“InfraTech: Blockchain-Based Financing Solutions for Cyber-Physical Infrastructure Systems”

The US is underinvesting in infrastructure, resulting in macro-economic impacts for cities and regions. The American Society for Civil Engineers estimates that the finance gap will be $4.5tn by 2025, resulting in a loss of 2.5 M. jobs. Deferred maintenance and inadequate funding models have resulted in demographic inequalities of access to quality infrastructure, further exacerbating economic disparities. According to a recent OECD study, less than 1% of pension funds are invested in infrastructure as an asset class. How can we unlock this capital through data and digital financing models, including tokenization of infrastructure.

The definition of infrastructure in the digital age is changing, asset ownership is becoming blurred, and new data-driven operating and financial models are emerging. By “twinning” infrastructure into digital assets, informational inefficiencies can be uncovered that change how we design, value, price and invest in infrastructure assets. Tokenization of information from IoT coupled to smart contracts are offering opportunities to improve efficiencies throughout the financing and operation phases. We are working with incubators, public finance managers, investors and public officials to explore blockchain-enabled financing models for transportation, water, energy and real estate infrastructure. The integration of highly variable time series of data impacts valuation and pricing, and lack of standardization challenge emerging applications and scalability at this time.