



EBOOK

The Right Bio-IT Partner:

The Value of Specialization & Experience

Biotechs and Pharmas have the potential to reap significant benefits from advancements in computational technology and innovation, but they also face significant and unique challenges in today's world.

In today's world, Life Science companies rely heavily on computational technology as the foundation of their operations.

These entities deal with enormous amounts of data sourced from diverse channels, applications and workflows, and their success in creating, testing, managing, and delivering their products and services depends on how effectively they invest and deploy the technology.

And yet, many organizations still outsource deployment and management of critical R&D IT projects to non-specialist IT providers and teams of generalists with little subject-matter experience. The result? A significant disparity between the potential benefits of technology and the potential of innovation, versus the actual outcomes they receive.

Today's Life Science Landscape: Demanding & Evolving

The Life Science industry faces more significant and demanding changes than ever before. Technology advancements are rapidly transforming the scientific markets, with barriers to entry being dismantled at an unprecedented pace.

Tech-Driven Transformation

In the past, Biotech and Pharma organizations required millions of dollars to commence operations, but processing capabilities have improved considerably, and the adoption of Cloud platforms has made software deployment and maintenance more straightforward and cost-effective, resulting in an array of opportunities.

The consumerization of artificial intelligence and machine learning is a crucial factor contributing to these changes, as the prices for these sophisticated solutions have significantly reduced, driving their widespread usage.

In fact, worldwide revenue in the Life Sciences Artificial Intelligence (AI) was valued at \$1.1 billion in 2019 and is expected to reach \$3.4 billion by 2025, a CAGR of 21.1%, according to Mordor Intelligence, a market intelligence and advisory firm.

The surge of innovation is transforming the way treatments are approached, granting Life Science and Health Care providers novel perspectives to achieve more favorable results. Furthermore, this trend opens up opportunities to create innovative services and income sources, such as mobile health, telemedicine, and new pharmaceuticals.

Today's Life Science Landscape: Demanding & Evolving (cont'd)

Challenges in Global Biotech and Pharma

Conversely, globalization has made the world more interconnected, leading to increased competition. The internet has eliminated conventional barriers, and economic development in countries like China, India, and others is attracting new entrants to the market, causing traditional competitor profiles to rapidly shift.

Due to the rapid pace of the market, Biotech and Pharmaceutical companies face challenges in keeping up and are under immense pressure to meet revenue growth expectations. The R&D process has become more complicated, resulting in internal pipeline obstacles which have led to tighter delivery schedules. All types of organizations, including health care providers, equipment vendors, Contract Service Organizations (CSO), and Diagnostic and Research Tool (DRT) suppliers, are feeling the strain. To address these challenges, established vendors are turning to mergers and acquisitions to deliver solutions more quickly.

As technology, treatments, and prevention have advanced, the government has implemented numerous new regulatory and compliance regulations to ensure their safe and judicious use. These rules are being established at both the local and national levels, and they cover a range of issues, including drug distribution, service pricing, and patient rights.



Your Bio-IT Infrastructure: More Critical Than Ever Before

But what does this all mean? The ability for Life Science companies to progress their scientific research efforts is becoming more reliant on the proactive management and optimization of a tailored technology infrastructure. But it is constantly changing at an unparalleled pace.

With the advent of the Internet at the turn of the millennium, Life Science firms' reliance on technology to develop, sustain, and manage their operations has skyrocketed. Progress in technology is being made in all aspects, ranging from the microprocessors that process each transaction, to the devices utilized by users to engage with services ranging from high-performance computing (HPC) to AI and machine learning.



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The Intersection: Science & Bio-IT

Believe it or not, R&D teams are now just as much in the technology business as in their traditional niche, due to recent changes and the evolution of technology and innovation.

While identifying industry-specific opportunities and utilizing internal resources remain crucial for success, making informed technology decisions, based on your unique R&D needs, has become equally important. Today, collecting, cleaning, manipulating, correlating, and leveraging data and information are vital for achieving business success. Merely purchasing and ensuring the smooth functioning of technology, workflows and systems is no longer sufficient; organizations must understand how technology can lead to new workflows, encourage collaboration, create new products and services, and ultimately transform market segments to drive breakthroughs and discovery. Managers must evaluate whether their organization can benefit from these advances to gain a competitive edge and adapt to changing circumstances.

Ask yourself — Can we adapt to...

- *The speed at which data/information can be generated and shared?*
- *The pace at which teams can work nowadays?*
- *The scale of system infrastructure seen today?*
- *The ability to test, fail, restart, and retool rapidly without delay?*

Focus on Your Niche: And Leave Bio-IT to the Experts

Adding to the difficulties, technology and innovation is not a primary area of expertise for Life Sciences leaders or companies. Their executives concentrate on their industry and niche expertise, rather than staying up-to-date with the latest technological developments. Which is fair enough.

But as a result, numerous organizations are ill-equipped to navigate the profound and ever-evolving changes brought about by ongoing technological advancements. They lack the necessary knowledge which may lead to dubious choices, investment in inadequate infrastructure, inefficient systems, and, most importantly, miss out on valuable opportunities for growth and discovery.



- They pay for more than what they need (storage, network services, third party services, labor, etc.) so their IT costs spiral up while their return falls
- Their workflows are not aligned and optimized to take advantage of today's modern, faster, more automated, and more productive business processes.
- They do not know what they do not know. They think in historic terms and not in the present or the future, so they continue to operate in safe, well understood ways.

Optimize Infrastructure & Drive Discovery: The Value of An External Expert

With technology evolving so quickly, Life Sciences firms need outside experienced help correlating technology advances to their operations more than ever. Leaders have two options: generalist, commodity support or specialized subject matter expertise.

Established IT Generalist Providers:

When searching for technical skills, Life Science companies often look for established IT service providers.

- They have horizontal technology skills: these companies have a general understanding about a wide range of generic platforms and promote system standardization
- Their workflows and policies are designed for a broad range of organizations, like financial services, manufacturing, and retail and are not Life Science and Health Care specific; often, their procedures are in addition to a company's procedures
- They emphasize basic front office and back office solutions, like Enterprise Resource Planning and Customer Relationship Management, and not industry specific applications
- Their focus is keeping the systems up and running, so they are accessible to employees and customers 24/7/365
- They rely on a manufacturing based asset financial model designed to squeeze a few more processing cycles out of existing computer systems or somehow reduce system costs. The focus is on short term quantifiable gains
- They follow a confined Service Level Agreement (SLA) model that emphasizes a small sub-segment of wide ranging factors that drive ultimate business success or failure
- Their approach creates and widens gaps between how the computational infrastructure performs and serves business needs
- In summary, they slow the development of your next scientific breakthrough

Optimize Infrastructure & Drive Discovery: The Value of An External Expert (cont'd)

Subject Matter Experts:

They have deep experience and specialized knowledge of both the latest computational technology and how that can support and drive outcomes for Biotech and Pharma R&D and science.

- They specialize in building Bio-IT solutions and offer objective advice
- They marry your business (Early Discovery, Development and Clinical) with the latest technology (High Performance Computing; Deep Learning and Machine Learning; Data Science and Analytics)
- They offer stellar support and offload mundane tasks, like system configuration, so you focus on more important elements, such as science.
- They match new technologies to business needs, so you produce products and deliver new services as efficiently as possible
- They rely on results based models, an approach that accounts for the fact that discovery involves trials and multiple errors
- They provide more than technical expertise, they embed dedicated research computing professionals within the business unit to deliver a unique cross-functional skill set
- They close gaps by understanding both the business and technology landscapes, ask probing questions, and putting the right people in a position to uncover the keys to the next discovery
- They accelerate the development of your next scientific breakthrough
- They spark creativity, drive innovation, and ultimately create business success

The Right Bio-IT Support: Specialized, Hyper-Focused & Experienced

It's become apparent that many Life Science companies may opt for a larger, global IT services provider, knowing they offer subpar generalist solutions primarily for risk mitigation. But what are the potential consequences of not selecting the appropriate partner that understands your unique set of needs, specific to your industry and R&D goals?

Choosing the right Bio-IT partner has become vital for Life Science companies looking to drive efficiencies, accelerate discovery and get the most out of their IT infrastructure now and into the future, based on their unique R&D goals.

RCH Solutions empowers Life Science organizations and leaders to improve and optimize their IT infrastructure through adaptable, scalable and elastic solutions that handle the most challenging scientific computing assignments. A Bio-IT provider with these capabilities equips your research team with the means to streamline scientific research and fast-track your next breakthrough and discovery.



About RCH Solutions

RCH Solutions (RCH) is a global provider of Bio-IT expertise, helping Life Sciences and Healthcare companies clear the path to discovery. For four decades, RCH has provided focused experience and unmatched specialization in designing and deploying cross-functional IT strategies, supporting R&D infrastructure, and offering workflow best practices that solve enterprise and scientific computing challenges.

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