

Helping mining and mineral companies make the grade

Citect



Schneider
Electric

Improving your throughput and material grade

Mining is simple, right? It is all about getting more product out of the ground, processing, and transportation. Whether you're producing gold, diamonds, platinum, coal, iron ore, aluminium, or copper – the more you dig and process, the more you sell.



But how much control and monitoring do you have over your work in process? How visible is your material as it flows through stockpiles, smelters and concentrators? Do you have visibility of progress toward your throughput goals and objectives?

These are important questions mining operators address every day. These questions are imperative to success, allowing mining organisations to be competitive in global markets, increase shareholder returns, increase operational efficiencies, and reduce energy consumption.



What is Ampla Inventory?

Ampla Inventory is a module of Ampla MES software solution. The total Ampla solution is working today for some of the world's largest mining organisations. Ampla bridges communication between the plant floor and corporate or as they say, it is at the coalface of the operation. Ampla provides mining organisations with the competitive edge to realise business and operational targets, ensuring increases in market share and shareholder return.



Growing demand for raw materials and minerals.

+



Real-time visibility of your stockpiles and work in process inventory.

=

Increased
Operational
Effectiveness

A lack of materials visibility often leads to a financial impact. Our solution gives you the tools to increase production and quality.

Ampla is a world leading Manufacturing Execution System (MES) software solution that addresses these operational challenges.

Ampla Inventory has been designed to help mining organisations manage, control and understand their inventory. It provides both operational

managers and management with real-time inventory data.

Ampla Inventory has been built to support mining's unique set of inventory requirements, as outlined in the table below.



Ampla Inventory supports:

- Continuous and batch processing,
- FIFO, LIFO, selective and mixed,
- Visibility at a work centre level to enable increased control of the use and storage of raw materials,
- Real-time monitoring of progress of materials (raw, work-in-progress, finished goods or consumables), and
- Tracking of manual and automated material movements.



Mining Requirement	Ampla Inventory	Business Benefit
Large amounts of material movements	Tracks and records material movements at work centre levels	Meet production targets and reduce costs
Continual changing complexity of tracking grade of materials	Interfaces with lab reports and work in progress materials to produce grade reports	Quality product and satisfied customers
Production is continuous and around the clock	Provides real-time data	Informed decision making
Vast size of mine and plant	Monitors materials across entire process	Visibility and control of plant operations
Inherently variable raw materials	Manages and tracks all types of materials, including raw materials, in process, and consumables	Near real time metallurgical accounting
A smelter or refinery cannot be stopped so there is inherent production push in the process	Delivers historical data processing and distributed services architecture providing robust and fault tolerant operation	Supports evolving business requirements



Ampla Inventory supports a range of processing, stacking, reclaiming and stockpile management philosophies. It provides visibility at a work centre level to enable increased control of the use and storage of raw materials and monitors in real-time the progress of material through an operation, tracking both manual and automated movements.

What does that mean to your mining organisation? What are the real business benefits?

Ampla Inventory enables visibility into your production reducing unnecessary production costs, ensuring on time delivery and customer satisfaction.

Operational data becomes available to management for business planning and revenue forecasting. Customer expectations can be met by having more control over production to meet sales and orders. It allows you to have tighter control over finished goods and stockpiles, and supports your delivery commitments, ensuring you have the right product at the right place at the right time. And with increased emphasis on reduction of energy efficiencies, Ampla Inventory reduces unwanted waste and frees up production resources to work on the right priorities.

For mining organisations with metallurgical accounting requirements, Ampla Inventory provides metal balance data that produce metallurgical accounting reports.



Ampla Inventory supports Lean's Seven Wastes

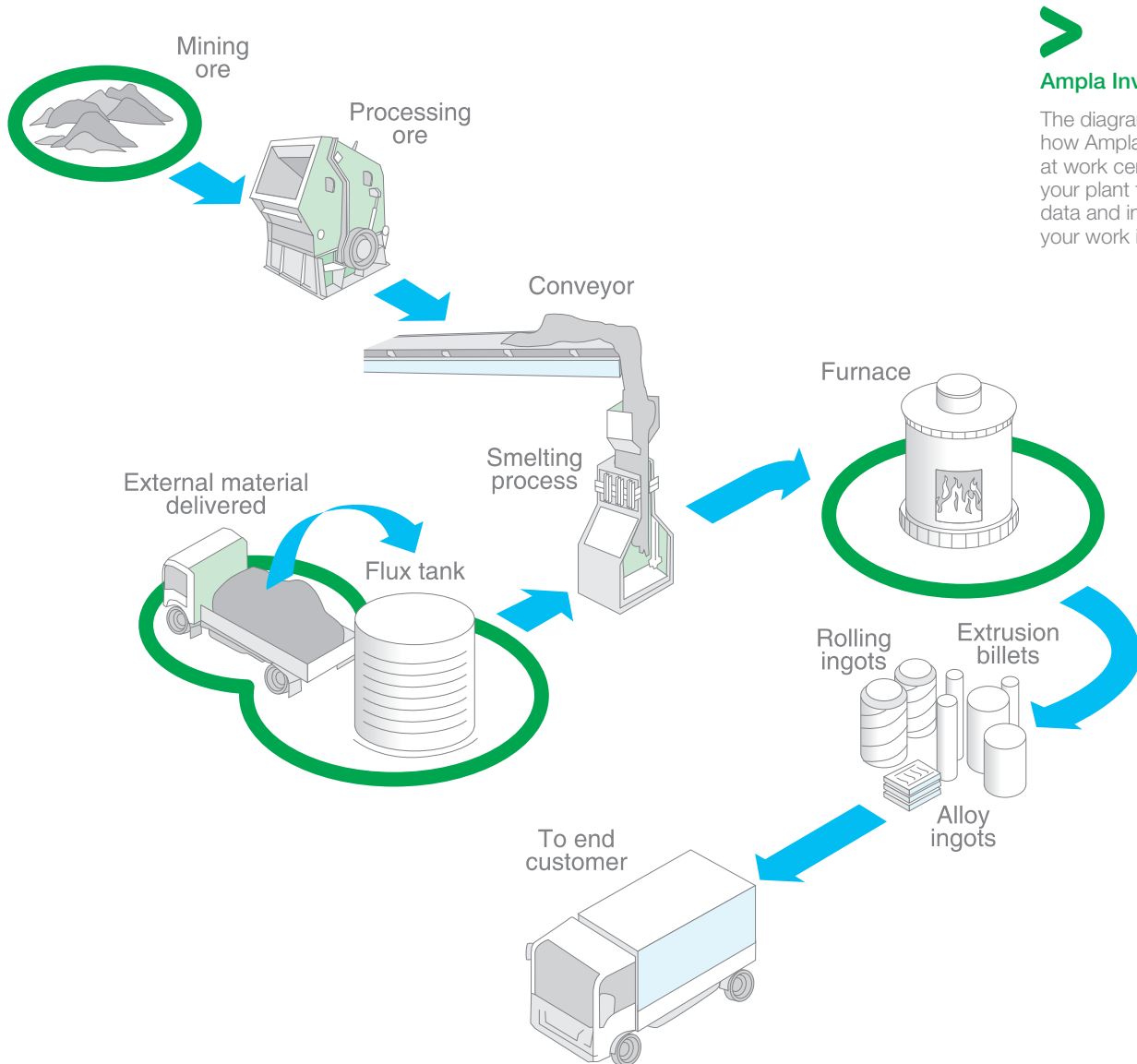
Ampla Inventory supports continual improvement processes by identifying materials and work that is unnecessary and adds no value to your operations. Ampla Inventory delivers KPI data for stock turns, cycle time and key inventory requirements.



Ampla Inventory tells you What, Where and When!

Ampla Inventory automatically provides a view of how much production was achieved at every major asset location for each shift. It also creates rolling inventories for all locations (ROM, stockpiles, WIP, trains, vessels), with drill-down facilities to expediate identification of over-handling, losses, constraints, and scheduling errors.

Inventory Flow Diagram



Ampla Inventory

The diagram shows how Ampla is deployed at work centres across your plant to capture data and information on your work in progress.

Contact Citect to learn more about how Ampla can benefit your business at www.citect.com/Amplav4.0

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