### **Summary of Research - Group Five**

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**Cryptocurrency Platforms Evaluation**Our research focused on evaluating cryptocurrency platforms to determine the most suitable choice for a government-backed digital currency. The key considerations were scalability, security, compliance with regulations like anti-money laundering (AML), know-your-customer (KYC) policies, and fraud detection. These factors are essential for ensuring a digital currency can operate legally and securely while supporting government management.

**Why Ethereum**After reviewing several platforms, we found Ethereum was the strongest candidate for a sovereign digital currency. This is because of Ethereum’s “decentralized” structure, which provides the transparency required for government trust and public responsibility. The platform’s security measures, supported by cryptographic verification and a large open-source developer community, also add to its appeal. Ethereum’s smart contracts stood out as a significant advantage, enabling automated and secure compliance with AML and KYC processes. AML is essential for preventing illicit activities, such as money laundering or funding illegal operations via digital currencies. Ethereum’s transparent ledger allows real-time tracking of transactions, making it easier for authorities to detect and prevent money laundering. Smart contracts implemented within Ethereum can be programmed to identify suspicious transaction patterns, reducing the reliance on manual processes.

Similarly, KYC is critical for verifying user identities to ensure only legitimate participants access the digital currency system. Ethereum’s smart contracts streamline this process by securely storing user information and validating identities without exposing sensitive data. By integrating KYC, Ethereum helps governments enforce compliance, reduce fraud, and encourage responsibility among users. Additionally, Ethereum’s ongoing improvements, like Ethereum 2.0, enhance its scalability, ensuring it can handle high transaction volumes efficiently. These features make Ethereum a reliable and future-ready choice for a government-backed digital currency.

**Why Not Monero**While Monero excels in privacy features like Ring Confidential Transactions (Ring CTs) and stealth addresses, it does not align with the regulatory requirements of a government-backed cryptocurrency. Its focus on anonymity makes tracking transactions nearly impossible, conflicting with compliance needs for AML and KYC. Monero’s privacy features, such as hidden transaction amounts and untraceable users, create significant risks for misuse, including illicit activities. These factors make Monero an unsuitable choice (quite the opposite of what we want) as the foundation for a transparent and accountable sovereign digital currency. In the crypto platforms market, which uses many different technologies and features, we felt it necessary to discuss the platform opposite to what we needed for this project to avoid clutter and irrelevant information in our presentation.

**Compliance and Regulatory Considerations**Our research highlighted the importance of selecting a platform that supports government regulations quite easily. Ethereum’s ability to integrate KYC procedures and monitor transactions automatically through smart contracts ensures compliance with global AML standards. Its transparent blockchain ledger provides a clear, traceable record of all transactions, enabling real-time fraud detection and prevention. These compliance-friendly features were the key factors in our decision to select Ethereum as the best platform.

**The Future of Sovereign Digital Currencies**Blockchain technology is reshaping the global financial landscape, with many governments exploring its potential for digital currencies. Ethereum’s ability to adapt to new regulatory demands, combined with its technical strengths in scalability and security, places it as the leading choice for future sovereign digital currencies. As governments continue to explore blockchain solutions, Ethereum’s flexibility and robust framework make it a reliable option for supporting the next generation of financial systems.

**Resources:**

Ethereum: <https://ethereum.org/en/developers/docs/>

Monero: https:[//www.getmonero.org/resources/moneropedia/](http://www.getmonero.org/resources/moneropedia/)

What is AML and KYC: <https://www.investopedia.com/terms/a/aml.asp>