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ASIA EDITION

Assessing and comparing Life Sciences construction project costs through a systematic and data-driven approach

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"Consolidating operational units is crucial for efficient collaboration, optimized resource allocation, andstreamlined processes. Successful consigned life science projects involve reducing risks, accelerating decision-making, and integrating technology" says Scott Halyday, Director of Linesight

Biomedical hubs and life sciences facilities throughout Asia are booming, creating demand for specialized infrastructure throughout the industry. There are high performance standards and technical requirements in the life sciences industry in areas like pharmaceuticals, biotechnology, medical devices, lab space, and food processing. A biomedical science facility must adhere to Occupational Safety and Health Administration (OSHA) standards, comply with ESG regulations, secure aseptic lab requirements, and be precise as compared to a general construction project. Further, Life science construction specializes in clean rooms, biosafety levels (BL) for biological storage and experimentation, and other energy-efficient-environmental safety models. A pioneering initiative to benchmark global life sciences construction data is being led by Linesight, a multinational firm that provides specialized insights to a wide range of sectors, including Life Sciences to achieve better cost efficiency. **Scott Halyday, Director of Linesight** and **Stephanie Ledwidge, Associate at Linesight** shared further insights on its initiative to benchmark in the life sciences construction sector.

- **What impact will the emerging biomedical hub trend have on demand for the requisite infrastructure?**

Singapore's booming life sciences sector is leading to a surge in demand for associated real estate infrastructure from local and global players. While there are designated clusters and parks around Singapore to grow the life sciences sector, such as the Singapore Science Park which is expected to be rejuvenated by 2025, investment in this sector continues to soar. This development also attracts talent, which has proven in the past to influence demand in the residential sector, and when the sector grows, top talent from around the world will arrive and therefore drive demand for high quality housing and other amenities in Singapore.

Demand dynamics include the very many, bio medical, pharmaceutical and life sciences businesses and research organisations being present in Singapore of which are now requiring more facilities to be built to cater for research and development and manufacturing. This not only increases the demand for talent and but also supports other industries such as logistics and healthcare. Given the recent attention that Singapore has had in various sectors (i.e., Data Center, Commercial) this emerging biomedical hub boom will further contribute to the infrastructure demand and benefit from the

measures already being incorporated by the government and private sector.

Supply dynamics include the development of specialized real estate, office spaces, and supporting infrastructure. Strong economic conditions coupled with investor sentiment may also impact supply dynamics, i.e., attracting more investors and businesses into the market which then should, result in a strong and growing biomedical sector.

- **How essential is it to consolidate various operational units via a strategic construction model to accelerate consigned life science related projects?**

Consolidating operational units is crucial for efficient collaboration, optimized resource allocation, and streamlined processes. It enhances project control, fosters innovation, and assists in regulatory compliance. This approach mitigates risks, accelerates decision-making, and integrates technology, vital for successful consigned life science projects.

- **How do you describe the Linesight global benchmarking initiative designed to assist life sciences organizations? Do each life sciences construction projects differ greatly from one another?**

Linesight launched the Life Sciences benchmarking initiative formally in January 2021 and have recently onboarded partners and clients with the likes of CSL Behring, Resilience, Takeda, Organon, Roche and Thermo Fischer. These companies now join the other coveted participants in the initiative, including AstraZeneca, Amgen, Bayer, Biogen, BMS, Kite Pharma, Merck, Pfizer, GSK and WuXi Biologics. Linesight runs the global benchmarking initiative on a pro bono basis, and participation is open to any life sciences organisation who is willing to share their project data.

The objective of our proprietary cost benchmarking tool is to provide a systematic and data-driven approach to assess and compare project costs within the Life Sciences sector. The tool aims to enhance cost accuracy, inform decision-making, facilitate budgeting, identify variances and improve overall commercial confidence for our clients. Linesight's Life Sciences Benchmarking Initiative makes real project data available on a global scale.

Construction projects in the life sciences sector differ greatly from one another, posing a barrier to benchmarking on a project-by-project basis. This has led many to assume benchmarking is not possible within this sector. However, Linesight breaks down each project into multiple detailed components that can then be compared on a like-for-like basis. As the life sciences sector moves forward with its current phase of record growth globally, the results that are starting to emerge are already proving to be crucial in decision making to support the sector to roll out the construction required.

- **How significant is Lang Factor estimation for life sciences construction projects? What does the recent Linesight's benchmarking data indicate?**

The Linesight research demonstrates that the 'Lang Factor,' which has been used as a standard in life sciences to estimate project costs, has limitations and can be significantly improved. Linesight's data indicates that developing a Lang Factor from a more extensive dataset of projects across a number of large life sciences organisations is more powerful and insightful than simply having a Lang Factor developed from one organisation's project data.

It allows for Lang Factors to be broken down into facility types, rather than a broad-brush approach. This is hugely significant for life sciences construction projects, because it shows that the effectiveness of the traditional 'rule of thumb' used to cost and plan future projects is limited. By using Linesight's benchmarking data, a far greater degree of accuracy in forecasting budget and schedule is possible than when using the traditional Lang Factor formula.

- **How does Linesight assist life science companies in enumerating budget and project timelines with benchmarking initiative? How do risk management and gateway controls ensure cost containment?**

A data-driven benchmarking initiative helps life science companies determine budgets and timelines for projects. Linesight benchmarking initiative aids life science companies in this regard. By utilizing historical data, industry benchmarks, and project-specific parameters we create accurate estimates and ensure that budgets are realistic and timelines are achievable.

By combining benchmarking with robust risk management strategies and gateway controls, we ensure that life science companies have a well-defined and controlled approach to budgeting and project timelines. This approach enhances

predictability, minimizes risks, and ultimately contributes to the successful and cost-effective delivery of projects in the Life Sciences sector.

Linesight's Life Sciences benchmarking initiative provides real project data from 206 projects across 19 countries. We have built an extensive cost and schedule database that enables us to successfully support accurate cost and schedule intelligence that leads to informed decision-making.

- **When Linesight presents robust data with predictability, how does it position next-gen life sciences construction projects for optimal capital investment, project evaluation, and approval processes?**

Presenting robust data with predictability not only facilitates better decision-making and risk management through clear and transparent data analysis, but also expedites approval processes and greatly helps identify the financial viability of future projects. This approach is instrumental in securing the necessary support for successful project initiation and execution.

- **What measures does Linesight take to ensure compliance with policies and procedures?**

To ensure compliance with policies and procedures, Linesight implements a multifaceted approach. This involves the development of clear and comprehensive policies governing project execution, coupled with regular training programs and policy adherence. Key stakeholders in Linesight's project value chain process include clients, design professionals, construction contractors, subcontractors, suppliers, regulatory authorities, and project managers. By periodically reviewing and updating policies, Linesight adapts to changing industry standards, demonstrating its commitment to continuous improvement. Robust risk management strategies are employed to identify and mitigate potential compliance risks.