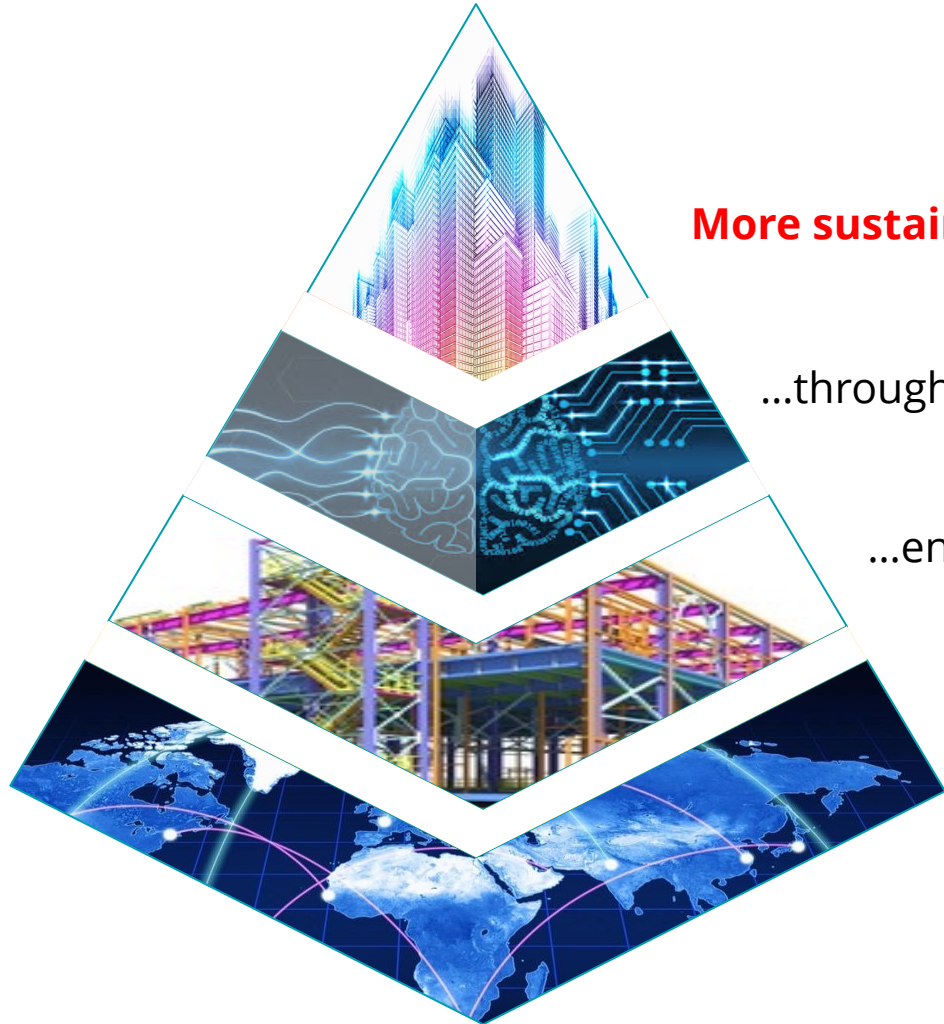# Strategic Roadmap

Issue: September 2023

The buildingSMART Context

More sustainable, less expensive buildings & infrastructure...

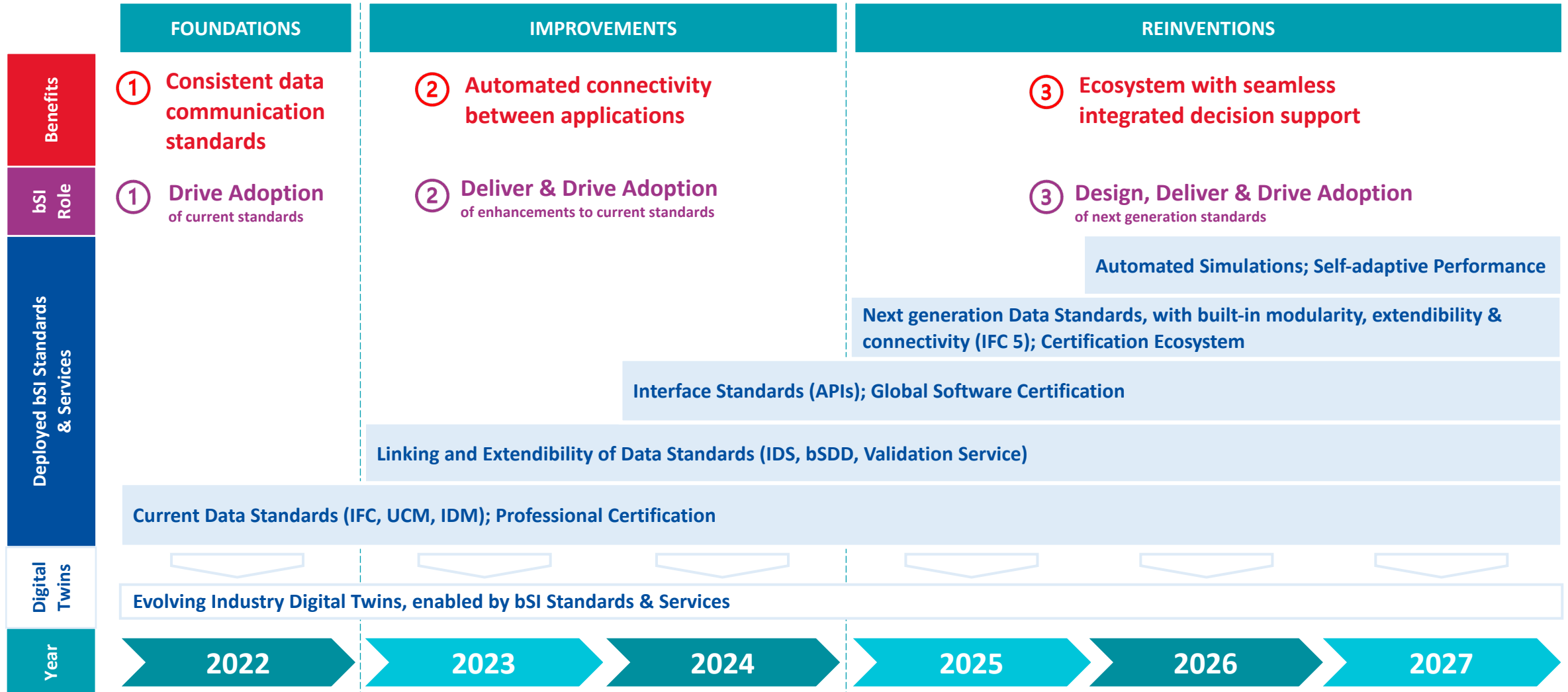...through **optimized decision-making** & **automation efficiencies**...

...enabled by **data fusion** via **open digital Standards** & Services...

...created by the **buildingSMART** community.

buildingSMART Strategic Roadmap – Vision

PHASE		FOUNDATIONS	IMPROVEMENTS	REINVENTIONS
Aims		① **Consistent data communication standards**	② **Automated connectivity between applications**	③ **Ecosystem with seamless integrated decision support**
Business	...resulting in	**Improved data integration in design, construction and asset management reduces risk and rework, saving time and cost**	**Enhanced analysis allows better decision-making on design, construction and asset management trade-offs, improving time, cost and quality**	**Intelligent design, construction and asset management ecosystem allows optimisation of decision making across the asset lifecycle, improving time, cost and quality**
Operational	...leading to...	**openBIM workflows enable rule-checking and interoperability between applications, helping data integration during design, construction, asset management & decommissioning**	**Standards, services and software applications are connected, allowing design, construction and asset management predictions through automated simulations**	**An open and automated, seamless, intelligent ecosystem, allowing semi-automated design and decision-making, spanning different systems and all lifecycle phases**
Technical	what we need to create...	**Common data exchanges enable interoperability between applications, model federation and digital workflows (e.g. via rule checking)**	**Connected applications enable process automation, simulations, automated checking & decision support (e.g. automated scheduling, lifecycle costings, code compliance, manufacturing engineering, energy modelling)**	**Integrated processes with linked data and predictive analytics enable support for intelligent digital twin ecosystems (e.g. automatic predictions of design/engineering changes through connected simulations)**

buildingSMART Strategic Roadmap – Summary

	FOUNDATIONS	IMPROVEMENTS	REINVENTIONS
Benefits	① Consistent data communication standards	② Automated connectivity between applications	③ Ecosystem with seamless integrated decision support
bSI Role	① Drive Adoption of current standards	② Deliver & Drive Adoption of enhancements to current standards	③ Design, Deliver & Drive Adoption of next generation standards

Deployed bSI Standards & Services

- Automated Simulations; Self-adaptive Performance
- Next generation Data Standards, with built-in modularity, extendibility & connectivity (IFC 5); Certification Ecosystem
- Interface Standards (APIs); Global Software Certification
- Linking and Extendibility of Data Standards (IDS, bSDD, Validation Service)
- Current Data Standards (IFC, UCM, IDM); Professional Certification

Digital Twins

Evolving Industry Digital Twins, enabled by bSI Standards & Services

Year	2022	2023	2024	2025	2026	2027

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buildingSMART Strategic Roadmap – Community Effort
*Representation of relative levels of effort within buildingSMART community*

The main effort across the buildingSMART community remains on the adoption of existing standards (education, advocacy, etc)

A growing effort is focused on finalizing & rolling out improvements to these standards

A small portion of the community is designing & developing future generations of standards
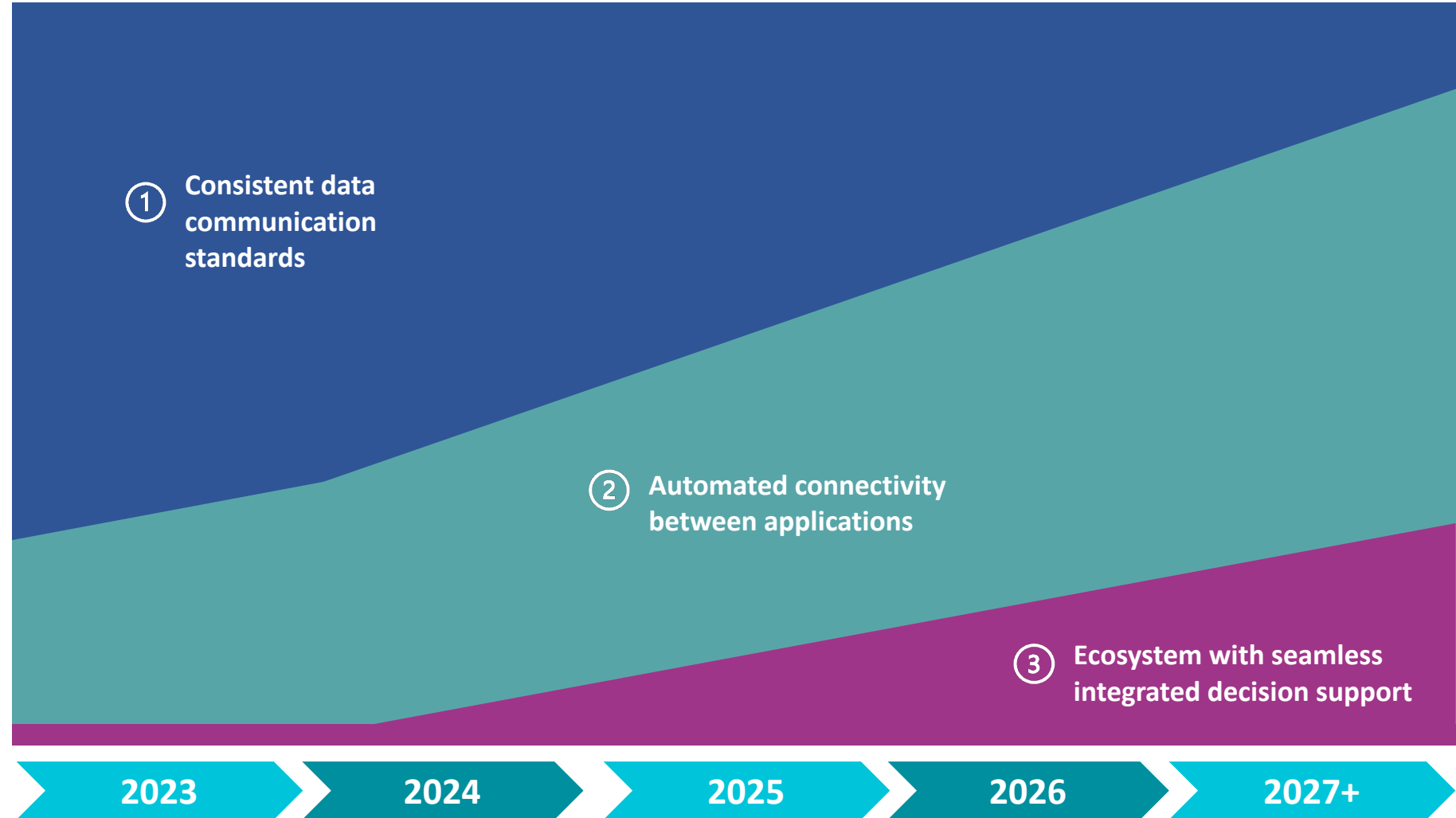
① Consistent data communication standards

② Automated connectivity between applications

③ Ecosystem with seamless integrated decision support

| 2023 | 2024 | 2025 | 2026 | 2027+ |

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buildingSMART Strategic Roadmap – Standards & Services

	Vision	bSI Mission		Standards & Services
Current Data Standards	Deliver consistent data communication standards	Drive adoption by making IFC easier & more reliable to use	Technical	Normalise IFC 4.x versions; MVD Policy; review UCM Service strategy; provide IFC validation service; create standard implementation levels for vendors
			Compliance	Rethink IFC Software Certification; Professional Certification 1.1 (create clarity on terminology & mission, introduction of levels & profiles)
Linking and Extendibility of Data Standards	Allow linking & extending of data standards	Create linked data services & a standard to define data requirements	Technical	Creation of Information Delivery Specification (IDS) standard; deployment of buildingSMART Data Dictionary (bSDD) as linked data platform; Validation Service deployed
			Compliance	Professional Certification 2.0 (how to setup your ecosystem to automate workflows, with framework of levels and profiles & full integration of bSI standards & solutions IFC, IDS & bSDD); metrics for software support of IFC to provide capabilities insights; bSDD data verification
Interface Standards	Automate the connection between (online) software applications	Create a set of standard 'Application Programming Interfaces' (APIs)	Technical	Integrated set of APIs for different use-cases (Foundation API, Document API, BCF API, Properties API, Dictionary API)
			Compliance	Global IFC Software Certification; Software Certification for API support; Process Certification 0.1 (Accelerator Program / Company Certification)

**Deployment Timeframe** 2022 2023 2024 2025

buildingSMART Strategic Roadmap – Standards & Services

	Vision	bSI Mission		Standards & Services	
Next generation Data Standards	Support advanced use-cases like only sending changesets of data, live connections to data, etc.	Make IFC leaner & lower the threshold for use	Technical / Compliance	IFC 5 (with integrated modularisation, extendibility & APIs)	
				Professional Certification 3.0 (how to build & manage Digital Twins); Process Certification 0.2 (Accelerated Projects (guidelines) / Company Certification)	
Automated Simulations	Simulation chains, with integrated performance predictions and feedback loops to the physical world	Allow linking & orchestration of simulations, with aggregated results and actions	Technical / Compliance		To explore – potentially hosting a registry of (online) services, advancing result classification, advanced APIs & more; providing verified and reliable training data for machine learning algorithms
					Process Certification 1.0 (Accelerated Projects (guidelines) / Company & Project Certification)

Deployment Timeframe   2025   2026   2027   2028+

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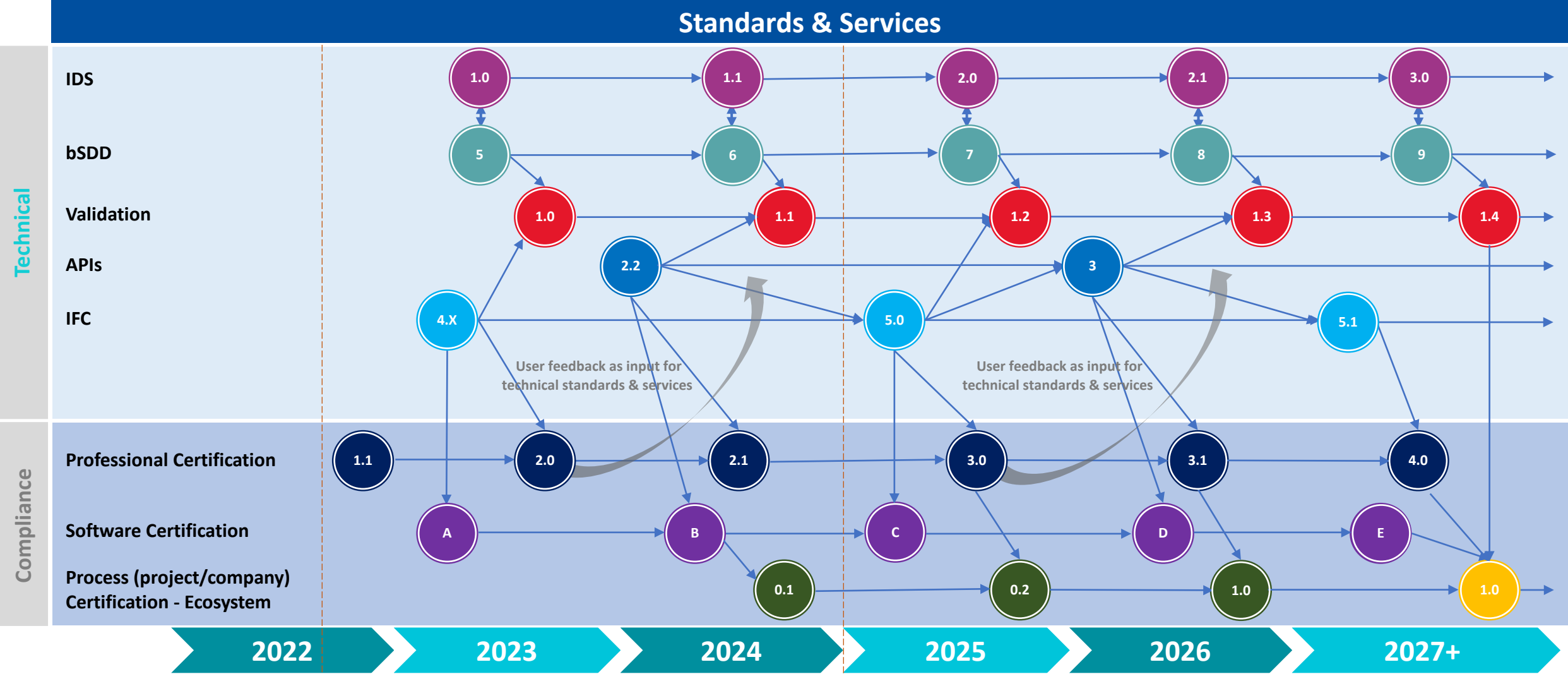
Main Website: www.buildingSMART.org

Professional Certification: https://education.buildingsmart.org/

Software Certification: https://www.buildingsmart.org/compliance/software-certification/

Forum: https://forums.buildingsmart.org/

bSDD: https://www.buildingsmart.org/users/services/buildingsmart-data-dictionary/

Knowledge Base: https://www.buildingsmart.org/users/user-guides/

 https://www.linkedin.com/company/6431763

 https://twitter.com/buildingSMARTIn

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