

**CASE STUDY**

**Digital twins/ representations can help understand the real world better and gain valuable insights to improve business processes, and operational efficiency**



## Client

- Plant age : 100+ Years
- GFA : 13 Lakh m<sup>2</sup>
- No Of Scans : 1,00,000+
- LOD : 500
- No of Assets modeled : 2 crore +
- No of BIM resources used : 240
- Areas : Smelters, Refineries, Captive power plant, RMHS and Jetty facilities operating 24x7x365

The 40-year-old Copper plant is one of the largest copper smelters in the world. The plant contains a higher density of mechanical and structural components, fully functional with vibrations. Generally, Remedial Engineering or Revamp Projects are costly, and need exposure to existing structures. They have a huge limitation in achieving perfection in Bill of Quantities.

Existing structures of a plant post construction are subjected to loading and adverse environmental conditions. In the course of time, the structures encounter various problems like – Corrosion, cracks, unwarranted modifications, seepage and improper welds

## Challenges

- To capture the condition of the existing facility as built, with no existing documentation
- To create as-built structural drawings and provide Bill of Materials (BOM) and distress mapping reports.
- No existing information about the plant was available. The Plant was partially retrofitted instead of full demolition.

## LTIMindtree Solution

- Set up LiDAR Laser Scanning, LOD 500+ BIM Modelling, As-Built Drawings, BOM Extraction, Distress Mapping, GPR Reports and Structural Auditing.
- Provided detailed information on the existing condition and highlighted distress in structures

## Business Benefits

**90%** reduction in costs, time, and effort

Project timeline and cost reduced by **90%**

**90%** reduction in the frequency of site visits avoided

Established asset management and digital twin compatibility

**100%** reduction in paper documentation

**80%** improvement in collaboration, better project tracking, and decision-making.

**60%** reduction in timeline with quicker capture of as-built condition



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