3 Years of Autonomous Success

AI for process optimization

The Customer

Our customer is a manufacturer of professional construction tools. They are implementing a digital transformation process in R&D.

The Problem

The customer's products have widely varying applications. In each, the product needs not only to perform well, but to last as long as possible before needing to be replaced. As part of the design process, the materials and the processes used during fabrication (e.g welding) must be optimized to ensure the right combination of performance and durability in each application. Before making the Citrine Platform part of their workflow, this process was driven primarily by intuition and traditional design of experiments methodologies. Due to the large number of parameters than can be varied, It would typically take an engineer a week to design and run just their initial set of experiments.

The Process

The customer established a center of excellence that works with product teams to implement an AI-informed R&D workflow. They created an AI model to predict product performance based on process parameters and use this to adapt the parameters for different product lines. They have been using the Citrine Platform for more than 3 years and have set up data pipelines to capture processing data directly from the production line. Batches of products made in the same way are destructively tested and average results fed back into the platform.

The Outcome

Citrine is an integral part of the R&D workflow at this customer and a product developed using Citrine is about to hit store shelves.

- ☑ Designing and running initial experiments was **reduced from a week to less than a day.**
- ☑ The customer is totally autonomous in managing data, creating and leveraging AI models, and onboarding additional engineers to the Citrine Platform.
- ☑ Not only is product development faster, it **yields better products.**

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