

Caris Life Sciences Builds Innovation Center of Excellence with Mendix

Exploring ways to improve existing IT tools and processes to accelerate innovation, Caris Life Sciences® (Caris) augmented its traditional development capabilities with the Mendix platform. The company built a Mendix center of excellence that is quickly delivering intelligent, innovative applications connecting oncologists with advanced molecular information to personalize cancer care. Caris is now more nimble in responding to new business needs, helping the company to deliver industry leading tumor profiling services.

Challenge

In cancer treatment, speed and precision can be critical factors in a patient's care. Caris helps physicians act quickly and precisely, using advanced tumor profiling technologies to provide healthcare professionals with the relevant and individualized information they can use to deliver personalized cancer care.

To keep pace in a fast-moving industry, Caris sought greater speed and flexibility in its own development processes. With no shortage of requests, including two large application rewrites and a multitude of new application requests from the business, Caris' IT team was struggling to keep pace using a Java-based development approach alone.

This issue was exacerbated by the fact that the highly skilled Java developers the company needed were in short supply. Moreover, because its business is so highly specialized and offers one of the industry's leading tumor profiling services, Caris estimated that new hires required 90 to 120 days to learn the intricacies before they could start building applications.

"We felt challenged in a couple of areas," said Ron Merlino, CIO of Caris Life Sciences. "The business needed more and more applications—and they couldn't wait. Yet, IT faced a real issue staffing to meet this demand. We realized we needed a new approach that would allow us to tap different skillsets to innovate faster."

Solution

Caris management was intrigued by the Mendix visual, model-driven development approach. Users could quickly create applications with little to no coding, which would relieve pressure on the company's Java team. At the same time, business and IT could collaborate closely on development projects and iterate towards the right solution, shortening time to market for new applications.

"We saw Mendix as a way to help close the gap between business demand for new applications and the IT resources available to deliver them," said Merlino. "We augmented our Java team with a small Mendix team that leverages a hybrid IT-business skillset to drive digital innovation projects. The developers immediately took to Mendix's approach and are building applications remarkably fast."

Results

Caris got started with Mendix by rewriting and modernizing two large existing applications: an online physician portal and a research registry application. The portal is a HIPAA-compliant, web-based resource for physicians and authorized staff to conveniently order services, manage patient data, track cases and communicate with client services and other physician colleagues. The research registry collects and tracks data on the demographics, presentation, diagnosis, treatment and outcomes of enrolled patients. The information collected highlights the clinical utility of tumor

profiling and furthers research into delivery of precision medicine.

Caris saw an opportunity to rebuild the applications using a modular, component architecture that would deliver greater scalability to support the company's growth. "In just a few months, Mendix allowed us to decouple the processes from our core lab information system and create new applications that are more scalable, more maintainable, and more appealing to users," said Jim Abraham, senior director of software development at Caris.

With these projects under its belt, Caris built up a Mendix center of excellence to drive innovation projects. The team is comprised of five Mendix trained developers, including IT analysts with some PowerBuilder experience and a UI designer. "You don't have to be an expert with years of programming experience to build production applications on Mendix," added Abraham. "Within a few weeks, new team members were able to jump in and get started."

Caris is now leveraging Mendix to deliver intelligent, innovative applications that connect oncologists with the right molecular information, allowing them to make more informed treatment decisions. Most applications are delivered in a matter of weeks, some even in days. In addition to benefiting patients and care providers through improved access to information, these systems are streamlining processes unique to Caris' business.

For instance, Caris' tumor profiling service displays cancer biomarkers along with sophisticated lab test results and supporting evidence of how drugs interact with a tumor. As part of this process, the company needs to catalog which drugs are on the NCCN Compendium®, an authoritative reference for oncology coverage policy recognized by public and private insurers. A data management application built on Mendix cut the data reconciliation process

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down from days to minutes. "It was taking us 40 to 45 hours at a time to do all the required data reconciliation," said Abraham. "Our data management application eliminates manual work and ensures we're up to date automatically within 15 minutes every night."

Another application allows Caris to better track tumor samples as they move through its 66,000 sq. ft. state-of-the-art lab. The application takes a bar-code scan of a sample at a certain point, sends the information to other Caris systems, and displays it on a streamlined user interface to more efficiently manage capacity, staffing and turnaround time.

Stepping back, Merlino said that augmenting its traditional development approach with Mendix has enabled IT to become more nimble in supporting Caris' digitization needs. "There's no shortage of ideas for applications to improve our business," he said. "We now have two paths for delivering solutions, based on characteristics such as the requirements, timing, team skillset and bandwidth. Mendix has proven to be a fast way to turn our ideas into applications, which has helped Caris become a more agile and innovative organization, and most importantly, help more cancer patients get the right treatment when they need it most."



Mendix helps enterprises achieve their digital goals. Our digital innovation platform empowers customers to bring new products to market, digitize customer engagement, and automate unique business processes. Facilitating an iterative, collaborative approach, the platform brings business and IT together to build and deploy innovative applications at the speed of ideas.

A recognized market leader, Mendix is helping hundreds of customers across dozens of industries achieve exceptional results. For more information, visit www.mendix.com and follow us on Twitter [@Mendix](https://twitter.com/Mendix).

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