

A Leading CRO's Digital Data Transformation



Jubilant Biosys improves data management, research productivity, and customer satisfaction with CDD Vault informatics platform

Jubilant Biosys, a major international contract research organization (CRO), has provided comprehensive drug discovery and contract research services to the global pharmaceutical industry for 20 years. Headquartered in Noida, India with additional facilities in Bengaluru, the company's more than 600 scientists offer a full suite of drug development and chemistry expertise.

"Our vision is to become a top 10 CRO/CDMO and deliver 'the added dimension' in discovery services," said Giuliano Perfetti, CEO and Managing Director at Jubilant Biosys. "We symbolize this by our 4D brand, which promises to accelerate all aspects of both functional and integrated services to our innovative customers around the world. Introducing a digital agenda is a key part of this promise, and a range of initiatives have started, including CDD Vault ELN implementation."



**Giuliano Perfetti,
CEO & Managing Director,
Jubilant Biosys**

Working collaboratively

"Clients of Jubilant Biosys include major pharma multinationals, virtual biotech companies, and academic labs. Trying to describe a 'typical' project for Biosys is nigh on impossible", explained Takeshi Yura, Bengaluru site head. "Aside from compound discovery and optimization, an emerging trend is for CROs to work more collaboratively with their clients", he added.

So while the company routinely carries out conventional chemistry, biology, in vitro or in vivo preclinical assay services for many clients, it may also be expected to play a more integral role in molecule design and assay development. The unique nature of each project, coupled with the emergence of high-throughput, high content assays and computational chemistry, means that Jubilant handles huge, very diverse datasets - from hundreds of partners - that must be kept secure, but easily accessed by each client and authorized Jubilant scientist, Yura noted.

The pitfalls of paper

This is, understandably, a mammoth task, and until 2018, Jubilant Biosys managed most of its workflows and results for each project using paper lab notebooks. “Imagine the hugely time-consuming task of scanning and sending PDFs of potentially thousands of paper notebook pages to each client, as well as the need to store and potentially retrieve the notebooks at a later date, say, should the client return with a related project,” commented Prasant Deb, associate vice president, Synthesis.



Experimental data that is recorded on paper is effectively “dead,” Yura further noted. “No one can get the maximum value out of hand-written results and protocols.”

CDD Vault as data management infrastructure

As Jubilant Biosys continued to grow the decision was made to adopt CDD Vault as the data management infrastructure for the entire company, and rolled out the CDD Vault ELN across all sites. Today the platform is used daily by almost 600 scientists who record and manage workflows, experimental protocols, SOPs, chemistry structures, and chemistry and biological assay results and all associated metadata, for a hugely diverse client base.

Highly intuitive and easy to configure, the CDD Vault platform has revolutionized data handling, transfer and utility, for both Biosys and its clients, noted Vikas Shirsath, senior vice president, Global Operations, at Jubilant Biosys. “We can look back through experiments for the project, and search for data in multiple ways,” Shirsath continued. “Duplication of experiments is very fast while sharing experimental and analytical data with clients is very easy.”



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**- Vikas Shirsath, senior vice president,
Global Operations, Jubilant Biosys**

Insight and knowledge for the client

Clients may also have access to their own data directly through the CDD Vault platform, Yura explained, "... so they can see how far the project has progressed, and review data in real time." In addition, the CDD Vault user interface and dashboard make it simple to generate reports and data reviews on multiple levels. "This helps to ensure that clients can analyze all of the resulting data as it is generated, to gain maximum insight and knowledge and make decisions as the project progresses."

The capacity for companies to view their data in real time also facilitates true collaborative working, suggested Sooriya Kumar, associate director of cheminformatics at Jubilant Biosys. Many benefits, such as this, are 'non-tangible,' but hugely important," Kumar said. "Data security, retrievability and traceability – combined with the ability to back up systems, and the fact that data is available instantly."

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Safety, security and flexibility

CDD Vault user- and project-based security and authorization levels ensure that each Jubilant scientist – and their clients – can only view and search data relating to the project on which they are working. "This level of security is a must for compliance in our business," Deb explained. In practice, as soon as a project is completed, its electronic database is closed, even to the Biosys scientists who were working on it.



The CDD Vault platform is inherently flexible for handling both structured and unstructured biology and chemistry workflows, which means it has been a relatively smooth process to roll the platform out across all departments at both the Bengaluru and Greater Noida sites. Scientists can easily set up new protocols, and share chemistry and biology data for the same project. Critically, the platform integrates seamlessly with software for existing analytical instrumentation and other platforms, Kumar commented.

Fully integrated drug discovery solution

This combination of flexibility, ease of configuration and security, rolled into the CDD Vault platform, is key to Jubilant's ability to offer clients the highest level of drug discovery capabilities as a fully integrated solution, Yura suggested. "In practice we view each project as a partnership, whether that partnership involves carrying out repetitive assays or chemical

syntheses, or working more autonomously for the client.”

Jubilant Biosys has transformed into a fully digitalized and automated drug discovery services partner, within a year. “Key on the list of ‘must-haves’ was that it would be a cloud-based solution, and offers flexible ELN capabilities to manage diverse chemistry and biology workflows.”

Selecting a straightforward system that is easy to get to grips with – for possibly 500 or more users in the short term – meant that everyone was up and running and moved away from their paper books, in a reasonable timeframe.” CDD Vault is also easily scalable, Kumar continued. “Even if I suddenly want to increase from 500, to 1000 users, this is no problem. I just relay the upscale to CDD, and they configure it for me.”



In fact, CDD Vault was selected after an in-depth review of 6 or 7 potential candidates, according to Kumar. “We were very impressed with the CDD team – they understood what we were looking for and provided great support.”

The human element

The importance of the human element, and usability, shouldn’t be underestimated, Kumar further pointed out. There’s no point in taking on an ELN or digital data management platform that no one wants to use because the training takes too long, or it is too complicated. One of the things we liked about CDD Vault is that it takes half a day max to train people to use it.

“With CDD Vault, Jubilant Biosys’ customers are now able to see their project evolution as it happens, which is a clear advantage for a biotech or pharma when choosing a partner to work in a discovery project” said Remy Hoffmann, Sr Director BD Europe. “The platform facilitates the close interaction between researchers at Jubilant and their project originator counterpart. This real-time conversation makes for true collaborative projects.

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Perfetti concluded, “The transformation introduced by the ELN in our labs showed our employees how life will change from now on and confirmed to our customers that we are catching up to add this dimension of technology to better support their mission of discovering new candidates for the benefit of patients globally.”

