CSL transforms and optimizes every step of their miniaturized purification experiments.

CSL

Goals

As an organization, CSL set themselves a series of goals to achieve by 2030:

- Doubling the throughput of experimentation through robotics and automation
- Improve the digital connectivity of the R&D organization
- Enable its people to be more productive with their time in R&D

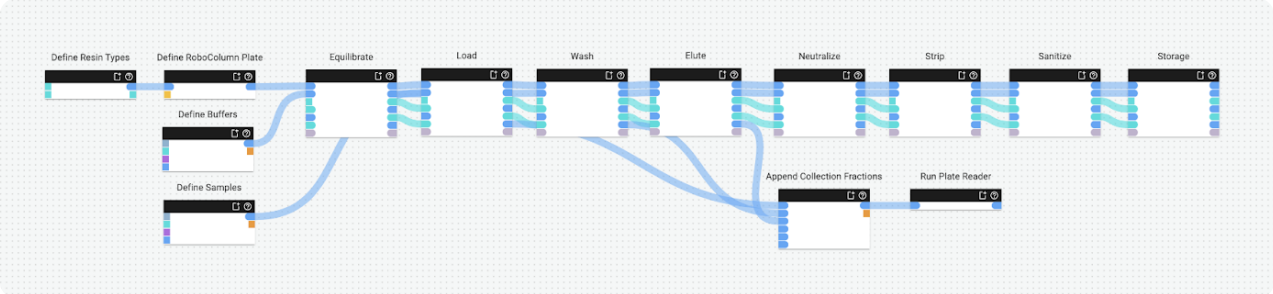
The Purification Process Design team also had their own specific objective–to enable their scientists to plan and execute miniaturized purification experiments without the need to write code.

Challenges

As a fully global R&D organization, CSL experienced challenges that weren't isolated to just one lab or one site:

- Low uptake of automation and complex scripting of executions
- Technology bottlenecks in the utilization of hardware devices in-lab
- Difficulty with traceability of experimental planning, executions and data

As such, transferring knowledge about an experimental method–or the details of an executed experiment–was made much harder due to fragmented and manual processing and storage of experimental information.



Solution

CSL deployed Synthace as it aligned with its vision of digital connectivity, robotics, and automation. The experiment platform dovetailed perfectly with its 2030 vision of improving process development efficiencies.

- No-code design, preview and execution of experimental workflows
- Elimination of human error in the design and execution process

The drag-and-drop design of Workflow Builder translates their human-language directions into complex robot instructions with no custom scripting required, while the unified experiment platform makes it easy for users to share the results, methods and analysis of their experiments within their group.

“Synthace is a technology game-changer for usability.”

Jamie Black, Senior Scientist/Manager, Purification Process Design, CSL, Australia

Results

Using the Synthace platform, the CSL team managed to overcome numerous obstacles on their journey toward improving process development efficiencies:

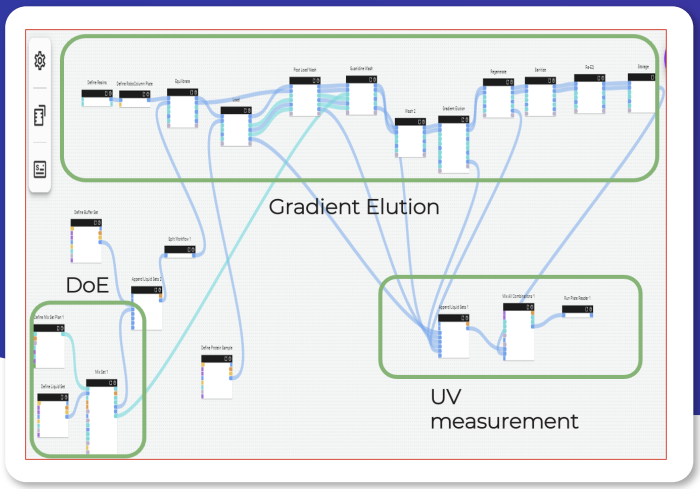
- Significant time savings in the automation of miniaturized purification experiments
- Substantial increase in automation utilization inside the lab
- Enabled researchers to rapidly scale their workflow development

60% reduction in time spent on workflow creation & data processing

50% increase in automation usage within the lab

Simplified access to complex DOE methodologies

Standardized & reproducible experiments across sites & devices



An example of a workflow designed using Synthace’s Workflow Builder, allowing for complex, multi-step experiments to be constructed visually–and executed on the devices in just a few clicks