Expanding Our Digital Footprint
to Deliver Smarter Outcomes

Our focused initiatives in the digital domain continued to steer smart growth across all the key parameters during the year. We remain committed to leveraging digital and technological advancements to boost mining and operational efficiencies through better management of systems and processes on the ground.

During FY2021, we undertook several proactive measures to further scale up our existing digital initiatives, namely:

DRISHTI

Connected Mines: Real-time

NORTH STAR

Connected Workforce: Smart, Quick, Core

SARATHI

Connected Logistics

We also took some specialized initiatives, such as turbine revamping in all locations, wagon wheel clamper to reduce man-machine interaction, proximity switch in coal yard vehicle and locomotives to reduce man-machine and machine-machine interactions.

'Evolve'ing in E-Commerce

'EVOLVE', our e-commerce platform, hit a chord with customers and was received well in the market. It witnessed transactions on daily basis, to cross 5,500 tons sale of metal by reaching out directly and effectively to 120+ MSME customers with live exchange benchmarked prices and as low as one ton delivery for zinc and lead metals. The online commerce portal has also received recognition for best e-commerce portal and technology innovation in various industry forums like CII and SAP Ace Awards.
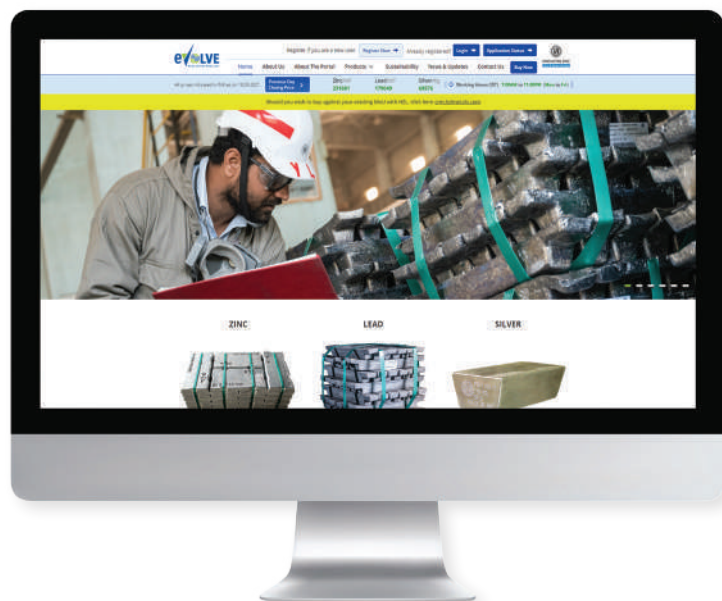
How Digitalization has Helped Solve Complex Problems – A Case Study

Digital Soft-Sensor for Prediction of Real-Time Particle Size

Problem Statement

As the Particle Size Analyzer is currently not operational in Agucha Stream-2, the operations team was charging grinding media based on the previous day's particle size (P80) reports and the current Ball Mill Power. P80 has to be tracked for effective operation of the grinding section.

Solution Implementation

› A soft sensor for P80 was built by modeling the grinding process using the historical process parameter data and daily P80 data from lab reports

› The model was validated by comparing the predicted P80 with the instantaneous P80 from Lab, and was found to have an accuracy of 97%

› The model prototype has been productionized by deploying it into digital control system

Key Benefits

1. The model will assist in optimizing consumable usage, such as grinding media and process water addition.

2. It will ensure a consistent P80 to the downstream flotation circuit, which will help the operations team in reducing concentrate grade fluctuations.

3. The model acts as a soft-sensor thus saving procurement and operating cost of physical sensor.

4. It will help in preventing over-grinding or under-grinding, by effective tracking of P80.

This model is an effective solution to bring more insight to the grinding process, help in reducing concentrate grade fluctuations by supplying consistent P80 to the flotation process, and also decrease energy and media consumption in grinding circuit by minimizing recirculation load in Ball Mill.