



Life Sciences

Capital Project Benchmarking


Linesight

Introduction

We are delighted to introduce you to the Linesight Capital Project Benchmarking program - a global collaboration of leading pharmaceutical companies, to benchmark and align data across capital projects.

In 2020, Linesight initiated and funded this project and to date it has gained significant traction in the market, with 21 of the world's leading pharmaceutical companies collaborating including: Amgen, AstraZeneca, Bayer, BD, Biogen, BMS, Catalent, Charles River, CSL Behring, GSK, J&J, Lonza, Kite, Merck, Organon, Resilience, Roche, Pfizer, Takeda, Thermo Fisher and WuXi Biologics.

One of the key reasons for the success of this initiative is the quality of analysis provided by the Linesight team of life science construction experts, who apply real-world experience.

Our analysis and presentation of the data enables organizations to gain a unique understanding of the competitive landscape and benchmark capital investment programs against their peers. Participants can identify gaps and opportunities for improvement in project scope, cost, schedule and quality, and establish a clear baseline for project performance improvement.

This document outlines the key elements of the program and we look forward to discussing how you can benefit from participation in this unique collaborative opportunity.

If you have any questions, please do not hesitate to contact me.

Your sincerely,



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Benefits of capital project benchmarking



Collaborating with world-leading companies

We are currently working with 21 of the world's leading pharmaceutical companies, including Amgen, AstraZeneca, Bayer, BD, Biogen, BMS, Catalent, Charles River, CSL Behring, GSK, J&J, Kite, Lonza, Merck, Organon, Resilience, Roche, Pfizer, Takeda, Thermo Fisher and WuXi Biologics.



Data analysis by life science construction experts

Our data analysis teams normalize and interpret the data, based on our global life science project experience. We have advised on some of the largest life science projects in the world and have a unique understanding of the complexities associated with delivering projects at scale.



Global data

Our dashboard currently includes data from 213+ completed projects across four global regions from 21 companies, enabling both global and regional analysis. More project data has been received and is currently being added to further strengthen the data set.



Diverse project types

Data from completed projects has been captured across all key life science facilities, including bio-manufacturing, laboratories, R&D, fill finish, warehouse, API, office buildings, central utility, cell gene therapy, packaging and oral solid dosing.



Project categories

Data analysis categories includes brownfield, greenfield, size, build type, schedule, cost, schedule, shell and core.



Access & Confidentiality

Linesight holds this data on a restricted access database ensuring that any specific information about projects is managed confidentially and Linesight ensure only anonymized data is made available via the dashboard. All current participants have agreed to this way of handling their data in line with their own respective confidentiality policies.

Insights

Schedule data Insights



39%

Average time spent in construction phase



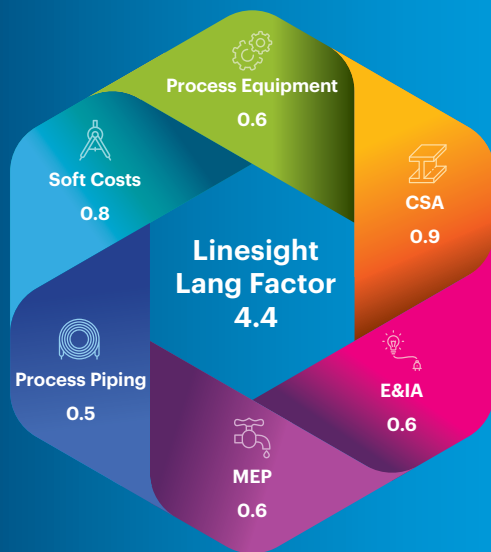
20%

Average time spent in design phase



Spending more time in design saves time in construction particularly on refurbishment projects

Linesight Lang Factor



Lang factor, was created over 70 years ago, and it has been used as a tool for predicting the cost of a project using limited information. Typically taking the fixed capital costs as a function of equipment value. In most projects equipment requirements are well known, and this is used as an indicator of how much the rest of the project might cost.

Our Linesight Lang factor is drawn from actual costs completed on similar new build projects, 42 Biomanufacturing projects in this instance, and have deduced a Lang Factor of 4.4. We have also broken it down elementally, as in the graphic on the left, which provides increased confidence in the numbers that are coming from the analytical output.

Keys to Success

- ✓ One client initially sought the initiative
- ✓ On further investigation, industry had a desire for the information (multiple clients)
- ✓ No one company dominates the dataset
- ✓ We have a dedicated analysis team.



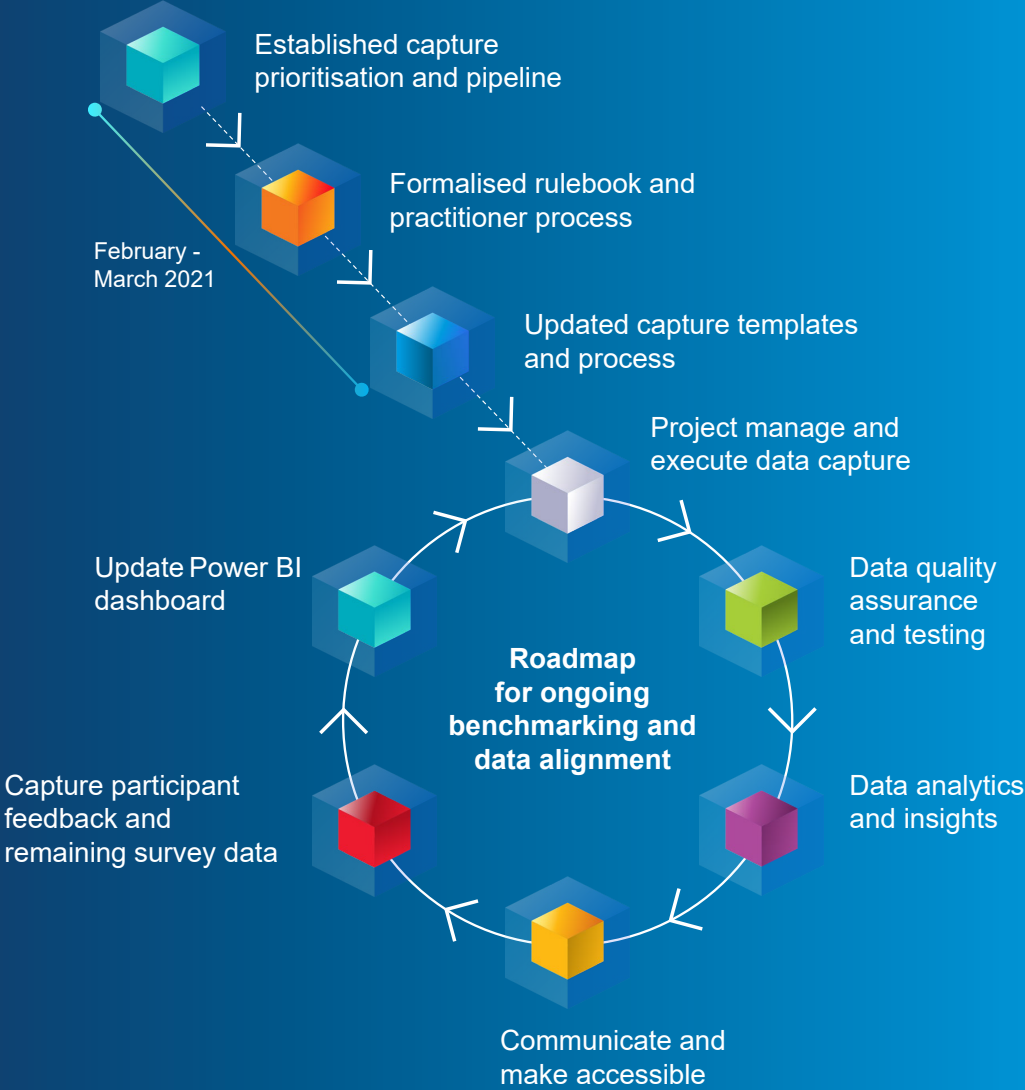
How it works

Linesight is continually seeking pharmaceutical companies to join in this benchmarking initiative. As the data set increases over time, and becomes more robust, all participants will benefit from greater cost and schedule insights. All participants can be assured of the utmost confidentiality and a guarantee that project data is not shared with other participants.

The benchmarking process

- When a company agrees to participate, Linesight signs a non-disclosure agreement
- Our data analysts work closely with life sciences project professionals to provide a full briefing on the process, requirements and guide them through the current forum data dashboard
- The company agrees which projects they wish to submit and provides the project detail in its native format
- All data is anonymized and quality tested through a consultative process with our experienced data analyst teams and then added to the dashboard
- All participants have access to the dashboard, enabling organizations to drill down into the detail required to inform capital project decision-making
- Linesight act as custodians of the data - the ownership of the data resides with the respective pharmaceutical company
- Linesight host quarterly benchmarking for for all participants to discuss emerging trends and provide feedback

Capital Project Benchmarking Programme Timeline





LIFE SCIENCES CAPITAL PROJECT BENCHMARKING PROGRAM

Linesight is leading a global collaboration of Fortune 500 pharmaceutical organizations, to benchmark and align data across capital projects.



Data collected from over 213+ projects

completed in the last 5 years

19

different countries

\$35bn

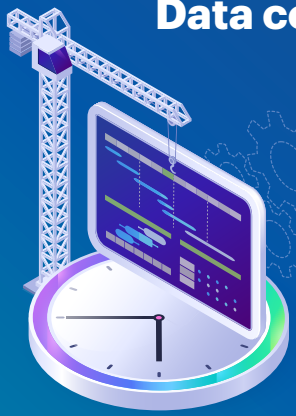
total value of all projects

1,202

schedule data points

5,707

cost data points



Benefits of Capital Project Benchmarking

Linesight lead and manage all aspects of the activity

Linesight are only the data custodians, ownership of the data resides with the organization

All data is anonymized, and quality tested through a consultative process with life sciences construction experts

All participants have access to the dashboard, enabling detail drill down to inform decision making

Global data is accessible, covering four regions and a diverse range project and site types

Figures correct as of April 2024

Participating Organisations

- | | | |
|------------------|-------------------|----------------|
| Amgen | Charles River | Organon |
| AstraZeneca | CSL Behring | Resilience |
| Bayer | GSK | Roche |
| Becton Dickinson | Johnson & Johnson | Pfizer |
| Biogen | Lonza | Takeda |
| BMS | Kite | Thermo Fisher |
| Catalent | Merck | WuXi Biologics |

Project types

- | | |
|------------------|-------------------|
| BioManufacturing | Office buildings |
| Laboratories | Central utility |
| R&D | Cell gene therapy |
| Fill finish | Packaging |
| Warehouse | Oral solid dosing |
| API | |

Global expertise, delivered locally



32
offices

1,400+
employees

AMERICAS

USA

- New York
- San Francisco
- Seattle
- Dallas
- Philadelphia
- Phoenix
- Boston

Canada

- Vancouver

Ireland

- Dublin
- Cork
- Galway
- Limerick

UK

- London
- Manchester
- Edinburgh

Belgium

- Ghent

France

- Paris

Germany

- Berlin
- Frankfurt

Netherlands

- Amsterdam

Sweden

- Stockholm

Denmark

- Copenhagen

Israel

- Tel Aviv

APAC

Australia

- Melbourne
- Sydney

China

- Shanghai

India

- Mumbai

Japan

- Tokyo

Malaysia

- Kuala Lumpur

Singapore

- Singapore

Taiwan

- Taichung

GCC

UAE

- Dubai

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