

LABORATORY INFORMATICS WITH ROBOTICS



Challenge

- Workflow between ELN, LIMs, SDMS, instruments, and robotics is immensely complex with many scientific processes and detailed steps to consider in conducting experiments
- Aligning the scientists with business needs and technology constraints



Solution

Every laboratory is unique in its operations. Here is an example process implemented at a top 10 global biopharmaceutical organization:

- [INFORMATICS] Plan Sample Extraction in LIMs and ELN
- [ROBOTICS] Locate, Sort and Verify Samples with an Automated Freezer
- [ROBOTICS] Thaw, Mix, and Centrifuge Samples
- [ROBOTICS] Remove the Sample Caps with the Decapper
- [ROBOTICS] Extract Samples with an Automated Liquid Handler
- [INFORMATICS] Run Samples on the Analysis Instruments
- [INFORMATICS] Collect Data on the Instrument Software
- [INFORMATICS] Execute Regressions to Analyze the Data in LIMs



Results

- Saved FTE hours, allowing scientists to spend time where it's needed
- Reduced human error by utilizing robotics
- Designed operations strategy and updated SOPs
- Established metrics to measure operational efficiency and productivity