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Block chain and Smart Contracts to support Earthquake Reconstruction and provide Humanitarian Aids

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Objectives of Research

- Identifying and assessing the legal risks of a potential block chain and smart contracts driven solution in earthquake reconstruction and relief.
- Addressing these legal risks in order to build a comprehensive framework for post-disaster rebuilding and relief problems.

Proposition

In this digitalised world, the one thing that humans will invariably expect is for the technology to support and ease their life. The true potential of Industry 4.0 is still untapped for various different reasons. However, what remains important is the quest to find tech-driven solutions which, even in a complex situation, will overcome unprecedented challenges and help to protect as well as enforce the human rights.



Block chain and smart contracts

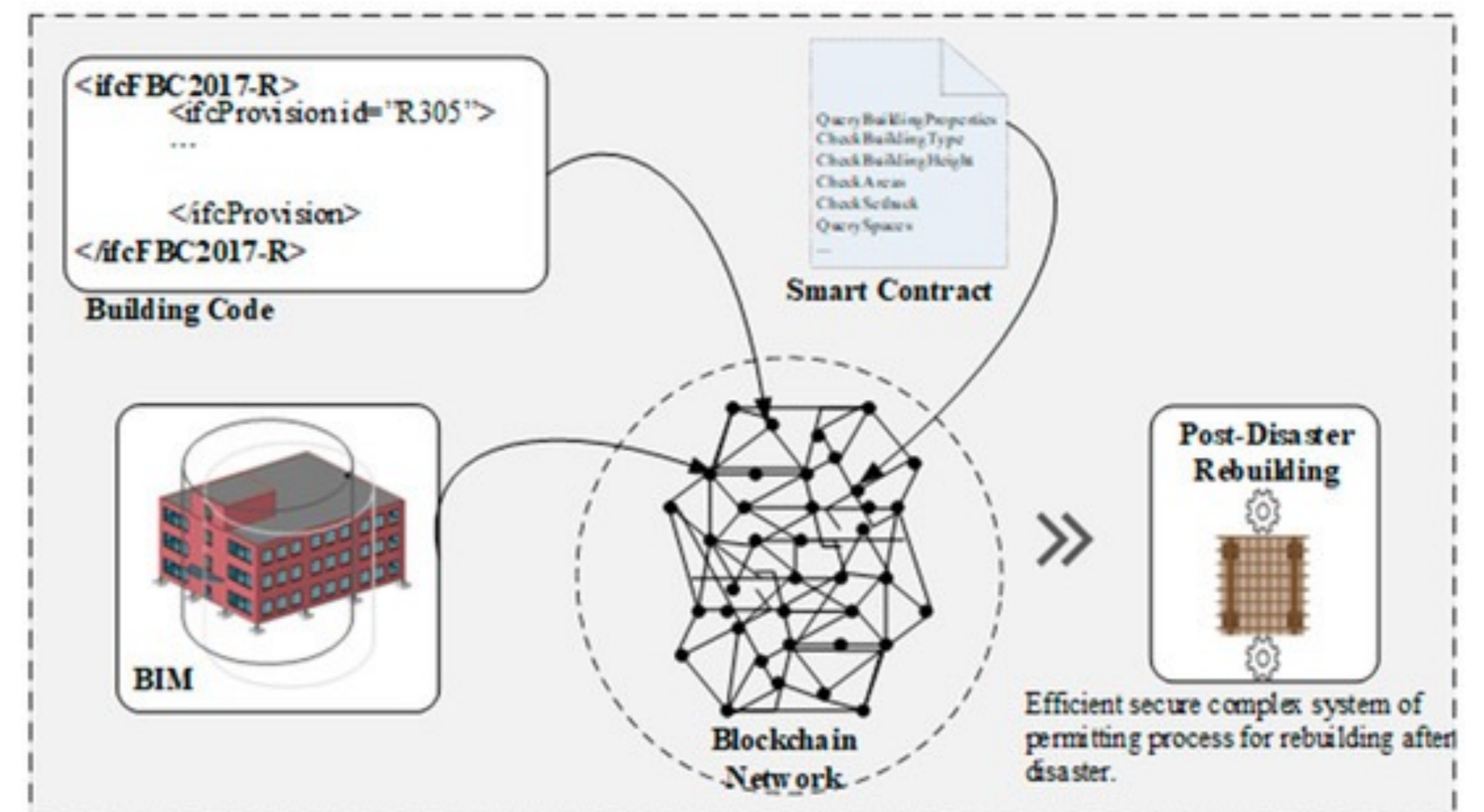
By gaining an extensive traction in the recent years, the rapid advancement of block chain technology is wielding a profound impact on different walks of life.

Block chain is a distributed digital ledger that enables fast sharing of trustable digital data on wide area networks in an immutable, transparent, and traceable way. Although, further information can be added onto the ledger however, the one entered previously is stored in "blocks,". These blocks cannot be altered. Cryptography techniques provides privacy and protection by linking the new block of information to the previous block. While Smart Contracts is a computer protocol that can link transactions on blockchains according to predetermined arrangement and thereby automate the process of legal execution, enforcement, and performance of a contract a given event is triggered.

Why block chain and smart contracts in Earthquake Relief and Revitalisation?

One of the nastiest natural catastrophes occurring in any well-settled intelligent places including the developed cities is an earthquake. Although there can be suggestions on developing a system to identify earthquakes with warnings built using Internet of Things (IoT) system. Block chain enables apt sharing of dependable and traceable data pertaining to relevant facets of risks of epidemics and/or pandemics scattered over huge geographical areas.

However, to stick to the topic of research here, the post-disaster relief part can be potentially dealt with using blockchain and smart contracts. Block chain facilitates automation of the management of humanitarian aids to earthquake-affected areas, through traceable transactions. While time is the most important factor in any relief providing process, block chain may also assist in the rebuilding process by reducing the time and resources needed to issue building permits where the process is quite cumbersome and complicated.



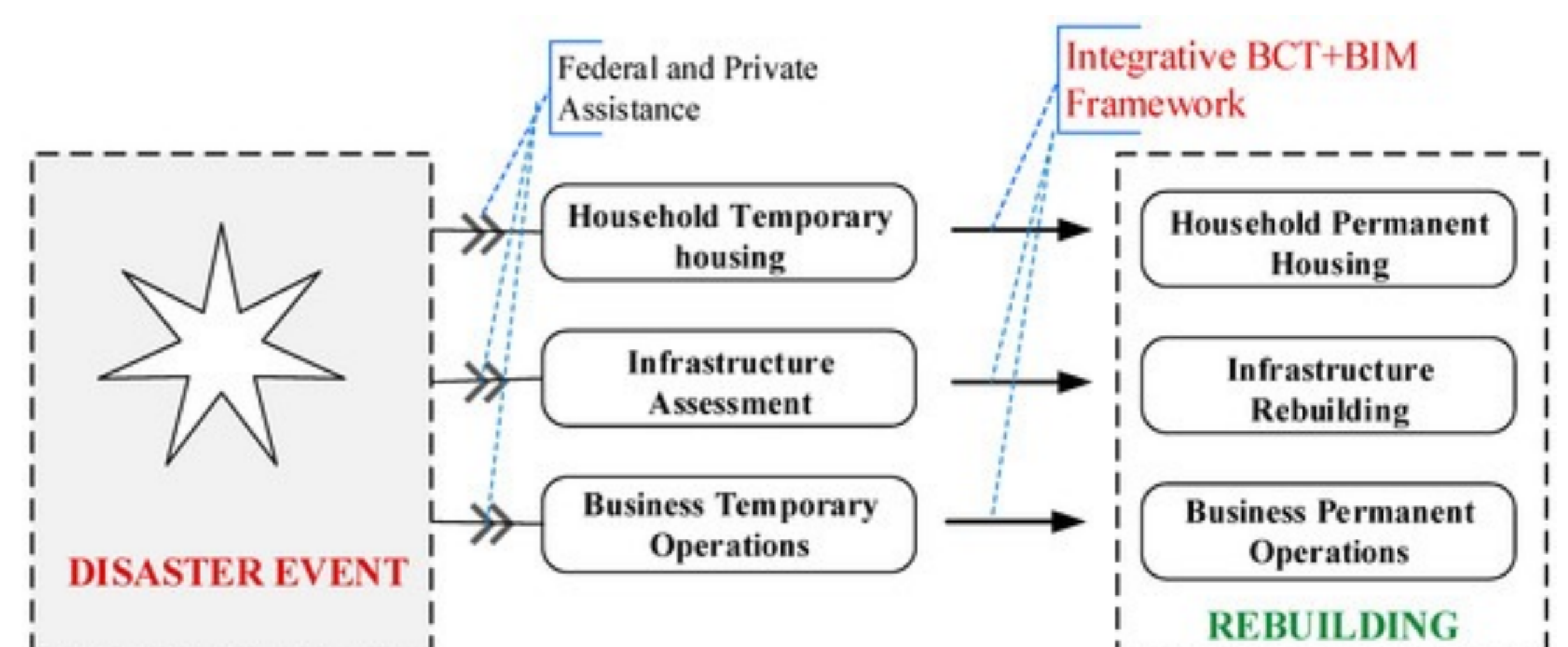
Source for images: toppng.com, flaticon.com, and Multidisciplinary Digital Publishing Institute, respectively.

The way ahead

Post-disaster relief and recovery market growth are assertive towards rationalizing the submission and evaluation of project documents by the building authorities.

With this, what can help is the Block chain's smart contracts which are programmed to automatically execute and bring into play the business rules that govern any given transaction thereby hastening the processes involved and significantly plummeting operational and other consequential risks. Further, it can also avoid irregularities and inconsistencies, while synchronizing the efforts at different levels by separate organisations and in correcting discrepancies. By doing so, block chain may provide a robust, self-regulating, distributed, and permissioned network, which will facilitate a cyber-resilient data transaction operation using a single, shared, and unassailable platform.

Eventually, the resultant platform will provide and deliver the security and privacy necessary for a resourceful association and coordination between relevant stakeholders thereby aiming to achieve the larger goal of an efficient relief system and reconstruction operations.



Source for image: Multidisciplinary Digital Publishing Institute