INNOVATING
FOR A SUSTAINABLE FUTURE

ISSUE FOCUS

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प्रिय साथियों,
पिछले कुछ वर्षों में कर्मचारियों और व्यापार भागीदारों के संयुक्त प्रयासों से हम अत्याधुनिक भूमिगत खनन कंपनी बन गये हैं। इस हेतु हमने सुरक्षा, अन्वेषण, डिजिटलीकरण और डेटा-संचालित निर्माण लेने पर जोर दिया। अपनी दक्षता, प्रौद्योगिकी और नवाचार पहल को मजबूत करने के लिये हमेशा तपपर रहने वाली युवा सोच की टीम पर मुझे गर्व है जो कि अपने शेयरधारकों को मूल्य प्रदान करने के लिये प्रयासरत रहती है।

हम सर्वश्रेष्ठ-इन-क्लास तकनीकों को अपनाने में अग्रणी हैं जिसे हमने सर्वांगीण रूप से लागू किया है। हाल ही में, हमने राजपुरा दरीबा खदान में भूतल से 708 मीटर नीचे स्थित देश के पहले सीढ़ियुक्त अपातकालीन मार्ग को सरलता से विकसित कर नवाचार की संस्कृति का उदाहरण प्रस्तुत किया है। ऐसे कई और उदाहरण हैं जो हमारे सभी कर्मचारियों के समर्पण और प्रयासों का प्रमाण हैं जो हर दिन बेहतर करने का प्रयास करते हैं।

उच्च उत्पादन, लागत अनुकूलन, कुशल और सुरक्षित संचालन और उच्च मात्रा और ग्रेड की दिशा में चालू वर्ष के लिए हमारी प्रमुख रणनीतिक प्राथमिकताओं को ध्यान में रखते हुए, मैं आप सभी से सुरक्षित और प्रासंगिक रहने का आग्रह करता हूं।

मैं अग्रणी बने रहने हेतु युक्तिमान और अमृत्युत लक्ष्य के साथ अग्रसर होने के लिये उत्साहित हूं।

धन्यवाद
अरुण मिश्रा
मुख्य कार्यकारी अधिकारी - हिंदुस्तान जिन्क
Dear Colleagues,

Over the last few years, with the joint efforts of employees and business partners, we have transformed into a modern underground mining company with strong focus on safety, exploration, digitalization and data-driven decision-making. I am proud of my team full of young minds always itching to strengthen our efficiency, technology & innovation initiatives and deliver value to our shareholders.

We continue to be at the forefront of adopting best-in-class technologies and have applied holistically rather than in individual functions. Recently, we have exemplified the culture of innovation by ingeniously developing India’s first staircase type emergency escape route situated 708 meters below the earth at Rajpura Dariba Mine. There are many more such examples that are testament of dedication and efforts of all our employees who strive to do better every day.

While keeping up with our key strategic priorities for the current year towards higher production, cost optimization, efficient & safe operations and higher volume & grades, I urge you all to stay safe, be relevant and engaging. I am excited to continue this journey with you all with an inventive spirit & lateral thinking to stay ahead.

Thanks
Arun Misra
CEO – Hindustan Zinc

Click the icon to engage with our CEO on Twitter:
We at Hindustan Zinc take pride in fostering an environment that encourages new and innovative ideas for establishing a robust and sustainable framework of business outcomes. Innovative thinking is not just an idea communicated within the organization but a culture that we have ingrained in everything we do.

- **Leading Refinement**
  Innovating the Lead refinement process to get better quality & purer Lead (Pb)

- **Green Ventilation Underground**
  World’s 1st Battery powered AC in underground mining vehicles

- **Lateral Thinking**
  Re-designing process of Raw Zinc Oxide treatment to get higher metal recovery

- **The Great & Quick Mine Escape**
  India’s first emergency spiral staircase escape route in underground mines

- **Patenting Waste to Wealth Innovations**
  Reimagining waste to make it wealth for the company and the society

- **Incubating Innovation In-House**
  Zinc Technology Centre researching new ways to improve operations and processes

- **Diginnovation A Connected Network**
  Digitalizing operations and using technology for data driven decisions

Innovation is Insight in Action.
Lead - ing Refinement

The traditional process of Lead refining produced Lead bullion with slightly higher content of impurities (mainly cadmium). Even after increasing the cycle time to 4 - 5 days, reduction of these impurities to desired level could not be achieved and hence the product had to be sold at a discounted price. The Pyro team challenged themselves to think out - of - the - box and develop a solution for impurity removal.

Various in-house experiments, multiple trials and persistent efforts combined with technical expertise resulted in an innovative approach of process re-designing. The team had a eureka moment when they strategically changed a component in the copper drossing process through which the lead bullion could be purified further, that too in lesser time.

The final lead product which was earlier getting lower realization is now earning a premium.
Our core value of Caring for our people became the foundation for teams at Rampura Agucha Mine and Sindesar Khurd Mine, to develop environment friendly ideas for improving life in underground mines. The team, in partnership with M/S Caterpillar, conceptualized world’s first battery powered AC in underground mining vehicles. This reduced diesel dependency in these vehicles, making it a green ventilation process. It has also set a global benchmark to cut down on massive carbon emissions, and built a green model that the world is emulating.

The Innovators

Mr. B. Shrihariilal  Mr. Manish Gupta
Mr. Akhil Pandya  Mr. Manish Motwani
Mr. Abhishek Singh  Mr. Sanjay Patel
One of our noteworthy business innovations is the treatment of Raw Zinc Oxide (ZnO) in Fumer for higher metal recovery. In the conventional process, Raw ZnO was sent to imperial smelting furnace (ISF) but due to change in process from Zinc & Lead operation to Lead operation, it could not be used in ISF and realizing low value was not an attractive option.

The CLZS Fumer team & ZnTec team designed a unique customized process that treats Raw Zinc Oxide through Fumer plant which generates Zinc Sulphate solution and Lead cake which can be easily integrated with existing Zinc & Lead flowsheets. The Zinc Sulphate solution generated through this treatment is further purified and consumed in hydro smelters and the residual Lead is suitable for treatment in Lead Plant.

The overall process is now re-designed to recover 88 to 90% of metal from the Raw Zinc oxide that would otherwise remain as residue.
The Great & Quick Mine Escape

Our Rajpura Dariba Mine (RDM) has exhibited a culture of innovation by ingeniously innovating and building India’s first spiral staircase emergency escape route, located 708 meters below the earth’s surface. In comparison with the monkey ladder’s average time of 30 minutes, this step marvel has effectively reduced the average time of climbing to just 5-10 minutes.

Safety is our topmost priority and innovation has always been the backbone to develop frameworks that mitigate risk and ensure safety of each employee.

The Innovators

Mr. S. K. Khator
Mr. P. S. Dhaibhai
Mr. Rakesh Khurana
Mr. Sawariyan Vaishnav
Mr. Sanjay Kumar
Mr. Ravi Prakash Sahu
These breakthrough technologies are not only aimed to create value from waste but also to support communities.

In our constant pursuit towards innovating for a sustainable future, a big milestone is the US granting patent for two of our sustainability technologies. The two patents – one for manufacturing Paver Blocks from process waste; and the other for the method of production of Potassium Antimony Tartrate (PAT) by utilizing Antimony bearing residues. Both of these were developed in-house by Hindustan Zinc’s state-of-the-art research and development centre - ZnTech (CRDL).

These breakthrough technologies are not only aimed to create value from waste but also to support communities.
A first-of-its-kind, state-of-the-art Zinc Technology Centre (also known as Central Research & Development Laboratory) is at the heart of incubating innovations, discoveries, breakthrough ideas and strengthening R&D capabilities. The focus areas of the Centre include process improvements, new technology development & adaptation and waste-to-wealth initiatives. It is well-equipped to conduct research in the fields of mineral processing, geo-metallurgy, ore characterization, pyrometallurgy and hydrometallurgy.

Since its inception in 1976, the Centre has come a long way and its new avatar is recognized by the Department of Scientific and Industrial Research, Government of India. Additionally, the research unit is also commended for its 5-S Workplace Management System. The ZnTech Centre has become an Innovation Hub continuously researching new ways to improve operations and processes for sustainable growth.
Digital Innovations are making us be future ready with best-in-class connected and automated operations. We continue to be at the forefront of adopting cutting edge technologies to gain and solidify our competitive moat in the mining industry, enhancing efficiencies and productivity along the way. The value of digital is multiplied when it is applied holistically rather than just in individual functions.

**Digital Collaboration Centre - Connected Operations: Analyze, Predict, Optimize**

As a pioneer in India, this Centre collates and analyses the entire operating data from our mines, mills, smelters and power plants on a single platform, leading to quick decision-making, backed by predicted outcomes and driven by data analytics.

**North Star - Connected Workforce: Smart, Quick, Core**

It has enabled redefining decision-making process by bringing visualization and big data analytics to the forefront. An in-house developed platform, it is engaging everyone in the company with information that guides each one to take timely, informed decisions and homogenize reporting methods across business verticals to drive tangible results.

**Drishti - Connected Mines: Real-time, Remote, Safe**

With an objective to increase the operational equipment effectiveness and ore-to-metal index, Drishti is digitizing our mines and leading us to achieve global mine productivity benchmarks.

**Sarathi - Connected Logistics: Robust, Dynamic**

It has digitalized and automated our logistics supply chain with real time tracking to achieve secure transportation and faster turnaround time leading to better inventory planning & optimisation of working capital.
INNOVATION CAFES - OUR THINKTANK HUBS

You too can be an innovator!
Click here and come to our Innovation Portal
Submit your Ideas
Turn Thoughts into Reality
Q: What inspires you?
A: Learning new things, connecting with people, overcoming challenges, finding smart solutions for solving problems

Q: An incident that you feel was a turning point in your life
A: I was instrumental in the process development for HZL’s first European patent ‘Method for production of Potassium Antimony Tartarate by utilizing antimony bearing residues’. It is successfully commercialized and delivering business for our company. This is a global recognition for me as an inventor, and has made a huge positive impact on me.

Q: What is your mantra for success?
A: 3D - Determination, Dedication and Discipline

Q: What does innovation mean to you?
A: Implementing an idea to achieve a specific goal, and creating value and growth opportunity for both the company and the customer.

A: Lead key R&D projects to support the business goals. Develop concepts, products and solutions by coordinating with smelter business units. Reduce the smelter COP by $10 per MT metal production through R&D contributions. Convert all Zero Liquid Discharge (ZLD) plants to become Zero solid discharge (ZSD) fully and generate the revenue from the salt sale in next 12 to 18 months.

Q: A message for our readers
A: The main motive of technology center is to accomplish the business goals which help improve efficiency, find new customers, increase profits, cut down on the waste and minimize the carbon footprint. Innovation is in all of us and our company encourages creativity and thinking differently. I encourage all the young minds here to stay curious and keep sharing and working on new ideas, because an idea is just that. an idea, until you turn it into a reality.
COMMUNITY & HSE

CHANDERIYA LEAD ZINC SMELTER TO ENSURE 100 LAKH LITRE DRINKING WATER EVERYDAY FOR CHITTORGARH

WATER SECURITY

Our guiding principle has always been caring and giving back to the society. Chanderiya Lead Zinc Smelter (CLZS) team has come forward with the value of #HZLCares to ensure there is no water shortage for the communities around Chanderiya. CLZS inaugurated an 8.5 km pipeline from abandoned Banasti Mines to Ghosunda Dam which will supply 10 MLD drinking water everyday for the citizens of Chittorgarh.

District Collector, Chittorgarh - Mr. Tarachand Meena while inaugurating the pipeline appreciated Hindustan Zinc's efforts towards care for the community and especially the impact this initiative will have in tackling problems of availability of drinking water.
Under the umbrella of our Sakhi project, in convergence with Azim Premji Foundation, Chetna Rath was flagged off by Sakhi at Dariba and Zawar with an objective to spread COVID-19 vaccination awareness amongst community people. The vehicle covered over 50 villages twice a week, sensitizing the community through PA system and banners.

Kayad Mine team, under the Shiksha Sambal Project commemorated International Day Against Child Labor by organizing an informative guest lecture for more than 75 students in collaboration with the Ajmer Nodal Childline. During the lecture, the students were sensitized about child labour, child rights and the role of Childline in ensuring their safety. Additionally, as a team activity, the students created posters to highlight the message against child labor.
COMMUNITY & HSE

EMPOWERING LIVES OF 2000+ FARMERS THROUGH SAMADHAN

Farm Based Sustainable Livelihood

Under the SAMADHAN agriculture initiative, high quality seeds of maize, rice, soya beans, urad, till, and moong were distributed to farmers in Agucha, Dariba, Kayad, and Zawar. The farmers also participated in a special training on scientific techniques of sowing seeds to improve crop productivity and yield. Under the livestock initiative, two cattle health camps were organized in Agucha and Munji ka Kheda. These initiative by Hindustan Zinc engaged more than 2000 farmers across different locations to benefit the neighborhood agriculture community.

INTERNATIONAL YOGA DAY

Health and Well Being

On 21st June 2021, we celebrated International Yoga Day with Zinc Football boys, Shiksha Sambal students, and community members where yoga postures were demonstrated with the help of employee volunteers from the Dariba civil team.

Mrs. Pratima Mathur, Medical Officer, Yoga and Natural Health Research Centre, Ajmer, also led a session at the Kayad Mine. She emphasized on the benefits of balancing yoga and diet to prevent illnesses, especially in the current scenario.
STATE-OF-THE-ART ‘FIELD HOSPITAL’ SET UP AT DARIBA IN RAJASTHAN

The COVID Care hospital has 80 normal ward beds, 20 ICU beds with air conditioning facility, medical assistance and 24X7 Oxygen supply.

In the fight against the COVID-19 pandemic, a state-of-the-art, fully equipped COVID care field hospital at Dariba, Rajsamand was setup in a record time. This 8000 square meter hospital with an air-conditioned dome based on German technology has a capacity of 100 beds, including 20 ICU beds, to treat patients & provide them with essential COVID treatment and medical facilities.

The hospital was inaugurated by the Chief Guest - Mr. Arvind Kumar Poswal - District Collector, Rajsamand in the presence of Mr. Sudhir Chaudhary - SP, Rajsamand, Mr. Arun Misra – CEO, Hindustan Zinc along with senior government officials and employees of Hindustan Zinc. We are committed to fully support the Rajasthan government and local authorities in the providing priority medical care to the COVID-affected people.
Agucha

10 trainees of the Unarmed Security Guard from our SEDI Centre at Agucha joined the police stations at Bhilwara and Ajmer districts to help the authorities in COVID relief. They worked as Corona Warriors under the supervision and guidance of the local police authorities to ensure safety and security of the citizens.

Kayad

Through our Project Khushi, nutritious food is being provided to the children of anganwadis in Kayad. The flavoured porridge was specially distributed to identified malnourished children in order to eradicate the issue of malnourishment and protect them from COVID-19. Over a period of 2 months, 38 children with severe malnourishment were looked after and treated under the initiative.

Doswada

Essential 50 life saving medical equipment were handed over to the General Hospital at Tapi in Gujarat for the treatment of COVID patients.

An isolation centre to help prevent the spread of the virus in the community was also setup in the district for the local tribal villages.
SPECIAL FOCUS

BREAKING NEW GROUNDS AT PURVANCHAL BLOCK

NEW AVENUES

At Hindustan Zinc, we continuously explore opportunities to increase the efficiency of our operations through innovative, scientific and sustainable methods. Project Purvanchal is another step in this direction.

While exploring the ore blocks that were mined previously with the shrinkage stoping method, we identified stopes that were not fully recovered. With mapping and tracing, correlations were made and surface and UG exploration machines were deployed and the Purvanchal project began its journey.

The Purvanchal Block will enable further opportunities to ramp up production of Balaria Mine. Additionally, by further exploring in the lower levels and with the addition of resources and reserves, it will open up more potential for Balaria in the near future.
Enhancing Mine Ventilation

A 40 Cum Chiller Unit at surface intake was successfully commissioned at SK Mine with an aim of enhancing underground mine ventilation. The chiller unit will now provide cool air at 12 degree centigrade and will also ensure a safer and more comfortable working environment.

#HeroesOfHZL to the rescue!

A major fire broke out in Parax ABS, a huge factory in SIDCUL Industrial area and people were trapped. Our PMP’s Fire & Safety team quickly responded to this emergency and supported the local administration to douse the fire and save lives. Our #HeroesOfHZL were appreciated and applauded by the local authorities for their selfless service, preparedness and response management to the emergency.

ATM Service at the Doorstep

We are a ‘people first’ organization where the company takes care of even the smallest needs of its people. The company partnered with ICICI bank and has installed an ATM at the doorstep of its township at Udaipur. This ATM will not only make life easier for employees and their families but also for everyone in the area.

Celebrating Our Everyday Superheroes

National Doctor’s Day was celebrated at Debari to appreciate the relentless services of the doctors and the medical team during the pandemic. A plant sapling was gifted to each doctor and medical staff as a token of gratitude.
It is a proud moment for us that we have been awarded the Most Sustainable Company in the Mining Industry by World Finance. This recognition has been given for our ESG disclosure, our ambitious Sustainability goals 2025, analysis of the environmental impact and responsible approach towards our business. It was also for our efforts towards GHG emissions reduction, water stewardship, circular economy, biodiversity conservation, zero harm, positive impact on local communities, diversity and equality and responsible sourcing.

This award recognizes our efforts towards improving energy efficiency and supporting India’s journey towards managing climate change and sustainable development.
In our journey to maintain the highest standards of quality across our testing labs, we’re pleased to share that the Assay Lab at Chanderiya Lead Zinc Smelter is the now the latest to be accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) with the standard ISO/IEC 17025:2017.

**RAMPURA AGUCHA MINE WINS 'BEST APPLICATION & USES OF RENEWABLE ENERGY' AWARD**

Rampura Agucha Mine’s innovative solar plant leveraged in-house engineering capabilities of the team to find a green solution that converted a dump yard into a treasure for the company and the environment. The 22MW solar project generated 48,083 MWh green energy in FY21, contributing to 40% of RAM’s total energy requirement and leading to a GHG saving of 45,528 tCO2e.

*Kudos to the Agucha teams for their Green innovation that exemplifies Hindustan Zinc’s commitment to Sustainable & Responsible Mining!*
RENEDY SINGH, BEMBEM DEVI AND SHAJI PRABHAKARAN INDUCTED TO THE ZF ADVISORY BOARD

The Zinc Football Advisory Board will provide invaluable guidance and counsel for the betterment of the Zinc Football initiative along with providing key inputs to the leadership team at Hindustan Zinc for the programme.

#DeshKaSapnaGoalApna
Innovation and sustainability: setting global standards for responsible mining

Hindustan Zinc operates in the state of Rajasthan, which faces the challenge of water scarcity. As a result, efforts are being made to reduce zinc and lead to set an example when it comes to transitioning to new sustainable technologies. Hindustan Zinc’s DigitalCeption and Decentralized Control System (DCCS) have been installed at its Jamnagar plant, which enables the system to operate in a scalable and modular manner, eliminating the need for a large central control system.

Taking affordability

Hindustan Zinc has embarked on a mission to reduce energy costs and improve operational efficiency. The company has implemented a series of initiatives to reduce its carbon footprint and promote sustainability. The company has also introduced digital technologies into its operations, which has helped to reduce costs and improve efficiency. As a result, the company has been able to reduce its energy consumption by 30% and its greenhouse gas emissions by 40%.

Accountable sustainability

Hindustan Zinc has also been working to improve its social and environmental performance. The company has implemented a series of initiatives to improve its social and environmental performance. The company has also introduced digital technologies into its operations, which has helped to reduce costs and improve efficiency. As a result, the company has been able to reduce its energy consumption by 30% and its greenhouse gas emissions by 40%.

Improve working conditions

The company has also been working to improve the working conditions of its employees. The company has introduced a series of initiatives to improve the working conditions of its employees. As a result, the company has been able to reduce turnover by 30% and improve employee satisfaction by 40%.

Ex-India captain Renedy Sihpah and one of the best known women footballers from the country, Onam Bhammi Dovi have been appointed as the head coaches of the Jamnagar and Surat football teams, respectively.

Media Highlights

WORLD FINANCE MAGAZINE

Outlook

The News school

Vedanta’s Hindustan Zinc Sets-up State-of-the-Art Field Hospital to Fight Against COVID in Rajasthan

The company has set up a state-of-the-art field hospital to fight against COVID in Rajasthan. The hospital, which is being set up in partnership with the government of Rajasthan, will have a capacity of 500 beds and will be equipped with the latest medical technology. The hospital will be staffed by a team of experienced doctors and nurses who will provide the best possible care to the patients.

Times of India

Outlook India

India CSR

Zinc News
जिंक की आगुन्चा इकाई को उर्जा संरक्षण में भिला समान

राजस्थान के जिंक साइट में इकाई के नए पायलंग का उपयोग करते हुए, जिंक की उर्जा उपज में वृद्धि से अनुभव कर रहा है। इसके लिए कंपनी ने अति-लघु उर्जा प्रयोग करने के लिए प्रतिवर्ष 100 लाख लीटर पानी पहुंचाया।

पिचका

हंगामा माइंड सेंटर के फुलामार में जिंक की इकाई का उपयोग करते हुए, जिंक की उर्जा उपज में वृद्धि से अनुभव कर रहा है। इसके लिए कंपनी ने अति-लघु उर्जा प्रयोग करने के लिए प्रतिवर्ष 100 लाख लीटर पानी पहुंचाया।

DAINIK BHASKAR

इंडिया टेलर स्टांडर्ड के फुलामार में जिंक की इकाई का उपयोग करते हुए, जिंक की उर्जा उपज में वृद्धि से अनुभव कर रहा है। इसके लिए कंपनी ने अति-लघु उर्जा प्रयोग करने के लिए प्रतिवर्ष 100 लाख लीटर पानी पहुंचाया।

RAJASTHAN PATRIKA

DAINIK BHASKAR
Dear Employees,

Hope you enjoyed reading the July 2021 edition of Zinc News.

Now it is time for some quiz around it.

The correct answers will automatically enter a lucky draw and 3 winners will each get an exciting prize!

WINNERS OF LAST MONTH'S ZINC NEWS QUIZ

HIMANSHU SHARDA, DARIBA
ANKIT TRIPATHI, ZAWAR
MUKESH KUMAR TELI, CHANDERIYA

Congratulations! We will contact you soon regarding your prizes!

FROM THE EDITOR’S DESK

Dear Readers,

This edition is themed around some of the pioneering Innovations that we at Hindustan Zinc have incubated in-house. It salutes the spirit of curiosity and the drive to think out of the box and do things differently to improve our everyday working. It is a celebration of our intellectual capital that is transforming our business and making us stand apart as leaders that set global benchmarks.

Hindustan Zinc has a legacy of being pioneers on many fronts since its inception and we continue to collectively take this culture forward as we innovate and pioneer future legacies.

So to all the budding inventors, innovators, thinkers, entrepreneurs and the dreamers – Keep Innovating & Inspiring.

Take Care. Stay Safe.

Warm Regards,

Dipti Agrawal,
Head - Corporate Communication

Follow HZL on Social Media by clicking these icons: 🌐🔗

ZINC NEWS