Enterprise Architecture Update - Appendices

- **Appendix A – What is a City Digital Twin?**

A City Digital Twin is a virtual representation of the real world, including physical objects, processes, relationships and behaviours.

It functions as 'living' data entity and enables the ambition of a Smart City.

A Digital Twin combines three elements; the real-world environment, a virtual representation, and secure, continuous data connectivity between them.

It is not a single end-state system but a progressive capability that starts with targeted, high-value use cases (for example, energy and estate optimisation) and scales over time. As maturity increases, the platform integrates wider operational, environmental and planning data, enabling advanced simulation and decision-support across the Square Mile and our estate.

The staged maturity model for the Digital Twin is illustrated in Figure 1 – The Maturing Layers of an Urban Digital Twin enabling the Smart City below for clarity.
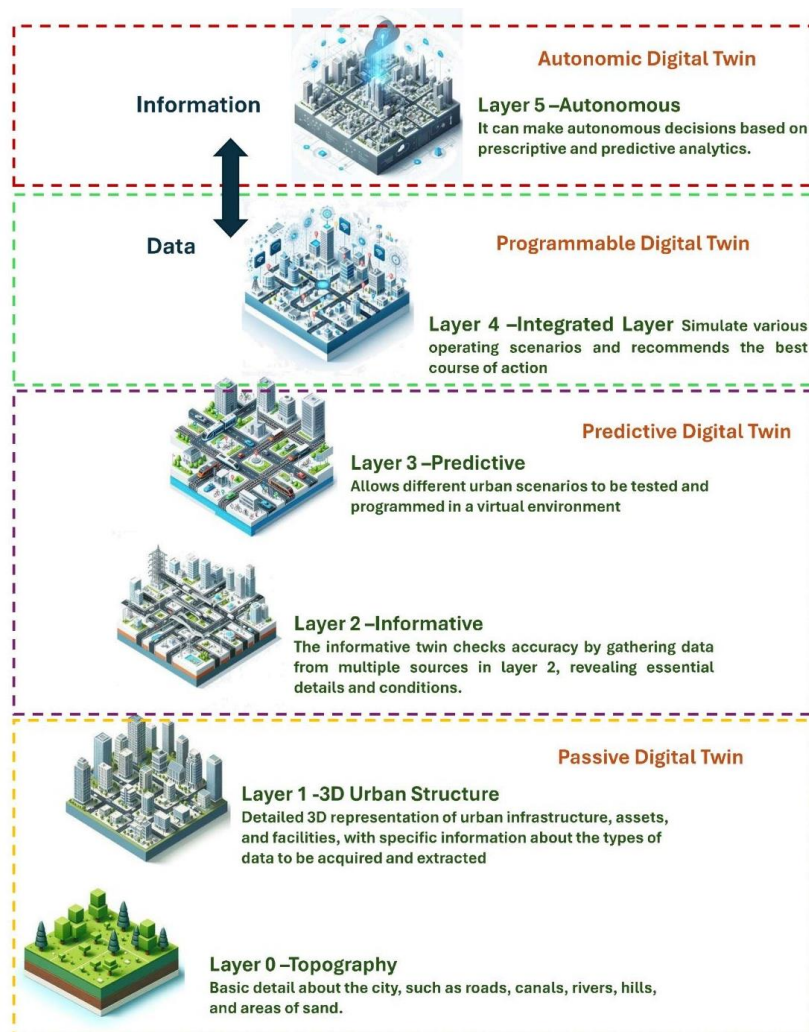

Figure 1 – The Maturing Layers of an Urban Digital Twin enabling the Smart City

- **Appendix B – Potential City of London Use of a City Digital Twin**

In the context of the Square Mile, a City-scale Digital Twin provides a dynamic, data-driven environment that mirrors key elements of our urban systems. Using real-time data and artificial intelligence, it supports efficient management of the City's services and estate, strengthens resilience, and accelerates sustainability outcomes.

Initial application areas aligned to the Corporate Plan include mobility and transport modelling, estate and energy optimisation, planning and development scenario testing, and proactive asset and infrastructure management. These use cases would support improved service delivery, reduce operational disruption, and provide evidence-based support for investment and policy decisions.

Detailed scope and phasing will be confirmed through the Strategic Horizon Technology workshops, Member direction and normal Committee approvals.

There are several key use cases that apply directly to the services the City of London provides and that would make a significant contribution to the Corporate Plan outcomes and these are illustrated below.
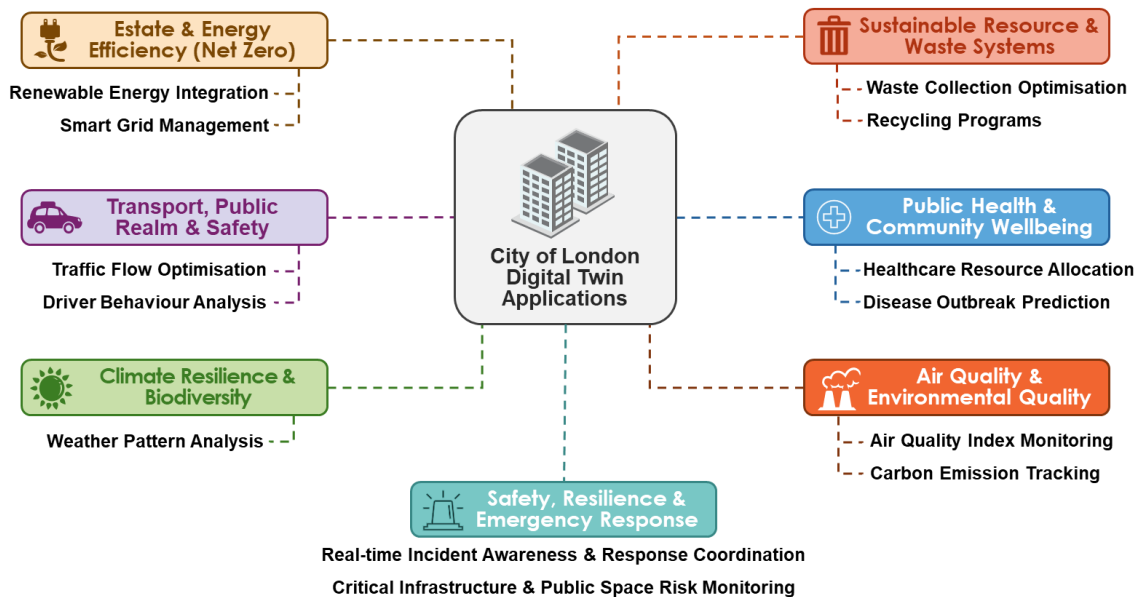

Figure 2 - Potential City Digital Twin Use Cases

- **Appendix C: Conceptual Strategic Technology Landscape**

The illustration below shows the City of London's potential future technology landscape, including the Corporation and a secure zone for the City of London Police (with detailed Police target architecture to follow).
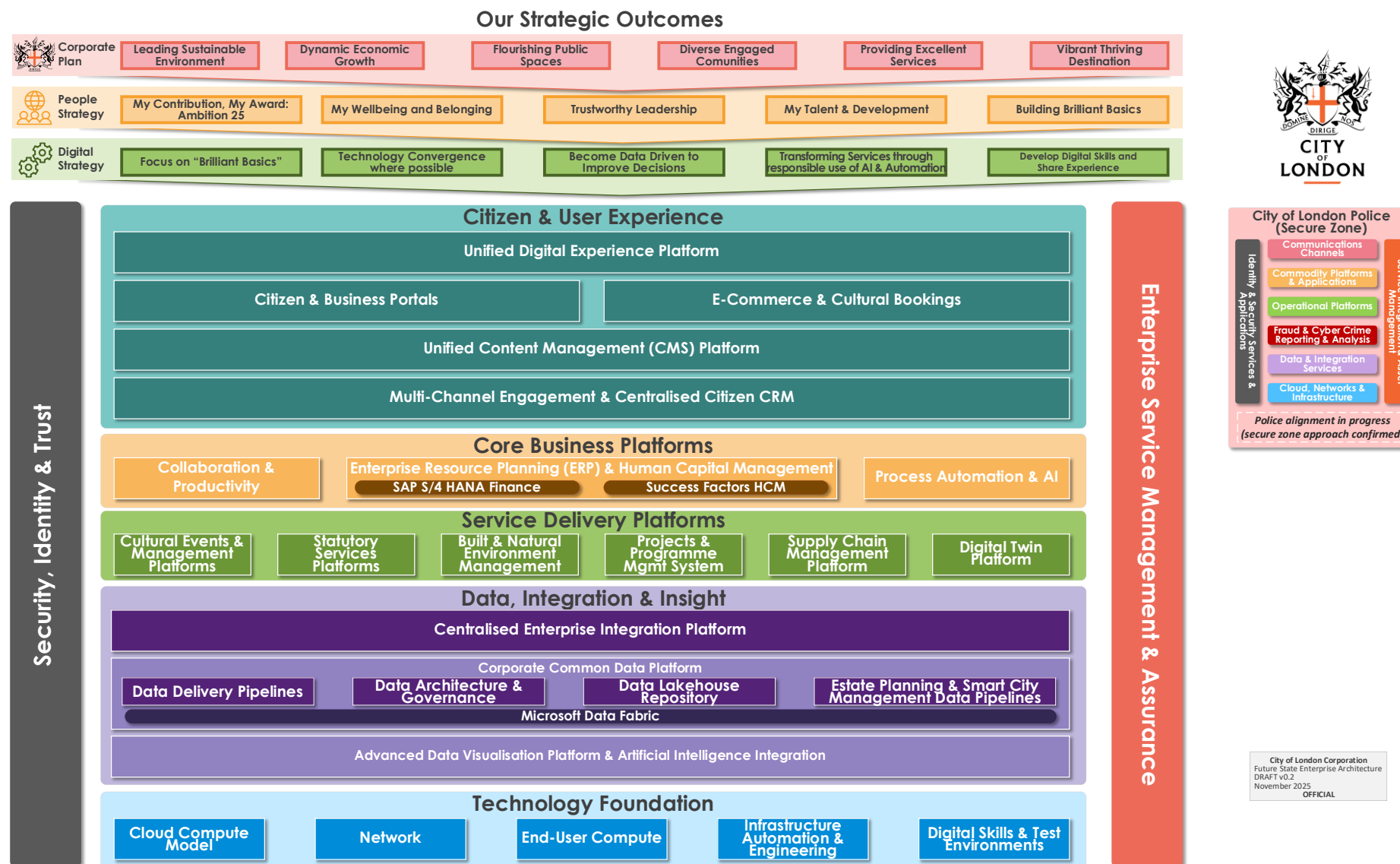

Figure 3 - Conceptual Strategic Technology Landscape

- **Appendix D – Technology Strategy Framework**

The framework below shows how the Corporate Plan provides the strategic anchor for our technology approach. It illustrates the clear line of sight from Corporate Plan outcomes through the People Strategy, Digital Strategy and operating model, down to the Enterprise Architecture and enabling technology capabilities that support delivery across the organisation.
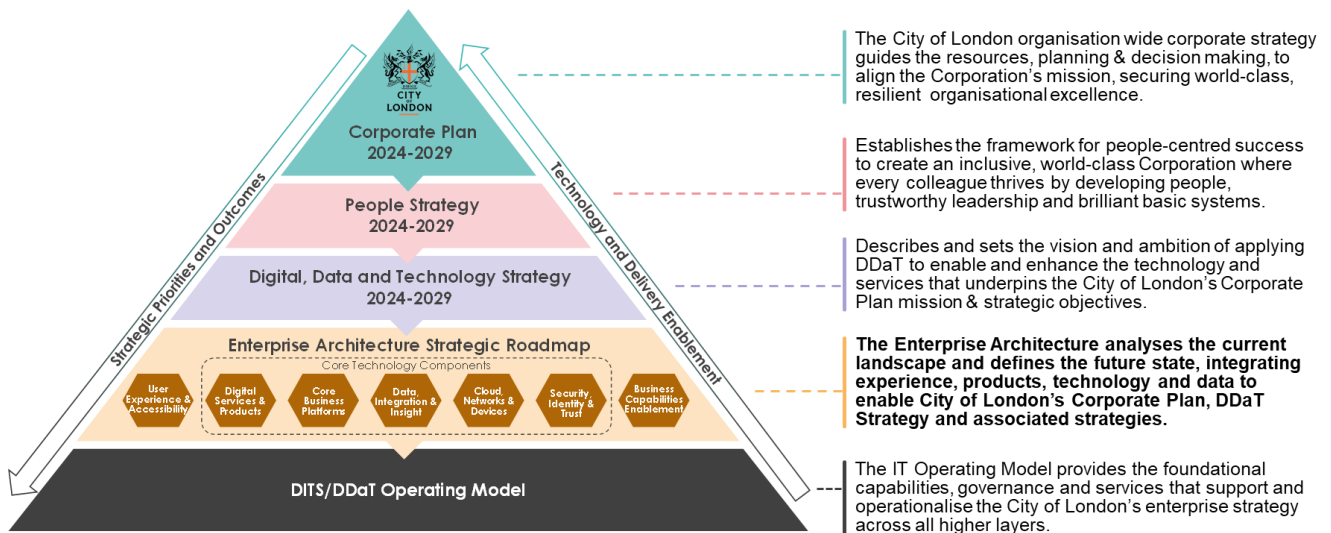

Figure 4 - Technology Strategy Framework

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