

JLL BI SaaS Solution



Introduction

The JLL BI SaaS Solution is a Real Estate-ready Cloud Analytics service provisioned as a secure, robust and scalable platform. It connects client data sources to enable a broad and customisable set of analytics leveraging JLL's BI technology platform. JLL's BI technology platform comes with a set of industry best practice data models and analytics and is provided as a convenient and easy-accessible fully hosted service.

Our BI solutions deliver for the client the following key benefits and outcomes:

- A single platform to access Real Estate data, provided as a cloud service.
- Transparency and visibility of the client's CRE team performance by accurate and timely information, including equipping internal clients in the preparation of sound business cases.
- Bespoke reporting to users as required – leveraging our ready-built best practice visualisation packs to more quickly enable actionable insights from your data.
- Access to over 60 data and analytics experts in our Global BI Centre of Excellence.
- Value from our focused Real Estate BI platform, Visualisation Accelerators and deep experience of enabling data connectors across a wider range of Real Estate platforms and systems.
- A scalable platform that can evolve with your insights journey – connecting to more data sets and combining these to drive wider analysis and extending further to advanced visualisation.
- Access to JLL Benchmarking and Industry comparators, tailored to your needs, to readily identify outliers, opportunities for improvement, cost reduction or service improvement.

JLL has a proven record of industry-leading expertise in analytics for real estate combined with deep capabilities to advise, implement and manage Data & BI solutions. Combined with a value accelerating stack of products and a high- performance platform, JLL can match complex demands with right-fit solutions from a quick snapshot to enterprise integration and synchronisation programmes. As such, we have two tiers of services which provides clients with the flexibility to choose a solution that best addresses their needs:

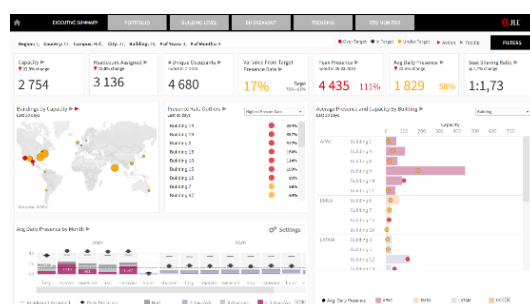
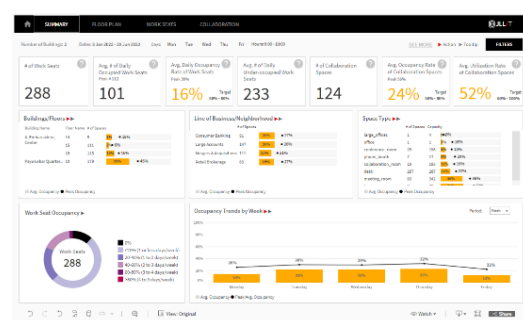
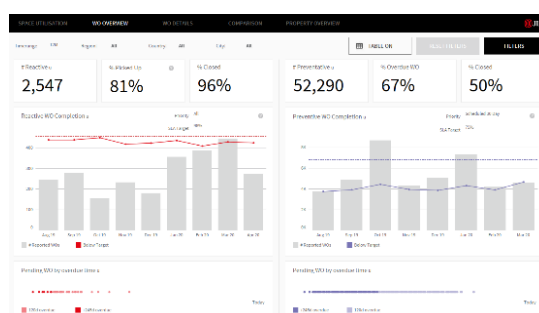
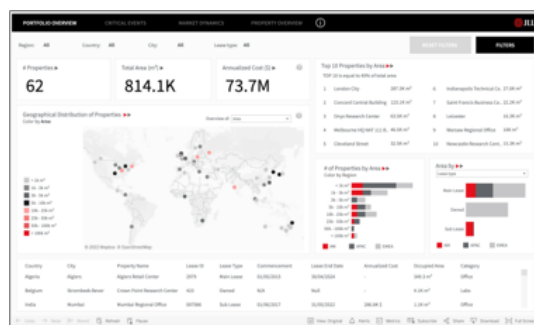
BI SaaS - Accelerators

BI SaaS Essentials include Solution Accelerators which are prepackaged solutions are easy to access, personalize, search and find; have coherent design standard across all analytics; integrate across sources; can handle data gaps and identify quality issues and are built as a cloud service. This entry level solution supports a client's analytics journey with easy-to-source manual data loads, a set of use cases and focused reporting packs that provide clear, visual analytics to address specific reporting challenges. Main benefits include:

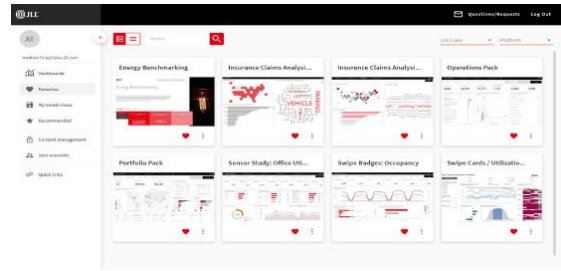
- A single view of the truth and insights across systems, partners, and processes
- Actionable recommendations pertaining to lease renewals, office utilization and work order management
- Visualization of portfolio agility, including rent reviews, contraction, and expansion options
- View of efficiency gains, risks, and opportunities and helps action them
- Ability to track market dynamics and associated portfolio impact
- Maximum portfolio performance and its business contribution

This starter set offers integrated dashboards that facilitate key business insights for CRE and FM leaders:

- Portfolio Analytics** is a suite of pre-configured best practice dashboards to allow Clients to compare their property portfolio and lease scenarios with industry benchmark for portfolio cost optimization. This allows Clients to get answers to the following questions:
 - What is the portfolio's total value?
 - When can we renew a lease?
 - Should I renew or terminate my lease?
- Operations Analytics** is a collection of pre-configured dashboards that provides an easy-to-understand performance tracking across facilities costs and services. This allows Clients to get answers to the following questions:
 - Where is our opportunity to optimize space by increasing the number of workstations?
 - How many reactive and proactive work orders have been reported this month?
- Sensor Analytics** is a collection of pre-configured dashboards that provides insights about occupancy and utilization of spaces by integrating sensors data from multiple providers. This allows Clients to get answers to the following questions:
 - Which spaces and space types do employees use the most?
 - Which spaces do not get used?
 - Which are the most and least popular days of the week?
- Badge Analytics** is a collection of pre-configured dashboards that provides insights about how much space is needed to support occupants. This allows Clients to get answers to the following questions:
 - What is the average office attendance?
 - What are the daily attendance trends in last six months?
 - How has presence rate changed over time?



- We also offer a central repository for all the reporting, called BI Portal, which provides the following functionalities:
 - Possibility to filter and categorize dashboards
 - Customize according to preferences
 - Add additional links to the portal
 - Save preferred dashboard views
 - Group access management
 - Workflows and process management functionality which allows users to create and manage custom processes and workflows. Use cases for this functionality include Project Management, Document Management, Process Automation, Facilities Management and Creation of Approval Workflows



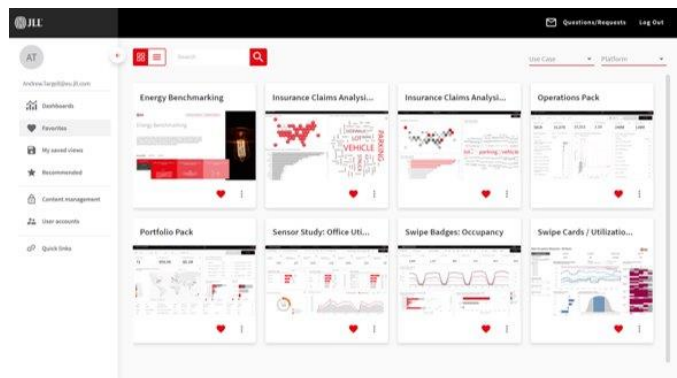
BI SaaS - Advanced

This tier offers customised insights configured to a client's need and data sources empowering unique data models. This fully flexible service provides business leaders with a deeper analysis of the workplace and operational performance. Moving beyond smaller data sets to richer, automated connections across the enterprise provides reflective and more time focused and accurate reporting tailored to the unique challenges our clients face.

Examples of solutions within this tier:

Predictive Attendance AI/ML Model delivered in collaboration with Tech Consultancy

- The AI/ML model predicts future attendance by location and by day as a signal of real estate demand, informing strategic decision-making.
- An accurate prediction of attendance will allow for dynamic alignment of real estate service supply and demand, resulting in a significant cost savings (e.g., energy spend, food supply, etc.).
- Cost saving opportunity: when a building designed for 1,000 occupants hosts only 400 on a given day, traditional service models often continue to allocate resources based on historical utilization patterns so HVAC systems condition empty floors, cleaning crews maintain unused spaces and security staff monitor vacant areas.



AI-powered chatbot for Work Order Management:

- Delivered through our BI Portal and offers the end user the capability to work with their facility management data in natural language
- Uses JLL's existing JLL|GPT AI infrastructure (ai.jll.com) for language processing

Market Assessment Tool for Scenario Planning

- Interactive visualisations of macroeconomic data delivered through a user-friendly interface
- Tool allows the end user to change macroeconomic parameters, such as population, for scenario planning

Services Offered

Implementation & Consultancy Services

Project Approach

Our typical project delivery consists of a three-phase approach and may vary depending on the complexity of data sources and analytics requirements:

- Analysis and Requirements
- Design and Development
- Deployment

Analysis & Design

The first phase of the project centers on specifying and agreeing on the final deliverables and work plan. In this stage, JLL conducts an in-depth analysis of business requirements by working together with the business users, obtaining necessary accesses, data sources and other documents required to deliver the tool.

At the end of this phase, JLL will provide the following:

- Analysis of a client's detailed reporting requirements
- UX prototype
- Analysis of available data points, outlining data hierarchies and key performance indicators
- Target architecture and data model including extract, transfer, and load data workflows
- Detailed plan of data reports and dashboards to be delivered
- Analysis and plan for Data Quality rules development

Development & Delivery

The second phase creates the target reporting solution. In our experience, this phase benefits from very close client/ user feedback to ensure alignment with actual business needs. This is the stage where our experienced developers make the first prototype of the solution and includes:

- Development of the solution following the design from previous stage
- Collaboration with a business user(s) to ensure the solution will meet the needs of the end users
- Development tests to ensure the data presented is correct

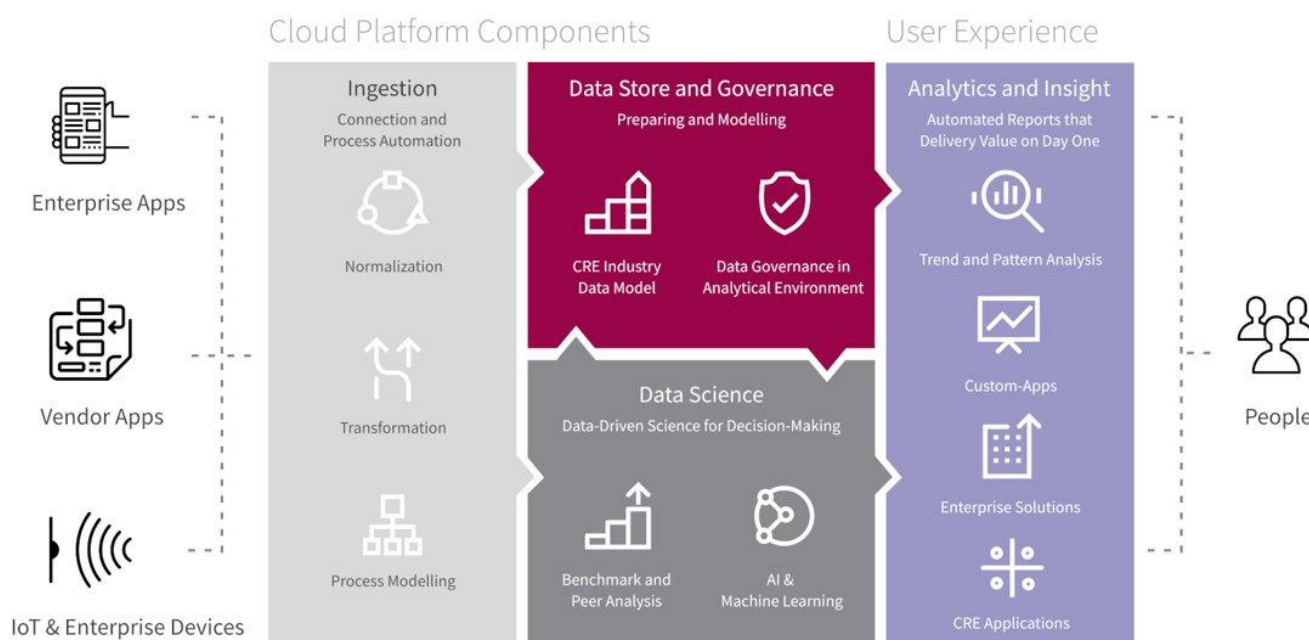
This concludes with deployment to the end users including the provisioning of documentation and training. This stage covers:

- Validation of the solution and quality assurance
- UAT testing and corrections where needed
- Migration to production environment
- User profile creation for security and privileges
- Technical and user documentation

Our engagements can be delivered using an agile or waterfall methodology as preferred by the Client. We deploy experienced project and service teams to ensure successful and high-quality outcomes. These teams are part of our BI Centre of Excellence which comprises 60+ people with capabilities including dashboard development, data integration and ETL, project management and UX expertise. Key project team roles are as follows:

- Project Manager
- Business Analyst
- BI Developer
- ETL Developer
- Solution Architect
- UX Consultant
- Data Scientists

Architecture Overview



Training

JLL provides comprehensive training materials and online Training Sessions (which will be recorded for later re- use). We support different methods for training and will work with clients to create relevant materials for Learning Management Systems as required.

Updates and Maintenance

We are committed to continual improvement of our analytics platform. An outline of our roadmap can be shared as required. The roadmap is maintained by our dedicated Product Management team. Data refreshes occur in alignment with client refresh requirements and we can accommodate these during the working day without any detriment to service.

Help Desk and Service Level Framework

JLL has a standard SLA that can be adjusted based on client requirements and we provide support services during European working hours for technical and data reporting issues. We typically provide technical support on priority levels described below. Response times provided are on a monthly basis.

Priority Level	Response Time
Total Loss of Service	Between 9:00 a.m. to 6:00 p.m. Response within two (2) hours
	Outside the above hours Response between 9:00 to 11:00 a.m. the following day
Material or Significant Loss of Service	Response within one (1) working day
Potentially Service Affecting	Response within three (3) working days

Why JLL?

- JLL is a leading provider of technology solutions for CRE and has experience and dedicated teams to implement and support each platform and solution it offers. JLL has more than 30 years of experience working with organisations to transform their business with technology.
- JLL can advise clients on how to select the right solution for their organisation, working in a client's interest to consider their objectives and requirements, balancing out-of-the box functionality versus system configuration and pound to value return.
- Compared to other business partners, JLL is unique in that we are also a global commercial real estate company; this allows us to approach projects with a digital real estate lens and leverage other service lines to provide the best advice to our clients. We are also the only commercial real estate company to invest in technology so we can continually evolve along with our client's needs.
- As an independent third-party software reseller, technology consultant and advisor, JLL will act as your "owner's representative." We bring specialised, expert technical and functional experts trained to ensure not only the implementation, but post-go live goes smoothly for you and your internal customers.
- We share best practices across our team of more than 850 real estate, facility, and workplace management professionals and technical resources, solutioning even the toughest technical challenges together to the benefit of our broad client base. From this centre of excellence come such process and product developments as our implementation methodology, our spatial data offerings, our UtilisationIQ program and more

Americas | JLL Technologies

Client: Leading Telecommunications Service Provider

JLL creates customized data analytics tool to help major telecomms organization rationalize their portfolio

Challenge

A leading global telecommunications service provider had a challenging situation on its hands. Due to the ongoing shift from landlines to cell phones over recent years, far less equipment is now needed to allow people to make calls, freeing up a LOT of real estate for the client. In fact, the company had found itself with more than 5,500 heavily equipment-based properties – referred to as Central Office locations – that weren't being utilized optimally. This was resulting in wasted space and lost dollars. The company was charged with monetizing \$100 million in assets in but didn't know where or how to start.

Solution

As an existing JLL client, JLL Technologies team partnered with the existing account leadership team to create a customized data analytics tool to respond to the client's specific challenges, providing them with detailed insights needed to make the business decisions on how they could best rationalize their property portfolio and reduce costs.

Looking at data through different lenses

- Rather than measure space utilization based on desks and headcount, JLL created a bespoke tool to assess utilization based on power consumption to address the client's specific needs.
- By measuring total power usage along with power density for each property, the tool compares how much energy is being used within each building to that of similar sized traditional real estate buildings, painting a better picture of the company's space utilization.
- The tool also captures data on the type of market each building is in to assess whether or not they are favorable markets to sell excess space.

Aligning data

- The JLL data analytics team takes the data gleaned from the tool and aligns it with data from JLL's Capital Markets group to deliver an estimated value for each of the properties. Buildings deemed high value and not fully utilized, for instance, are prime targets for monetization.

Narrowing down the list

Starting with 150 buildings, JLL were able to quickly narrow the list down to 15 targeted properties to prioritize commercial review. Using this data analytics, JLL's brokerage team have been working closely with the client to develop the optimal disposition strategy. Whether a vacant building sale, partial sale or full building sale with leaseback, the JLL Technologies data analytics approach will garner the highest commercial return for the client.

Results

Identified five properties to-date for disposition/monetization

- Customized tool developed to measure utilization based on power consumption rather than desks and headcount
- Valuable insights into portfolio use helped make strategic and proactive decisions about which assets to monetize and what the approach should be
- Real value delivered through monetization of underutilized assets

Key facts and figures

- Client Since: 2008
- Geography: Global
- Square footage: 235 million square feet
- JLL Services Collaborating on Project: Business Intelligence, Transactions, Lease Administration, Facilities Management

Contact

The JLL Team