A DIGITAL TOOL TO OPTIMISE SOLVENT EXTRACTION PERFORMANCE

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ABSTRACT

Copper Solvent extraction is regarded as a mature technology, however, current operating techniques and philosophies require stable and consistent operating conditions to maintain plant efficiency and recovery. In reality, feed composition is not constant, resulting in frequent variations in leach grade and acidity. These changes require constant attention and adjustments to plant flows and operating conditions to ensure production and performance targets are maintained.

Process sampling is used to pinpoint metallurgical changes and initiate the implementation of operational adjustments. The total time taken to react and implement the optimal process changes can vary based on personnel experience levels and site-specific management of change procedures. Simplifying the process of change while improving accuracy and reducing reaction time allows the plant to capitalise on otherwise lost production.

To improve the evaluation of changing conditions and accelerate the implementation of adjustments, Solvay developed a new digital SX modelling tool, the SolvExtract™ app. With a mobile-accessible dashboard and custom notifications, SolvExtract™ sends SX plant personnel daily operational recommendations, based on analysis of the operation's live data feed and historical plant results. Through SolvExtract™, the Solvay team recommends operational changes when the circuit deviates from optimal performance. The inherent connectivity of the app affords customers quicker access to Solvay's technical support staff, thereby helping them make more informed decisions faster and reducing process variability. The new tool will be reviewed along with case studies from Cu SX operations.

Keywords: Copper solvent extraction, Copper SX operation, Digital SX modelling, SolvExtract™ app.