

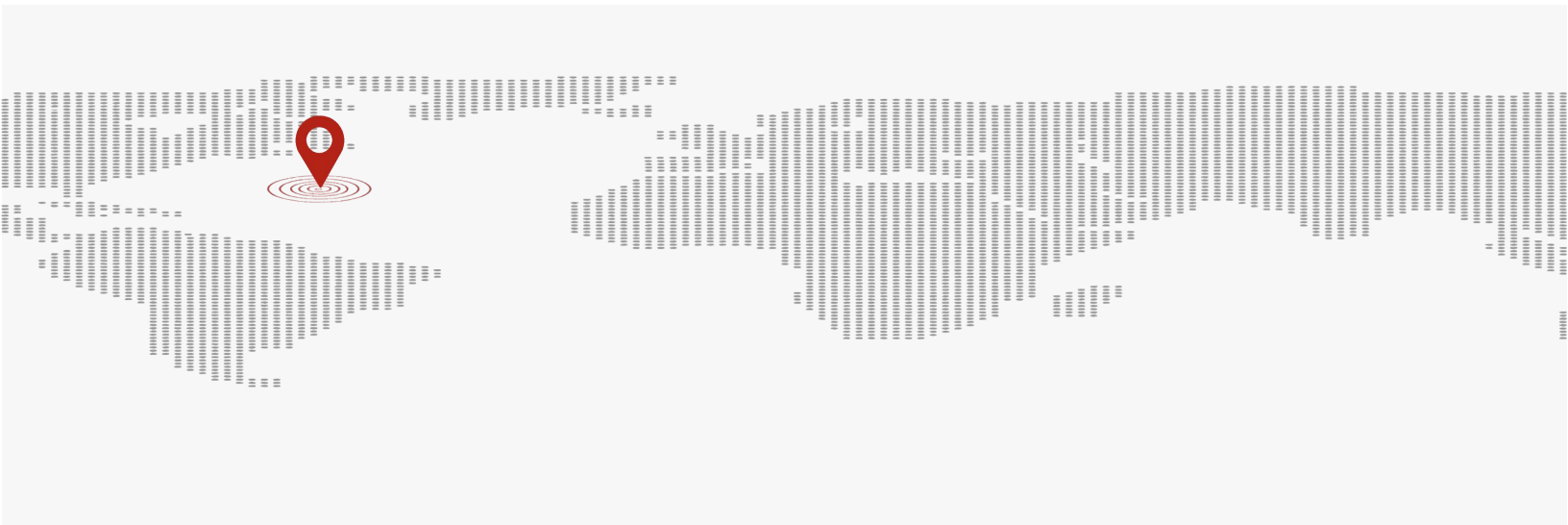


Monday, 3 February 2025

CONSULTATION PAPER

Call for Proposal – Embedded Supervision in the context of Decentralised Finance

Submissions to be received by Wednesday, 30 April 2025



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Introduction

The Bermuda Monetary Authority (Authority or BMA), the financial regulatory authority of Bermuda through its Innovation Hub activities, invites proposals for a collaborative pilot project aimed at testing Embedded Supervision practices within the context of Decentralised Finance (DeFi). Recognising that DeFi’s rapid growth compels regulators to revisit traditional regulatory principles to fulfil their public protection objectives, this pilot project aims to explore the potential of embedded regulatory supervision¹ within the technological framework of these projects for embedded regulatory oversight, compliance, and automated reporting.

We welcome all stakeholders, including Digital Asset Businesses, Foundations, Protocols, FinTech companies, DeFi operators, technology developers and academic institutions to apply for this novel and unique initiative and contribute to shaping the future of regulatory supervision in digital finance. The insights derived from this pilot will directly inform the evolution of BMA's supervisory mechanisms in response to the rapidly evolving DeFi sphere.

¹ “Embedded Supervision” refers to the direct integration of regulatory oversight, compliance checks, and reporting mechanisms into the technological foundation of a financial platform—particularly within its smart contracts, protocols, or data layers—so that supervisory requirements are inherently enforced in real-time with limited or delayed human intervention.

Pilot Objectives:

1. Collaborative Understanding & Risk-Based Regulation

- Engage with industry participants to grasp the complexities of DeFi and inform adaptive, risk-based regulatory frameworks
- Investigate the role of Embedded Supervision for projects with varying degrees of decentralisation
- Examine decentralised governance models and explore mechanisms for effective Embedded Supervision

2. Technical Feasibility & Operational Efficacy

- Determine which components of DeFi necessitate Embedded Supervision and how these data elements should be relayed to regulators
- Assess the real-world outcomes of integrating embedded regulatory oversight, including automated compliance checks and reporting
- Identify and address potential technological, data management, operational, security, interoperability, and scalability challenges

3. Risk Monitoring & Development of Best Practices

- Monitor changes to DeFi risk parameters, evaluating stability and disclosure practices to gauge the effectiveness of automated oversight
- Quantify efficiency gains resulting from real-time compliance monitoring and reporting mechanisms
- Contribute to the establishment of best practices for implementing and maintaining Embedded Supervision in DeFi platforms

Background and Context

DeFi presents an innovative, alternative financial services ecosystem deeply embedded in Distributed Ledger Technology (DLT) intended to increase accessibility, transparency, and efficiencies through disintermediation. An intrinsic part of DeFi applications is smart contracts, peer-to-peer networks, and protocols that collectively work towards achieving these objectives.

With its pace of evolution and inherent ethos, DeFi invokes key considerations for regulators. For instance:

1. **Lack of Central Authority:** DeFi's decentralised nature complicates the implementation of centralized oversight measures. Determining responsibility for regulatory outcomes or executing corrective actions in such a distributed system requires innovative thinking.
2. **AML/KYC Challenges:** DeFi's pseudonymous nature may require novel Anti-Money Laundering (AML) and Know-Your-Customer (KYC) processes. Ensuring that illicit activities are effectively monitored, identified, and prevented requires effective approaches and potentially revised regulatory frameworks.
3. **Technological Complexity:** Regulatory adaptation to DeFi's rapidly changing, technologically robust models can prove challenging. Skills enhancement and regulatory agility are of crucial importance.
4. **Cross-border Transactions:** DeFi's borderless nature means that it operates globally via the internet, complicating jurisdictional authority and the applicability of a particular country's laws and regulatory frameworks.
5. **Rapid Evolution:** DeFi's agile pace of innovation presents difficulties for traditional regulatory reviews, necessitating a proactive and adaptive approach to oversight.
6. **Parameter of Decentralization:** Recognising the degree of decentralisation in a particular DeFi model is vital. Some platforms may claim complete decentralisation, but in practice, a limited group of stakeholders (developers, miners, etc.) may exert significant influence.

To devise an effective regulatory approach to these models, it is fundamental to understand the specific challenges that DeFi solutions present, the associated risks, and the necessary and appropriate mode of regulatory intervention. The initiative to pilot the Embedded Supervision approach with industry participation – particularly DeFi operators, is a significant step towards navigating these challenges.

Traditional methods of regulatory oversight face unique difficulties in this environment, making it necessary to craft innovative regulatory approaches tailored to DeFi and increasingly decentralised applications. The Embedded Supervision model offers an innovative method to achieve this objective and forms the basis for this call for proposals.

Embedded Supervision refers to a regulatory oversight mechanism that incorporates automated compliance and reporting built atop an underlying technological infrastructure. At its core, Embedded Supervision aims to integrate regulatory requirements within supervised institution's systems for real-time and efficient compliance monitoring. The BMA believes that piloting Embedded Supervision could be instrumental in enhancing regulatory practices for projects in the realm of DeFi.

Example Pilot Projects

Potential pilot participants are encouraged to think creatively and propose innovative pilot tests for the BMA's Embedded Supervision initiative. The following examples may serve as inspiration:

1. **Regulatory DAO Implementation:** This pilot project could involve creating a Regulatory Decentralised Autonomous Organisation (DAO) on a DeFi network, with Embedded Supervision incorporating the BMA as a non-voting member. It could assess the DAO's capability in enforcing real-time regulatory decisions and maintaining compliance.
2. **DeFi Lending Platform Supervision:** Evaluate Embedded Supervision within a DeFi lending platform with specified risk parameters and the disclosure practices for any changes to the project.
3. **Smart Contract-Driven Regulatory Compliance:** This pilot project could investigate the feasibility of integrating key regulatory requirements (including licence conditions) into the smart contracts that underpin a DeFi platform.
4. **Real-Time Compliance Reporting System:** This pilot project could explore developing and implementing a real-time compliance reporting system in a DeFi platform. The system would be designed to automatically collect necessary data and produce compliance reports in real-time, allowing for immediate detection and rectification of any regulatory breaches.
5. **Collateral Management Supervision:** Explore implementing Embedded Supervision to monitor the collateral levels for issued stablecoins continuously. Automated alerts could be triggered if collateral thresholds defined by regulatory guidelines are breached.
6. **Regulatory Node Implementation on DeFi protocols:** Develop a proof-of-concept for BMA's direct involvement in public blockchain networks by setting up regulatory nodes for direct and real-time oversight.

Proposal Submission Guidelines

The project proposals should provide a comprehensive overview of the proposed pilot and include the following key elements:

1. **Executive Summary:** A brief introduction outlining the project's purpose, objectives, collaboration with the BMA, and potential impact in relation to the DeFi environment and the BMA's Embedded Supervision initiative.
2. **Project Description and Objectives:** A detailed explanation of the proposed pilot project, including its specific objectives, the problems it aims to solve, the expected outcomes, and the role and function of the BMA.
3. **Methodology:** A thorough description of the methodologies to be used. Include information about the process, tools, and technologies that will be used.
4. **Work Plan and Timeline:** A detailed timeline highlighting all the key stages of the project from inception to completion. This should cover all significant milestones, deliverables, and timelines.
5. **Technological Overview:** An in-depth description of the technologies to be used in the project, explaining why these specific technologies have been chosen and how they will contribute to achieving the goals of the pilot project.
6. **Regulatory Considerations:** Outline how the proposed pilot project aligns with BMA's existing regulatory framework and standards and how it contributes to the development of the Embedded Supervision model within the DeFi ecosystem. It should be noted that the pilot does not have to require a licence under the Digital Asset Business Act (DABA).
7. **High-Level Risk Analysis and Management:** Identify potential risks that could affect the execution or outcomes of the pilot project and propose strategies for mitigating these risks.
8. **Team Composition and Roles:** Describe the project team structure, including the roles and responsibilities of each member. Include brief biographical information highlighting relevant experience and expertise.

Evaluation Criteria

Pilot project proposals should be innovative, feasible, and achievable. Proposals will be evaluated based on their relevancy to the objectives, soundness of the proposed approach, innovativeness, commitment, feasibility, ability to execute, and the potential impact on enhancing regulatory practices.

Fees

No fees are applicable to this initiative. Entities that may require a licence to run their pilot would be subject to fees applicable under DABA.

How to Apply

Interested parties should submit their proposal in PDF format via email to fintech@bma.bm by 30 April 2025. Proposals should not exceed 20 pages and must follow the project proposal guidelines outlined above.

Contact information

Any questions should be directed to fintech@bma.bm.

Disclaimer

The call for proposals does not guarantee implicit or explicit regulatory approvals or endorsement. The BMA reserves the right to modify or terminate the pilot based upon its own discretion. Participation does not exempt any entity from existing statutory obligations.

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