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# 4 Technology Trends Enhancing Efficiency, Accuracy, and Collaboration for CROs

For profitable contract research organizations, timing is everything. CROs that facilitate rapid and efficient release of new drugs and medical technology for sponsor businesses can claim a greater portion of the [\\$76.6 billion global market](#). Yet as of this writing, there are [463,610 global clinical trials](#)—whether interventional, observational, or expanded access—meaning there'll be fierce rivalries in the race to reach major breakthroughs first.

Though the competition is relentless, CROs can gain an advantage in their efficiency, accuracy, and collaboration if they adopt the right technology. Unlike those in other sectors, companies in the contract research space need to navigate a stringent series of regulations (GDPR, HIPAA, etc.) and regulatory bodies (FDA, EMA, etc.) while implementing IT solutions. Trying to innovate with all these hurdles can be a nightmare, but it doesn't have to be.

With extensive experience guiding CROs through their digital transformation, we know which opportunities offer the greatest potential to stakeholders. Here is a list of four IT solutions that can enhance the overall performance and profitability of your business.

## Cybersecurity

The wealth of valuable data handled by CROs—active pharmaceutical ingredients, biostatistics, personal identifiable information (PII), participant demographics, and other data types—can be lucrative for lone hackers and criminal gangs to sell on the dark web. The average ransom facing healthcare companies has reached \$7.8 billion per breach, and though your organization might not be a first-tier target, savvy hackers have caught on to the value of your data.

Cyberattacks present a range of long-term issues. Ransomware can grind clinical trials to a halt as it encrypts your systems or data. Data breaches can result in extensive fines due to violations of the HIPAA Security Rule, GDPR, and other global regulations, capsizing your profitability overnight. Moreover, CROs with a reputation for insufficient cybersecurity will scare away sponsor companies that are eager to protect clinical data and their intellectual property.

What cybersecurity best practices can secure your data and business without hindering the performance of your people or sidetracking them from their core work? Here are tactics you need to pursue:



Implement Zero-Trust Security



Manage Access Controls Across Systems and Apps



Maintain Regular Backups



Monitor User Access and Security Updates

That said, it's still important for CROs to prioritize security awareness training across positions and teams. When working with a CRO in the past, the early warnings provided by a client's team prepared us to act when ransomware files were discovered. As a result, we were able to seclude infected systems and determine uninfected backups for restoration.

## Cloud Migration

The sensitive nature of PII and intellectual property deterred some in the contract research world from making the full transition to the cloud, but the pandemic accelerated the industry's transition. When CROs were forced to choose between [abandoning 68% of clinical trials and delaying another 18.4%](#) because people were unable to attend studies, many leaders chose decentralized trials (DCTs). However, cloud migration isn't just a pandemic stopgap – it's a road to greater efficiency and accuracy.

Let's consider DCTs. This approach to clinical trials, which can be fully virtual or hybrid with some on-site work, has shown an ability to accelerate development cycles and reduce screen failure rates. The ability of employees to collaborate on clinical trial planning, data management, trial logistics, medical writing, and more without a delay can have a marked impact on the speed and accuracy of product delivery.

As a result, sponsor companies can expect projects to progress faster and more accurately through each phase of the clinical trial process until they reach market release. However, there is a balance that can be struck between cloud platforms and on-premises systems and platforms.

For some sensitive data, it makes sense for users to access and review it on on-premises servers, where you can restrict outside access and leverage complete control over usage. Or in situations that require low latency, where you can securely process high volumes of data with minimal delays, on-premises tools can have some advantage. But increasingly, cloud platforms offer comparable security, efficiency, and results to on-prem systems.

## Automation and Artificial Intelligence

Accelerating the R&D pipeline is an opportunity contract research organizations cannot pass up. In the past, your project load and revenue margins were governed by your workforce size. Now, automation empowers CROs to create higher throughput, whether by evaluating more projects concurrently or testing a larger number of compounds in a single trial.

There are a variety of stages which can be automated across clinical trials with robotic process automation and more sophisticated tools:



Case Report Forms (CRFs) Development



Data Compliance Validation



Dataset Formatting Conversion



Data System Transference

That says nothing about the possibilities of artificial intelligence, which in the coming years might be able to handle deep analysis of vast datasets and even write everything from abstracts to marketing materials to demonstrate the impact of clinical trials.

First things first: verify your organization has the proper data foundation. Automation, machine learning, and artificial intelligence rely on quality training data to deliver accuracy, efficiency, and compliance in tests and reports. Additionally, streamlined workflows and processes can produce greater throughput when automated features are activated, especially when you don't have to redo or triple-check their work.

## Next-Generation Service Desk

CROs can't afford disruption. Sponsor businesses expect your people to accelerate their output, helping their organization complete successful trial phases as they go to market with new pharmaceuticals or medical devices. Since DCTs, remote operations, and flexible schedules are more common than ever, it's important to give employees seamless support—anytime, anywhere.

As with other elements of business operations, there has been an increase in automation and AI capabilities in ITSM tools. Often, the first layer of support ticketing can be addressed by an algorithm, using a series of common questions and natural language processing (NLP) capabilities to provide clear and comprehensible answers. There are even automatic ticket escalation features which can reassign tickets based on user priority, failure to meet first resolutions, and other urgent factors.

Plus, these next-generation service desk platforms empower CROs to make continuous improvements. Your organization can create dashboards about issues and KPIs, providing regular updates in a convenient dashboard. That way, leaders across functions can identify problem areas or opportunities to train users on specific tasks or processes.

## Staying Adaptable in the Future

Your IT solutions need to be as dynamic as your organization, and digital transformation services are the key to remaining efficient, adaptable, accurate, secure, and compliant. However, not every potential partner is going to deliver the same quality of value to your organization.

You need to find organizations that comprehend your challenges, understand privacy and compliance, and excel at bringing together holistic and interoperable functions. Dexian IT Solutions is the partner to choose.

Our project managers and IT project teams drill into your goals, challenges, and vision to deliver solutions that mitigate risk for your end users and help you reach your target ROI fast. Get results on day one—and in the long term—with security and compliance in mind.

Our team is trusted by leading IT solutions and platforms—including Snowflake, ServiceNow, Fortinet, GCP, Microsoft Azure, and AWS—to empower CROs to become fast, flexible, and efficient.

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