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# Blockchain based Intelligent Transportation System (ITS)

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**Abstract:** *A blockchain-driven system is designed for secure, decentralized data storage in Intelligent Transportation Systems (ITS). It integrates Vehicle-to-Infrastructure (V2I) communication, aimed at improving road safety, traffic control, and vehicle traceability while offering real-time insights to support better planning decisions. By employing a cross-chain communication framework, the system allows for seamless interoperability between different blockchains through the use of relay nodes. Identity-based encryption safeguards node participation, while a standardized protocol enables smooth communication and transactions, promoting trust among users. This system, developed with Hyperledger Fabric, ensures the integrity and privacy of data across varied blockchain environments within smart city transportation networks.*

*Through the decentralized nature of blockchain technology, the system minimizes the risks of data tampering and unauthorized access, delivering robust solutions for handling vehicle information. Furthermore, it enhances vehicle traceability and transparency of vehicle movements, granting secure access to transportation data for all stakeholders. This contributes to optimized traffic flow, a reduction in congestion, and fosters the development of a more resilient and responsive transportation infrastructure.*

**Keywords:** blockchain-driven system