Medicinal crop growth and production with Thermo Fisher™ Platform for Science™ Software

Cloud-based platform for advanced breeding and testing of medicinal crops

Key benefits

- Track complex relationships between sample lineage and related data for propagating and growing plants
- Simplify inventory management for storing and tracking of samples
- Drive efficiency with quick insights into process bottlenecks
- Benefit from a scalable, cost efficient solution via cloud-based infrastructure
- Easily navigate the system and track the status of samples with dashboards
- Increase reliability, consistency, and efficiency with the Platform for Science software

Unique challenges facing crop science

Medicinal crop producers need to ensure the safety and efficacy of their crops and derivatives for patients. This is in many ways more complex than traditional small molecule drug manufacturing due to the inherent variability in natural products. Producers need to ensure that they yield high quality plants that are free of disease and mold contaminations. This requires producers to carefully monitor plant growth, health, stability and quickly identify any product quality issues.

Crop producers rely on contract testing laboratories to ensure the quality and safety of their products. Contract testing facilities offer a variety of services to test for potency, pesticides, residual solvents, heavy metals, microbial contaminants, water content, terpenes, and plant sexing. To provide this wide variety of services, contract facilities have to manage many different analytical instruments, assays, and data.

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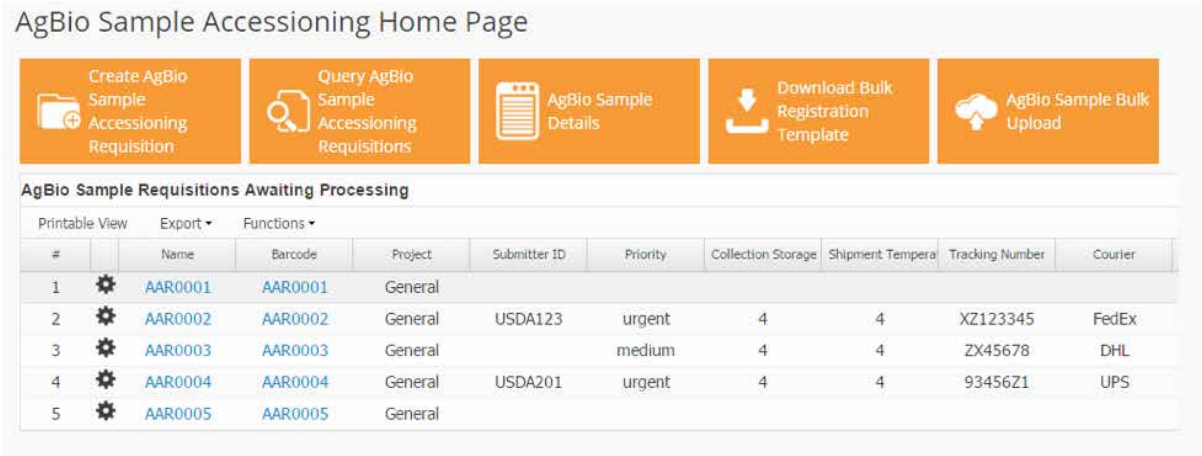
Driving crop science workflows with the Platform for Science Software

The Platform for Science software helps growers and contract organizations capture, connect, and centralize information across processes, teams, groups, and labs. The Platform for Science software handles complex tracking of samples (cultivars/clones/plants) that are being propagated and the associated metadata (e.g technician time/date stamps for various activities, analytical properties, and instruments or reagents used). Data generated for samples via sequencing (Sanger, Illumina, Ion Torrent, etc.), liquid chromatography, plate-based assays, and more are reportable within the Platform for Science software.

The platform provides lab managers and technicians with a holistic view into their laboratory operations. Non-experiment related information, such as shipping, accessioning, project tracking, as well as users, instruments, and consumables, can all be accessed and managed through lab management dashboards. Dashboards allow managers to quickly identify process bottlenecks, and make informed decisions for process optimization. Lab managers can quickly scan or type in a barcode from a plant and trace it all the way back to its original seed, providing complete traceability with associated data from seed to plant.

As the phases of cultivation are not always linear, the Platform for Science software can be quickly configured, with no custom code, to adapt to the latest workflow or process changes at your facility. By leveraging the Platform for Science software and its Marketplace, scientists can quickly and easily deploy preconfigured applications to support changing lab processes and cultivation of new analytical techniques. The applications in the Platform for Science Marketplace span many functional areas such as study and sample management, genomics, and analytical processing. Whether your lab is utilizing LC/MS or sequencing, the Platform for Science software can adapt to your needs.



Laboratory Data Management Solutions

A cloud-based platform for crop science

Organizations of all types are under increasing pressure to create more with less in a shorter amount of time. Business leaders are looking for fresh approaches and external partnerships to accelerate new product initiatives, increase ROI and reduce risk. To support these goals, IT teams must boost their agility, rapidly facilitate collaborations, and control costs and complexity.

Effective collaboration is the key to accelerating research and improving efficiency. A cloud-based infrastructure allows for instant data and document sharing, speeding timelines and improving security. Deploying in the cloud reduces capital expenditure and operating expenses by providing the appropriate amount of bandwidth. As sample and data volumes increase or decrease, the cloud will scale up or down helping to control the cost per sample, leaving out the guess work for the number of servers and IT resources required to operate your system.

The ability to quickly create new, secure accounts with access to the platform, without having to invest in expensive IT infrastructure, is invaluable. The Platform for Science software deployed on Amazon Web Services (AWS), provides a secure, flexible, and scalable solution that will grow with your business, and reduce maintenance overhead.

Find out more at **coreinformatics.com**

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