Monetary Authority of Singapore
10 Shenton Way MAS Building Singapore 079117
Telephone: (65) 6225-5577

FOR IMMEDIATE RELEASE

MEDIA RELEASE

MAS Announces Plans to Support Commercialisation of Asset Tokenisation

Singapore, 4 November 2024… The Monetary Authority of Singapore (MAS) today announced plans to advance tokenisation in financial services. These include:

- forming commercial networks to deepen liquidity of tokenised assets;
- developing an ecosystem of market infrastructures;
- fostering industry frameworks for tokenised asset implementation; and
- enabling access to common settlement facility for tokenised assets.

Deepening liquidity of tokenised assets through formation of commercial networks

2 MAS has, under Project Guardian, convened over 40 financial institutions, industry associations and international policymakers[1] across seven jurisdictions to carry out industry trials on the use of asset tokenisation in capital markets. To-date, more than 15 industry trials have been conducted in six currencies across multiple financial products[2].

3 As Project Guardian participants commercialise their products and services following successful industry trials, MAS is facilitating commercialisation to take place in a coordinated, networked manner. By connecting a broader set of participants' products and services across multiple currencies and assets, greater improvements in capital raising, secondary trading, asset servicing and settlement of tokenised assets may be realised. This will deepen liquidity across primary and secondary markets for tokenised asset transactions. To this end, Citi, HSBC, Schroders, Standard Chartered and UOB have formed the Guardian Wholesale Network industry group, with the intent of establishing a multi-member network to commercialise their respective asset tokenisation trials and scale usage.

Developing ecosystem of market infrastructures to facilitate seamless cross border transactions

4 MAS launched the Global Layer One (GL1) initiative in 2023 to foster the development of foundational digital infrastructures[3], upon which commercial networks could be deployed. Since the launch, a core group of global banks, BNY, Citi, J.P. Morgan, MUFG and Societe Generale-FORGE have been leading efforts to define the business, governance, risk, legal and technology requirements of the GL1 Platform.

---

[1] These include the additions of ANZ, CMTA, Deutsche Bundesbank, Fidelity, Northern Trust, Swift, and World Bank. See Annex A for the full list of financial institutions, policymakers and industry associations.

[2] The financial products include funds, structured products, fixed income, and foreign exchange. The currencies include USD, EUR, JPY, CHF, SGD, AUD.

[3] This refers to shared ledger infrastructure that financial institutions can deploy tokenised assets and applications such as issuances, distribution, trading and settlement, custody, asset servicing and payments.

Monetary Authority of Singapore
10 Shenton Way MAS Building Singapore 079117
Telephone: (65) 6225-5577

5 To build on this, GL1 is expanding its scope to support the development of an ecosystem of compatible market infrastructures, enabling tokenised assets to be traded seamlessly across borders. Specifically, GL1 will undertake the following additional activities:

- **Control Principles** – Alignment on governance, risk management controls[4] and settlement arrangement conventions for cross border transactions. This provides clarity on roles, responsibilities and controls needed to safeguard market integrity and financial stability.
- **Specifications** – Development of specifications for market infrastructures and asset lifecycle[5]. This encourages interoperability between diverse systems.
- **Compliance by Design** – Creation and provision of templates including programmable compliance[6] checks to build an ecosystem of compatible service providers. This accelerates onboarding for new participants.

6 To support these developments, MAS is pleased to announce the addition of new industry participants, including Euroclear and HSBC. GL1 will also set-up a new market infrastructure working group, comprising global financial market infrastructure providers, that will focus on digital asset securities control principles.

Industry Frameworks for Implementation of Tokenisation

7 To facilitate broad based acceptance and implementation of tokenised assets by financial institutions, two industry frameworks developed by Project Guardian industry group[7] members were published today.

- **Guardian Fixed Income Framework (GFIF)** – GFIF integrates the International Capital Market Association's Bond Data Taxonomy, Capital Markets and Technology Association's Token Standards, and the Global Financial Markets Association's Design Principles for Tokenised Securities. This provides an industry guide to implementing tokenisation in Debt Capital Markets, strengthen industry capabilities and catalyse adoption of tokenised fixed income solutions.
- **Guardian Funds Framework (GFF)** – GFF provides a set of recommendations for industry best practices for tokenised funds. This includes the Guardian Composable Token Taxonomy to facilitate development of tokenised investment vehicles comprising multiple assets, simplifying the process of incorporating new tokenised funds, and help achieve efficiencies in fund settlement.

[4] GL1 will partner market operators to expand on Digital Asset Securities Control Principles (DASCP), which identifies potential risks, and provide recommendations for controls to mitigate these risks.
[5] GL1 will incorporate industry frameworks and specifications including Societe Generale-FORGE's CAST.
[6] Programmable compliance, as tested in Project Mandala refers to the ability for policy and regulatory requirements to be programmed beforehand and enforced automatically in real time. MAS will be working with BIS to incorporate the compliance by design approach into the GL1 architecture.
[7] See Annex A for the full list of financial institutions under Project Guardian's industry groups.

Monetary Authority of Singapore
10 Shenton Way MAS Building Singapore 079117
Telephone: (65) 6225-5577

Access to Common Settlement Facility for Tokenised Assets

8 Common settlement assets are instruments which are mutually agreed upon by transacting parties to execute financial transactions. To promote confidence in the settlement of tokenised assets in financial markets, regulated and credible forms of tokenised money are needed as common settlement assets, thereby reducing settlement risk and market fragmentation. MAS is therefore facilitating financial institutions' access to common settlement assets including S$ wholesale CBDC for market testing purposes. The initial test network (SGD Testnet) will offer three key features:

- **Settlement facility** – Issuance, transfer and redemption of S$ wholesale central bank digital currency (CBDC), with potential extensions to other forms of central bank and commercial bank liabilities.
- **Programmability** – Automated and conditional triggers for tokenised transactions, including the use of Purpose Bound Money.
- **Interoperability** – Facilitate linkages with existing financial market infrastructures.

9 The SGD Testnet would be made available to eligible financial institutions[8] in Project Guardian and Project Orchid, enabling financial institutions to settle transactions with S$ wholesale CBDC. The first set of participating financial institutions includes DBS, OCBC, Standard Chartered and UOB. Participating use cases include payments and securities settlement.

10 Mr Leong Sing Chiong, Deputy Managing Director (Markets and Development) of MAS, "MAS has seen strong interest in asset tokenisation in recent years, notably in fixed income, FX, and asset management. We are encouraged by the keen participation from financial institutions and fellow policymakers to co-create industry standards and risk management frameworks to facilitate commercial deployment of tokenised capital markets products, and scale tokenised markets on an industry wide basis."

***

For media queries, please contact:

Hidayah Rahim
Deputy Director (Communications)
Tel: (65) 64225609
Email: hidayah_rahim@mas.gov.sg

[8] Eligible financial institutions are direct participants of MAS' Real Time Gross Settlement system.

Monetary Authority of Singapore
10 Shenton Way MAS Building Singapore 079117
Telephone: (65) 6225-5577

Annex A – List of Project Guardian Members

The table below provides the list of financial institutions participating in Project Guardian.

S/N	Financial Institutions	Workstream(s)	Use Case Summary
1	ADDX	Fixed income, Asset and wealth management	Liquidity provision and secondary trading of securities and private market funds
		Fixed income	Tokenised commercial papers
2	Alta Exchange	Asset and wealth management	Tokenisation of private credit fund to improve access and distribution
3	Ant Group	Foreign Exchange (FX)	Global treasury management
4	Apollo	Asset and wealth management	Scalable portfolio management including VCCs
5	Australia and New Zealand Banking Group	Fixed income	Tokenised commercial papers
6	BNY	FX	Cross-border FX settlement
7	Citi	FX, Fixed income	Price and execute trades on-chain
		FX, Asset and wealth management	Digital Money Market Fund and FX Swap solution
8	DBS	FX, Fixed income	Native issuance of digital bonds financed with a repo facility
			Buying and selling, as well as secured borrowing and lending of tokenised bonds and deposits
9	Deutsche Bank	Asset and wealth management	Aggregation of investment servicing activities for asset and wealth managers launching tokenised/digital funds
10	Euroclear	Fixed income	Digitalisation and standardisation of loan products to streamline loan processing and servicing.
11	Fidelity	FX, Asset and wealth management	Digital Money Market Fund and FX Swap solution
12	Franklin Templeton	Asset and wealth management	Digital issuance of VCC funds
13	Hamilton Lane	Asset and wealth management	Tokenisation of private credit fund to improve access and distribution

Monetary Authority of Singapore
10 Shenton Way MAS Building Singapore 079117
Telephone: (65) 6225-5577

S/N	Financial Institutions	Workstream(s)	Use Case Summary
14	Hongkong and Shanghai Banking Corporation	Asset and wealth management	Native digital issuance of structured products
			Digital issuance of VCC funds (asset servicing)
15	J.P. Morgan	FX, Fixed Income	Buying and selling, as well as secured borrowing and lending of tokenised bonds and deposits
		Asset and Wealth Management	Scalable portfolio management including VCCs
16	Moody's	Fixed Income	Risk analysis of tokenised fixed income products
17	Northern Trust	Fixed Income	Tokenisation of green bonds to provide up-to-date, immutable information for investors
18	OCBC Singapore	FX	Cross border FX settlement
19	Phillip Securities	Asset and Wealth Management	Tokenisation of private credit fund to improve access and distribution
20	S&P Global	Fixed Income	Analytic frameworks, assessments and benchmarks in digital assets and tokenized markets.
21	SBI Digital Asset Holdings	FX, Fixed Income	Native issuance of digital bonds financed with a repurchasing agreement (repo) facility
			Buying and selling, as well as secured borrowing and lending of tokenised bonds and deposits
	SBI Digital Markets	Asset and Wealth Management	Digital Issuance of VCC funds (asset servicing)
22	Schroder Investment Management Limited	Asset and Wealth Management	Digital issuance of VCC funds
23	SGX Group	Fixed Income	Listing framework for debt securities
24	Standard Chartered	Fixed Income	Native issuance of asset-backed security tokens
		Asset and Wealth Management	Digital issuance of VCC funds (asset servicing)
25	T. Rowe Price Associates, Inc.	FX, Fixed Income	Price and execute trades on-chain
26	UBS AG	Fixed Income	Native issuance of digital bonds financed with a repo facility

Monetary Authority of Singapore
10 Shenton Way MAS Building Singapore 079117
Telephone: (65) 6225-5577

S/N	Financial Institutions	Workstream(s)	Use Case Summary
	UBS Asset Management	Asset and Wealth Management	Digital issuance of VCC funds
27	United Overseas Bank Limited	Asset and Wealth Management	Native digital issuance of structured products

The table below provides the list of global industry associations and cooperatives participating in Project Guardian.

S/N	Association & Cooperatives	Workstream(s)
1	Capital Markets and Technology Association (CMTA)	Fixed Income
2	Global Financial Markets Association (GFMA)	Fixed Income
3	Global Financial Markets Association's Global Foreign Exchange Division (GFXD)	FX
4	International Capital Market Association (ICMA)	Fixed income
5	International Swaps and Derivatives Association (ISDA)	FX
6	Society for Worldwide Interbank Financial Telecommunications (Swift)	Asset and Wealth Management

The table below provides the list of policymakers in Project Guardian.

S/N	Policymakers
1	Banque de France
2	Deutsche Bundesbank
3	Financial Conduct Authority (UK)
4	Financial Services Agency (JP)
5	International Monetary Fund
6	Monetary Authority of Singapore
7	Swiss Financial market Supervisory Authority
8	World Bank