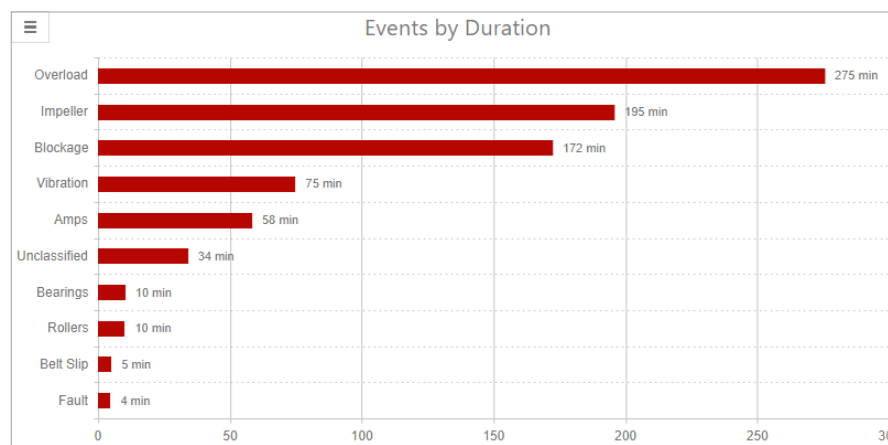
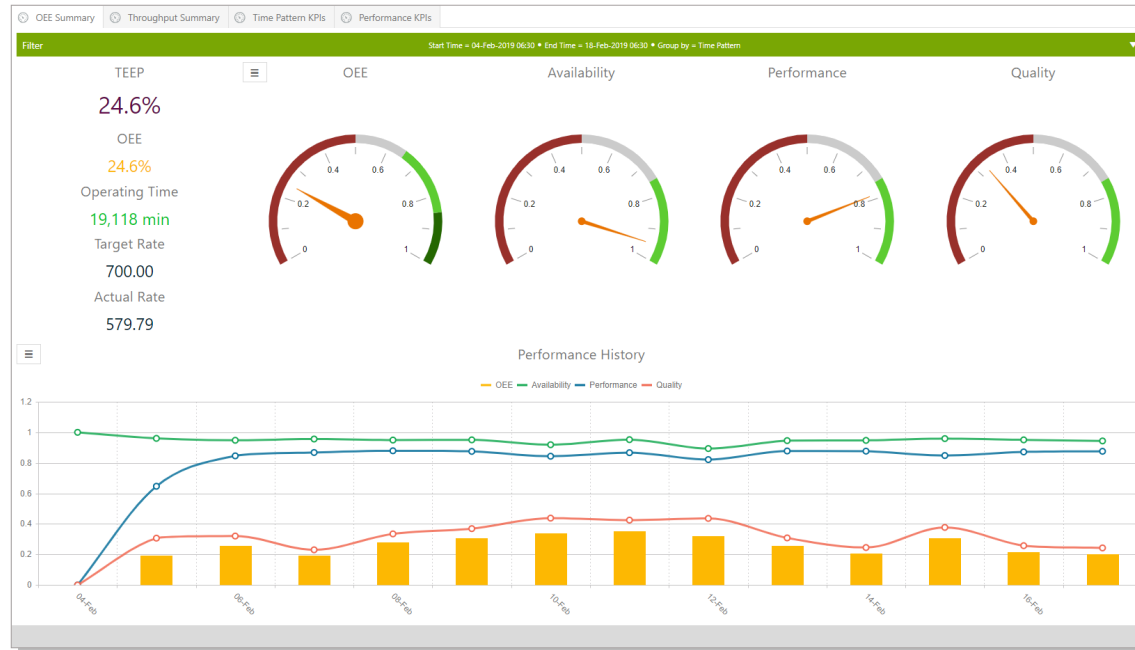


Khronos Insight is a complete production performance reporting package, encompassing OEE, downtime, production, quality, and custom KPI formulas.

Downtimes and Delays are captured automatically in the context of the plant model, the production mode, materials, recipes, batches, orders, shipments, and so on.



Khronos Insight tells you:

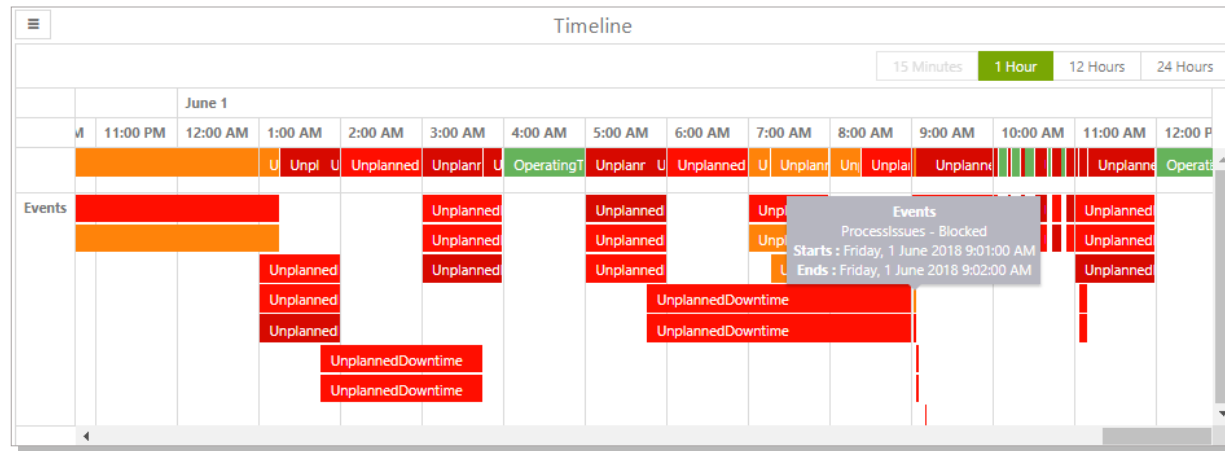
- › **What** you made
- › **How** much you made
- › **When** you made it
- › **How** well you made it

Khronos Insight tells you:

- › **Where** problems occur
- › **Why** they occur
- › **How** much they impact your business

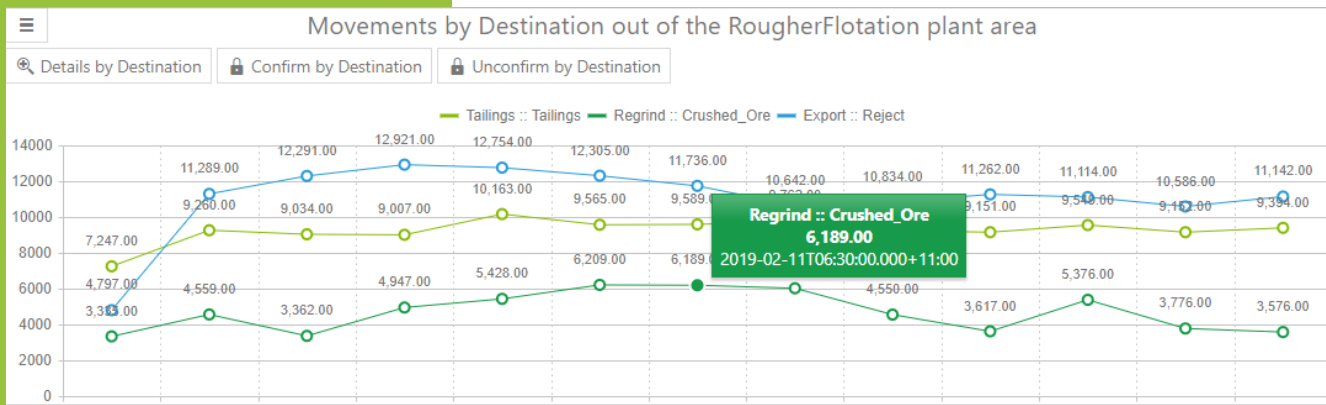


Unbiased Statistical Evidence is the key behind a progressive improvement strategy. Khronos Insight identifies the impact on productivity due to each Cause Location and Reason to support business cases for improvement initiatives.



Khronos Insight tells you:

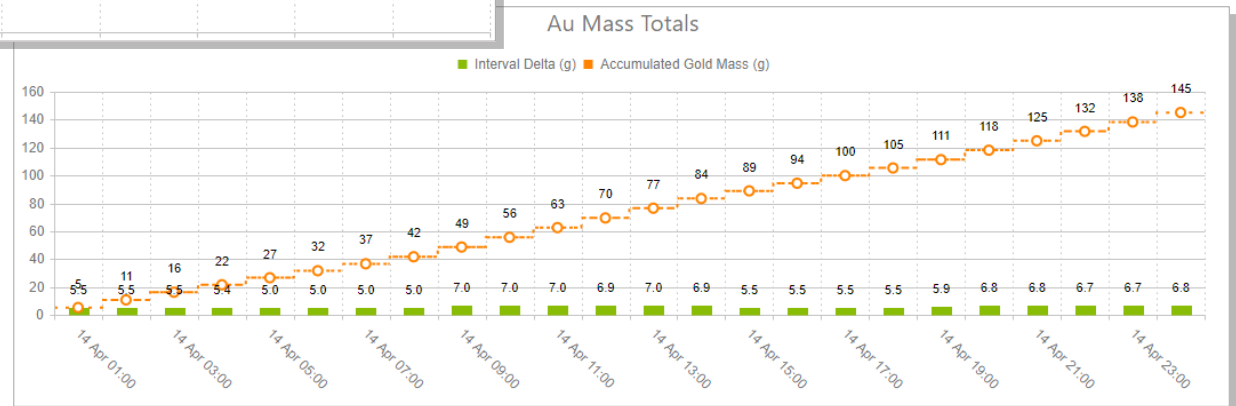
- › **Ideal** Production
- › **Actual** Production
- › **Lost** Production
- › **Loss** Ratio



Movements identify:

- › **Primary Material Movements** → ROM
- › **Secondary Material Movements** → Process Water
- › **Constituent Material Movements** → Metal Tonnes
- › **Calculated Movements** → Moisture

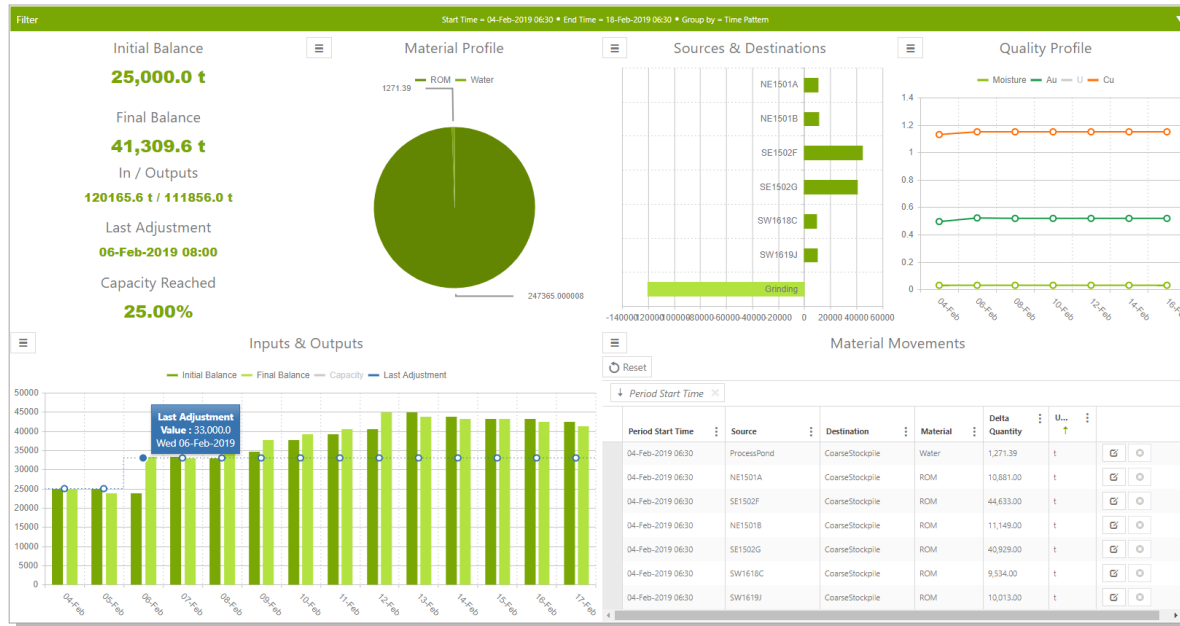
Production Accounting identifies all material movements in the process, from a Source location to a Destination.





Storage Mass Balance

consolidates all Input, Output, and Manual movements since the last Stock Adjustment to estimate the balance in each storage vessel.



Stock Adjustments can record dip measurements, aerial surveys, visual inspections, and other methods of assessment.

LIMS integration allows

dynamic calculation of Constituent Material Movements with inherent awareness of whether samples are applied retroactively or proactively to corresponding movements.

Quality Samples

Reset Export to Excel Add New Measurement Value Confirm All Unconfirm All

Drag a column header and drop it here to group by that column

Measured Time	Sample	Refer...	Measure	Value	Status
04-Feb-2016 06:30	CoarseStockpile	BASE 001	Au	0.400000	
05-Feb-2019 10:30	CoarseStockpile	RBTS 19021	Au	0.480000	
01-Jul-2018 06:30	CoarseStockpile	RBTS 18071	Cu	1.1	High
06-Feb-2019 09:30	CoarseStockpile	RBTS 19023	Cu	1.130000	High
05-Feb-2019 06:30	CoarseStockpile	MST 1502G	Moisture	0.030000	
04-Feb-2016 06:30	CoarseStockpile	BASE 001	U	115.000000	
05-Feb-2019 12:30	CoarseStockpile	RBTS 19023	U	125.000000	
06-Feb-2019 08:30	CoarseStockpile	RBTS 19022	Au	0.510000	
07-Feb-2019 08:30	CoarseStockpile	RBTS 19024	U	133.000000	
06-Feb-2019 11:45	CoarseStockpile	RBTS 19027	Au	0.530000	
09-Feb-2019 06:30	CoarseStockpile	RBTS 19024	Cu	1.15	High
07-Feb-2019 09:45	CoarseStockpile	RBTS 19028	Au	0.525000	
15-Feb-2019 06:30	CoarseStockpile	RBTS 1903A	U	143.000000	
10-Feb-2019 07:30	CoarseStockpile	RBTS 19029	Au	0.518000	

MOVEMENTS AUDIT LOG

Reset

Drag a column header and drop it here to group by that column

Audit Type	Audit User	Audit Time	Audit Notes	Period Start Time	Period End Time	Source Node Name	Destination Node Name	Material	Quantity
Confirmed	Geo	11-Apr-2019 12:09	Bulk confirm all raw movement records which are inputs or outputs to this Plant Area.	04-Feb-2019 06:30	11-Feb-2019 06:30	CoarseStockpile	CoarseStockpile		
Modified	Geo	11-Apr-2019 12:00	2 extra trucks not recorded	04-Feb-2019 06:30	11-Feb-2019 06:30	NE1501B	CoarseStockpile	ROM	5200
Original	Geo	11-Apr-2019 12:00		04-Feb-2019 06:30	11-Feb-2019 06:30	NE1501B	CoarseStockpile	ROM	5139.8
Modified	Geo	10-Apr-2019 22:38	Reversal of previous big adjustment	04-Feb-2019 06:30	11-Feb-2019 06:30	CoarseStockpile	Grinding	ROM	55511

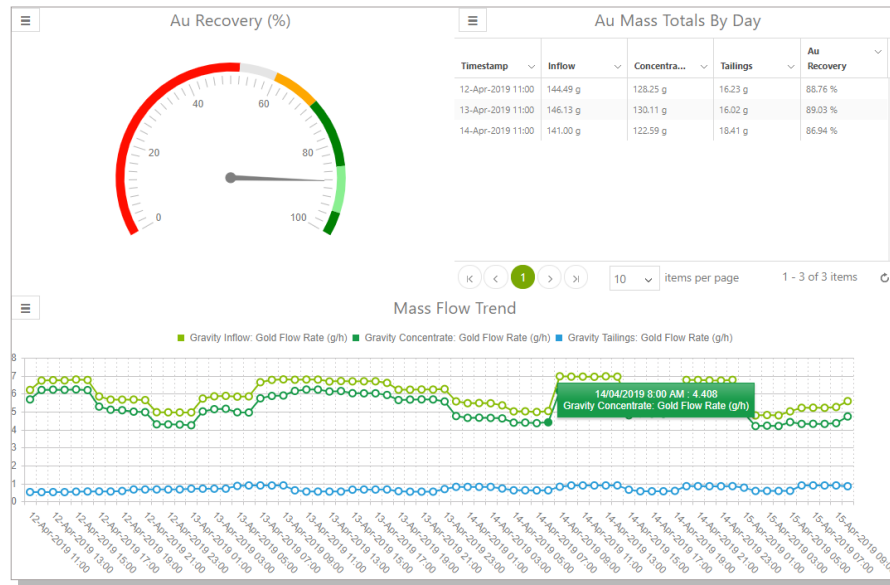
Data Approval processes lock data to prevent any further editing or overrides.

Audit Trails record all data manipulation activities with complete transparency for *Who* made the change, and *What* the original and modified values are.



The KPI engine allows customisation of key metrics for the business such as Yield, Recovery, Net Rate, Availability, Utilisation, and so on.

KPI definitions are applied as templates against the Plant Model.



Actuals vs Targets can be graphed against a variety of Target Time Horizons such as Annual Budgets, Monthly Forecasts, Daily Plans, and Shift Setpoints.

Shift Logs with user-defined categories, form fields, approvals, file and image attachments allow complete customisation of manual data collection for a variety of different purposes.

Mobile Enabled HTML5 User Interface supports phones and tablets, including integrated camera support for recoding photos with logs and downtime events.

Geologist Handover

Logged at	Status	Associated Node	Priority	Impact	Target Density	Mineralogy Notes	Projected Strategy
05-Feb-2019 16:00	Closed	Underground	Medium	None	1.275	Some Hard rock starting to come through from the NE zone. Bomite composition increasing a bit.	If Bomite rises much further, the flotation reagents will need to be addressed.
06-Feb-2019 09:00	Closed	Underground	Medium	Mid	1.27	Bomite increased substantially. Hard rock has dropped off a bit. Mill coping fine.	Adjust reagents in Rougher Flotation to cope with increased ratio of Bomite.
07-Feb-2019 11:30	Open	Underground	High	Normal	1.268	Blasting issues in NE zone. Bomite has dropped off as a result due to high Chalcopyrite in SE blend.	Revert to last week's reagent strategy.

Geologist Handover Form

Associated Node: Underground | Log time: 07-Feb-2019 11:30 | Status: Open

Mandatory Details

Priority: High | Impact: Normal

Required Entries

Target Density: 1.268

Mineralogy Notes: Blasting issues in NE zone. Bomite has dropped off as a result due to high Chalcopyrite in SE blend.

Projected Strategy: Revert to last week's reagent strategy.

Attachments

Attachment Name: DieselSpill.jpg | Attachment Type: DieselSpill.jpg

Attachment Description: Unbundled diesel spill near truck depot.

Image: DieselSpill.jpg



Khronos Insight supports **Historians and Databases** as native data sources. **Excel and File imports** can also be integrated via automated data integration using Khronos Data Pumps.

Timestamps are recognised from the source, and the product inherently handles data and users in different time-zones and regions.

Live Data Collection Status				
<input type="button" value="Reset"/>		<input type="button" value="Reload Config"/>		
Process	Enabled	Processed up to	Live Collection Status	
Events	▶	15-Apr-2019 11:30	Healthy	▶ ■ ✎
Movements	▶	15-Apr-2019 11:30	Healthy	▶ ■ ✎
Properties	▶	15-Apr-2019 11:00	Aging	▶ ■ ✎
QualitySamples	▶	15-Apr-2019 11:30	Healthy	▶ ■ ✎

Data Integrity

Remote locations, sporadic telemetry, intermittent power, and lengthy delays for laboratory results are just some of the challenges facing these industries. Khronos Insight handles these challenges with comprehensive data processing, periodic-reprocessing, and user-triggered reprocessing facilities.