

TABLE I Blockchain Platforms Commonly Used for eKYC, SSI, DID

Blockchain Platform (Year Introduced)	Key Features	Potential Use Cases for eKYC, SSI, DID
Ethereum (2015)	Proof of Stake (PoS), Smart contracts, Decentralized applications (DApps), ERC-20 tokens, ERC-721 tokens (NFTs), Large developer community.	Widely utilized for secure and efficient identity verification, SSI, and eKYC applications due to its versatility and support for smart contracts.
Ethereum Virtual Machine (EVM) Supported: Binance Smart Chain (2020), Avalanche (2020), Polygon (2017)	Binance Smart Chain: High throughput, Low transaction fees, Proof of Staked Authority (PoSA). Avalanche: High scalability, Quick finality, Interoperability. Polygon: Layer 2 scaling, High compatibility with Ethereum, Low transaction fees.	Binance Smart Chain: Ideal for scalable and cost-effective eKYC, SSI, and DID implementations. Avalanche: Suitable for applications needing fast and secure identity verification. Polygon: Used for large-scale eKYC deployments due to enhanced performance and reduced costs.
Hyperledger Fabric (2015)	Modular consensus (PBFT, Raft, etc.), Permissioned blockchain, Modular architecture, High flexibility, Privacy, and confidentiality.	Enterprise-grade eKYC solutions, SSI, and DID with enhanced privacy and security for sensitive data.
Hyperledger Besu (2019)	Ethereum client for enterprise use, supports public and private networks, and compatibility with Ethereum mainnet.	Facilitates cross-platform KYC verifications, suitable for both public and private sectors, enabling secure identity verification.
Hyperledger Indy (2017)	Built for decentralized identity solutions, supports SSI, and verifiable credentials.	Enables individuals to control their identity data, reducing data exposure and improving privacy for eKYC and DID.
Alastria Network (2017)	Permissioned blockchain network based on Ethereum.	Durable option for secure identity verification processes, supporting eKYC and DID.
Fisco BCOS (2016)	Interoperability scalability supports various blockchain frameworks.	Implemented for secure identity verification, SSI, and eKYC, showcasing interest in platform interoperability.
CITA (2018)	High performance, modular design, supports permissioned blockchain.	Utilized in research to demonstrate secure and efficient eKYC, SSI, and DID processes.
Xuperchain (2019)	High throughput, low latency, flexible architecture.	Used in studies to enhance secure identity verification, SSI, and eKYC through improved scalability and efficiency.
Quorum (2016)	Permissioned version of Ethereum, enhanced privacy, and performance.	Ideal for enterprise use, supporting confidential transactions and permissioned networks for eKYC, SSI, and DID.
Corda (2016)	Notary services, Permissioned blockchain, Designed for business transactions, Focus on privacy and scalability.	Used for secure and efficient eKYC, SSI, and DID in financial and business sectors.
Stellar (2014)	Stellar Consensus Protocol (SCP), Cross-border payments, Low transaction fees, and focus on financial inclusion.	Supports cross-border identity verification, SSI, and eKYC with quick and cost-effective transactions.
Tezos (2018)	Liquid Proof of Stake (LPoS), On-chain governance, Self-amending protocol, Smart contracts.	Provides a flexible and upgradeable platform for eKYC, SSI, and DID solutions with formal verification for security.
EOS (2018)	Delegated Proof of Stake (DPoS), high transaction throughput, free transactions for users, and developer-friendly.	Suitable for high-performance eKYC, SSI, and DID applications needing fast and cost-effective processing.
Cardano (2017)	Ouroboros Proof of Stake (PoS), Strong focus on security and sustainability, Layered architecture, Peer-reviewed research.	Provides robust security and sustainability for eKYC, SSI, and DID solutions, supported by extensive academic research.
Polkadot (2020)	Nominated Proof of Stake (NPoS), Interoperability, Scalability, Heterogeneous multi-chain framework.	Supports scalable and interoperable eKYC, SSI, and DID solutions across multiple blockchain networks.
Ripple (XRP Ledger) (2012)	Ripple Protocol Consensus Algorithm (RPCA), Fast and low-cost international payments, Enterprise-focused, Centralized control.	Suitable for fast and secure identity verification, SSI, and eKYC in financial services, especially for cross-border transactions.
Binance Smart Chain (BSC) (2020)	Proof of Staked Authority (PoSA), Compatibility with Ethereum Virtual Machine (EVM), High throughput, and Low transaction fees.	Ideal for scalable and cost-effective eKYC, SSI, and DID implementations with high compatibility with Ethereum-based applications.
Ripple (2012)	Real-time gross settlement system, currency exchange, and remittance network.	Supports identity verification, SSI, and eKYC in financial services with fast and secure transactions.