intellicus

Delivering Growth Acceleration & Sustainability for a Mining Giant

Multiple teams stemming across different departments are hard at work at a prominent Indian Mining & Manufacturing Major, ensuring that every critical aspect of the business operations is carried out optimally. From monitoring key metrics for mining, production and sales to tracking and managing fleets, various teams across different departments are collaborating with each other to make ends meet. These manual and rather tedious processes take away a huge chunk of their time, leaving the organization with exhausted resources that sometimes lead to slippages.

The firm is a leading global natural resources and technology conglomerate and mining company operating across South Africa, Liberia, Namibia and five states in India, with its headquarters in Mumbai. The company is engaged in iron ore mining, pig iron production, met coke production, cement production and power generation, with its main operations being in iron ore, gold and aluminum.

The mining major seeks to be the Environmental, Social and Governance (ESG) leader in the natural resources sector. They are committed to reducing carbon emissions to zero by 2050 or sooner. The organization has pledged $5 billion over the next 10 years to accelerate the transition to net-zero operations.

Challenges

The mining major sought to enhance efficiencies across 12 business units by harnessing the power of data and business intelligence (BI) for gaining visibility and insights into business performance. As the company went through a digitization phase, there was an exponential increase in their data volume and complexity. They understood the importance of consolidating scattered data into a unified data system which could help them identify trends, patterns and pinpoint areas for improvement.

Business Challenges

- Data silos spread across different locations and multiple legacy systems
- Manual intervention & checks
- Data quality issues
- No single source of truth
- Lack of standardized data processing, quality checks, reconciliation & validation
- Inability to scale. Performance and data management issues
- Operational inefficiency
- Data unavailable on demand
- Statistical and machine learning techniques not leveraged

The mining major sought a BI platform that could standardize data processing, quality checks, reconciliation and validation for analytics that contributed to performance and eliminate data management issues. Embracing the need for scalability, the organization required a robust analytics infrastructure capable of handling increased load and making data available on demand.

The firm also wanted to optimize its transportation planning to mitigate high costs and avoid delays. They wanted to enhance vehicle allocation to different routes and tasks to eliminate underutilization of resources and missed opportunities. Additionally, they wanted to tackle the high costs related to vehicle maintenance that arose due to the lack of schedules and real-time visibility into vehicle health. Not just maintenance, they required a system to track vehicle location and utilization as well to enhance the limited visibility into its fleet management system.

The Ask

1 A SINGLE SOURCE OF TRUTH

Create a centralized data-mart for BI and reporting for enhanced data visibility and accurate insights.

2 ADVANCED ANALYTICS

Drive a data driven culture across the enterprise with interactive dashboards and real time reports.

3 OPTIMIZING FLEET OPERATIONS

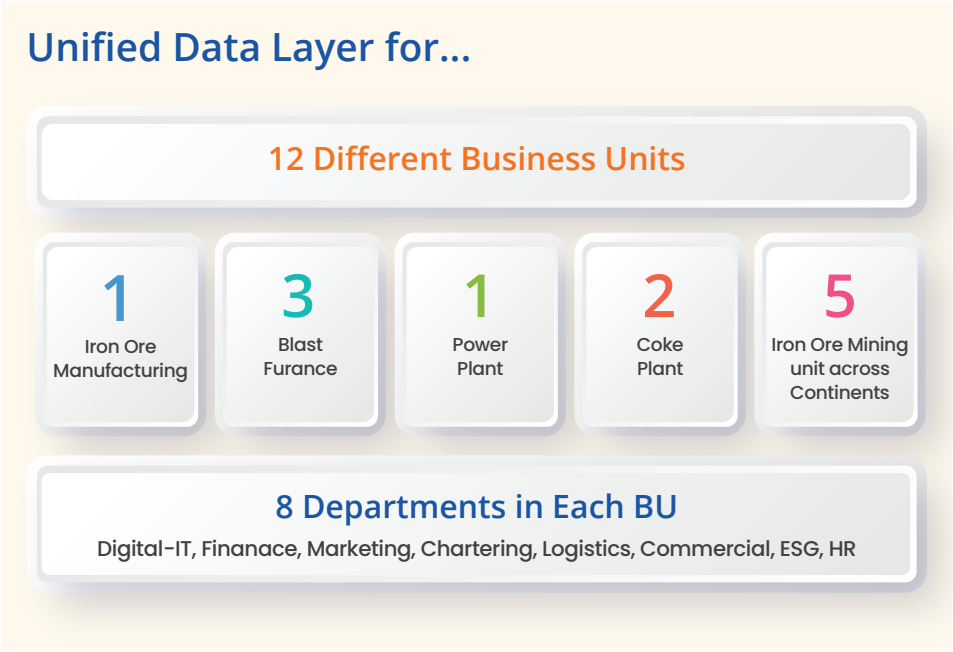
Identify bottlenecks and real-time visibility into field operations to prevent delays, optimize resources and reduce costs.

4 GO GREEN VIA ESG INITIATIVES

Identify relevant metrics and enhance forecasting and risk identification to meet climate goals.

By strategically optimizing resource utilization and leveraging statistical and machine learning techniques, the company intended to boost operational efficiencies, pave the way for maximizing opportunities and reduce maintenance costs. In an effort to stay ahead of evolving regulatory compliances, the company also needed to collate ESG data from diverse locations, partner systems and external sources.

With 12 different business units across iron ore manufacturing, blast furnaces, a power plant, coke plants and iron ore mining units across continents, the mining major believed that an interactive reporting solution could help them achieve higher operational efficiency. They sought the creation of digital dashboards for daily, real-time tracking of the key performance indicators (KPIs) of the business like production, sales, cost, NSR & EBITDA across their business units.

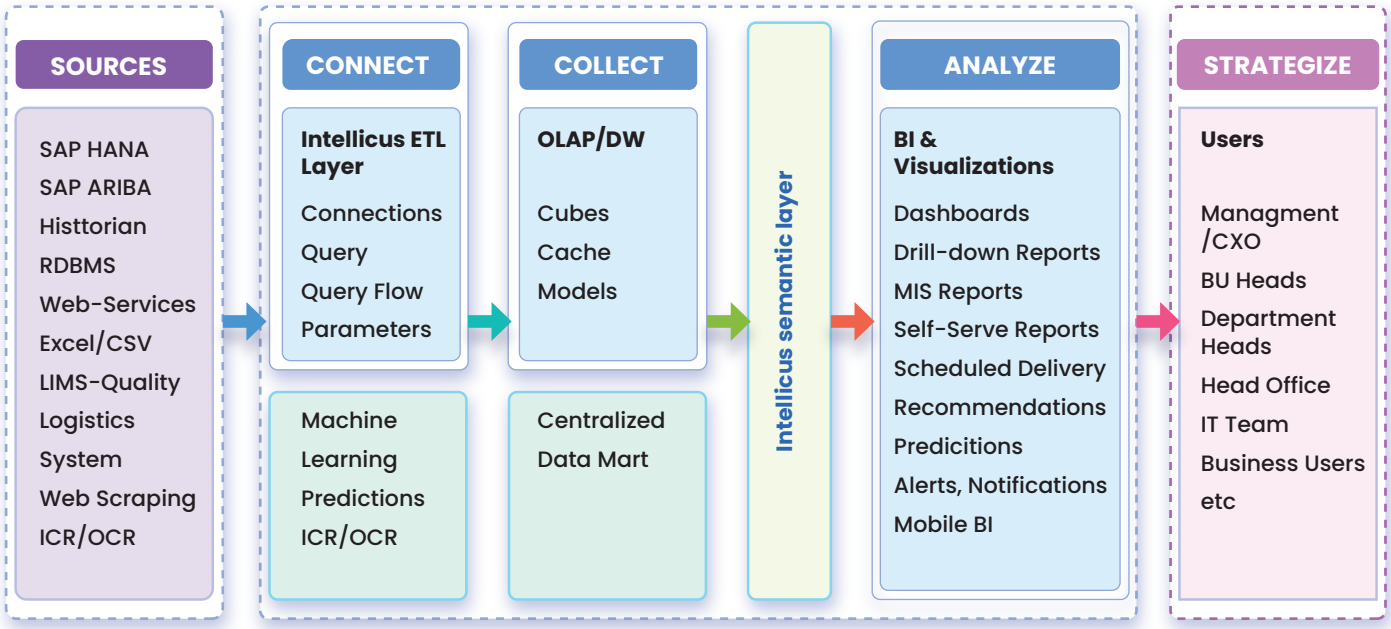


With comprehensive dashboards for digital-IT, finance, marketing, chartering, logistics, commercial, ESG and HR, they wanted to monitor and analyze critical data and KPIs to make informed decisions. Intellicus became the BI solution of choice for the mining major as it not only checked all the boxes for all their current requirements but also instilled confidence with its ability to scale seamlessly, making it a future-ready solution.

The mining major established a single source of truth with Intellicus

Intellicus played a pivotal role in reshaping the mining major's data landscape by creating a robust and cohesive single source of truth. The journey began with the consolidation of data from disparate sources at the semantic layer, laying the groundwork for a comprehensive solution that provided fast and efficient access to data for in-depth analysis. Leveraging this unified dataset, Intellicus meticulously designed and crafted a data mart in the form of OLAP cubes that was optimized for seamless querying and reporting.

Data Flow Architecture



Intellicus transformed the mining major's data landscape, consolidating disparate sources to establish a trusted unified source of data.

Intellicus delivered individual dashboards across departments to mine deep insights

The firm successfully embraced a culture of self-serve analytics with Intellicus, leveraging the unified data to monitor KPIs across multiple business units. The implementation of department-specific dashboards empowered teams to take charge of their analytics journey. The Executive Dashboard provided a comprehensive visual representation of the organization's overall performance, allowing executives to monitor critical metrics such as production analysis, capacity utilization, mining cost, safety, compliance and revenue.

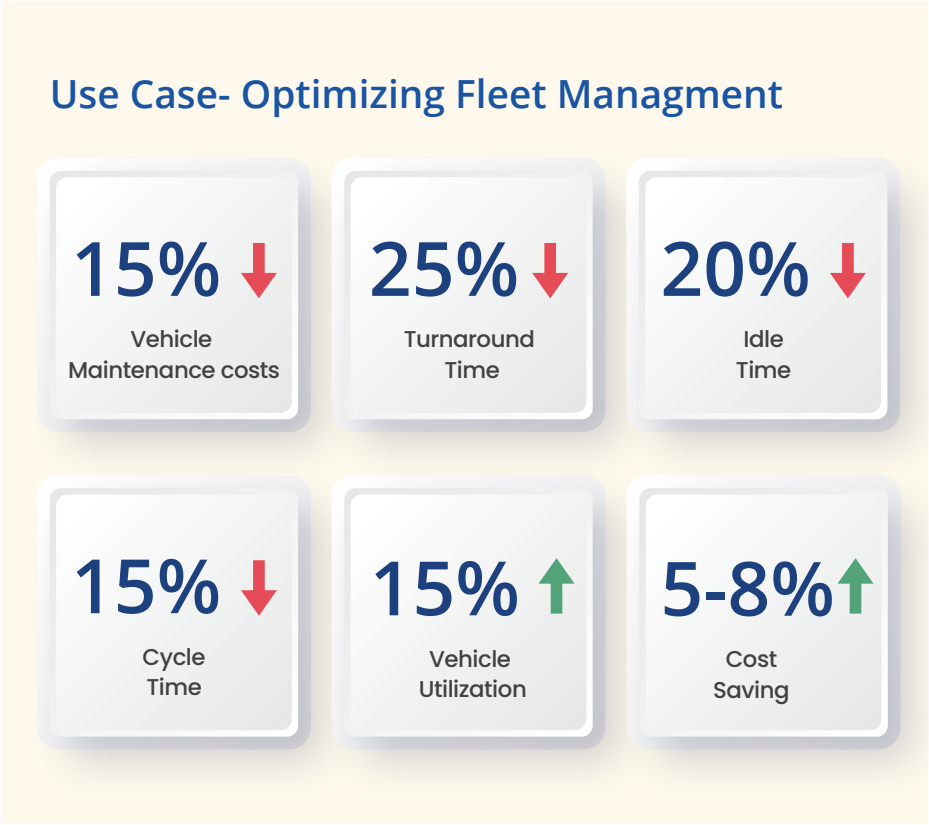
Each department further benefited from individually tailored dashboards for production, commercial and marketing, sales, logistics and finance, each offering real-time insights into specific KPIs crucial for their operations. This enabled teams across the organization to independently access and analyze their respective KPIs, promoting agility, transparency and informed actions.

With the transformed analytics landscape, Intellicus enabled independent analysis and informed actions for heightened agility and transparency across the firm.

Intellicus enhanced the efficiency of fleet operations for the mining giant

Intellicus seamlessly integrated data from diverse sources, including vehicle sensors, GPS systems, ERP systems, rail management systems, weather sensors and maintenance logs, creating a centralized data warehouse. This integration empowered the firm to identify inefficiencies and bottlenecks in their processes. Real-time monitoring, facilitated by interactive dashboards, provided instantaneous visibility into the fleet operations , enabling quick identification of deviations from plans and facilitating corrective actions to prevent delays. Key performance metrics such as cycle time, idle time and turnaround time were harnessed to measure and track the performance of hauling, loading and dispatching processes, leading to enhanced operational efficiency.

Use Case- Optimizing Fleet Managment



Moreover, predictive analytics and what-if analysis allowed the marketing major to forecast demand, optimize vehicle allocation and proactively identify potential maintenance issues. The utilization of Intellicus' multidimensional analysis for root cause analysis became instrumental in pinpointing underlying causes of delays and inefficiencies, enabling the firm to make informed adjustments to their processes.

As a result, they experienced increased profits, minimized slippage, reduced losses, improved vehicle utilization for reduced costs and enhanced efficiency, all while decreasing maintenance costs.

Intellicus optimized the mining major's fleet operations, resulting in increased profits, minimized slippage, reduced losses and improved vehicle utilization.

Intellicus will help the mining giant reduce their carbon footprint

Intellicus seamlessly gathered and analyzed ESG data from various sources, including production equipment, sensors and community feedback. The incorporation of Intellicus dashboards and data analytics capabilities enabled real-time insights into environmental impact, social practices and governance policies at the firm.

The system integrated with their ERP and automated data collection and employed machine learning algorithms. This enabled pattern recognition, facilitating ESG performance forecasting and risk identification. The ESG reporting solution, developed in stages, involved identifying relevant metrics, collecting and integrating data, analyzing and visualizing data and sharing insights across the organization.

Use Case- ESG Initiatives

Intellicus enabled the mining major to leverage machine learning to forecast ESG performance and identify risks.

The implementation of a single unified analytics platform resonated across the entire enterprise and ushered in a new era of efficiency and informed decision-making. The strides made in data quality and consistency, coupled with the automation of reporting processes, not only expedited insights but also laid the foundation for a single source of truth.

The interactive dashboards enabled a profound exploration of efficiencies, fostering a culture of data-driven insights that went beyond mere reporting. Through self-serve analytics and automated delivery, the organization embraced a forward-thinking approach, facilitating early interventions and corrections through timely alerts and notifications. The integration of ML-based predictive and what-if analysis not only fortified forecasting capabilities but also contributed to a competitive advantage, marked by increased efficiencies and reduced costs.

Intellicus empowers enterprises of all sizes to leverage the full volume of their data for driving growth.
To understand how we can partner with you, visit https://intellicus.com/contact-us/

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