uses four key elements to assess a project: business integrity, planning for positive legacies, social responsibility and environmental responsibility.	BMW, Daimler, Microsoft, Anglo American, Arcelor Mittal and nume miners and technology companies.
Fund for Prevention of Child Labor in DRC Mining Communities	2020	In collaboration with the Global Battery Alliance, Unicef is raising US $21 million from industry stakeholders to fund a series of initiatives aimed at addressing the root cause of child labor in the DRC's copper belt region.	Organized by Unicef in collaboration with the Global Battery Alliance.

Raw Material Sourcing

Shu Powders' Raw Material Sources - Mines

Shu is sourcing Cobalt raw materials through its related companies GEM Co. and SMR Ltd:
GEM Co. Ltd and Glencore extend their long-term strategic cobalt partnership (press release, Dec 3, 2020)
Under the terms of the agreement, Glencore will provide around 150,000 tonnes of cobalt contained in hydroxide for GEM between 2020 and 2029. Glencore and GEM are committing each other to annual audits under OECD-aligned standards, specifically, the Cobalt Refiner Supply Chain Due Diligence Standard developed by the Responsible Minerals Initiative (RMI), Responsible Cobalt Initiative (RCI) and Chinese Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC). Glencore is member of RMI. Glencore repeatedly stated not to use artisanal mined Cobalt due to the link between child labor and artisanal small-scale mining (ASM). However, Glencore support the development of responsible ASM, working in partnership with others, such as the Fair Cobalt Alliance (FCA). https://www.glencore.com/sustainability

Fig 18a, Mutanda, Katanga: The facilities in the DRC are owned and operated by Glencore.

Fig 18b, Mutanda, Katanga are the largest Cobalt mines in the DRC and worldwide.

Fig 18c, CSR: Glencore issues a sustainability report every year, which is available on-line. For compliance see pages 41, 42 and 57. Glencore does not source from artisanal and small-scale mining (ASM), p 57.

Fig 18d, Glencore produced an estimated 43900 MT of cobalt at its DRC (Katanga), Australia and Canada mines. Meanwhile, the company has re-opened its Mutanda. CMOC (China Moly) has large potential with its Kisanfu mine.

Raw Material Sourcing

Shu Powders' Raw Material Sources – Recycling GEM

GEM stands for "Green" "Eco" "Manufacturing" and originated from a green dream:

- On December 28, 2001, Professor Xu Kaihua founded GEM in Shenzhen.
- In 2003, the industrial concept of "limited resources and unlimited circulation" was put forward for the first time.
- On January 22, 2010, A shares were listed in Shenzhen Stock Exchange (stock code: 002340). The first stock of "urban mines," renewable resources industry and electronic waste recycling industry.
- GEM owns total share capital of 3.816 billion shares, net assets of 4.8 billion yuan, annual output value of more than 30 billion yuan, employees of more than 10,000 people in 17 industrial parks.

Fig 19a, GEM business model:
New Energy Materials + Urban Mining

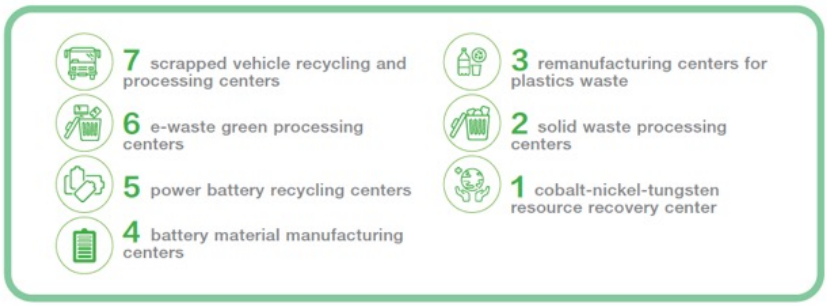


Fig 19b, GEM recycling share and market position

Fig 19c, GEM Sustainability report (ESG)
A corporate sustainability report is issued every year, available on-line at www.gemchina.cn
GEM is listed as "conformant Cobalt refiner" by the Responsible Minerals Initiative. (next page)

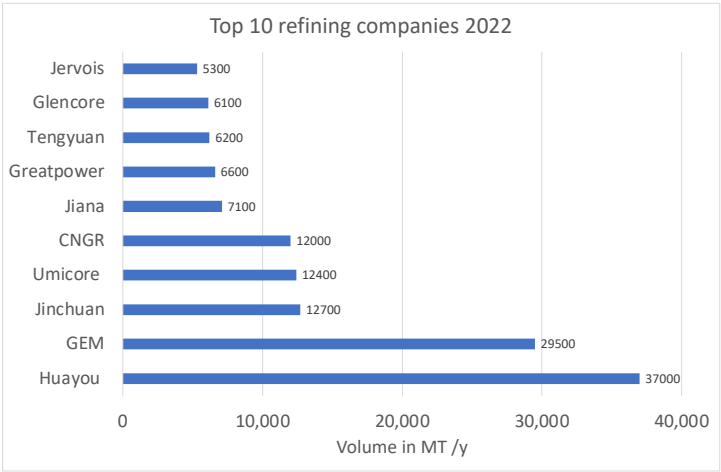
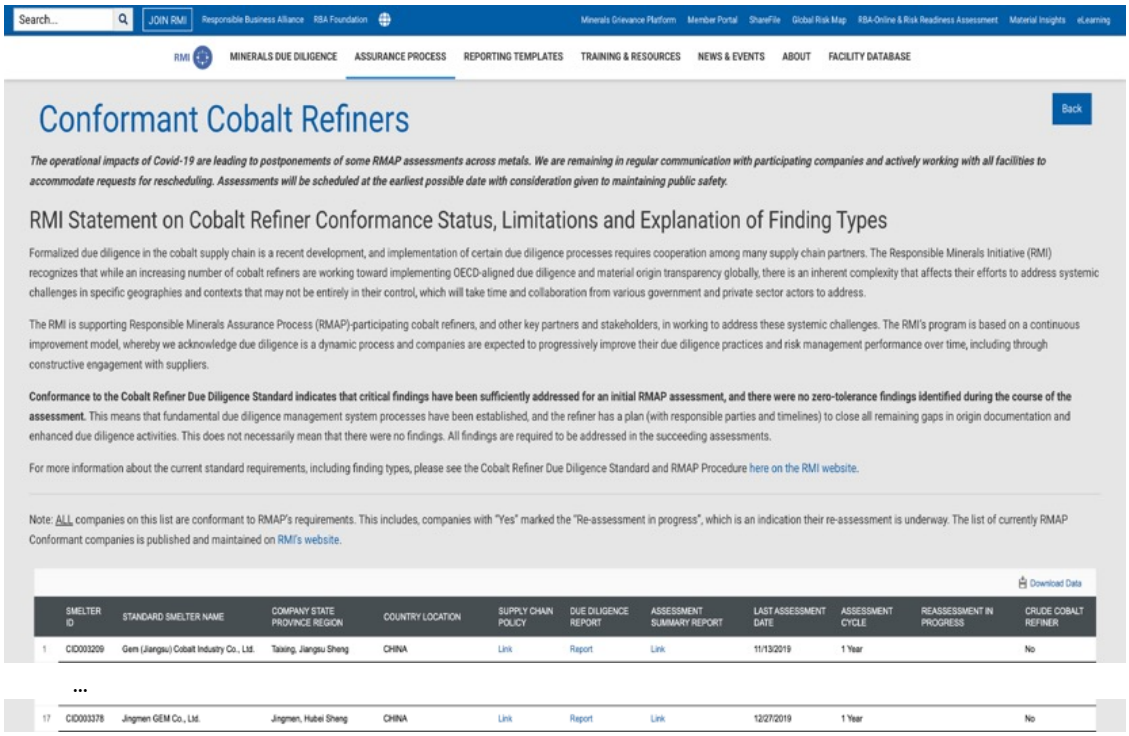


Fig 19d, GEM refined Cobalt volume was increased to 29500 MT in 2022 up from 2021. GEM keeps its second position in the ranking of global Co refiners.

Raw Material Sourcing

Shu Powders' Raw Material Sources – Responsible Sourcing

GEM has both its Cobalt refineries, GEM Jiangsu and Jingmen GEM, listed as RMI conformant Cobalt refineries under the following link. See Jingmen GEM on line 17 and GEM Jiangsu line 1.
https://www.responsibleminerals initiative.org/responsible-minerals-assurance-process/smelter-refiner-lists/cobalt-refiners-list/conformant-cobalt-refiners/



Shu Powders did undergo an RMI compliance audit for a specific customer and has integrated the OECD standard into its Integrated Management System (IMS).

Certifications

CERTIFICATE

This is to certify that

Shu Powders Africa (Pty) Ltd

Logra Industrial Park
No.40 Track 94040
Harrison Flats, Old Main Road
Cato Ridge, 3680
KwaZulu Natal
South Africa

has implemented and maintains an
Occupational Health and Safety Management System.

Scope:
Sales, Marketing and Production of Cobalt Powder.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 45001 : 2018

Certificate registration no.	40601663 OHS18
Valid from	2021-09-21
Valid until	2024-09-20
Date of certification	2021-09-21

DQS GmbH

Markus Bleher
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
Administrative Office: DQS South Africa, P.O.Box 672, Randburg 2125 - South Africa

CERTIFICATE

This is to certify that

Shu Powders Africa (Pty) Ltd

Logra Industrial Park
No.40 Track 94040
Harrison Flats, Old Main Road
Cato Ridge, 3680
KwaZulu Natal
South Africa

has implemented and maintains an **Environmental Management System**.

Scope:
Sales, Marketing and Production of Cobalt Powder.

Through an audit, documented in a report, it was verified that the Management System fulfills the requirements of the following standard:

ISO 14001 : 2015

Certificate registration no.	40601663 UM15
Valid from	2021-09-21
Valid until	2024-09-20
Date of certification	2021-09-21

DQS GmbH

Markus Bleher
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
Administrative Office: DQS South Africa, P.O.Box 672, Randburg 2125 - South Africa

CERTIFICATE

This is to certify that

Shu Powders Africa (Pty) Ltd

Logra Industrial Park
No.40 Track 94040
Harrison Flats, Old Main Road
Cato Ridge, 3680
KwaZulu Natal
South Africa

has implemented and maintains a **Quality Management System**.

Scope:
Sales, Marketing and Production of Cobalt Powder.

Through an audit, documented in a report, it was verified that the Management System fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no.	40601663 QM15
Valid from	2021-09-21
Valid until	2024-09-20
Date of certification	2021-09-21

DQS GmbH

Markus Bleher
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
Administrative Office: DQS South Africa, P.O.Box 672, Randburg 2125 - South Africa

NOSA®

★★★★★

Grading Audit

This is to certify that

SHU POWDERS AFRICA (PTY) LTD
(RESTRICTED OUTCOME)

has been assessed by NOSA against the provisions of the

NOSA INTEGRATED FIVE STAR SYSTEM

Occupational Health, Safety and Environment Management
Incorporating ISO45001:2018 and ISO 14001:2015 requirements

★★★★★

The star rating above and the seal below, were hereto affixed in the presence of:

Johan Rheeder
Technical Manager Auditing

NOSA

Certificate No: 1613
Date: 02 - 04 November 2022
Valid Until: 01 November 2023

Award


NOSA
Excellence Award
This certificate is awarded to
SHU POWDERS AFRICA (PTY) LTD
for
NOSA EASTERN REGION
Winner
on the
NOSA Integrated Five Star System
Sector D3: Manufacturing of coke, refined petroleum products, nuclear fuel, chemicals, chemical products and man-made fibres
2022
Manager
Date: 31/05/2022

Certifications

Health, Safety and Environmental Policy

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Shu Powders Africa PTY. LTD
Logro Industrial Park No.40 Track 94040, Harrison Flats
Old Main Road, Cato Ridge, KwaZulu Natal 3680 South Africa
Postnet Suite 10015, Private Bag X7005, Hillcrest, 3650

Vat No: 4150833551 CK No 2007/000865/07

SAFETY, HEALTH AND ENVIRONMENTAL POLICY

Shu Powders Africa is a reputable manufacturer of cobalt, and is committed to continual improvement in safety, health and environmental performance. This is non-negotiable in our drive towards a ZERO Tolerance/ ZERO Harm culture.

- We believe that all injuries, all adverse health effects resulting from work activities, and environmental incidents are preventable;
- The safety of our employees, visitors and contractors is a non-negotiable value;
- We are committed to the protection of the environment, including the prevention of pollution.
- Leaders at all levels in the organization are role models in the management of safety, health and environmental matters and shall lead by example in all situations.
- At-risk behaviors are not acceptable and are addressed when observed; and
- Excellent safety, health and environmental performance are recognized as good business practices.

To achieve our goal we are committed to:

- Meeting all applicable compliance obligations;
- Operate in accordance with industry and customer codes of practice and voluntary requirements to which we subscribe, including group policies, agreements with regulators and communities, REACH, CI (the Cobalt Institute); SANS 1929:2011; the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, and NOSA CMB253N.
- Educate and train, motivate and support our staff and suppliers in the application of this policy and associated procedures;
- Reducing consumption and wastage of materials through recovery, rework and recycling where possible;
- Eliminating hazards and reducing OH&S risks;
- Continuously consult, seek and promote the participation of workers, and worker representatives.
- Continually improve our safety, health and environmental system and performance through monitoring, preventive action, education and training;
- Develop new business opportunities that provide a sustainable future;
- Create a framework for setting and reviewing objectives and targets as stated in this policy.

We therefore commit to being a socially responsible employer in the interests of the community, future generations, and all our other interested parties.

Signature: _____ **Date:** 21-06-2021

Managing Director

Policy-002 **Managing Director: Dr Michael Oehlers** Rev. 9

Certifications

Quality Policy

SHU POWDERS T: +27 31 782 1061 F: +27 31 782 1160 W: www.shupowders.com

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Postnet Suite 10015, Private Bag X7005, Hillcrest, 3650

Vat No: 4100388021 CK No: 2007/000865/07

QUALITY POLICY

Shu Powders Africa is committed to establishing and maintaining ourselves as a quality manufacturer of cobalt. To achieve this goal, we are committed to:

1. satisfying our customers and other interested parties' requirements and expectations, including relevant customer codes of practice, in the quality of product and service,
2. seeking to understand and address the relevant external and internal issues.

We are committed to establish, maintain and continually improve on a Quality Management System (QMS) that conforms to the ISO 9001:2015 requirements.

As Managing Director, I undertake to ensure that our Quality Management System is thus directed towards achieving the following objectives:

- Only accepting orders and contracts within our managing capacity
- Planning all business activities and improving on the planned time allocations
- Employing and developing people who have the necessary skills and experience to improve our product and service
- Supporting and developing external providers of products and services who are committed to Quality Improvement
- Reacting to problems quickly and systematically and fostering a team approach to problem solving
- Aiming to deliver on time; recognising that deadlines are a crucial part of our business
- Ensuring that we address compliance obligations that pertain to our product.

The SHEQ Officer has been appointed as the Management Representative regarding all aspects of the ISO 9001:2015 Quality Management System.

Signature: _____ **Date:** 13-07-2021

Managing Director

Policy-003 **Managing Director: Dr Michael Oehlers** Rev. 10

Glossary

- **Biological monitoring:**

Is the measurement and assessment of workplace agents or their metabolites either in tissues, secreta, excreta, expired air or any combination of these to evaluate exposure and health risk compared to an appropriate reference. All the medicals consist of the following examinations:

- Audiometric Testing
- Eye Test
- Chest X-ray
- Lung Function
- Physical exam
- Cobalt vs Creatinine (urine testing)
- Cobalt in Blood

- **ASTM D1739-94:**

The standard test method for collection and measurement of dustfall (settleable particulate matter).

- **Lost time incident:**

Lost time injury is when an employee gets injured in the course of his employment and is unable for perform the regular duties for a complete shift. This is not just limited to one regular shift only, but it can extend up to all the shifts in which the employee is unable to perform the regular duties. So from the time of the initial injury until the time the employee is able to return to regular work duties. None of the LTI's caused interruption of production or business.

- **Risk Assessment:**

The evaluation of the risks of existing substances or conditions to man, including workers, and to the environment, in order to ensure better management of those risks.

Reference List

- [Ref 1] Concise International Chemical Assessment Document 69. Communication with Dr. Do Vale of CATOMED Clinique, in Cato Ridge, KZN, South Africa.
- [Ref 2] APEX study 2010, 2012, 2014, 2016
- [Ref 3] Dust detection device: SKC- Airchek sampler
- [Ref 4] Amnesty International Report, January 19,2016 www.amnesty.org/en/documents/afr62/3183/2016/en/
- [Ref 5] London Metal Bulletin Articles, March 29, 2016.