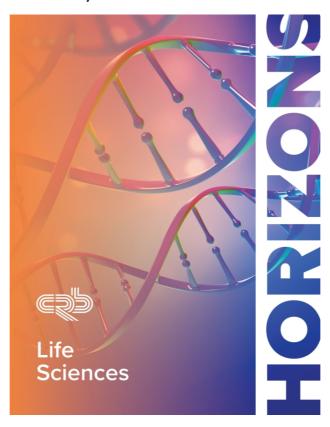
Newly Released Horizons Report Finds Biopharma Leaders at a Crossroads

Data-driven CRB report reveals critical barriers and insights, and explores parallels in processing and manufacturing for the biopharmaceutical industry.

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KANSAS CITY, Mo., November 16, 2021 /3BL Media/ - While global demand for life-saving drug treatments, novel vaccines and cell and gene therapies expands exponentially - fueled in no small part by COVID-19 -- ramping up for safe, high quality, and sustainable production carries unprecedented challenges. A new report available today from CRB - one of the world's leading providers of sustainable engineering, architecture, construction, and consulting solutions to the life sciences industry - captures the disruption reshaping biopharma business models amid rising public demand for the ever-faster delivery of critical treatments.

Through the lenses of project delivery, increasingly complex pipelines, digitalization, and other important topics, the new **Horizons: Life Sciences report** finds stakeholders across

the biopharma value chain navigating this disruption and weighing the micro and macro shifts catalyzed by the pandemic.

"Biopharma leaders are keenly aware of the tally of those disruptions," writes Tim Barba, CRB's Chief Operating Officer for Global Technical Operations, in the report's opening statement. "The world's emerging health threats have put a clock on our ability to respond at scale—quickly, effectively, and safely."

CRB's Horizons report is based on survey responses from more than 500 industry leaders and features unique analysis from CRB's life sciences subject matter experts. The report explores:

- Warp speed delivery: Speed to market is a more significant business driver in a post "warp speed" delivery environment even as companies face significant delays in their capital planning strategies. Respondents see essential investment areas for long-range capital planning as 1) manufacturing, 2) research and development, and 3) expansion planning.
- Cell and Gene Therapy: Nearly half of the respondents reported plans to move away from autologous cell therapies to focus on modalities with fewer challenges.
 A large majority intend to continue using viral vector gene technologies in the near term to produce genetically modified cell therapies to ensure quality and reduce operational costs.
- Pharma 4.0: Most companies aspire to operate digitally integrated facilities with predictive, real-time analytics within the next one to two years as part of a broader push toward Pharma 4.0. But, they face significant barriers in cost, risk management, and cybersecurity concerns.
- Lean Pharma: Dissatisfaction is growing with traditional design-bid-build methods for large capital projects. Companies are "leveraging the predictive capabilities of AI and machine learning to build smarter, more secure, and future-ready manufacturing centers. They're redesigning the traditional GMP cleanroom to accommodate closed and automated processes—a necessary step toward improving the cost and quality of tomorrow's medicines," the report's authors write.
- Sustainability: While the vast majority of respondents said their firms have formalized sustainability metrics or benchmarks at corporate or project levels, capital budgets and questions about the effectiveness of new technologies present stiff challenges.
- Oligonucleotides: The responses indicate a rapidly growing interest in the sector including a near-term (1-4 years) focus on capital investment. Newcomers among established biopharmaceutical companies are expected to double their existing contingent, and start-up participation is expected to increase even more steeply.

 RNA: Nearly half of the respondents place significant emphasis on RNA-based therapies becoming a major portion of their future pipelines to capitalize on speedto-market and cost-of-goods advantages.

"Taming the disruption will require "a whole new mindset, which casts off our industry's conservative nature in favor of more innovation, more speed, and more flexibility in the name of more lives saved," Noel Maestre, CRB's Vice President of Life Sciences, writes in the report's executive summary. "We will one day defeat this pandemic, but the waves of change that are overtaking the life sciences are only just gathering momentum."

The Life Sciences report is the third in a series of CRB's survey-based Horizons explorations of critical trends in the life sciences and food and beverage industries.

About CRB

CRB is a leading provider of sustainable engineering, architecture, construction and consulting solutions to the food and beverage and life sciences industries. Our more than 1,600 employees provide world-class solutions that drive success and positive change for our clients, our people and our communities. CRB is a privately held company with a rich history of serving clients throughout the world, consistently striving for the highest standard of technical knowledge, creativity and execution.

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