NewGene Technologies Pte. Ltd

What Is SGBuildex? A Guide to Singapore's Built Environment Data Platform

Singapore's built environment is entering a new phase of digital transformation.

The industry is no longer looking only at how technology can digitise individual processes. The bigger question is becoming:

How can data move seamlessly between the different systems, organisations and stages that make up the built environment?

This is where **SGBuildex** becomes important.

Developed by the **Building and Construction Authority (BCA)** and the **Infocomm Media Development Authority (IMDA)**, SGBuildex is a data exchange platform designed to enable project stakeholders including developers, main contractors, laboratory testers and regulators to share information between connected systems.

BCA describes SGBuildex as part of its broader approach to **Ops-Tech enabled inspections and digitalised site data**, where Site Management Platforms (SMPs) and other digital systems can exchange information rather than operate as isolated platforms.

For Singapore, this is more than another technology initiative.

It represents a shift towards a built environment where **data can be captured once, exchanged securely, standardised and reused across multiple workflows**.

And for contractors, developers, technology providers and facility operators, that shift has significant implications.

Singapore's Construction Sector Is Operating at Significant Scale

The need for better data connectivity becomes clearer when we look at the scale of Singapore's construction pipeline.

According to BCA, Singapore recorded **S$50.5 billion in preliminary actual construction demand in 2025**, measured by the value of construction contracts awarded. Construction output was estimated at approximately **S$41.7 billion**.

For 2026, BCA projects total construction demand of between **S$47 billion and S$53 billion** in nominal terms. Construction output is projected at **S$43 billion to S$46 billion**.

The medium-term outlook remains substantial, with BCA projecting average annual construction demand of approximately **S$39 billion to S$46 billion between 2027 and 2030**.

This pipeline is supported by major developments and infrastructure programmes, including:

- Changi Airport Terminal 5
- Marina Bay Sands Integrated Resort expansion
- New Tengah General & Community Hospital
- Downtown Line 2 Extension
- Thomson-East Coast Line Extension
- Public housing developments
- Institutional projects
- Industrial developments

The implication is straightforward.

Singapore is managing a highly active built environment ecosystem involving developers, contractors, consultants, subcontractors, suppliers, testing laboratories, regulators and asset operators.

Every one of these participants generates information.

The challenge is no longer whether data exists. The challenge is whether the data can move effectively between the people and systems that need it.

What Is SGBuildex?

At its simplest, **SGBuildex is a digital data exchange platform for Singapore's built environment.**

BCA and IMDA developed the platform to facilitate digital information sharing and collaboration between project stakeholders. It connects different project parties and enables data exchange between their connected systems, including Site Management Platforms.

It is important to understand what SGBuildex is and what it is not.

SGBuildex is **not simply another construction management application**.

It is not intended to replace every system a contractor or developer already uses.

Instead, it acts as a **connective layer for data exchange**.

For example, an organisation may already use different digital systems for:

- Workforce management
- Site management
- Inspections
- Quality management
- Safety
- Project management
- Asset management
- Facilities management
- Reporting

The value of a data exchange platform is that information from these systems can potentially be exchanged in a structured and standardised manner rather than being repeatedly exported, reformatted and manually uploaded.

BCA specifically states that SGBuildex enables stakeholders such as laboratory testers, main contractors, developers and regulators to share data between connected systems.

Why Was SGBuildex Introduced?

One of the fundamental problems in construction digitalisation is **data fragmentation**.

Different stakeholders often use different technology platforms.

One organisation may maintain information in a Site Management Platform.

Another may use a separate inspection system.

Another may use a workforce or biometric platform.

A regulator may require information in a specific format.

Without interoperability, teams can end up spending considerable time preparing information for exchange.

This creates a familiar cycle:

Collect → Export → Consolidate → Reformat → Upload → Verify → Submit

SGBuildex is designed to simplify this process.

The platform provides a common point through which participating systems can exchange structured data.

BCA's Site Management Data Standards explain that a proof of concept demonstrated structured data exchange through SGBuildex using a single point of connectivity. The 2024 PoC involved **five contractors and three solution providers**, with **five datasets** standardised for regulatory compliance and project management purposes.

The PoC found that participants recognised the value of standardised data for **interoperability, data exchange and generating insights for informed decision-making**. It also found that a single connectivity point could reduce the cost and effort involved in data submission.

This is an important insight.

The objective is not simply to digitise information. It is to make information usable across systems.

How Does SGBuildex Work?

The basic concept can be understood through a simple workflow.

Traditional approach

System A

↓

Export data

↓

Manual formatting

↓

Spreadsheet/file preparation

↓

Upload

↓

System B / regulator

This can create duplicated effort and opportunities for inconsistencies.

SGBuildex approach

Connected System A

↓

API

↓

SGBuildex

↓

Connected System B / authorised data recipient

The objective is to enable information to move through a standardised digital connection.

BCA states that industry partners connecting to SGBuildex need to ensure their Site Management Platforms follow the relevant **BCA Site Management Data Standards** and configure their systems according to **SGBuildex API standards**.

This makes interoperability a core requirement.

SGBuildex and the 2026 Construction Productivity Data Change

One of the most significant developments associated with SGBuildex is its role in the new **Construction Productivity Data (CPD)** submission process.

BCA states that, effective **1 May 2026**, builders of applicable projects applying for a Permit to Commence Work are required to submit Construction Productivity Data through a **Biometric Authentication System (BAS) integrated with the data exchange platform**.

The new workflow uses **a single data schema for all project types**, allowing monthly CPD to be submitted automatically and directly to BCA through a BAS integrated with SGBuildex via an API connection.

This is a significant departure from the existing manual workflow.

Under the previous process, builders manually collated monthly onsite and offsite CPD into Excel templates before uploading the information to the Electronic Productivity Submission System (ePSS).

The new model is designed around automation:

Biometric Authentication System

↓

API connection

↓

SGBuildex

↓

BCA

This changes the role of the contractor from manually preparing information for submission to increasingly **enabling systems to transmit structured information automatically**.

What Does the 1 May 2026 Requirement Mean for Contractors?

For contractors, the change should not be viewed simply as another compliance deadline.

It is a signal about where construction technology is heading.

BCA states that the new automated CPD process applies to builders of applicable projects applying for Permit to Commence Work from 1 May 2026. The data exchange platform is also open to builders with new and ongoing projects, including offsite fabricators involved in precast, structural steel and prefabricated mechanical, electrical and plumbing works.

This means contractors need to think about three things:

Data readiness

Is the required information being captured digitally and accurately?

System readiness

Can the company's systems connect through the required APIs and data standards?

Process readiness

Can the organisation move from manual data preparation towards automated submission?

The technology implementation is therefore only one part of the transition.

Data quality and process discipline are equally important.

From Compliance to Productivity Intelligence

This is where the conversation becomes more interesting.

Construction Productivity Data is collected for regulatory and productivity measurement purposes.

But the same principle can potentially be applied much further.

Consider the information generated by a construction project.

Workforce systems can produce information about labour deployment.

Site systems can produce information about activities and progress.

Inspection systems can produce quality information.

Safety systems can produce risk and incident information.

Project systems can provide schedule and cost information.

When these datasets remain isolated, their value is limited.

When they are connected, they can start providing a much more complete picture of project performance.

For example:

Workforce data + Project progress data

can provide a better understanding of productivity.

Inspection data + Defect data

can reveal recurring quality issues.

Safety data + Site activity

can help identify operational risk patterns.

Asset data + Maintenance history

can support more informed maintenance decisions.

This is the direction in which the industry should be thinking.

NGT's Perspective: The Real Opportunity Is Beyond Submission

At NGT, we see SGBuildex as more than a mechanism for moving data from one system to another.

We see it as part of the foundation for a more connected built environment.

The immediate business case may be automation.

The larger opportunity is intelligence.

If a contractor invests in capturing high-quality digital information to satisfy a reporting requirement, the organisation should ask:

Can this information also help us improve how we operate?

That is the mindset shift we believe the industry needs.

Compliance should not become another isolated data silo.

Instead:

Data captured for compliance → Data connected across systems → Data analysed → Insights generated → Decisions improved

The value increases at every stage.

Singapore's Digitalisation Journey Is Already Moving in This Direction

SGBuildex does not exist in isolation.

It sits within Singapore's broader transformation agenda for the built environment.

BCA describes **Integrated Digital Delivery (IDD)** as a holistic approach that uses digital technologies to connect stakeholders across the building lifecycle, from **design and fabrication through construction and asset management**.

This lifecycle perspective is important.

Construction is not an isolated event.

A building moves through multiple stages:

Planning

↓

Design

↓

Fabrication

↓

Construction

↓

Handover

↓

Operations

↓

Maintenance

↓

Asset Management

Every stage produces information.

If that information is disconnected at every transition, organisations repeatedly recreate knowledge.

If it is structured and carried forward, the information becomes increasingly valuable.

The Numbers Show That Digital Adoption Is Accelerating

Singapore's built environment has already made measurable progress in digital transformation.

According to BCA, **Integrated Digital Delivery adoption in new developments increased from 58% in 2023 to 67% in 2024**. During the same period, **Design for Manufacturing and Assembly (DfMA) uptake increased from 61% to 68%**.

BCA also reported that, as of December 2024, approximately **61% of buildings by Gross Floor Area had been greened**, while close to **26% of new developments had been certified as Super Low Energy buildings**. Top-performing buildings demonstrated **72% better energy efficiency compared with 2005 levels**.

These numbers demonstrate that Singapore's transformation agenda is not limited to a single technology.

It encompasses:

- Digital delivery
- Industrialised construction
- Sustainability
- Data
- Productivity
- Asset performance

SGBuildex fits naturally into this wider movement towards greater integration.

Why Interoperability Matters More Than Ever

The industry has historically evaluated technology through features.

Does the system have:

- Mobile applications?
- Dashboards?
- Inspections?
- Work orders?
- Reporting?

- AI?
- Asset management?

Those questions are still important.

But there is another question that deserves equal attention:

Can the system connect?

As more construction and facilities processes become digital, companies cannot afford to build an ecosystem of isolated applications.

A digital silo is still a silo.

The future requires systems that can communicate with:

- Government platforms
- Workforce systems
- BIM environments
- ERP platforms
- Inspection systems
- Safety platforms
- Project management systems
- Asset management systems
- Facilities management platforms

SGBuildex reinforces this direction by establishing standards and APIs for data exchange.

Data Standards Are Just as Important as Data Platforms

A common misconception is that connecting systems automatically solves the data problem.

It does not.

If two systems use different definitions, formats or identifiers, simply connecting them does not guarantee useful information exchange.

This is why standardisation matters.

BCA's Site Management Data Standards specifically address structured data exchange and the challenges of handling information from different systems and formats.

Standardised data makes it easier to:

- Exchange information
- Validate information
- Compare information
- Analyse information
- Benchmark performance
- Automate processes

In other words:

Interoperability requires more than APIs. It requires common meaning.

The Link Between SGBuildex and Facilities Management

For NGT, one of the most important implications is the connection between **construction and operations**.

A project eventually becomes an operating asset.

Yet one of the industry's recurring challenges is the gap between construction information and operational information.

During construction, teams generate:

- Drawings
- Specifications
- BIM information
- Inspection records
- Testing results

- Defect records
- Asset information
- Commissioning data
- Handover documents

Once the project is completed, facility teams need:

- Asset registers
- Maintenance information
- Inspection schedules
- Equipment history
- Warranty information
- Compliance records
- Service records
- Contractor information

The opportunity is to create continuity between these two worlds.

The data generated while building an asset should help manage that asset.

That is one of the most important principles behind lifecycle digitalisation.

A Building Should Not Lose Its Digital Memory at Handover

Consider a simple example.

A piece of equipment is installed during construction.

Its information exists somewhere in the project documentation.

Months later, the equipment develops a fault.

A facilities team now needs to determine:

- What equipment is this?
- Who installed it?
- What model is it?

- When was it commissioned?
- What warranty applies?
- Has it failed before?
- What maintenance has been performed?
- Which contractor is responsible?

If the information was captured but never structured for operational use, the facility team may have to search through documents or recreate the information.

A connected lifecycle approach creates a better possibility.

Asset created → Asset information captured → Asset handed over digitally → Asset operated digitally → Asset history continuously updated

The building effectively develops a **digital memory**.

Why This Matters for AI

Artificial intelligence is increasingly entering construction and facilities management.

But AI does not eliminate the need for good data.

It increases it.

An AI system can analyse information, identify patterns, generate summaries and support decisions but only when it has access to relevant and reliable information.

For example:

“Which assets are creating the most maintenance issues?”

requires historical asset and work-order data.

“Which defects are recurring across projects?”

requires structured defect information.

“Where are productivity problems occurring?”

requires reliable workforce and project data.

This means the future is not simply:

AI + Construction

It is:

Connected data + AI + domain expertise + human decision-making

SGBuildex contributes to the connected-data layer.

The next opportunity is to make that data useful.

What SGBuildex Means for Different Stakeholders

Main Contractors

For contractors, SGBuildex can reduce manual data preparation and enable automated information exchange where applicable.

But the bigger opportunity is using the same digital data to understand productivity, project performance and operational efficiency.

Developers

Developers manage information across multiple contractors and projects.

Standardised data exchange can support greater consistency and visibility across the project lifecycle.

For large portfolios, the ability to compare information across projects can become particularly valuable.

Technology Providers

For technology providers, SGBuildex sends a clear message:

Interoperability is becoming a product requirement.

Platforms need to be built with APIs, standards and integration capabilities in mind.

The strongest technology ecosystem will not necessarily be the one with the most applications.

It may be the one where applications communicate most effectively.

Regulators

For regulators, structured data can support more efficient collection, processing and analysis.

The longer-term potential is to move towards more data-driven regulatory processes rather than relying heavily on manually prepared submissions.

Facility Operators

For facility operators, the broader value lies in lifecycle continuity.

Construction information can become operational information.

Operational information can become asset intelligence.

And asset intelligence can support better maintenance, compliance and performance decisions.

What Contractors Should Ask in 2026

The introduction of automated CPD submission creates a natural opportunity for contractors to review their wider digital readiness.

Instead of asking only:

“Are we ready for SGBuildex?”

organisations should consider:

1. Is our data accurate?

Poor source data creates poor downstream information.

2. Is our data structured?

Can systems understand and exchange the information without manual interpretation?

3. Can our systems integrate?

Do our existing platforms support APIs and standardised data exchange?

4. Are we still dependent on spreadsheets?

Where are manual processes creating unnecessary duplication?

5. Are we capturing information only for compliance?

Or can the same information support operational decisions?

6. Can construction data move into operations?

Is asset information prepared for the facilities team at handover?

7. Are we building a connected ecosystem?

Or simply adding more individual software applications?

These questions can help organisations move from **digital adoption to digital maturity**.

The Business Case for Connected Data

The value of connected data can be understood across four layers.

Efficiency

Automating repetitive data preparation can reduce administrative effort.

Accuracy

Structured exchange reduces the need for repeated manual transcription.

Visibility

Relevant stakeholders can access information more efficiently.

Intelligence

Connected information can become an input for analytics, benchmarking and AI.

BCA's own SGBuildex proof of concept identified data standardisation as valuable for interoperability, data exchange and informed decision-making, while noting that standardised data can support insights and benchmarking at project and industry levels.

This is where the business case becomes much larger than compliance.

NGT's View: Don't Build More Digital Silos

At NGT, our view is simple:

Digital transformation should reduce complexity not create another layer of it.

The industry already has many digital tools.

The next challenge is making those tools work together.

A construction organisation may have separate systems for:

People → Projects → Inspections → Safety → Assets → Maintenance

The objective should be to create a connected flow of information between these functions.

An inspection should not end as an inspection report.

It should be capable of informing corrective action.

A defect should not remain a record.

It should become an actionable workflow.

A work order should not disappear after closure.

It should contribute to the asset's maintenance history.

An asset record should not be static.

It should become part of an evolving operational dataset.

This is the kind of connected thinking that will define the next stage of built environment digitalisation.

From Digital to Connected to Intelligent

Singapore's built environment transformation can be viewed through a simple progression:

Paper

↓

Digital

↓

Connected

↓

Intelligent

The first transformation replaced paper processes with digital ones.

The second connected individual systems.

The third where the industry is increasingly heading is about using connected information to make better decisions.

SGBuildex is an important part of that middle layer.

It provides infrastructure for data exchange.

But the ultimate value comes from what organisations build on top of that foundation.

The Future: Data That Moves With the Asset

The most powerful vision is not a construction project where every activity is digital.

It is a building where information remains useful throughout its entire lifecycle.

Imagine:

Design data

↓

Construction data

↓

Inspection data

↓

Handover data

↓

Asset data

↓

Maintenance data

↓

Operational intelligence

The information does not disappear when one phase ends.

It continues to create value.

That is the real promise of lifecycle digitalisation.

SGBuildex Is an Enabler, Not the End Goal

SGBuildex should therefore not be viewed simply as another platform that contractors need to understand.

It is part of a much larger transformation in how Singapore's built environment manages information.

BCA's current digitalisation framework emphasises connecting stakeholders and streamlining workflows across the building lifecycle, from design and fabrication through construction and asset management.

SGBuildex contributes to that vision by enabling structured information exchange between connected systems.

The next question for the industry is what happens **after the data is exchanged**.

Can it be analysed?

Can it be connected to other operational information?

Can it identify patterns?

Can it improve productivity?

Can it support better asset management?

Can AI turn it into actionable intelligence?

That is where the next wave of value lies.

The NGT Perspective

Singapore's construction industry is entering a period where **data connectivity will increasingly influence operational performance**.

With construction demand projected at **S$47–53 billion in 2026** and an average annual demand of **S$39–46 billion projected for 2027–2030**, the sector will continue operating at significant scale.

At this scale, manual information flows become increasingly difficult to sustain.

The industry's digital maturity will therefore depend not only on how many systems organisations adopt, but on how effectively those systems communicate.

For NGT, the opportunity is clear.

SGBuildex can help create the connectivity.

The industry must now focus on what that connectivity can enable.

More efficient workflows.

Better visibility.

Stronger data foundations.

Smarter operations.

More informed decisions.

And ultimately, a built environment where technology connects the entire lifecycle instead of creating another collection of disconnected systems.

The question for organisations should no longer be:

“Are we digital?”

It should be:

“Are we connected?”

And the question after that is even more important:

“What are we doing with the data once it is connected?”

Because the future of Singapore's built environment is not simply digital.

It is connected. And increasingly, it is intelligent.

Sources & References

Building and Construction Authority (BCA) — SGBuildex
BCA and IMDA's official overview of SGBuildex, including its purpose, participating stakeholders, Site Management Platform requirements and API standards. BCA — SGBuildex

Building and Construction Authority (BCA) — Measuring Construction Productivity
Official source for the 1 May 2026 CPD requirement, BAS integration, SGBuildex API connection, single data schema and automated CPD submission process. BCA — Measuring Construction Productivity

Building and Construction Authority (BCA) — Ops-Tech Enabled Inspections
Official information on Site Management Platforms, digitalised site data, data exchange and Whole-of-Government Virtual Inspections. BCA — Ops-Tech Enabled Inspections

Building and Construction Authority (BCA) — Site Management Data Standards
Technical reference covering structured data exchange, the SGBuildex proof of concept, data standardisation, APIs and interoperability. BCA — Site Management Data Standards

Building and Construction Authority (BCA) — 2026 Construction Demand Outlook
Source for Singapore's S$50.5 billion preliminary 2025 construction demand, S$47–53 billion 2026 forecast, S$43–46 billion construction output forecast and S$39–46 billion annual demand forecast for 2027–2030. BCA — Steady Construction Demand in 2026

Building and Construction Authority (BCA) — Integrated Digital Delivery
Official explanation of IDD and its role in connecting stakeholders across design, fabrication, construction and asset management. BCA — Integrated Digital Delivery

Building and Construction Authority (BCA) — Value Chain Collaboration & Data-Driven Decision Making
Reference for standardised information exchange, lifecycle information management and data-driven collaboration between developers, consultants, contractors and facility managers. BCA — Value Chain Collaboration & Data-Driven Decision Making

Building and Construction Authority (BCA) — Built Environment Transformation Progress
Source for the 2023–2024 IDD adoption increase from 58% to 67%, DfMA increase from 61% to 68%, and green-building progress. BCA — Built Environment Sector Transformation Progress