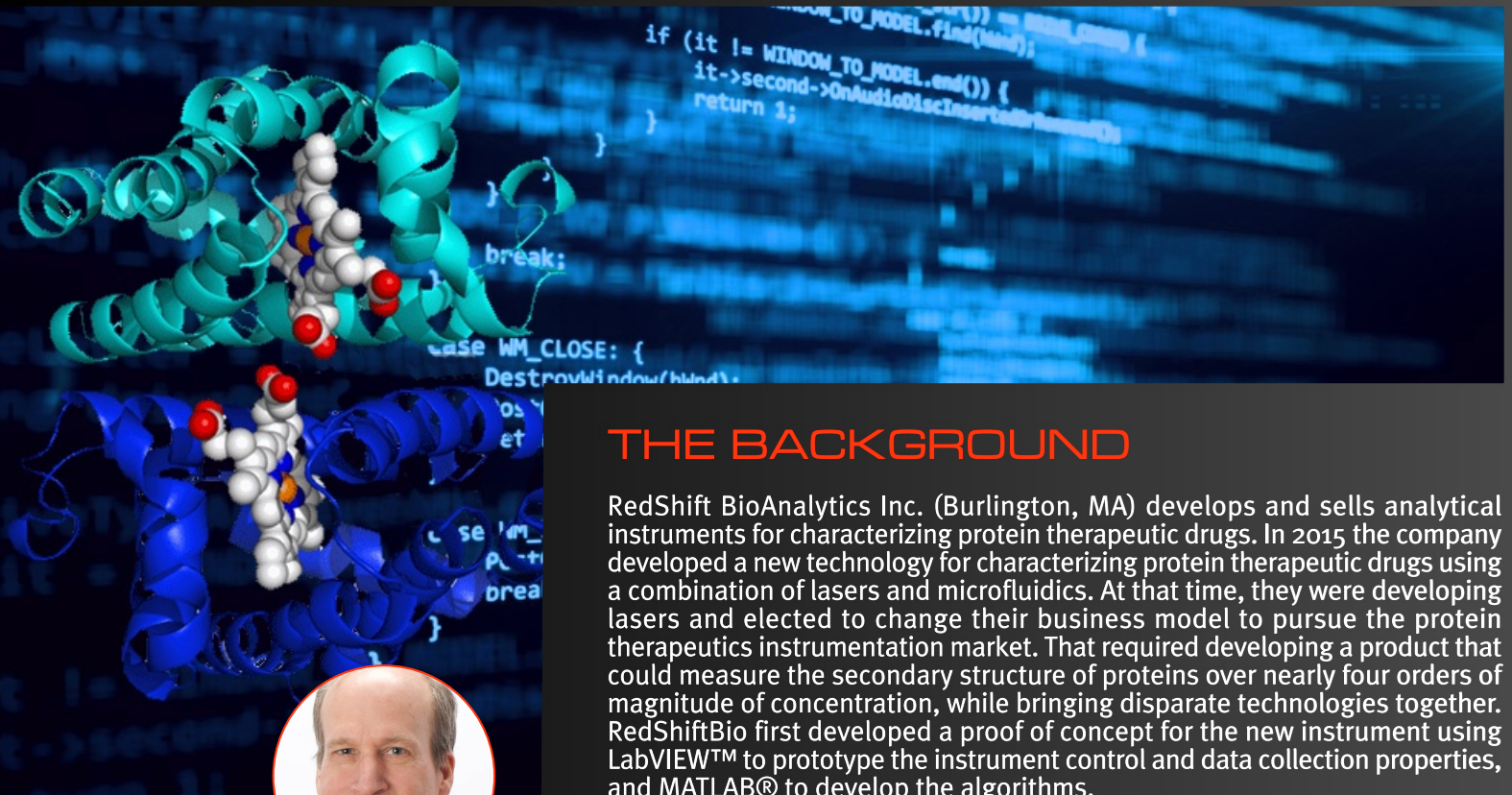


DLS SOLUTIONS HELPS REDSHIFT BIOANALYTICS DELIVER THE NEXT GENERATION IN PROTEIN CHARACTERIZATION



THE BACKGROUND

RedShift BioAnalytics Inc. (Burlington, MA) develops and sells analytical instruments for characterizing protein therapeutic drugs. In 2015 the company developed a new technology for characterizing protein therapeutic drugs using a combination of lasers and microfluidics. At that time, they were developing lasers and elected to change their business model to pursue the protein therapeutics instrumentation market. That required developing a product that could measure the secondary structure of proteins over nearly four orders of magnitude of concentration, while bringing disparate technologies together. RedShiftBio first developed a proof of concept for the new instrument using LabVIEW™ to prototype the instrument control and data collection properties, and MATLAB® to develop the algorithms.

THE CHALLENGE

Chip Marshall, RedShift's CEO said, "When we decided to develop the product from our proof of concept, we knew that we would need a partner on the software side with expertise and prior experience in building software for instrumentation and, in particular, for spectroscopy applications. We considered hiring our own programmers but it would have taken substantial time and effort to find engineers with the right expertise and bring them on board. We were looking to get to market as quickly as possible, so we needed an existing team that could understand our needs and respond quickly."

"We looked at a number of firms that had broad capabilities in both hardware and software", said Chip, "but we didn't find an organization that had better software experience than DLS. Plus, we received excellent recommendations from people we knew. We selected DLS because they had direct, prior experience in instrumentation and particularly in spectroscopy tools. This enabled them to very quickly understand what our product did and the needed core elements of the software package. They came on board with a very good understanding of our requirements which enabled them to quickly scope the tasks for a successful development."

CONCEPT TO COMMERCIALIZATION

While porting the LabVIEW™ and MATLAB® prototypes to the C++ environment was a major challenge, it was only part of the job. Chip says, "We also needed DLS to develop the overall software architecture, from the user interface to data structures and everything in between. Once the overall architecture was developed, DLS could port the existing LabVIEW™ and MATLAB® prototypes into it."

"We are extremely happy with the software that DLS developed. DLS was well organized and very professional. They met or exceeded our expectations both in the software developed and in how they executed the project."

Chip Marshall
President

REDSHIFTbio™

See change



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CONCEPT TO COMMERCIALIZATION

“At the onset of the project we gave them a product requirements document and the basic elements of the control software and analytics platform. We did not have any software engineers in-house when we brought on DLS, so we relied entirely on DLS to launch the development. I think the challenging part for DLS,” said Chip, “was the magnitude of the task and that they had to work with an early stage product concept. They started from zero in terms of the overall design and then built a flexible client / server architecture using the C# / C++ languages as appropriate.”

A NEW ERA IN PROTEIN CHARACTERIZATION

The result is RedShift’s latest product, called AQS3pro, which launches a new era in IR spectroscopy and protein characterization. DLS has helped RedShift deliver an instrument that provides repeatable, highly sensitive, automated measurements for every stage of the biopharmaceutical pipeline. Chip calls it the “next generation in protein characterization. We are extremely happy with the software that DLS developed.” said Chip, “They were great in designing an architecture which has enabled us to add features and unplanned elements to the software that we didn't envision in the beginning. We've been able to add enhancements very efficiently, and I think that is a testament to the quality of the job that they did right from the start.”

“DLS was well organized and very professional. They did a very nice job of defining the overall project plan and tracking it each month as we went through development using the scrum/agile process. Nothing ever goes exactly as you expect, so it’s a matter of managing unforeseen challenges. DLS did a great job at that.”

“DLS represented themselves as an organization that had experience and a high skill level in instrumentation,” said Chip, “particularly for spectroscopy and analytical instruments. They met or exceeded our expectations both in the software developed and in how they executed the project. We didn't fully envision what was going to come out of the backend of the project at the start but the DLS team did, and they executed to that vision. They were a great asset and plugged in as part of the team.”

In conclusion Chip said, “I wouldn't hesitate to recommend DLS as a company and a team for software development. It is very likely we will use DLS on future projects.”

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