

SPRINTATHON’25

A SPRINT TO REVOLUTION

1 Problem Statement Number - PSC804

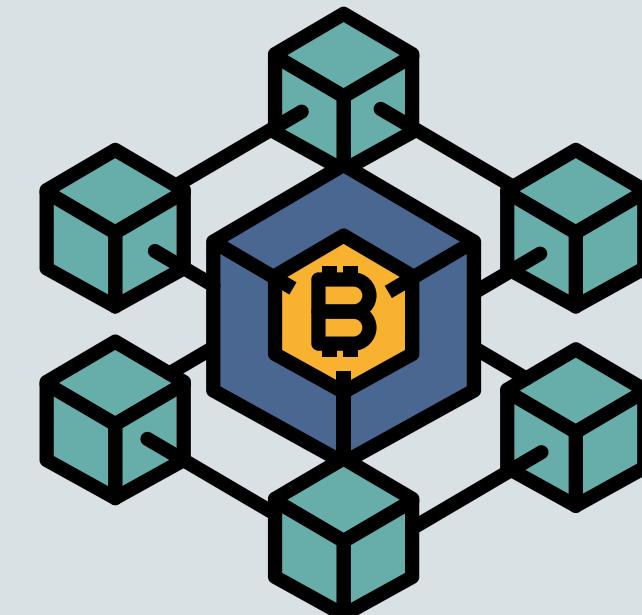
2 Problem Statement - Design a blockchain-enabled system for secure and tamper-proof data sharing between organizations, ensuring data integrity, privacy, and protection against unauthorized access.

3 Domain - Cyber Security & Edge Computing

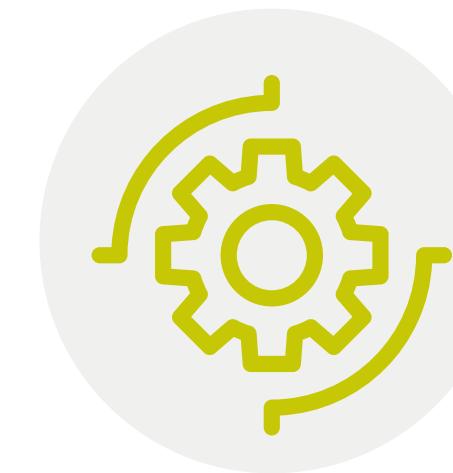
4 Team Details - Dexters

5 Team Members Name - 1.Dhanalakshmi K
2.Sreya M Nambiar
3.Sonali Sahu
4.Aakash Santhnu Sundar

6 College Name - Sri Sairam Institute of Technology



PROPOSED SOLUTION



Secure Storage & Blockchain Layer

Access Control & Privacy

User Interaction

01

Sensitive records stored off-chain (IPFS/DB) with only hashes on-chain for immutability and tamper detection.

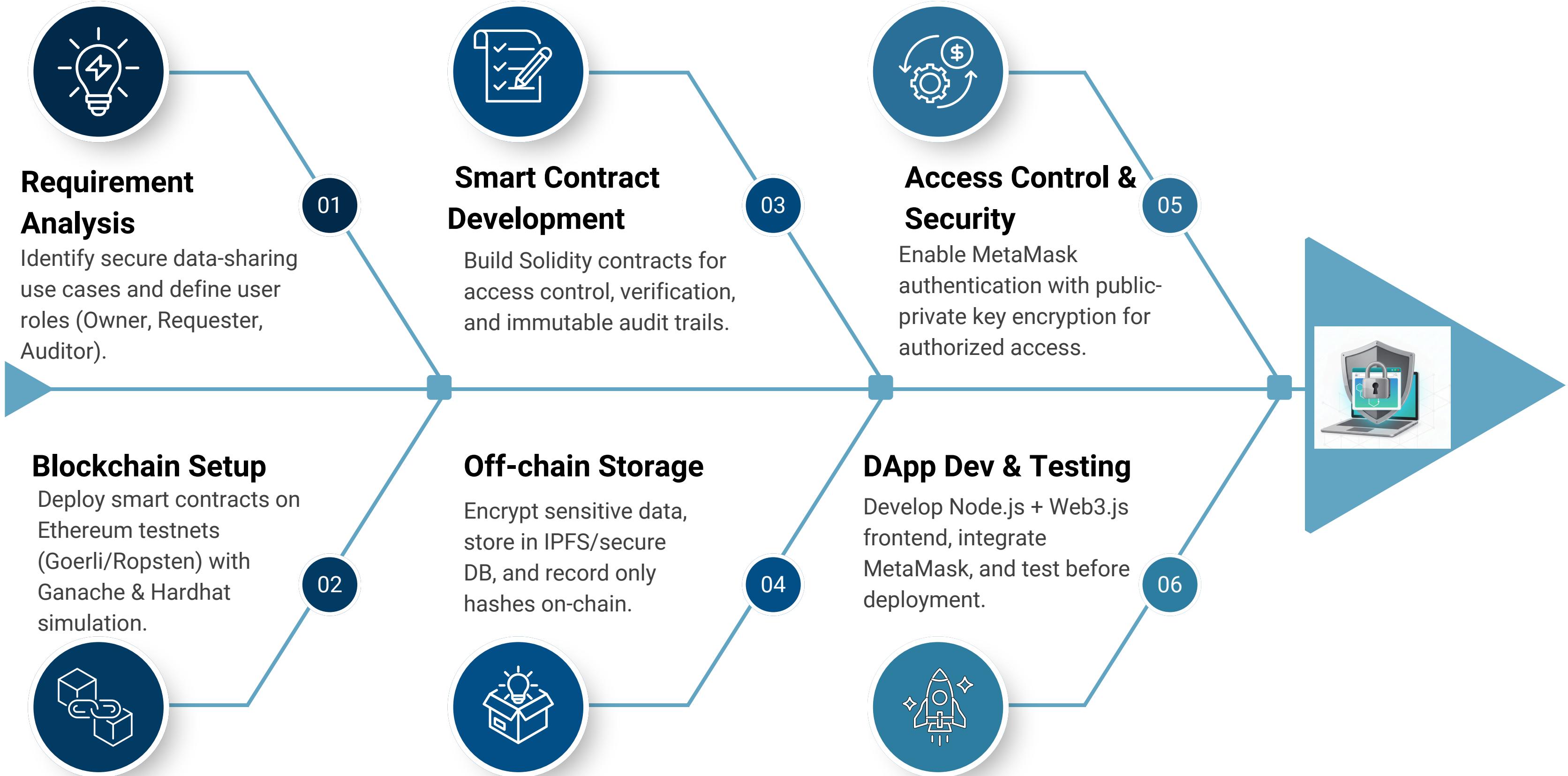
02

Smart contracts govern upload, request, and approval, while RSA/ECC cryptography ensures only authorized users can decrypt.

03

A web-based DApp integrated with MetaMask enables authentication, digital signing, and seamless data sharing.

TECHNICAL APPROACH



Feasibility

Built on mature blockchain frameworks, secure cryptography, hybrid storage (on/off-chain), and user-friendly DApps for adoption.

Strategies

Layer-2 scaling, off-chain channels, encryption with key rotation, user training, compliance frameworks, and APIs for integration.



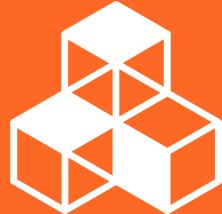
Challenges

High transaction costs, latency, privacy risks, regulatory hurdles, and integration with legacy systems.

Viability

Technically strong, cost-manageable, scalable, and adaptable across industries like healthcare, finance, and supply chains.

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Strengthens digital infrastructure with blockchain-enabled secure systems.



Enables organizations to share sensitive data without fear of tampering or leaks.

16 PEACE, JUSTICE
AND STRONG
INSTITUTIONS



Promotes accountability, transparency, and integrity in data governance.



Builds confidence among stakeholders with immutable records.

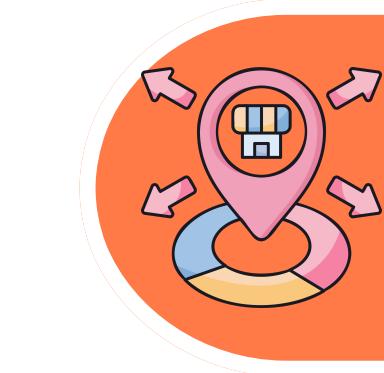
17 PARTNERSHIPS
FOR THE GOALS



Facilitates trusted collaboration between organizations across borders.

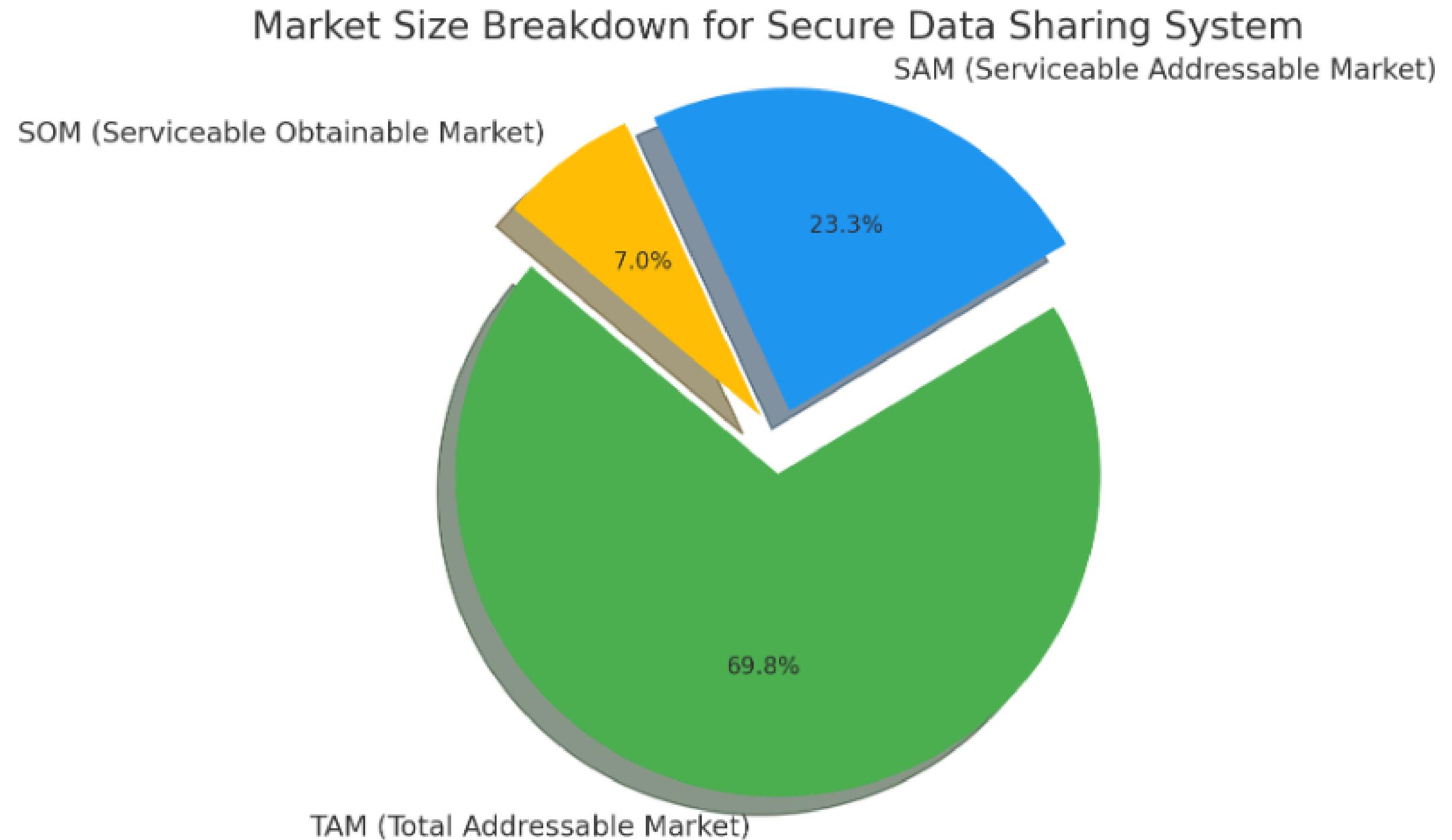


Eliminates intermediaries, reducing data verification and compliance costs.



Applicable in healthcare, supply chain, finance, research, and governance.

MARKET DEMAND ANALYSIS



RESEARCH AND REFERENCES

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