

Implementing Dotmatics ELN into Charles River Laboratories' 'Lab of the Future'


charles river



Dotmatics



- CRO (drug discovery, research models, safety and efficacy, biologics, microbial, etc.)
- >100 facilities in >20 countries.
- Rapid growth via acquisition.
- Strategic migration from legacy processes to cloud- and SaaS-based solutions.
- Dotmatics solutions for: database searching, compound registration, analytical and purification workflows, ELN (biology, chemistry, DMPK), and more in the works.

As a CRO with over 100 facilities in more than 20 countries, [Charles River Laboratories \(CRL\)](#) knows that streamlining processes and integrating applications can have a huge impact on their drug discovery and development efforts.

In recent years, the company has looked toward developing 'the lab of the future.'

They have strategically migrated toward cloud- and SaaS-based offerings, including Dotmatics solutions in the Discovery business unit for database searching, compound registration, and workflow creation.

Most recently, the Early Discovery business unit delivered a Dotmatics ELN for biology, chemistry, and DMPK to around 500 researchers in the UK and the Netherlands, who overwhelmingly agreed the rollout was a huge success.

To say CRL knows a thing or two about large-scale technology implementation may be an understatement.

CRL's Director of Business Technology Partnership—Riannon Hambleton—oversaw the company's ELN rollout and was kind enough to share the key steps her team took to ensure success.



Riannon Hambleton

Director Business Technology
Partnership for Discovery

Charles River Laboratories





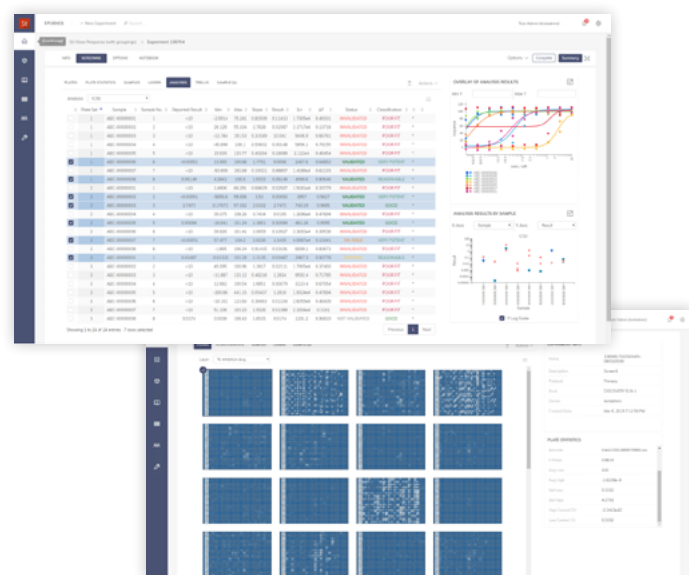
Expert Tips for a Successful ELN Rollout

After moving through traditional project initiation steps like preparing a business case, getting funding, and locking down resources, Hambleton's team stepped through the key steps described below.

Step 1: Proof-of-Concept

Hambleton's team chose Dotmatics as a partner because they had the ability to meet many of CRL's needs out-of-the box. However, CRL also has a number of specific requirements driven by their business and organization structures, including:

- compliance regulations (e.g., hazardous risk assessment for experiments),
- technical complexity (e.g., integration of multiple on-premises applications, registration systems, and workflows),
- permissions and confidentiality (e.g., unique access rules, project-based rules, and transient access needs).



Assay data management with Dotmatics

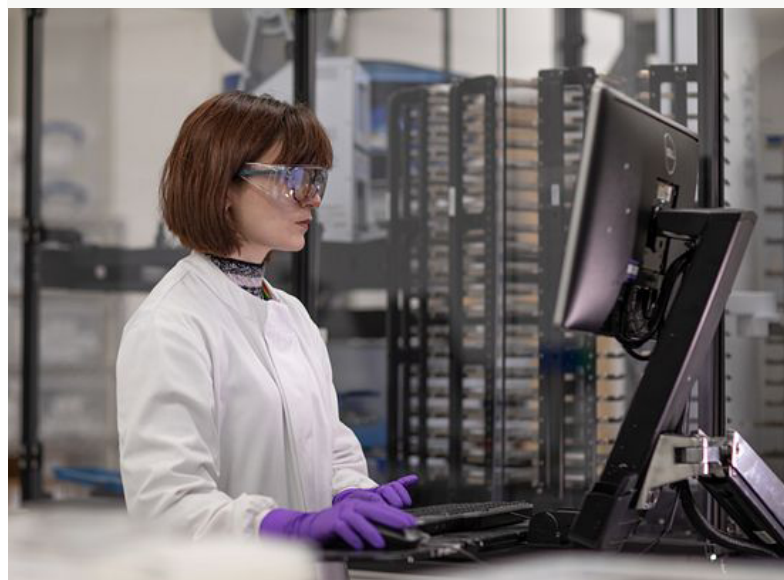
The initial selection process included a proof-of-concept trial to confirm that a Dotmatics ELN solution could handle their requirements and so reduce risk before forging ahead. This step also provided hands-on product experience for end users, helped uncover potential development challenges that would need to be accounted for when scoping out the full project, and informed the team's testing and training plans.

"Being diligent in this early step helped us avoid disappointment later on."

Riannon Hambleton

Step 2: Scope Out the Full Project (and Manage Expectations)

Taking what they learned from the proof-of-concept, the team started to scope out details of what would be built out in the full project. Despite its size, CRL isn't immune to budget and time constraints. Knowing this, Hambleton realized she needed to clearly define scope and set expectations early on. She explains, *"It's like the classic children's book 'If You Give a Mouse a Cookie,' where one request leads into another, then another, then another. All of our scientists were really eager for this project. We knew things could quickly blossom out of control if we didn't define scope and set expectations early on. Being diligent in this early step helped us avoid disappointment later on."*



Step 3: Configure the ELN

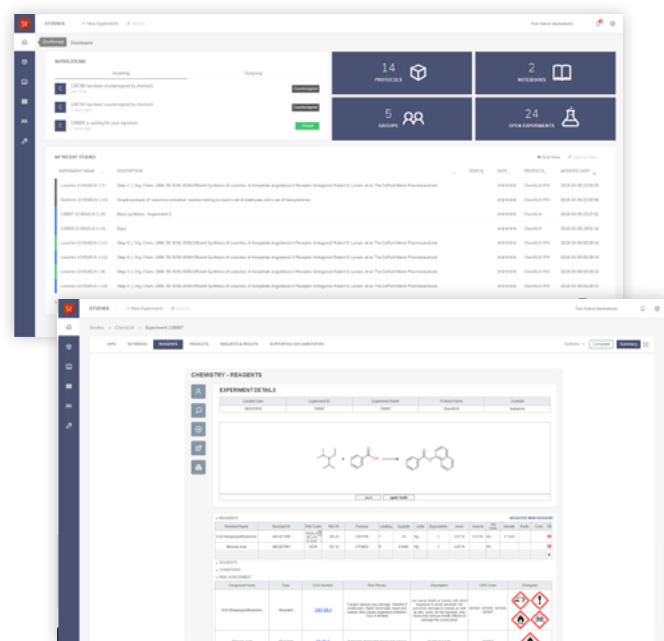
Together with Dotmatics, Hambleton's team created a detailed specification document that scoped out the full project, set boundaries, and defined what would (and wouldn't) be included in the solution.

Dotmatics application scientists then configured an ELN solution for CRL's unique requirements. Dotmatics was in regular communication with CRL to give demos and take feedback, and a test environment was set up exactly like the final production environment.

The team heavily relied on the Dotmatics Jira project-management tool, which application scientists and project managers used to manage the work for the configuration.

Step 4: Test

Hambleton's team put together a detailed test plan to ensure they covered specific scenarios, from common day-to-day tasks to special cases that really pushed the system. They created test scripts and logged results in a shared online testing tool that let them collaborate virtually across times zones.



Dotmatics ELN dashboard and chemistry reagents view

Step 5: Rollout and Train

The rollout had a lot of factors at play. The ELN was going to be used at three different sites and by three different scientific groups. And the scientists needed to switch from an on-site physical solution to something in the cloud. As such, Hambleton's team decided on a gradual rollout, selecting a few Dotmatics protocols at a time to be delivered to small groups of users. This gradual process helped her team:

- keep up with feedback and requests for fine-tuning ELN screens and reports,
- minimize IT-support volume, and
- avoid overwhelming the superusers who had offered to help less experienced users.

Hambleton explains, "One of the benefits of going from paper to electronic notebooks was that rollout didn't need to be a big-bang, one-day event. We didn't need to rip paper notebooks out of anyone's hands. But we did need to set clear goals around when the various project teams would make the switch. Ultimately, things went so well that we had teams from other areas who weren't even on the rollout plan—like our pharmaceuticals, CADD, and structural biology teams—asking when they too could move to ELNs." The CRL team explicitly included Dotmatics training support in their agreement because they wanted to be sure they had everything in place to ensure not just a successful rollout, but also continued engagement and buy-in. Some of the training and support elements the team developed were:

- superuser email groups that less experienced users could contact for advice
- superuser virtual office hours for tips-and-tricks sessions
- an intranet page for a one-stop-spot housing all training resources
- updated IT tickets that included space for defining ELN access and permission rules
- monthly support-review sessions with Dotmatics to address outstanding issues and/or jump on opportunities for enhancements

As it turns out, just as the team was about to rollout the ELN to a larger group of users, the pandemic hit. So, they shifted to online training and forged ahead, knowing that quickly getting the ELN into users' hands would help the company immensely during the pandemic.



Immediate Success

Shortly after the rollout, the project's success quickly became clear when Hambleton's team conducted a user-engagement survey asking questions such as:

- Would recommend this solution to a friend?
- What features do you like?
- What help do you need?

The reviews were outstanding. Everyone was pleased, including management and the approximately 500 end users working in various disciplines across three different sites.

The team found countless benefits to having the Dotmatics ELN, especially as the pandemic impacted life at work and home. They loved how the ELN provided:

- flexibility,
- time-savings,
- easier collaboration,
- better visibility for managers across projects and sites, and...
- improved compliance support.

One huge factor in ELN project's success was that it had support not only at the leadership level, but also at the user level. Testers and superusers in each discipline really dedicated themselves to the project and took a lot of ownership.

Hambleton explains, "Our scientists were so excited about the project, but they were also already very busy and dedicated to the research they do for our clients. It took some creative resourcing and scheduling to free time for them to help make this switch successful. There was definitely some extra work from everyone, but it was well worth it in the long run."

To keep the line of communication open, Hambleton continues to perform small pulse surveys every quarter or two to make sure ELN users have everything they need to be successful.



"I have to say it was very rare to see such a positive experience all round when rolling out a new technology. If we hadn't had ELN we would have really struggled through the last few months."

Riannon Hambleton

Looking Ahead

Not surprising given the success of the project, Hambleton's team is now dealing with a flood of requests to add more features to the ELN, wrap-in additional tools, and roll it out to more research groups. Some specific requests have included adding functionality to:

- look up the exact location and on-hand quantity of reactants straight from the ELN,
- register and manage viruses and cells (in addition to compounds),
- document observations of in vivo work electronically to simplify the process and reduce error, and
- support additional groups, such as those working in pharmaceuticals, CADD, and structural biology.

Hambleton says she easily got approval to build out the ELN even more and is ready to push forward. She adds, *"We're really looking forward to working with Dotmatics again to help further our move toward the lab of the future. Their solutions not only help optimize our in-house processes, but they also help us better serve our clients, which we know ultimately benefits patients."*

Praise for Dotmatics ELN at Charles River Laboratories

- "Cloning experiments saves me so much time!"
- "Environmentally friendly. No more arts and crafts on Fridays!"
- "Social distancing benefits for COVID-19."
- "Easier to collaborate with several scientist and sites in real-time."
- "Compliance has clear visibility to risk assessment and countersigning."
- "More flexibility to be able to work on something securely from home."
- "Masks make my write-up consistent and high quality, benefiting clients."
- "Managers and project leaders have clear visibility to projects, especially across sites or when working remotely."

"Dotmatics solutions not only help optimize our in-house processes, but they also help us better serve our clients, which we know ultimately benefits patients."

Riannon Hambleton





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