Sema4, Thermo Fisher's Core Informatics Deepen Their Ties

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NEW YORK (GenomeWeb) – Just months after major changes at each company, Sema4 is deepening its ties with Core Informatics.

Sema4, spun out of New York's Mount Sinai Health System in June, recently agreed to implement several modules of Core Informatics' Platform for Science, including a laboratory information management system, at its two major lab facilities.

Meanwhile, Core Informatics is being absorbed into Thermo Fisher Scientific, which bought Branford, Connecticut-based Core in March for an unspecified amount. Following the acquisition, Thermo Fisher moved Core into a new digital science division that also includes the LIMS assets of Thermo's informatics and chromatography group.

Anthony Uzzo, vice president for research and development of the digital science business unit, touted easy customization and the ability to run in the cloud as major selling points for Platform for Science.

"It affords [customers] the ability to scale," said Uzzo, cofounder and former president of Core Informatics.

"Traditionally, LIMS otherwise has required extensive amounts of custom code," Uzzo added. He said his team at the former Core wanted to create a platform that "allows scientists to execute laboratory workflow that allows them to integrate in with an open ecosystem of cloud-connected instrumentation."

The founding principle of Platform for Science is "to empower scientists to deal with change by configuring their data management solution to meet their unique needs and requirements, not requiring IT personnel to perform extensive amounts of customization, which has typically plagued other LIMS deployments in the industry," Uzzo said.

"Using that flexible underpinning, we have built and deployed all of our products, which include not only our LIMS, but also our electronic lab notebook and our SDMS [scientific data management system] to facilitate automated data capture and exchange with a wide variety of scientific instrumentation," he added.

Plus, Platform for Science soon will be linked with ThermoFisher.com and FisherSci.com, giving labs an easy way to track use and stock levels of reagents and consumables, then reorder as necessary.

"As we transition from being a more academic-type lab into a commercial lab, being able to track all our materials much more effectively is incredibly important," said Jamie Coffin, who became president and chief operating officer of Sema4 Genomics in September.

This upgrade comes a year after Core Informatics introduced a validated version of Platform for Science aimed at regulated laboratories in the biopharmaceutical and clinical genomics industries. Platform for Science offers access to Core's LIMS, electronic laboratory notebook, scientific data management system, and collaborations products. It also provides access to commercial preconfigured scientific applications that the company has developed for biobanking, next-generation sequencing, quality control, and analysis.

Sema4 took over Mount Sinai's CLIA-certified genome sequencing labs in Connecticut and in New York City. The fledgling company, which processes about 100,000 samples annually, will be upgrading to Platform to Science at both facilities.

Coffin said that the bulk of Sema4 lab's business is in reproductive genomics, including newborn screening, though it is stepping up its work in oncology.

"We had our own LIMS that was a little bit archaic," said Coffin, who most recently had been CEO of SourceMed, maker of revenue-cycle management software for ambulatory surgical centers, and previously held executive positions in the healthcare divisions of Dell and IBM.

"Over the last year, the team has been evaluating a lot of different LIMS across the marketplace and we settled on working with Core, mostly because of a longstanding relationship we've had with Thermo Fisher and their real strong experience in the genomics space," he added.

Core has been supporting the Connecticut lab since 2014, primarily on genomics research and NGS. "Now, as a commercial entity, those individuals at Sema4 really wanted to go through a whole vetting of all the LIMS products in the marketplace," according to Uzzo. "They wanted one that could handle the variety of genomics technologies that the lab runs and the ability to operate at the scale the lab now does and will in the future."

Coffin said that Core/Thermo won out because primarily because the technology is cloud-based.

"We were looking for something that could help us essentially run our labs in an enterprise environment. It has a very strong enterprise environment flavor to it," Coffin said of Platform for Science. "We thought we could build this enterprise-wide application fairly efficiently."

Sema4 is still in the planning phase of the implementation, but already builds workflows in the Platform for Science software to run its labs. "As we integrate it, we'll be using it pretty much to run the operations of the whole lab," Coffin said.

"A lot of what's happening in genomics now is about how do you automate things," Coffin said, mentioning robotics being used to prepare samples in genomics laboratories. "This allows us to be able to build a core set of workflows through the tools and automate all these functionalities and be able to run it as an integrated workflow across the enterprise," he said.

"We're using our clinical lab as a way to get access to patients and be able to consent them in a way that allows us to be able to use the data not only for research, but also to be able to use the data when we find out new things about the patient to be able to recontact the patient and tell them what's going on with them," Coffin continued.

"If we see a patient that has a certain disease and we've done some genomic testing, we've seen that they have a certain genotype that works with a particular clinical trial that's going on, we can actually reach back out to the patient and then grab them and say, 'Would you like to participate in this clinical trial?' That's never really been done before in this industry."