WORKPLACE STRATEGY

Rethinking the Lab: How Workplace Principles Can Transform Life Sciences Environments

OCTOBER 2022

Advances in the life sciences sector are some of the most exciting of our time. Technology, AI, and automation are revolutionizing how scientists approach research and development of next-generation therapeutics and life-changing medical devices. This shift creates an urgent need for out-of-the-box space design that encourages innovation, collaboration, and scientific breakthroughs. Why, then, have so many corporate laboratories remained stuck in time – designed to accommodate the research product more than the people and the process? In this paper, we will discuss how workplace design principles can transform labs into the high-performing, collaborative work environments that today's fast-moving life sciences sector requires.

Real estate demand for life sciences facilities has steadily risen over the past decade, spurred by cycles of advancement and investment. The intersection of technology, engineering, and biology – as seen in medical devices, gene therapy and machine learning, to name a few – is creating ecosystems of scientists, engineers, entrepreneurs, and manufacturers who need to collaborate quickly and seamlessly to bring new products to the market and ideas into reality. Speed to market is also a concern in more conventional life sciences disciplines, as seen in the race to develop multiple Covid vaccines.

In this climate, the traditional lab environment is no longer suitable.

> **"With new market demands and a need for more dynamic working methods, a wholesale rethinking of lab spaces is overdue."**

To accommodate innovation, we must begin by re-envisioning laboratories as integrated work environments that foster cross-disciplinary teamwork inside and outside the lab. Applying workplace-centered processes and principles is the first step.

Lab, Meet Workplace

What do we mean by "workplace-centered processes and principles"? Traditional lab spaces have been designed with an acute focus on utility and safety. We are not suggesting these two considerations go away – they just don't go far enough. Taking a workplace-centered approach to designing labs means blending functionality and safety with the following:

- Looking at the user experience, including comfort and ergonomics
- Developing an understanding of how the work takes place, not just what work takes place
- Studying interactions between different people and teams
- Considering enabling and support functions that align with larger research goals
- Using brand, company culture, and business objectives to guide the principles of the design

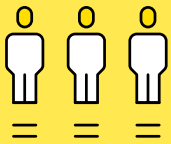
Overall, this process takes a greater interest in the human aspect of performing research – both individual needs and team dynamics. Arriving at the best solution for each space will require thorough evaluation and observation to assess user needs. While every organization deserves a highly customized design response, we see four primary ways in which traditional labs can improve:

Leverage Technology

Communication technology dominates contemporary offices, from video conference-enabled huddle rooms to instant messaging. Connection to colleagues is just as important in science, where cross-functional collaboration is essential. We can build more robust communication tools in the lab using existing infrastructure.

Life science facilities today require a wider variety of adjacent space types under one roof, from research and development to manufacturing to administrative and incubator space. Incorporating AV tools such as flatscreens for video conferences, or leveraging existing desktops for virtual meetings, will allow researchers to stay mobile and in touch with other company functions. Researchers can take meetings inside and outside the lab seamlessly, as scientists inside the lab can more easily share findings in real-time. Disruption to lab time would decrease, allowing scientists to finish work more efficiently. Expanding AV capabilities will also make flexible and remote working more feasible, with those working off-site having a more direct connection to their colleagues in the lab.

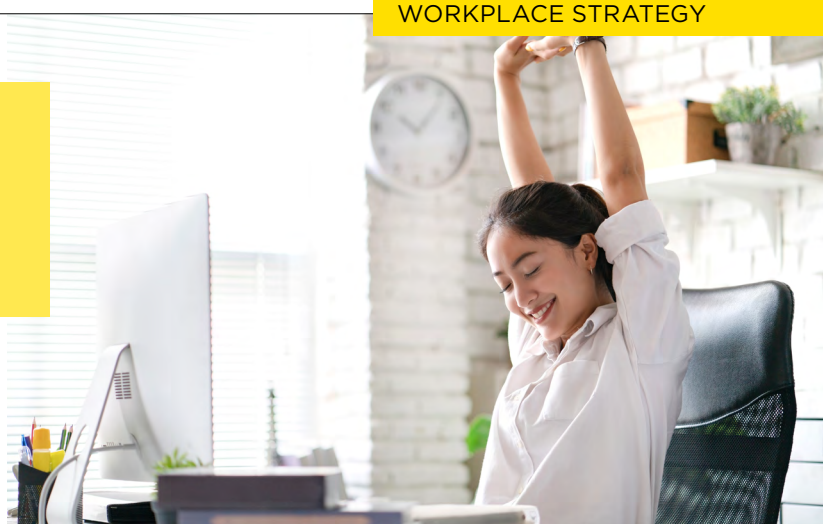
Beyond communication tools, laboratories will benefit from greater adoption of "smart lab" equipment, automation, and internet of things (IoT) infrastructure.[i] Just as offices use networked systems to book conference rooms and monitor space usage, labs can incorporate similar tools to "make workflows, resource management and collaboration easier, safer and more efficient."[ii] Some of these technologies include sensors and alarms that digitally monitor freezers, liquid nitrogen, hoods, incubators, telecoms, advanced computing facilities (ACFs), and schedulers to control access to busy pieces of equipment.



Support Team Interaction

Just like most office work, science is a team sport. But many traditional labs accommodate equipment better than teams. A workplace-inspired lab will have a greater team focus than its predecessors, especially in this age of cross-disciplinary collaboration. Simple improvements include the following:

- **Whiteboards:** Scientists need places to discuss results and data as they develop, and too often, labs make this cramped and difficult. Placing whiteboard stations throughout the lab will invite scientists to stand and talk through findings with their teams impromptu or at scheduled intervals.
- **Breakout space:** Open- and closed-door breakout spaces throughout the lab will encourage more conversations where the research takes place, eliminating the need to go outside and de-gown.
- **Collaboration space outside the lab:** Science happens in the lab, but review and dissemination of findings take place outside of it. Ensuring enough adjacent one-on-one and small group meeting space when longer discussions need to happen can improve team communication. These rooms should be equipped with monitors for easy sharing and discussion of data.



Improve the User Experience

Office design today pays more attention to the individual experience than those in earlier eras. Whether it is comfort, wellness, or mobility, good office design recognizes that regular work comes with repetitive stresses and strains that a well-planned environment can ameliorate. Science and research are no different, yet labs have traditionally overlooked the user experience.

> **Ergonomics and comfort matter if we want scientists to do their best work.**

As one example, adjustable seating can help researchers navigate many types of inflexible research equipment. But lab furniture is limited in providing full ergonomic support for the user. Typically produced by separate manufacturers, office and lab furniture are designed with different goals in mind. Unfortunately, lab furniture often prioritizes function over comfort. A lab that fully considers the user experience will need an entirely new product that combines the utility required for lab work with the ergonomic advances of today's office furniture.

Lighting in labs has routinely been fluorescent, bright, or harsh. We have far more creative and natural ways to achieve the same ends than this. Depending on the type of science performed, we can better incorporate natural daylight and shading, combined with higher-spec lighting products that reduce eye strain and create a more pleasant, light environment.

Furniture and lighting also speak to the aesthetic experience of the lab. The aesthetic experience of most offices intentionally supports wellness, workflow efficiency, and overall employee and team morale. As more labs today are integrated with a diverse range of other space types, tying the lab aesthetically to the rest of the company's space is paramount in creating a seamless journey for users.

Embody the Brand

One method to create this journey is bringing the company's brand into the lab – a standard practice in any office design. Scientific research can be a myopic pursuit with the intense attention to detail it requires.

> **Incorporating elements of the company's brand, mission, or cultural values can remind researchers that they are an important part of a larger, unified initiative.**

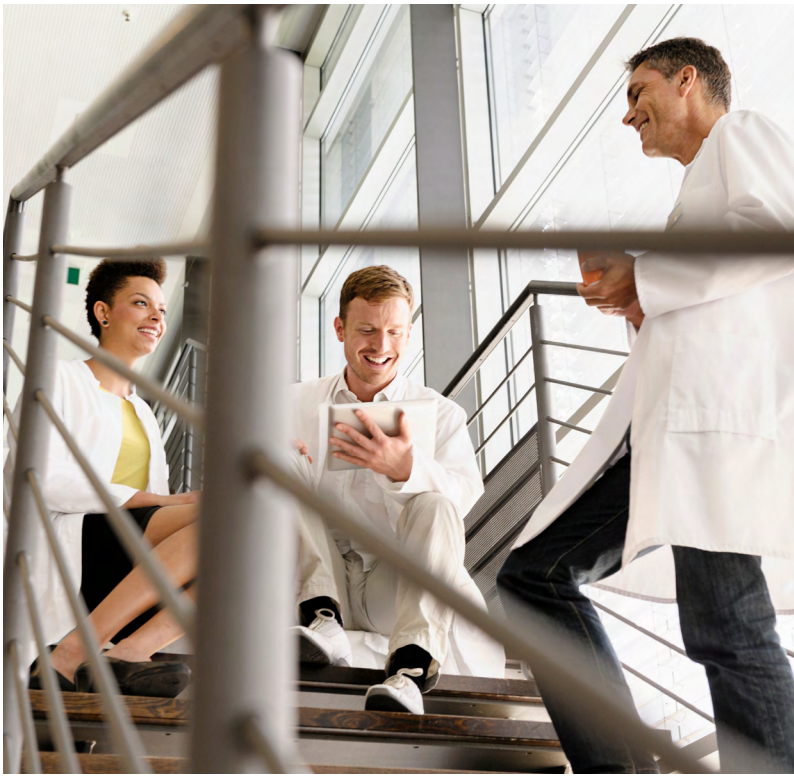
While physical features such as logos and graphics help reinforce brand messaging, branding lab spaces does not have to be limited to aesthetics. One real-life example of this strategy is GSK, a multinational pharmaceutical and biotech company:

> **"...in alignment with its purpose to 'help people do more, feel better, live longer,' GSK consolidated its R&D operations and reimagined its facilities with reconfigurable 'smart lab equipment'. The goal of this shift was to increase collaboration and bring new therapies to patients faster – tying its efforts to broader purpose and mission."**[iii]

GSK's initiative shows that infusing a space with the company brand is not just a matter of look and feel. Living the values and operating in line with the corporate mission are also meaningful expressions of the brand and another great way to reinforce labs as fully conceptualized high-performance workplaces.

The Workplace-Inspired Lab

Advancements in life sciences continue to expand possibilities for human health and functioning in the world. For facilities to keep pace with the state-of-the-art research being done, it is time to rethink what makes an effective laboratory. Like any other corporate workplace, they are places of ideas, stress, teamwork, risk-taking, and achievement. Where speed-to-market matters, they are not operating in isolation – they are an integral part of a business. Planning labs as true workplaces will meet the needs of researchers and their teams and bring the efficiency and connection that companies need to innovate in today's competitive environment.



Racquel Davey AIA
Managing Director,
North America Workplace
Practice Group
+1 617 925 6304
rdavey@savills.us

Sharon Wilhelm
Lab and Facility Planner,
Savills North America
+1 617 336 9107
swilhelm@savills.us

Kelly Kennedy
Associate Director,
Savills North America

Sources:
i. Gill, J. M. "The Internet of Things in the Life Sciences Laboratory," SLAS Technology, 20 September 2018. Link
ii. Chubb, P. "Smart Labs: The New Wave Transforming Laboratories Globally," Technology Networks, 13 November 2020. Link
iii. Darino, L. "Designing the workplace of tomorrow: lessons from life sciences," McKinsey & Company, 14 March 2022. Link