Prioritizing innovation to get ahead of the market

How can you overcome routine administration tasks that steal 40% of your laboratory's valuable time?

How successful you are at innovating and bringing therapeutics to market directly impacts the growth and financial prospects of your business. Drug approval rates are a key measure of this success and when shareholders consider compound annual growth rates, they are directly considering the ability of your research and development (R&D) teams to continue to develop novel products. R&D investments are reinforcing this focus. In the US, 2019 saw an annual R&D spend of $83 billion; adjusted for inflation, this was 10 times the amount invested per year in the 1980s . This trend was mirrored in the UK, with £4.8 billion invested in 2019, an annual rise of £306 million on the previous year.

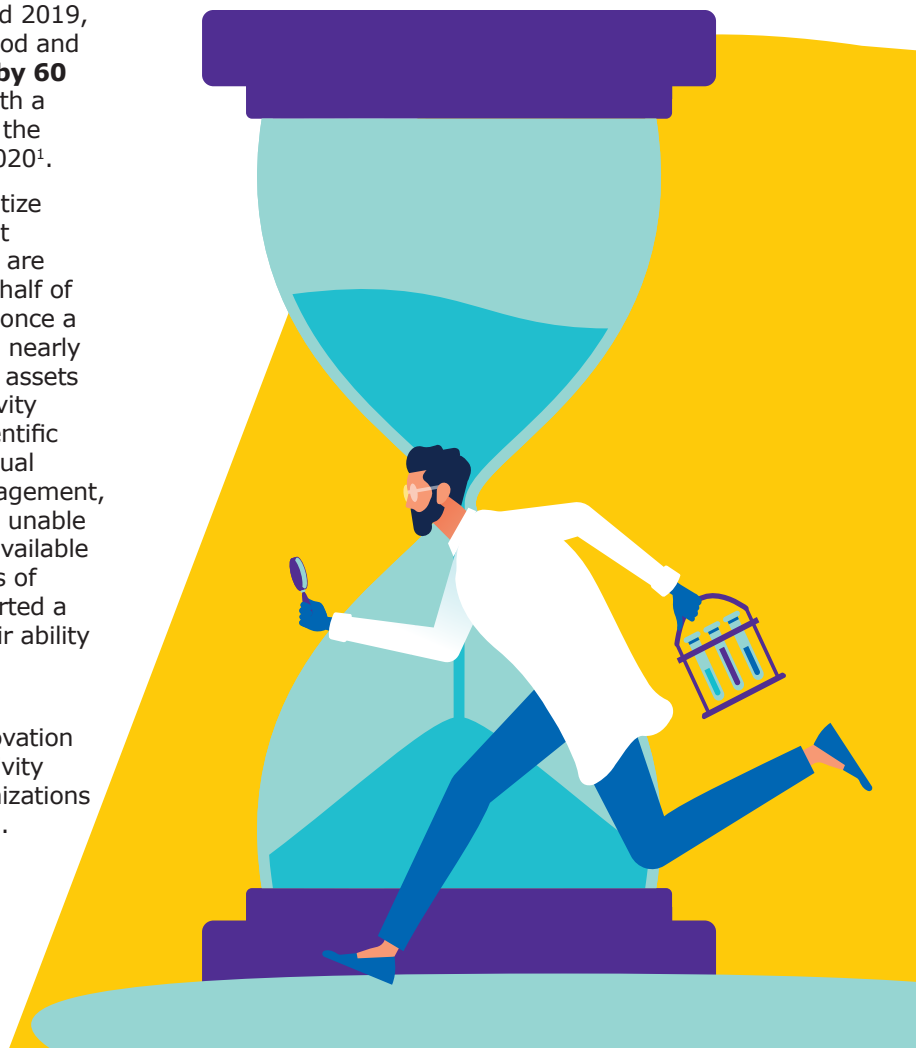
This increased focus on R&D investment looks set to continue and it is bearing fruit. Between 2010 and 2019, the **number of new drugs approved** by the Food and Drug Administration (FDA) in the US **increased by 60 per cent** compared with the previous decade, with a peak of 59 new drugs approved in 2018; despite the COVID-19 pandemic, 53 were still approved in 2020[1].

Clearly, drug development companies must prioritize R&D to maintain a competitive advantage and yet organizations are restraining the very teams that are needed to drive this ground-breaking work, with half of respondents required to check inventory at least once a week, this wasted time could have contributed to nearly a day's worth of innovation[4]. The most important assets in the development of new therapies – the creativity and irreplaceable knowledge needed to drive scientific discovery – is being stifled by mundane and manual tasks. With inefficient methods of inventory management, almost a quarter of respondents found they were unable to conduct 1 in 10 experiments due to a lack of available materials. As a result of these inefficient methods of inventory analysis over half of the scientists reported a loss of at least 3 days per month, decreasing their ability to work on higher-level creative tasks[4].

This whitepaper explores the conflict that exists between necessary administration tasks and innovation and demonstrates how digital laboratory productivity technology can liberate scientists, enabling organizations to prioritize innovation for competitive advantage.

The battle between innovation and administration

In a crisis, such as a largescale economic downturn or a global health emergency, it can be tempting for boards to take refuge in the bottom line, cutting costs and waiting for disaster to pass. But the true formula for success in these situations comes from a greater focus on R&D. Looking back over the past 20 years, a recent McKinsey report demonstrated that **companies who focused on innovation during a crisis outperformed the market by 30%**[3]. Not only does **innovation** help a company to stay ahead during troubled times, but it could be argued that this approach may help businesses to **recover more quickly and become more resilient against future crises.**



To innovate well, especially during a crisis, R&D departments need to ensure **safety, data quality and compliance,** all of which lead to **reliable, consistent and repeatable insights**. Since laboratories are busy places, running many concurrent experiments and relying on a large flow of consumables, administration is an inevitable and necessary part of the scientist's role and critical to the creation of high-performing laboratories. The problem is that many of these administrative tasks are manual, relying on spreadsheets and time-consuming data input, which in turn lead to inefficiencies, errors and wasted time as scientists struggle to find the consumables they need. In addition, inadequate organization and misplaced reagents can lead to expensive consumables expiring or being discarded partially used. Not only do these inefficiencies lead to increased costs, but they also keep scientists from their important, value-added innovation tasks. Effective administration powers innovation but it is the enemy of the effective R&D team when it relies on time-consuming and error-prone manual tasks.

To gain a competitive advantage, organizations need to enable innovation, providing scientists with the creative time and space to use their unique and highly prized skills. Yes, **administration** is a necessary and important part of an effective R&D strategy but to support, rather than hinder, scientists it **needs to be straightforward, automated and reliable.**

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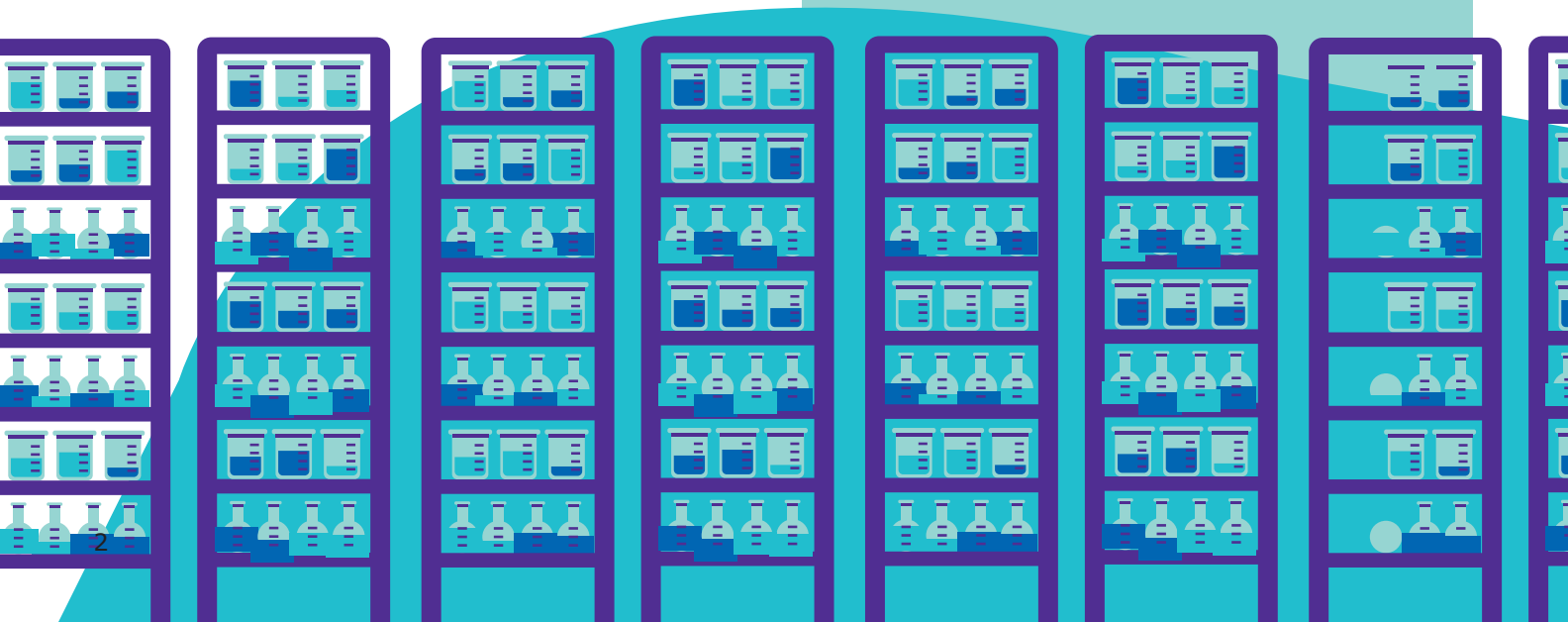
Fostering innovation by automating administration with LANEXO™ Laboratory Inventory, Safety and Compliance System

LANEXO™ is the newest offering from MilliporeSigma's growing portfolio of digital laboratory productivity initiatives – a **laboratory inventory, safety and compliance system** that is specifically designed for highly regulated R&D laboratories.

Combining software, data management tools and radio frequency identification (RFID) labeling, LANEXO™ **simplifies** and **automates inventory management**, leaving scientists with more time to dedicate to important research and analysis tasks. With digitalized inventory, expiration, storage and monitoring, each reagent is logged through the easy-to-use LANEXO™ mobile application, so that scientists know where each reagent is located, which item to use and when to restock each consumable. All data is held in one centralized system, creating a **single-source-of-truth** for the entire laboratory and removing the laborious administrative duties that come from working on disconnected files and manual logs. The availability of real-time consumables data reduces administration time, improves lab productivity and sustainability, and supports traceability, regulatory compliance, and audit readiness.

Scientists spend less time on administration duties while maintaining high safety standards and reducing the costs from lost time and wasted consumables. **Automation** and **digitalization** generate **more time for the R&D activities** that create a **competitive edge** and teams are mobilized to collaborate and innovate, increasing the number of new drug developments in the pipeline and ultimately leading to a greater number of approvals. The ability of an organization to continue to innovate, even during a time of crisis, leads to a future-proofed organization, one that can quickly recover and outperform its competitors.



Unleashing productivity and efficiencies to improve the top and bottom line

In a recent MilliporeSigma survey, 70% of scientists felt that their biggest problem was the lack of real-time information and automatic updates on the status and location of the chemicals they needed.

Although this might seem like a trivial annoyance, it can point to a larger underlying issue. If scientists are roaming the laboratory looking for a reagent, they are **wasting valuable research time** and if reagent inventory is not properly managed, opened bottles may need to be discarded only partially used. If a first-in, first-out system is not properly maintained, laboratories run the compliance risk of using expired chemicals or the cost implications of discarding unused stock. Unnecessary waste increases costs and adds a barrier to organizations looking to limit their environmental impact.

These time and resource inefficiencies lead to a deteriorating bottom line, in the case of consumables expenditure, and a declining top line, in regard to valuable innovations being brought to market.

By **digitizing** inventory, safety and compliance in one centralized system, **productivity and cost efficiencies are improved**. Scientists can retrieve all details relating to reagent storage, status, expiration and use with any change instantly updated to the centralized database and linked to a fully automated audit trail.

Efficiencies are realized from the first use, as LANEXO™ begins to reduce sunk costs by reducing reagent waste, thereby reducing future spending. By automating traditionally manual inventory management tasks, such as tracking stock levels or monitoring expiration dates, monotonous administration is reduced and this leads to an even more powerful, yet less tangible benefit: the hidden cost of recruitment, training and retention.

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Improving regulatory, safety and sustainability compliance

Developing robust submissions for regulatory approval starts way back in R&D and in the generation of data that can be rigorously interrogated and easily reused. Many organizations are adopting **FAIR** (findable, accessible, interoperable and reusable) **data standards** to ensure **robust data collection, annotation**, and **archiving** and to **protect the long-term value of digital assets**. By investing in a digital laboratory informatics system, organizations can consistently and accurately record inventory information. Manual data entry is eliminated, along with the errors that inevitably follow human transcription, and data integrity is ensured.

With an integrated single-source-of-truth, identification checks minimize safety risks and create traceable documentation through a full audit trail, so any authorized user can check where, when, and how reagents were used in an experiment. By facilitating and automating data management to achieve consistently high data standards, LANEXO™ helps organizations to **achieve compliance in the laboratory**. All reagents, even in-house formulations, are fully integrated within the audit trail, ensuring organizations are audit-ready, without the last-minute data collection, merging and cleansing that takes up valuable management time. Organizations always know their current inventory status, in real-time, using it as a tool for effective productivity and efficiency control rather than as a retrospective auditing technique.

Efficiencies are only truly realized if the tools that create them are easy to use and readily integrated with current workflows. LANEXO™ is a cloud-based, off-the-shelf solution that requires no resources to implement. With mobile and web-based applications, it can be accessed through smartphone devices with no expensive hardware commitments and the flexible and scalable nature of the platform means that it grows with the organization.

With easy implementation and set-up and limited training requirements, laboratories begin to make a return on investment from day one.

Delivering tangible benefits in the real-world

Since its launch in March 2020, LANEXO™ has been implemented in many R&D laboratories around the world, delivering encouraging results. Return on investment calculations for one large pharmaceutical client estimated:

- A reduction in chemical inventory management time of 97%
- 92% reduction in the time needed to check, find and document consumables
- 1.7% decrease in R&D expenses
- Spoilage rate reduction from 10% to 2%

These calculations mirror the pain points highlighted in the recent C&EN BrandLab survey. 17% of responders highlighted that they lost 10% of their inventory each month due to spoilage and expiry and the average cost of expired waste and its disposal exceeds $7,000 per month for both for-profit and government organizations.

Inventory management doesn't only save time and money for large organizations, smaller teams benefit too. A laboratory employing **10 scientists** and reporting an **annual consumable spend of $100,800 reduced its spoilage rate from 20% to 5%** with the implementation of LANEXO™.

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Prioritize innovation, not administration

As organizations look to mobilize R&D departments to gain competitive advantage, they must look inward towards the laborious, repetitive and error-prone administrative tasks that threaten to inhibit innovation. Administration is important, it ensures that safety, compliance and regulatory standards are met and, used properly, it can accelerate research by making the scientist's job easier. By incorporating a robust, automated and integrated laboratory inventory, safety and compliance system, organizations can empower scientists, providing them with the time they need to create ground-breaking discoveries, and giving organizations the competitive edge they need to grow in today's complex market.

Talk to our experts to learn how to digitalize inventory management and maximize your laboratory's potential.

Learn more at **lanexosystem.com**

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