Next-Generation Blockchain with Scalability, Security, Privacy, and Intelligence

- Hybrid On/Off-Chain Distributed Storage for Mass-Storage Layer: off-chain data storage and sharing platform for blockchain

- Sustainable Off-chain Payment Channel Network for Fast Payment Layer: off-chain balance the network without channel freezing

- Blockchain Database for Semantic Query & Index Layer: provide multi-keyword query, range query, Top-K query, and cross-chain query on the blockchain storage

- Layered Sharding Architecture for Scalable Consensus Layer: off-chain achieves both linear scalability and efficient cross-shard transactions processing

- Learning-Driven Dynamic Architecture for Intelligent Consensus Layer: DRL-based dynamic sharding-based framework to achieve a good balance between performance and security without compromising scalability

- Blockchain-empowered Edge Learning for Edge Application Layer: build a blockchain-empowered edge learning platform and provide trustworthy training for edge devices