

How Boehringer Ingelheim Deepened Its Digital Transformation

► By David Wild

WHILE MANY PHARMA COMPANIES HAVE INTEGRATED digital tools like cloud services into their operations, some are later adopters. Boehringer Ingelheim is one of the most recent companies to announce a move to a cloud-based R&D platform as part of the company's commitment to digital transformation. For those still considering how to go about the shift to digital, rolling things out in the right order is one important factor, an EY expert tells *In Vivo*.

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Cloud-based operations are increasingly being seen as the cornerstone of digital transformation in biopharma, linking growing amounts of data across an organization. Cloud-based drug development platforms received added attention during the early stages of the COVID-19 pandemic after Moderna, Inc. noted that part of the reason the company was able to bring its mRNA vaccine into clinical trials within only 42 days of initially sequencing the virus was because cloud-based computing and storage infrastructure allowed it to more efficiently analyze and design mRNA sequences.

In PwC's Digital IQ 2020 survey, 60% of pharma executives said they already made investments in cloud services to support their digital transformation, or were developing plans to do so. Now, more Big Pharma companies, like Boehringer Ingelheim GmbH, are concretely moving ahead with this step.



Boehringer Ingelheim Moves To The Cloud

Uli Broedl, BI's head of clinical development and operations, recently announced the development of a "One Medicine Platform," an initiative that is part of a larger push to expand the development and application of digital solutions across the company and with external partners. The end-to-end enterprise-wide data platform stands to improve collaboration across the company, to streamline communication with partner study sites, and ultimately to expedite time-to-market.

or BI, the step is the latest in a reshaped digital transformation approach that began several years ago. That reworked approach represents a move away from an older approach where digital initiatives were executed "to a large extent, even in isolation" from other BI operations, and thus was not transforming the organization, as one BI executive previously told Scrip. (Also see "Boehringer Ingelheim's Formula For Scaling Transformation, Digitization" - Scrip, 27 Sep, 2022.)

More recently, Broedl echoed that at the 2022 Veeva Summit, saying the new cloud-based platform shifts the company away from employing a siloed "best of breeds system" to a streamlined approach that should accelerate the time-to-market for new drugs.



Uli Broedl, Head of Clinical Development And Operations, Boehringer Ingelheim

BI's One Medicine Platform employs Veeva Systems's Development Cloud, an operating system that ties together several Veeva cloud components related to clinical, regulatory, quality and safety processes. BI has also signed on to Veeva's Digital Trials Platform, deepening its roughly decade-long partnership with the vendor.

Before the transition, BI had "systems from different parties, which all are very good, yet do not necessarily always speak to each other, so you have to have colleagues fixing interoperability issues and you have complex workflows to work around for both internal stakeholders and also for our partners, our sites," Broedl said. "You may have multiple sign-ins and different user interfaces, so it's not fully customer-centric."

By reducing the number of maintenance and interoperability issues employees had to manage, there is more room for "the great minds of the company to focus on leveraging AI technologies," he asserted.

The One Medicine platform should also make communication with study sites more efficient by, among other things, easing data capture and expediting

report generation and trial data analysis. Combining these data with the company's own data lake will allow researchers in disparate corners of the company to glean deeper insights into trial processes. They can then add related bolt-on applications, such as analytics tools, to help predict trial recruitment and prevent quality issues, Broedl said.

In-House Digital Efforts

In parallel to outsourcing digital services to partners like Veeva, BI has also allocated significant resources to building digital infrastructure in-house. In 2017, the company established BI X, a digital lab that acts as an incubator for internal projects, digital products, and collaborations with external partners.

After initially operating somewhat at arm's length from the wider organization, BI X now works closely with the business units to develop digital BI products and also to facilitate global partnerships.

In its first three years of operation, BI X developed 11 digital products that were then taken further in conjunction with other departments in the organization and used both commercially and in support of BI's core R&D processes and production.

For example, BRASS – or Benefit-Risk Analytic System – is a software product that helps read safety data and provides visualization methods to analyze the patient journey to uncover medically meaningful commonalities, and ASAP is a data-based process development and prediction program that automates laboratory report generation. The success of BI X led to the launch of a second BI X branch in Shanghai in 2020.

Making The Transition

For companies in the early stages of moving to an end-to-end cloud-based clinical development platform, Broedl said an important first consideration is how a technological solution fits within the larger context of "what matters most" to the organization. In BI's case, the cloud-based platform aligned with the company's goal of improving patient outcomes by expediting drug development and time-to-market.

“There are multiple considerations for moving to this platform, but for us the main consideration is that it meets our guiding principle to transform patients’ lives for generations, and it drives speed and value,” he said.

Because a cloud-based platform had the potential to bring drugs to market faster, and building such a tool can potentially take months to years, the company’s leaders decided the best way to move forward was to partner with a vendor rather than to develop a platform in-house, Broedl said. And while this particular digital transformation initiative came with “an intrinsic sense of urgency,” the larger process of transformation can be slow.

As a private family-owned business, BI also has the benefit of being able to “think in generations” and comfortably tend to a longer-term digital strategy, including making the cultural changes needed to successfully implement that strategy, rather than catering primarily to short-term shareholder demands. At BI, that larger process – called Medicine Excellence – “comprises digital and business process transformation based on a strong foundation of a clear culture and mindset change to patient- and site-centricity, smart risk-taking and learning from failure,” Broedl noted.

“Mindset is platform independent, and this is something that we’re working on, on an ongoing basis,” Broedl said, adding that one way the company is creating change is by establishing a global network of “culture ambassadors” who lead by example.

Tying individual initiatives back to the company’s core values is also important in successfully shifting mindset, he added.

“If you can help people come along by realizing that, ‘yes, I work in health care for a purpose and the purpose of this [digital] initiative matches exactly why I’m here,’ I think that’s a key element [of successfully implementing a digital transformation],” he said.

Sequence Matters For Digital Transformation

Other companies still deliberating how they should proceed with a digital transformation campaign should

keep in mind that sequence matters, Ziv Yaar, principal at EY, told In Vivo. For those who want to implement a transformation internally but may not have the talent and capabilities to do so, “hiring a critical mass of talent and empowering that talent is the first step towards a successful transition, and only after the talent is hired on should the tools, technologies and capabilities be brought on board,” he advised.

Going the other way around risks setting up a “hammer in search of nails problem, where all the tools are available, but no one is adopting them.”

Creating technological change organically works for some companies, but others – BI, for example – might choose to partner or acquire these capabilities because it can be faster to collaborate with a fully-assembled organization with the skills, tools and cultural mindset than to create that change from within.

Companies that go the acquisitions route should be mindful “to avoid snuffing out new thinking within a larger organization that may be set in its older ways,” Yaar said. “Keeping the new separate from the old, at least for a little while, and giving them a direct line into leadership can help with this.”

Still others may not be sure which path to take, in which case setting up an incubator and fostering two to three smaller startup experiments “literally behind their walls [may be] easier to do than to manage integration issues and data sharing and security behind the walls of their organization.”

As the jury is still out on whether there is a single best approach, Yaar’s advice is to plan for both internal change and external partnerships and be prepared to bring partners in and out while simultaneously thinking about standardizing and creating the necessary tools for internal change.

“These days, a company is going to be measured by their agility more than their ability to foresee the future,” he said.