

## Technical Capability Statement

# API Library

**As a plant process engineer, metallurgist, data analyst/scientist, technical or operational leader, have you ever...**

- Needed fast, powerful analytical algorithms to help you make sense of the observations you make in the plant each day?
- Preferred to be in control of your own analytical workflows, so that you can tailor them to your specific operational context?
- Preferred to spend more time implementing and delivering real value, rather than time spent coding and analysing?
- Desired a simple, hands-on approach to process modelling and real-time plant optimisation, powered by modern machine learning algorithms but putting you squarely in the driver's seat?
- Needed quick access to standard, modularised data science functions to assist with rapid data preparation and exploration?
- Needed access to standardised plant metallurgy or process engineering calculations rather than repeating everyday calculations from scratch each time you conduct plant analysis?

**Throughout Interlate's history, we have frequently observed the following opportunities:**

- Capability for plant process engineers, metallurgists and analysts to quickly upskill in modern data science practices given access to the right tools, libraries and support.
- Through the power of workflows, the opportunity to automate a huge number of plant analytical tasks, from basic plant data capture through to process model retraining, through to real-time optimised recommendation systems.
- The opportunity to draw quantified, automated and actionable insights from large plant data sets, increasing basic decision automation for operators and control systems.
- The opportunity for site-based continuous improvement teams and corporate-based digital to spend far less time in designing potential analytical solutions, and far greater time implementing value with end-users.



## Our solution:


- The API Library enables Interlate's service teams and our customers to build automated data science workflows in their data science development environment of choice.
- The API interfaces with our core Library, which contains minerals processing focused mathematical modules for commonly used calculations on mine sites globally.
- The API Library has been developed out of necessity during the last 5 years of front-line, real-time productivity services for our customers.
- When these Library modules are joined together to create a workflow, common analytical and data science tasks become a breeze and let practitioners spend more time focusing on delivering value in the plant, and less time in analysis to uncover opportunities.
- Whether performing some quick comparative statistics or a process plant optimisation for a section of the value chain, the design, implementation, evaluation and ongoing maintenance of analytical solutions, the use of bespoke workflows created from standardised data science modules greatly minimises time-to-value.

## How do you use the API Library?

- Authenticate to the API directly in your code-based workflow, identical to many other APIs that you may currently utilise during your plant data analysis activities.
- Construct your workflow and execute it as you normally do, making use of the Library of functions alongside your personal, corporate, or open-source library functions.
- As long as you have an authenticated API key, you may execute API calls inside your workflow over and over again (according to your selected customer plan).
- The API Library has a flexible multi-cloud deployment model. It can be used on Interlate's private, secure cloud, where all data processing is conducted and results are returned directly to your workflow. The API may also be deployed on customer's cloud if that is a requirement.
- From initial configuration and deployment, through to training and even real-time support, Interlate's service backbone supports you with early usage and adoption.







## Who uses it?

- Plant process engineers
- Metallurgists
- Data analysts
- Data science practitioners from any mining-focused discipline

## What are our related software solutions?

Our upcoming lightweight cloud-based workflow application providing a formal UI for interfacing with the underlying API Library.

## What plant assets is the software applicable to?

The API Library is asset, commodity and value-chain agnostic, and focus on speeding up, simplifying and automating the overarching problem-solving process.



## What are some example opportunities identified?

**+2.0 %**

in additional full plant Au recovery through upgraded collector dosage strategies derived from quick exploratory analytics and comparative statistics.

**+1.5 %**

equivalent full plant Cu and Au recovery through optimisation of product grade targets across multiple parallel minerals processing lines.

**+5.0 %**

increase in additional coal product output through upgrade DMC operating strategies (recipe book) aggregated across multiple plant feed types.

**+0.6 %**

in additional full plant Au recovery through real-time optimisation of flotation supervisory control system inputs

**+134 kt**

product iron ore concentrate through updated fines flotation operating strategies.

**Creating a sustainable future through enhanced productivity**

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