SAVANT

SAVANT GLOBAL COPPER SMELTING INDEX

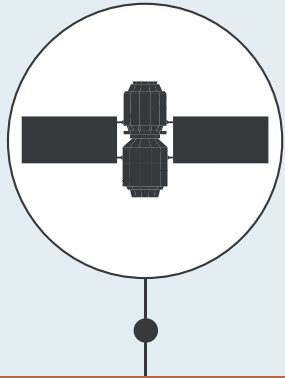UNIQUE INSIGHTS ON THE GLOBAL COPPER SUPPLY CHAIN

earth i

MAREX SPECTRON

The SAVANT Global Copper Smelting Index: accurate, timely and consistent information for the copper supply chain
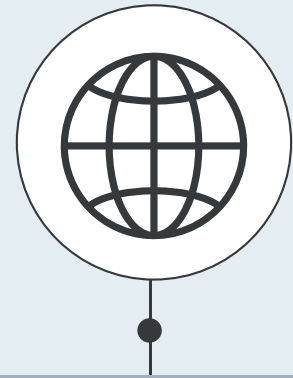
EARTH OBSERVATION

Copper smelters are located and monitored by multiple satellite systems.

ARTIFICIAL INTELLIGENCE

Artificial intelligence, machine learning and computer vision techniques are used to derive highly accurate and verifiable smelter operational status.

COPPER INSIGHTS

Global and regional indices of copper smelter activity are created and updated daily. Individual smelter status and history is also available.

Sourcing up to date, accurate and consistent data on the operational status of copper smelters around the globe is challenging. Data has historically been collected from a wide range of sources, including announcements by smelter operators, physical on-the-ground observation, surveys and through anecdotal or subjective information.

The diverse locations of smelters, local and country restrictions, and commercial operator sensitivity have made data gathering challenging and fraught with inconsistencies. Additionally, the time taken to gather data means that the value is further eroded.
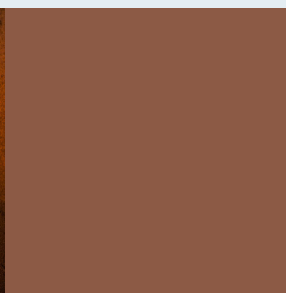
SAVANT provides timely and accurate visibility of copper smelting activity globally to help inform commodity traders, metals market analysts, equity traders and others. The data is available as global, regional and country indices as well as by individual smelter. SAVANT covers up to 90% of global copper smelting capacity, using satellite data, Machine Learning (ML) and Artificial Intelligence (AI) to automatically evaluate the current status of each smelter.

The SAVANT Copper Smelting Index is updated daily providing the timeliest view of global copper smelting available. The data is sourced from Earth Observation satellites which provide empirical evidence making SAVANT a trusted source of ground truth of activity. SAVANT's algorithms differentiate between genuine shutdown of a smelter against any short hiatus in activity, and smelter restarts are detected typically within 1-3 days.

up to

90%

of global copper smelting capacity monitored

Features and Benefits*

Empirical data based on actual observation from satellites	Daily updates	Global coverage of up to **90%** of copper smelting capacity monitored	Regional smelter indices updated daily	Smelter level activity status with **>3** years of history per smelter
Advanced algorithms detect smelter status with improved accuracy	Graphical tools allow for comparison/ combining of data	Smelter maps showing location & capacity of each smelter	Export and download all levels of data	API links for integration into 3rd party software

*subject to level of service subscription

Space Data transformed by Computer Vision, Machine Learning and Artificial Intelligence

Earth-i monitors every known, significant copper smelter globally. Those that pass Earth-i's data quality assurance are then included within the Savant Global Copper Smelting index, representing up to 90% of the world's copper smelting capacity.

The data Earth-i collects from space goes through a series of complex automated processing steps to detect and measure the characteristic operational fingerprints of each individual smelting site. This can vary with factors such as site layout and smelting technology, so each site undergoes characterisation mapping that is constantly updated. Our algorithms that assess activity levels run against strict quality assurance standards and flag human intervention where required. To ensure integrity and consistency of the index, a small number of smelters are excluded from the index where their characteristics do not meet the thresholds of Earth-i's quality assurance process.

An overall picture of smelter activity is built into our Global Copper Smelting Index, which is driven by the operational status of every smelter in the index. Theoretical available smelting capacity can therefore be derived and studied from a global level down to individual smelters, even in opaque markets such as China.

SAVANT

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- Dashboard
- Smelter Process **PRO**
- Smelter Operations **PRO**
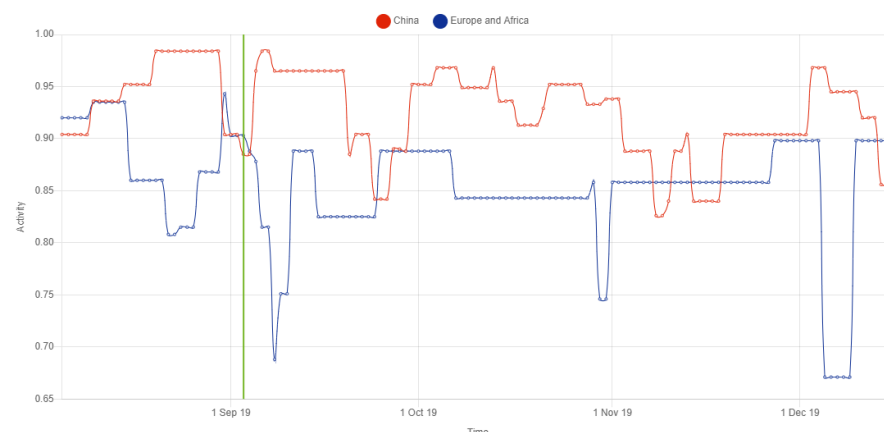
Dashboard / Smelter Operations

| Region filtering ▾ | Global | China | Asia and Oceania | Europe and Africa | North America | South America | All |

📅 August 5, 2019 - December 16, 2019 | Combine | Compare | No data smoothing ▾ | ⬇ Download this data

📈 Smelter Activity: Compare multiple regions

● China ● Europe and Africa

SAVANT is available in a number of subscription packages as shown in the simplified product matrix below. For pricing, demos, and more details, please contact us by emailing savant@earthi.space or calling +44 (0) 333 433 0015.

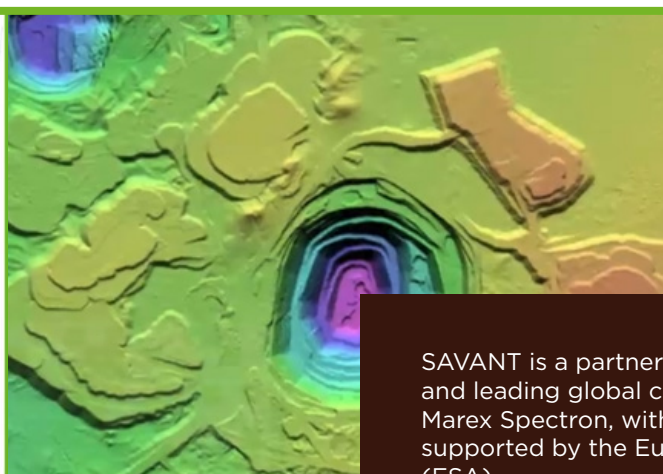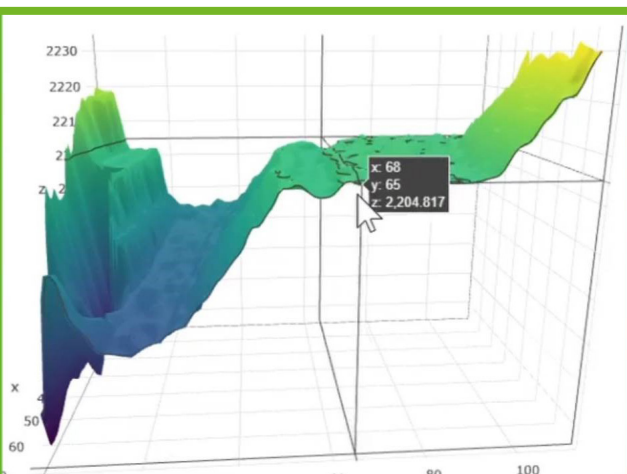| Package	Details
FREE	The Free service gives access to our global index with a one-week data delay, daily updates and historic index values back to 2016.
BUSINESS	The Business Service provides the up-to-date global index and also up-to-date indices for China, Asia & Oceania, Europe & Africa, North America and South America. Daily updates, API access and historic values back to 2016 are provided for all indices.
ENTERPRISE	The Enterprise service provides as above, but also includes a country by country breakdown, China in-country regional breakdown, and individual smelter data for all smelters.

The Free global index and subscription feeds of up-to-date indices are also provided by our distributor, Shanghai Metals Market (SMM). See www.smm.cn or contact Earth-i for details.

About Earth-i and SAVANT

Earth-i is a Geospatial Intelligence company, using machine learning, artificial intelligence and Earth Observation data to deliver actionable insights to companies so they can make decisions and policy fast and effectively. Unlocking the true potential in businesses, organisations and government requires a dependable flow of information and intelligence to deal with today's problems and anticipate tomorrow's challenges. Earth-i works with clients in industry and governments to deliver unique analysis, insights and answers in any part of the world.

SAVANT is an analytics product family focused on the metals and commodities markets, with copper the first product released. Within SAVANT, Earth-i's geospatial expertise can also provide bespoke solutions or extra levels of detail such as 3D volumetric mine analysis, supply chain risk monitoring, patterns of life analysis or more granular data on individual smelters.

Visit savant.earthi.world/signup to register for your Free service in the SAVANT Portal.

SAVANT is a partnership between Earth-i and leading global commodities broker Marex Spectron, with development supported by the European Space Agency (ESA).

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