Consultation on the Eurosystem's Appia Project | GBBC Response

About Global Blockchain Business Council (GBBC)

GBBC is the largest leading non-profit association for the blockchain, digital assets, and emerging technologies community. Founded in 2017 in Davos, Switzerland, GBBC comprises more than 500 institutional members and 251 Ambassadors across 119 jurisdictions and disciplines.

GBBC furthers adoption of digital technologies by engaging regulators, business leaders, and global changemakers to harness these transformative tools for more secure and functional societies.

GBBC industry verticals: Financial Services, Global Commerce/Supply Chains, and Commodities, underpinned by AI, digital identity, governance, hardware, infrastructure, policy, regulation, and security.

GBBC initiatives: BITA Standards Council (BITA), GBBC Digital Media, Global Standards Mapping Initiative (GSMI), International Journal of Blockchain Law (IJBL), InterWork Alliance (IWA), and U.S. Blockchain Coalition (USBC).

Executive Summary

One of the clearest findings of the market to date is that tokenised wholesale activity will not scale safely without a credible public settlement anchor. The issue is how that anchor is provided, on what terms, with what safeguards, and in a way that does not replace one form of market fragmentation with another.

GBBC supports the Eurosystem's overall direction of travel and welcomes the seriousness with which Appia engages these questions. The consultation is valuable precisely because it does not ask whether tokenised wholesale markets need central bank money, common standards or public-sector involvement — those points are now broadly accepted across the market. It asks how those elements should be organised: whether the future ecosystem should rely on one network or several interoperable networks, what should sit in a shared utility layer, how strategic autonomy should be reflected in architecture and governance, and how public and private actors should collaborate as the model develops. The roadmap makes clear that Appia is the long-term design track of the Eurosystem's wholesale DLT strategy, paired with Pontes, and intended to deliver a blueprint by 2028.

Our response is therefore one of qualified support with targeted recommendations. GBBC supports central bank money as the anchor of tokenised wholesale markets, the case for common standards, and the Eurosystem's willingness to engage on long-term architecture. At the same time, we encourage stronger discipline in five areas that, in our view, will determine whether Appia produces a workable and scalable market structure: elevating interoperability from an intended outcome to a foundational principle that sits alongside competition and market integration; supporting the utility concept only where its scope is bounded by clear criteria on cost, access, contestability and governance, rather than pre-set functional buckets; operationalising strategic autonomy as resilience and governability, assessed through functional legal, operational and governance criteria rather than blunt proxies that may limit connectivity without improving resilience; applying technology neutrality, proportionality and cross-border compatibility, so that participation requirements remain scalable and Europe's infrastructure remains legible to international markets; and establishing a more structured public-private process, with transparent sequencing, clear decision criteria and well-organised channels for technical and operational input as the blueprint is developed.

Taken together, these recommendations reflect a single underlying view. The decisive question for Appia is not whether Europe should build a tokenised wholesale ecosystem anchored in central bank money, but whether that ecosystem will be designed in a way that preserves contestability, supports interoperability, and avoids new forms of lock-in or fragmentation. The coming design phase is where those outcomes will be settled, and GBBC's ambition in this response is to support the Eurosystem in getting those choices right.

Consultation Questions

Chapter 2.3:

Do you have any comments on the high-level principles governing Appia presented in Chapter 2.3? Are there any additional principles that should be considered?

GBBC broadly supports the high-level principles set out in Chapter 2.3 and considers them a credible and serious starting point for the development of a future tokenised wholesale financial ecosystem. In particular, we welcome the emphasis on central bank money as the anchor, market access and integration, competition and contestability, legal certainty, and scalability. Taken together, these principles indicate that the Eurosystem is approaching tokenisation not simply as a technical innovation issue, but as a broader market-structure question with implications for resilience, efficiency, participation and long-term competitiveness.

At the same time, we consider that three additional principles in particular should be made more explicit in order to better support the roadmap's stated objectives. First, interoperability should be elevated from an intended outcome to a guiding principle. If Appia is to reduce fragmentation rather than redesign it in a new form, interoperability must sit alongside competition and market integration as a foundational commitment. This should extend both across DLT environments and to existing infrastructures, so that tokenised and non-tokenised activity can interact safely during what is likely to be a long transition period.

Second, technology neutrality and proportionality should be articulated more clearly. Technology neutrality is important in order to avoid premature lock-in and to preserve flexibility as the ecosystem evolves. Proportionality matters because governance, compliance and technical requirements that are unnecessarily heavy may entrench existing market structures and reduce the contestability that the roadmap itself seeks to promote. Proportionality should be applied in a role- and risk-based manner, rather than as a one-size-fits-all concept, so that participation requirements remain scalable and do not inadvertently deter entry or innovation.

Third, cross-border compatibility should be recognised explicitly — not because Appia should dilute its European focus, but because Europe's tokenised wholesale markets will operate in a broader global environment and should be designed in a way that preserves external intelligibility and interoperability where appropriate. Alongside these three core additions, we would also support clearer recognition of meaningful access for new entrants and non-incumbent models, governance transparency as a condition of long-term legitimacy, and coexistence with existing infrastructures as a design assumption rather than a later adjustment.

GBBC therefore supports the principles as drafted, but recommends that they be strengthened through explicit recognition of interoperability, technology neutrality, proportionality and cross-border compatibility, supported by clearer attention to access, governance transparency and coexistence.

Chapter 3.2 – question 1

Do you consider the concept of the network layer, described in Chapter 3.2 as a utility, to be a strong foundation for developing a future tokenised financial ecosystem? In your view, which elements of a tokenised market infrastructure could realistically function as a neutral shared utility? Are there any specific aspects of this concept that you believe require further refinement or emphasis?

GBBC supports the Eurosystem's exploration of the network layer as a shared utility and agrees that this can provide a credible foundation for a future tokenised ecosystem. Where a common infrastructure layer can be made genuinely open, neutral and accessible on fair terms, it has the potential to reduce duplicated infrastructure costs, lower barriers to entry and support competition at the level of services and market offerings. In that sense, the utility concept is coherent and relevant to the broader objectives of integration, efficiency and innovation set out in the roadmap.

The key issue, however, is not whether a utility model is conceptually valid, but how its scope is defined and governed in practice. In a DLT-based environment, the line between common infrastructure and competitive service is not always straightforward. Where this boundary is drawn is highly consequential. If the common layer is defined too narrowly, the result may be to preserve existing incumbent control over key market functions while describing the architecture as neutral. If it is defined too broadly, it may create unnecessary concentration, reduce contestability, and narrow the space for differentiated innovation.

For that reason, GBBC cautions against being too prescriptive at this stage as to which functions necessarily belong in the utility layer and which must remain outside it. The more useful task under Appia is to test carefully which functions genuinely benefit from common provision, which should remain open to differentiated competition, and how those choices affect access, cost, innovation and market structure over time. In particular, choices relating to permissions, validator roles, consensus mechanisms and control logic should not be treated as merely technical, as they may directly affect participation, competition and value distribution across the ecosystem.

GBBC therefore recommends that the Eurosystem refine the utility concept through a more explicit assessment framework. Functions should be evaluated against practical questions such as whether common provision reduces cost and fragmentation, lowers barriers to entry for challengers and new models, preserves meaningful competition in adjacent services, and remains governed in a sufficiently independent and adaptable way over time. The framework should also test whether governance responsibilities and participation obligations remain sustainable, with clear alignment between responsibilities, costs and incentives, so that the model supports broad and durable market participation.

Chapter 3.2 – question 2

How can Europe's strategic autonomy (e.g. legal, technological, operational, governance-related) be ensured within the envisioned tokenised financial ecosystem? Are there any particular measures or approaches you would recommend to strengthen autonomy?

GBBC recognises strategic autonomy as a legitimate and important consideration in the development of a tokenised wholesale financial ecosystem. If critical market functions become dependent on infrastructures, legal frameworks or technologies that are difficult for European authorities to supervise, govern or rely upon under stress, this would create real vulnerabilities. In this respect, strategic autonomy is properly understood as a question of resilience, continuity, legal certainty and effective public authority control.

GBBC therefore supports measures that strengthen Europe's ability to govern and rely on critical tokenised market infrastructure in practice. These may include ensuring that core infrastructures are subject to European legal and regulatory frameworks, that supervisory and intervention powers are effective, that governance arrangements preserve the capacity of public authorities to act where necessary, and that robust continuity and fallback arrangements exist for critical functions.

At the same time, we recommend that strategic autonomy be operationalised in functional rather than overly formalistic terms. In our view, relevant considerations are likely to include where infrastructure is deployed, how it is operated and maintained, who exercises effective governance and control, and whether legal accountability and continuity can be assured under stress. These considerations may be more useful and more proportionate than relying too heavily on blunt proxies such as the nationality of developers, upstream service providers or ultimate ownership structures. A framework that is too rigid in this respect may reduce competition and connectivity without materially improving resilience.

We also consider it important that strategic autonomy not be interpreted in a way that creates unnecessary fragmentation or reduces Europe's ability to remain connected to broader market developments. The objective should be to ensure that Europe can govern and rely on its critical

tokenised infrastructure, while preserving the capacity for interoperability, market participation and international relevance where these can be achieved without undermining resilience. In addition, Appia would benefit from a clear, role-based and risk-based approach to how sovereignty expectations apply to different ecosystem functions, for example in relation to data location, operational control, and third-party dependencies such as cloud service providers, so that constraints are not applied in ways that limit participation without improving systemic resilience.

GBBC therefore supports strategic autonomy as resilience, governability and continuity, while recommending that it be implemented through objective legal, operational and governance criteria rather than unnecessarily exclusionary design choices.

Chapter 3.2 – question 3

In your view, what would be the best ways to establish common standards, rules and practices when shaping the tokenised financial ecosystem? In which domains should standardisation be achieved? What role would you see for public institutions in this regard?

GBBC strongly supports the establishment of common standards, rules and practices as one of the most important enabling conditions for Appia. Without common standards, tokenised wholesale markets risk replicating existing fragmentation through incompatible token structures, divergent smart-contract approaches, inconsistent control models and limited interoperability across platforms. The Eurosystem is therefore right to place standards near the centre of the Appia exercise.

In our view, the standards process should be open, structured and multi-stakeholder. Public institutions should play a central role as convenors, coordinators and, where necessary, validators or mandators of common standards. At the same time, standards should be co-developed with market participants and should build on existing initiatives and market practice wherever possible. The objective should not be to create an unnecessarily bespoke European layer if relevant standards work is already under way, but rather to identify where clarification, convergence or extension is needed in order to support a more integrated ecosystem. This should include standards that enable interoperability not only across DLT environments but also with existing infrastructures, so that tokenised and non-tokenised activity can interact safely during what is likely to be a long transition period.

Priority domains for standardisation are likely to include token and data models, interoperability mechanisms, smart-contract interfaces and controls, identity and permissions frameworks, and common approaches to lifecycle and reporting events. In each of these areas, relevant work is already well under way that Appia should map, reference and build on rather

than duplicate. Examples include ISO 20022 for messaging, ISO 24165 (the Digital Token Identifier) for token identification, the ICMA Bond Data Taxonomy for fixed-income data, ISDA's Common Domain Model for derivatives, and open-source work coordinated through initiatives such as FINOS. Appia should therefore approach standards as a convergence and mapping exercise rather than a blank-slate effort.

GBBC therefore strongly supports the standards work under Appia and recommends that it proceed through an open, market-engaged process that builds on existing frameworks and seeks convergence rather than unnecessary divergence.

Chapter 3.3 – question 1

How do you assess the advantages, challenges and trade-offs of enabling central bank money settlement on one network? Please comment with respect to governance, resilience, fragmentation risks, innovation incentives, market efficiency, etc.

GBBC recognises that a single-network model has a strong intellectual and practical logic in the European context. One of the principal motivations behind Appia is the longstanding fragmentation of European market infrastructure, and a more unified model offers an intuitively clear response to that problem. A single network may reduce duplicated infrastructure costs, simplify coordination, support a more integrated liquidity environment, and strengthen the efficiency of settlement and related processes. These are serious benefits and should not be understated.

At the same time, a single-network model also raises important trade-offs. A more unified infrastructure may reduce fragmentation, but it also creates stronger concentration and dependency. This has implications for resilience, governance, and the consequences of design choices made at the infrastructure layer. In particular, the more central the network becomes, the more consequential its access conditions, operational model, upgrade path and governance arrangements will be. A model that is efficient in theory may become problematic if participants have too little clarity on how decisions are made, how governance remains balanced over time, or how dependencies are managed.

The issue is therefore not whether a single-network model is inherently right or wrong. It is whether the integration and cost benefits are sufficient to justify the concentration and governance risks, and whether those risks can be managed credibly in practice. This is especially important given that Appia is also intended to support competition, innovation and contestability. A single network should not become a means of solving fragmentation by creating an overly rigid or overly centralised infrastructure that limits the competitive space above it. In addition, a single-network approach should be assessed against the practical reality of long-lived coexistence with existing infrastructures and cross-border activity. If designed as overly closed, it could drive continued parallel rails for legacy or cross-currency use cases, undermining the goal of integration.

GBBC would therefore not reject the single-network option outright. Rather, we recommend that the Eurosystem continue to test it carefully against a broad set of criteria, including resilience, cost, governance, transition, and the degree to which a more unified infrastructure would genuinely improve access and market functioning across Europe. The strength of the anti-fragmentation case should be recognised. But equally, the case for unity should not be treated as sufficient on its own without a fuller account of the governance and dependency implications, particularly when weighed against the alternative architectures considered in the following question.

Chapter 3.3 – question 2

How do you assess the advantages, challenges and trade-offs of enabling central bank money settlement on a limited number of selected networks? Please comment with respect to governance, resilience, fragmentation risks, innovation incentives, market efficiency, etc.

We consider that a model involving a limited number of selected networks may offer a credible way of balancing integration, resilience and innovation, but only if it is underpinned by strong interoperability and a disciplined approach to access and governance. In that respect, the attractiveness of such a model lies not simply in plurality as such, but in whether it can avoid both extremes: a fragmented landscape of non-interoperable infrastructures on the one hand, and an overly rigid or concentrated single-network model on the other.

A limited multi-network approach may offer important advantages. It can reduce single-point-of-failure risk, preserve space for technical and business-model diversity, and provide a more realistic transition path from today's market conditions, in which multiple infrastructures and tokenisation models are already developing in parallel. It may also be better able to support innovation by avoiding premature lock-in to one architecture before the market has fully evolved.

At the same time, the main challenge is that a multi-network model can easily reproduce fragmentation unless interoperability is made genuinely robust in practice. Assets and liquidity should not become trapped within selected environments, and the legal, technical and operational means of interaction between networks need to be sufficiently mature and reliable. The selection process is equally important. A model based on "selected networks" will only command confidence if the basis for selection is objective, transparent and capable of evolving over time as the market develops. Interoperability requirements should also extend to interaction with existing infrastructures during the transition period, so that the model does not inadvertently harden a divide between tokenised and non-tokenised activity.

For those reasons, GBBC would be broadly supportive of further exploration of a limited multi-network model, but only if it is accompanied by strong discipline on interoperability, standards,

admissions criteria and governance. In our view, the main risk in such a model is not plurality itself, but weak connectivity between networks combined with an opaque or static selection process. If these issues are handled well, a limited multi-network architecture may offer a more balanced response to Europe's market structure challenges than either full fragmentation or premature consolidation.

Chapter 3.3 – question 3

What are your views on the Eurosystem providing its core services on a network it operates directly? What operational, functional or technical features would you require to support your business needs and enable efficient participation in a tokenised ecosystem?

We are broadly supportive of the Eurosystem providing core services on a network it operates directly, provided that the scope of that role is clearly delimited and the resulting infrastructure supports open and efficient ecosystem participation.

There is a strong public-interest rationale for the Eurosystem to operate infrastructure that is necessary for the provision of core public functions such as central bank money settlement and, potentially, certain related collateral functions. Insofar as these functions sit at the heart of monetary policy transmission, settlement safety and financial stability, direct operation can be both appropriate and reassuring to the market.

The key issue is to ensure that direct operation does not lead to unnecessary extension of the Eurosystem's role into functions that are more properly left to competitive market provision. The clearer the boundary between core public services and the broader assets and services layer, the easier it will be to maintain both trust in the public anchor and openness in the wider ecosystem. Clear role allocation is also a practical condition for competitive neutrality and investment certainty in the market layer.

If the Eurosystem does provide its core services on a directly operated network, several features will be important from a market perspective. Access conditions should be clear, transparent and non-discriminatory. Interfaces should be open and standardised so that participation does not depend on bespoke integration or privileged positioning. The legal status of settlement and control functions should be clear, and the operational model should be resilient, predictable and compatible with the practical needs of wholesale users. Market participants will also need confidence that technical and governance changes will be managed transparently and that direct operation of the core layer will not indirectly constrain innovation or competition in adjacent services.

On that basis, a Eurosystem-operated network can be a credible component of the future ecosystem, provided it remains anchored to clearly defined core public functions and is designed in a way that supports, rather than limits, broader ecosystem participation.

Chapter 3.3 – question 4

What are your views on the Eurosystem providing its core services on one or more networks under shared governance with other parties? What governance, transparency or decision-making features would be necessary for you to operate efficiently and safely on such a network?

Shared governance may be a promising model, but it should be judged less by the label and more by the quality of its governance architecture.

A shared-governance approach may offer an attractive balance between public control over core functions and private-sector participation in the development and operation of the broader ecosystem. It reflects the reality that a future tokenised wholesale market will almost certainly require both strong public anchoring and meaningful private-sector involvement. In that sense, the model deserves serious consideration.

However, shared governance is not automatically preferable simply because it appears more inclusive. The real question is how governance is allocated and constrained. A workable model would need to preserve clear Eurosystem authority over non-negotiable public-interest functions such as the control and integrity of central bank money. At the same time, decision-making on standards, infrastructure evolution, technical requirements and participation conditions should be transparent, well structured and sufficiently representative to command confidence across the market.

From the perspective of efficient and safe participation, several governance features would be especially important. Participants will need clarity on how decisions are made, which bodies decide what, how changes are proposed and implemented, and how disputes or conflicts of interest are handled. Transparency matters not only as a matter of principle but as a practical condition of trust. Shared governance that remains opaque, incumbent-led or difficult to navigate in practice would not deliver the benefits of inclusion that its title suggests. As with direct operation, shared governance should preserve a clear boundary between core public services and competitively provided functions, to protect competitive neutrality and avoid indirect crowding-out.

GBBC therefore supports further exploration of shared governance, while recommending that the Eurosystem develop a much clearer picture of decision domains, representation, transparency standards, conflict-of-interest controls, and recourse mechanisms. Those design details will be decisive in determining whether shared governance supports or undermines Appia's broader objectives of openness, competition and integration.

Chapter 4.1

Do you have any suggestions regarding the general approach to the investigation under Appia proposed in Chapter 4.1?

GBBC supports the general investigative approach and encourages the Eurosystem to make the process more transparent, iterative and legible to stakeholders.

The roadmap's general approach is well framed. It is sensible to combine analytical and practical work, to remain modular and adaptable, and to seek to minimise sunk costs by giving the market early signals as the work develops. Those are all appropriate features of a long-term design process in an area that remains technologically and institutionally fluid.

The main area for improvement lies in process transparency. At present, the market has limited visibility into how the different building blocks will be sequenced, how dependencies between them will be managed, and what criteria will ultimately be used to compare or prefer different architecture options. This matters because the quality of market feedback depends heavily on whether participants can understand where the Eurosystem believes the key choices lie and when different forms of input will be most valuable.

GBBC therefore recommends that the Eurosystem provide greater clarity on analytical sequencing, the criteria against which options will be assessed, and the points at which stakeholders will be asked to validate or challenge emerging conclusions. This would not require the Eurosystem to prejudge outcomes. Rather, it would strengthen the evidence-gathering process by making it easier for stakeholders to direct input to the most material issues at the right stage. We also encourage the publication of interim outputs, such as short design notes or concept papers, and a clear mechanism for integrating cross-cutting conclusions across building blocks, so the market can provide timely, targeted feedback as the blueprint takes shape.

Chapter 4.2

With a view to enabling efficient and effective public-private collaboration under Appia, do you have any suggestions for market and public sector engagement, in addition to the material presented in Chapter 4.2?

GBBC supports the Eurosystem's emphasis on public-private collaboration and considers this essential to the success of Appia. Given the scope and ambition of the initiative, the quality of the resulting blueprint will depend heavily on whether the Eurosystem is able to draw on practical expertise from across the market, including not only incumbent infrastructures and regulated institutions, but also firms working directly on tokenisation, blockchain architecture, data models, standards, and related operational questions.

In our view, one of the most useful next steps would be to make the collaboration model more structured and more clearly connected to the specific workstreams under Appia. The current roadmap signals openness to market engagement, but there is scope to be more concrete about how expertise will be organised, how input will be fed into the different building blocks, and how cross-cutting issues such as standards, governance and interoperability will be handled across workstreams rather than only within them.

The discussion within our working group also pointed to one area where public-private collaboration could be particularly productive: standards. This is a space where the Eurosystem is clearly seeking practical market input, and where there is already relevant work under way that Appia should not ignore. GBBC therefore encourages a model of engagement that is not limited to general consultation, but that also creates clear channels through which market participants and associations can contribute technical and operational expertise in a structured way.

As a neutral trade association with a broad institutional membership, GBBC would welcome the opportunity to support this process. In particular, GBBC can help aggregate cross-market perspectives, facilitate engagement on standards and interoperability questions, and provide comparative insight drawn from broader market and policy developments. We therefore encourage the Eurosystem to continue developing a collaboration model that is not only inclusive in principle, but sufficiently structured to support meaningful co-development of the Appia blueprint.

Conclusion

Appia addresses a genuine need, and the Eurosystem is right to approach tokenised wholesale infrastructure as a long-term market-structure question rather than a narrower technical one. Whether the resulting blueprint delivers on that ambition will depend on the discipline applied to a relatively small number of design choices — on interoperability, on the scope of the utility layer, on how strategic autonomy is operationalised, and on the quality of the public-private process that follows this consultation.

Appia's success will also depend on coherence with the broader environment in which it operates. Europe's future tokenised wholesale ecosystem will not exist in isolation from other markets, other standards tracks or other tokenisation initiatives, and the roadmap's value will be greater where it remains aligned with those wider developments rather than defined against them. The same logic applies to the relationship between Appia and Pontes, and to the interaction between the future ecosystem and existing infrastructures during what is likely to be a long coexistence period.

Finally, we would note that the most valuable contribution the market can make at this stage is disciplined input on the real trade-offs embedded in the roadmap. The consultation is strongest where it openly recognises those trade-offs — between fragmentation and concentration, between resilience and openness, and between common infrastructure and differentiated service provision. Preserving that openness to evidence and practical market feedback as the work progresses will be important to ensuring that the future ecosystem is not only coherent in principle, but workable in practice.