



R3 RESPONSE TO BASEL COMMITTEE'S CONSULTATION ON THE PRUDENTIAL TREATMENT OF CRYPTO-ASSET EXPOSURES

As a distributed ledger software provider to the banking and financial services industries, R3 welcomes the Basel Committee on Banking Supervision's Consultative Document on the Prudential Treatment of Crypto-asset Exposures. We believe the industry to be an area of immense potential, but one that also requires careful attention to minimize risk to financial institutions and the wider economy.

The points raised in this Consultation are ones that R3 has considered as part of our own digital and crypto-asset strategy. Regulators around the world are grappling with the creation, deployment, and growing adoption of crypto-assets, and R3 stands ready to be of assistance to the Committee, as we are to the Committee's host, the Bank of International Settlements, on a variety of issues ranging from central bank digital currencies (CBDCs) to tokenized bonds. We would be delighted to discuss these, or any other points raised in the Consultation, if the Committee should desire.

Introducing R3

Founded in 2016, R3 is an enterprise software company enabling digital transformation through our trust technology, connected networks, and regulated markets expertise. With a foundation in distributed ledger technologies (DLT), our applications and solutions were purpose-built for use in regulated financial industries.

R3 believes trust technologies like DLT and confidential computing are already demonstrating their transformative potential. Financial institutions and businesses more broadly can expect to see significant reductions in cost across the lifecycle of many kinds of financial transactions as innovative technology solutions replace legacy systems and processes. Further, the reduction in operational risk and the compression of clearing and settlement times could meaningfully lower costs through efficient collateral management and holding of capital reserves.

Additionally, these technological innovations present an opportunity to dramatically impact regulatory compliance in ways that will benefit regulators, market participants, and their end-clients. With the ability to provide a range of solutions to firms grappling with "big data" challenges, trust technologies offer potential solutions to KYC and regulatory reporting requirements faced by regulated entities, thereby reducing compliance costs and further safeguarding systems as a whole.

R3's Trust Technologies

Corda is R3's signature DLT software and is used in a range of industries to record, manage, and execute institutions' transactions in perfect synchrony with their peers. Corda is unique in the blockchain space by offering privacy, settlement finality, and scalability. A broad ecosystem of participants across multiple industries from both the private and public sector, develop on Corda, an open-source version, and Corda Enterprise, a commercial version for enterprise usage.



Originally built by the financial services industry for the financial services industry, Corda leverages the power of blockchain to address specific business challenges in highly regulated markets. Corda is fit for purpose in such markets and, therefore, promotes financial security and market integrity.

Conclave, R3's latest innovation, harnesses the promise of confidential computing and Intel SGX technologies. Conclave empowers businesses to develop applications that analyze and process sensitive data from multiple parties —all without compromising on confidentiality.

To ensure our customers derive the greatest value from our products, we provide services to shorten time-to-market, as well as support and guidance on implementation, integration, and developing ecosystems on our platforms. Our customers and partners also have access to a network of leading systems integrators, cloud providers, technology firms, software vendors, corporates, and banks.

We share the priorities of our partners and developers: we are focused on technology that ensures system security, appropriate risk mitigation, and ownership traceability, as well as the ability to safeguard assets. It was these priorities that led to SIX Swiss Exchange to choose Corda as the underlying blockchain technology for its digital asset listing, trading, settlement, and custody service named SIX Digital Exchange (SDX), as well as Nasdaq's Digital Asset Suite.

Responses to Questions in Consultative Document

Below are selected responses to questions which are most relevant to R3's industry perspective.

Q1: What are your views on the Committee's general principles?

R3 supports the general principles set forth by the Committee. As an enterprise financial technology company, we have long advocated for a same risk, same activity, same treatment framework and believe this is the most appropriate approach for ensuring technology-neutral policies that fully leverage the potential for innovation.

We further support the global approach of the Committee in setting minimum standards, while acknowledging that care should be taken to ensure consistency above the minimum standards to reduce regulatory arbitrage that would undermine the framework the Committee has proposed.

Q2: What are your views on the Committee's approach to classify crypto-assets through a set of classification conditions? Do you think these conditions and the resulting categories of crypto-assets (Group 1a, 1b and 2) are appropriate? Which existing crypto-assets would likely meet the Group 1 classification conditions?



Classification conditions are the appropriate approach to ensure a technology-neutral and same risk-same treatment framework. R3 broadly supports the conditions set forth for Group 1a, 1b, and Group 2 crypto-assets, and believes they align with the specific risk factors of those assets.

With Group 1 assets, we see immense potential to increase efficiency in financial markets through the tokenization of traditional assets, which we believe are rightly considered Group 1a crypto-assets in the Consultative Document. R3 has been engaged with several operational use cases for tokenized traditional assets that integrate with or improve upon legacy banking systems. As Committee members will know, a particular legacy challenge of banks is in cross-border payments. Using Corda Enterprise, Wells Fargo has built an internal application called Digital Cash, which leverages Corda's settlement finality, privacy, and scalability to move value between Wells Fargo institutions across borders using digital representations of cash. By integrating a type of digital asset into its internal operations, it reduced liquidity risk for the bank by creating faster intrabank transfers and expanded operating hours.

Another novel use case for tokenized assets relates to private placements, which currently use paper-based legacy systems and result in significant delays for investors. To overcome this challenge and reduce administrative costs, HSBC built the Digital Vault application on Corda. The application tokenizes private placement records, enabling the digitization of the entire asset lifecycle. HSBC pursued this application of an asset-backed token on Corda due to its scalability, privacy, and ease of auditing.

R3 is also heavily engaged in the development of tokenized cash, namely central bank digital currency (CBDC) projects. As the Committee may know, Corda is being used in CBDC pilots in France, Sweden, South Africa, and many more, and we are convening public and private thought leaders globally in our [Sandbox for Digital Currencies](#).

Although CBDCs are excluded from the Committee's proposal, R3 has observed an overlap in the overarching crypto-asset policy issues. We believe CBDCs and tokenized traditional assets built on distributed ledgers possess extraordinary potential to enhance operational efficiency and reduce risk in the banking industry. Based on this experience, we believe treatment of these assets within existing frameworks is appropriate to ensure innovation can take root, while at the same time preserving adequate protection and risk mitigation measures for banks.

Stablecoins are another promising use-case for tokenized assets, which we are actively exploring in our Sandbox. R3 supports the classification conditions for these as Group 1b assets, but ultimately foresees that some popular stablecoins would not meet the conditions in their current form.

Further, we anticipate that banks' Group 2 crypto-asset exposure is likely to be muted in the short to medium term due to questions and, in many cases, concerns about volatility and risk, as the consultation recognizes in creation of the classifications. During this period, we expect many banks to minimize their own risks as they await additional regulatory clarity and seek to observe the scope of customer demand. Regardless, a clear distinction between the classification of



Group 1 and 2 crypto-assets is critical to ensure each receives appropriate treatment that will encourage innovation while also protecting markets and consumers. Furthermore, the application of these standards will be of equal importance to the standards themselves, and there will be a need for robust supervisory guidance and consistent implementation.

Q3: What are your views on the classification conditions? Are there any elements of these conditions that should be added, clarified, or removed in order to: ensure full transferability, settlement finality, and/or redeemability; limit regulatory arbitrage, cliff effects and market fragmentation; and take account of new and emerging crypto-assets?

R3 supports the classification conditions, and believes their prioritization of transferability, settlement finality, risk mitigation, and operational structure, among other things, is essential to ensure the market matures safely. However, we believe condition four could be further clarified to ensure it targets the intended entities, on which we elaborate further in question six.

From R3's perspective we see no technical barriers in the conditions that would prevent digital asset providers from ensuring transferability, settlement finality, and redeemability were they to use Corda as the underlying technology. However, that is not true or possible on many other platforms.

When designing Corda, R3 put settlement finality and legal structure at the center of its design after determining public blockchains – which rely on proof-of-work consensus mechanisms and where settlement finality is probabilistic – are generally ill-suited to institutional risk control standards. Applications on Corda closely model legal language and business processes that begin with the existence of binding agreements, collecting the necessary approvals, and signatures to create, execute, and transact those agreements.

Further, transactions on Corda are settled atomically on a peer-to-peer basis. As only the transacting nodes are required for settlement, this ensures settlement finality and means that only parties that have a need and right to see information are able.

This structure not only supports settlement finality and privacy, but also bolsters the operational resilience of our platform, as Corda can handle many thousands of transactions per second since information is shared only between involved parties not broadcast to all nodes. Furthermore, on Corda, identity is known and tied to participating legal entities, reducing barriers to enforcing legal rights and traceability of holders.

Q4: N/A

Q5: For the third classification condition, (i) would risk governance and risk control practices for Group 1 and Group 2 crypto-assets differ; and (ii) are there alternatives to the required risk governance and risk control practices that would ensure that material risks of the network are sufficiently mitigated and managed?



R3 envisages that risk governance and control practices may differ between Group 1 and Group 2 crypto-assets due to varied asset characteristics, as well as the inherent variations in the underlying technologies that may be used for these assets.

For example, on Corda, where Group 1a assets are prevalent, there is a precise network admission process, and networks can be designed to suit the governance requirements of the crypto-asset developer or operator. When working with private networks like Corda, network topology is indeed an axis of freedom and aligning the topology with a set of goals is an important design consideration. Architects can define a topology that is acceptable to all participants and which meets risk mitigation standards.

In contrast, when working with public blockchain networks, network topology is a given. That is to say, public network topologies are mostly fixed and may not be open to revision by crypto-asset application architects. This means protocols to meet governance requirements must be built on top of the underlying technology, rather than being built-in.

Regardless of the underlying technology of a crypto-asset, managing material risks through governance and risk control policies are essential to ensuring the safety of the asset, whether they can be assured technically (like on Corda) or through additional business practices. Given this, R3 supports Condition 3 as a classification for Group 1 crypto-assets.

Q6: For the fourth classification condition, (i) to what extent would the regulation and supervision of entities that execute redemptions, transfers, or settlement finality of the crypto-asset reduce risk in crypto-asset exposures held by banks; (ii) which entities should/ should not be in scope of regulation or supervision? For instance, are there entities involved in the transfer and settlement systems of crypto-assets (such as nodes, operators and/or validators) that should be excluded from the condition of required regulation and supervision?

R3 interprets this condition as intending to implicate crypto-asset operating entities, rather than the underlying technology itself. Given the Committee's principle of technological neutrality, R3 suggests this condition be clarified to exclude providers of underlying technology (i.e., the entities that operate distributed ledgers).

Inadvertently capturing distributed ledger technologies in this condition could have unintended consequences in reducing innovation in industries outside of crypto-assets but that use the same underlying technologies. We do not believe is the Committee's intention.

Q7: Do you consider the responsibilities of banks and supervisors to be clear and appropriate? Are there any other responsibilities for banks or supervisors that the Committee should consider?

R3 views the responsibilities of banks and supervisors to be appropriate as set forth in the Consultative Document and is confident the Committee will take care to ensure they are sufficiently clear for regulators to implement. As with any framework, consistency between



supervisors across jurisdictions will be essential to ensure the appropriate prudential treatment of these emerging technologies and avoiding regulatory arbitrage.

Some crypto-asset companies have identified and begun operating in favorable jurisdictions in order to avoid tougher regulatory regimes. This, coupled with the rapid pace of development in the market for crypto-assets, highlights the importance of regulatory harmonization to minimize regulatory arbitrage opportunities, thereby creating a safer global system for digital asset market participants. R3 believes information-sharing and collaboration by regulators from the outset will be necessary for preventing regulatory arbitrage.

Q10: Do you have any views on the Committee's current thinking on the capital requirements for Group 1b crypto-assets?

R3 agrees with the Committee's assessment that the many potential structures of cryptoassets limit the ability to set out capital treatment for each possibility. Given this, we support risk-based capital requirements and further suggest that features of the underlying technology be considered as part of any risk assessment. The Committee has already highlighted some conditions that may be affected by technological design, including settlement finality and governance.

Q11-Q18: N/A

R3 has appreciated the opportunity to contribute our response to this important Consultative Document and hopes to be a resource as the Committee continues their consideration of these issues.

Please do not hesitate to contact us with questions or for additional information.

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