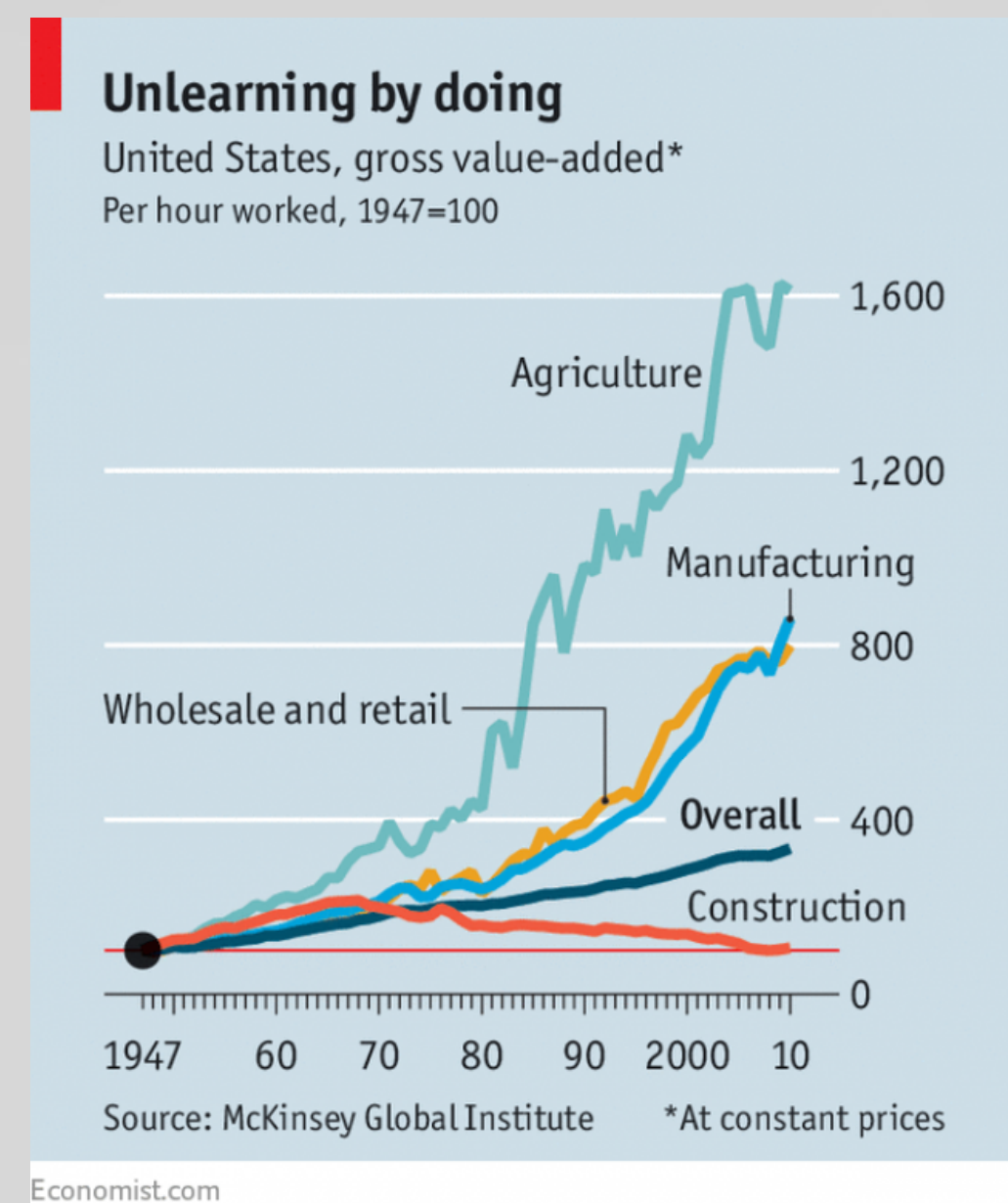


Productivity Decline In Construction

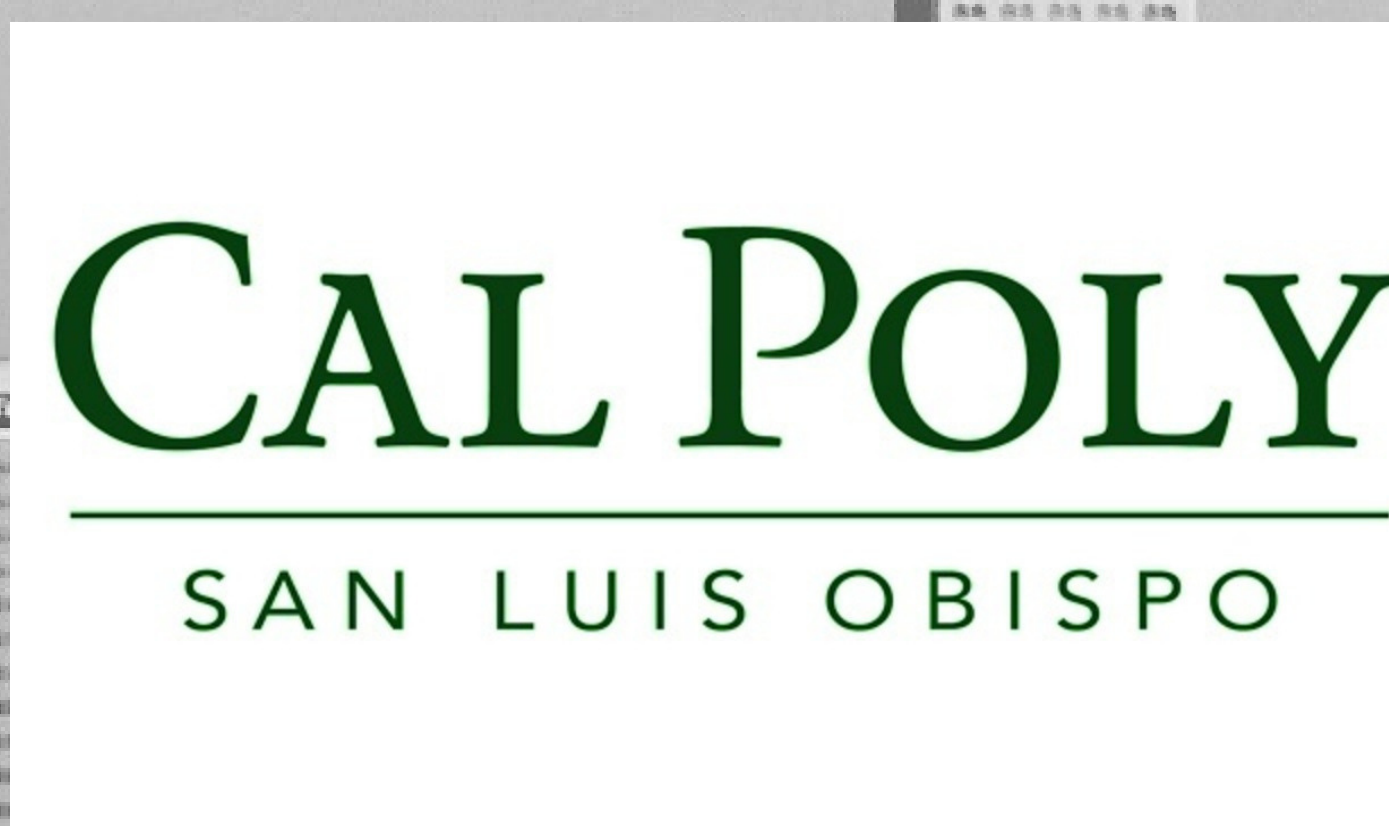
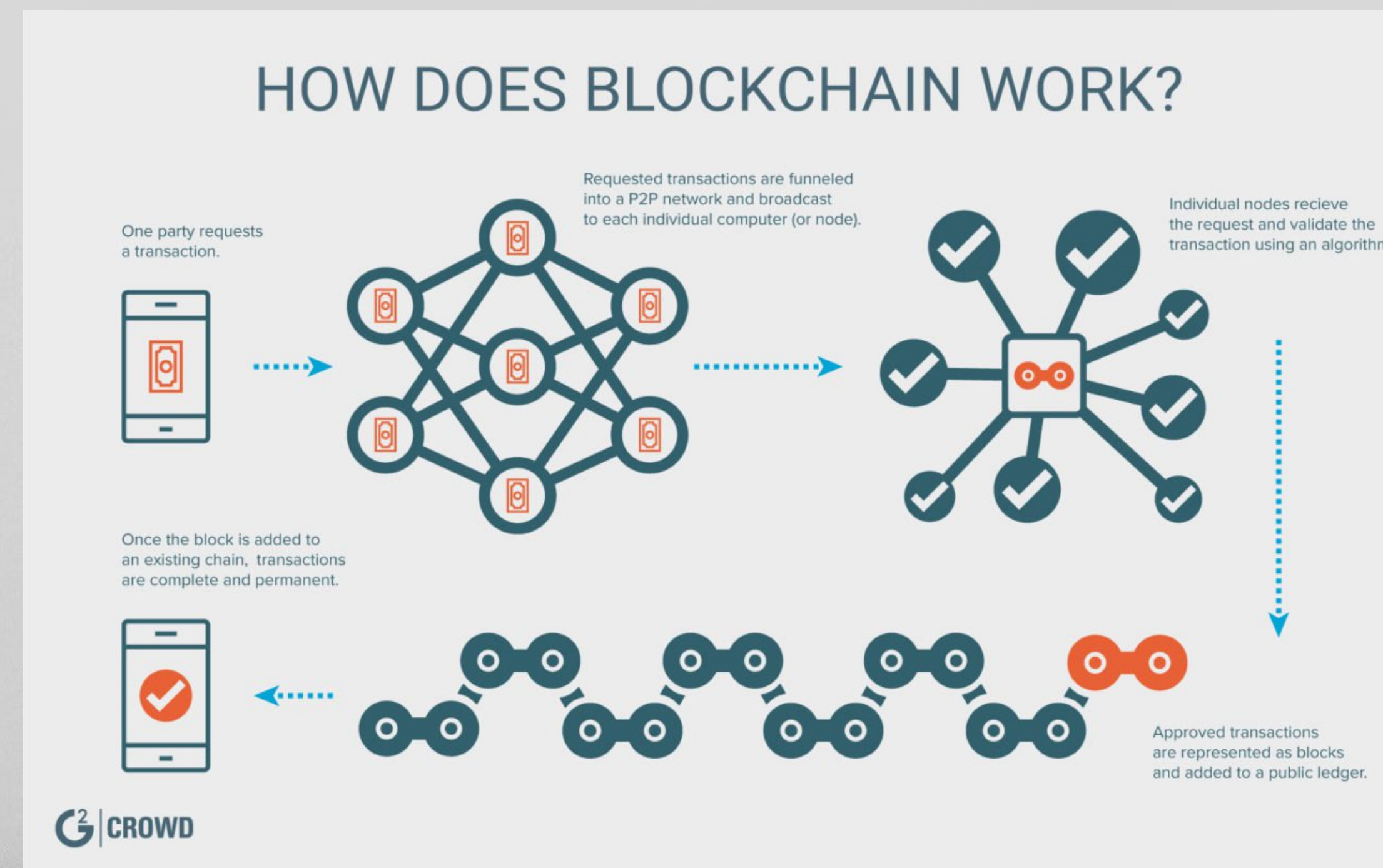


What is Blockchain?

In response to the 2008 financial recession, a new technology called blockchain emerged, created by a person who went under the alias Satoshi Nakamoto. Blockchain is a digital record book used to record and store a growing list of transactions called blocks that are verified through cryptography. This decentralized platform is not controlled by a central authority, and all transactions ever made are transparent and entrusted by computer code for all parties to see. Blockchain has been famously used for the digital cryptocurrency Bitcoin, a growing asset class that shares characteristics with traditional currencies, with verification from the blockchain through cryptography.

Implementation of Blockchain Technology in the Construction Industry

Abstract: In general, construction has been pretty resistant to change. While most industries have gained in productivity over the years through implementation of new technologies and other factors, the construction industry has been on a steady decline since the 1960s. Even though there are a multitude of reasons for this occurrence, including more complex building types and a decline in the workforce, the major problem holding construction back are project management issues and fragmentation of all the parties involved in the construction process. Minor improvements have been made to help with collaboration between the parties, through BIM (Building Information Modeling) and project management softwares like Procore and Plangrid, but there isn't one application that pools all information together to form a consensus in data between parties. This is where blockchain comes in to solve the collaboration problem. Blockchain is a peer to peer controlled distributed transactional database used to record and store a growing list of transactions (called blocks) that are verified through cryptography. This paper explores the emergence of blockchain, highlights the progressive companies implementing this technology in construction, and analyze the best practices and applications for blockchain to succeed in the construction industry.

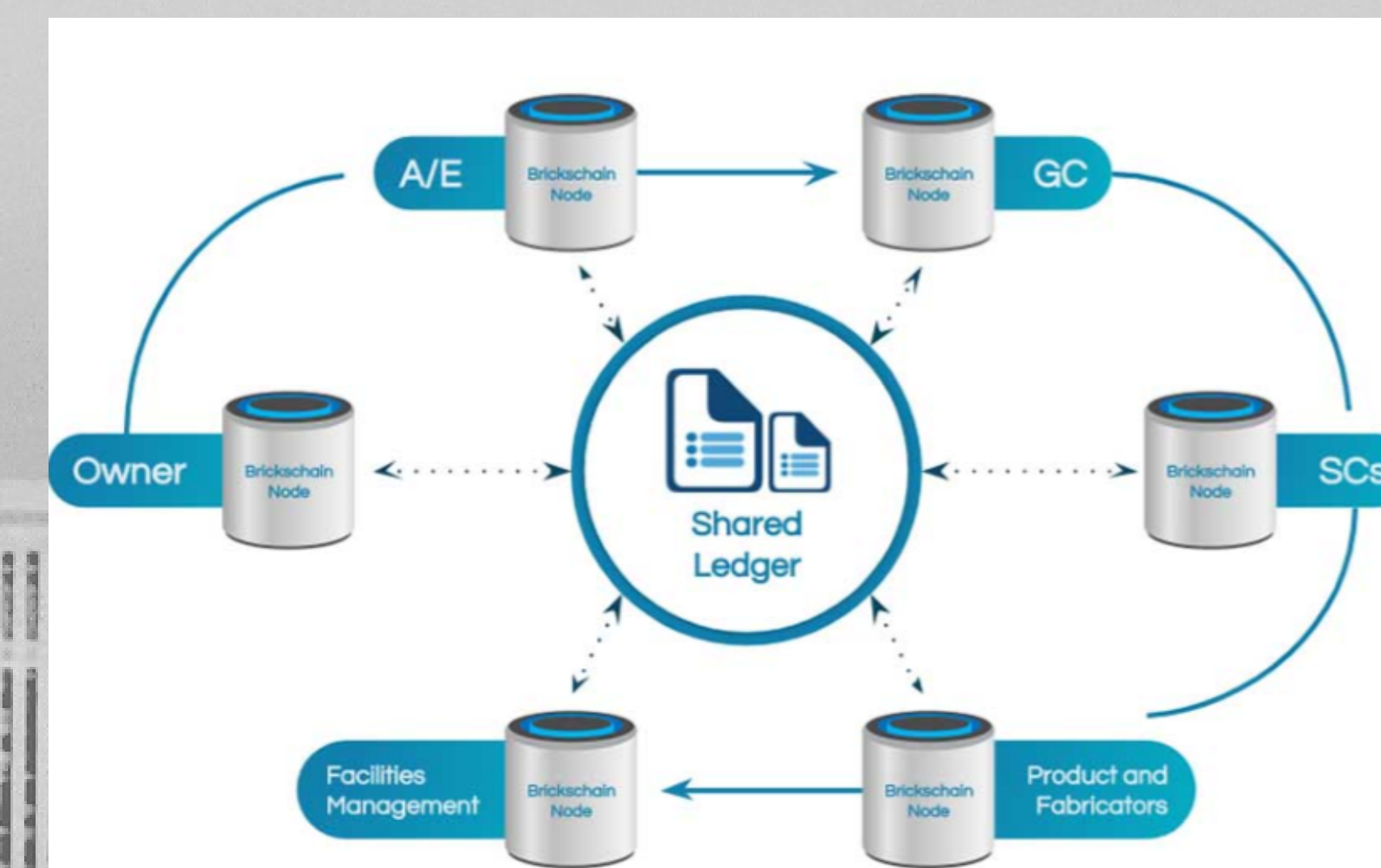


**ABSTRACT ACCEPTED TO THE 7TH
INTERNATIONAL CONSTRUCTION SPECIALTY
CONFERENCE JOINTLY WITH THE
CONSTRUCTION RESEARCH CONGRESS**



This research paper explores potential the of blockchain and it's various use cases in the construction industry, including:

- Information and Data Management with the company Brickschain
- Faster payment processing to subcontractors through the use of smart contracts , a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract and allows for credible transactions without the help of a third party, such as a lawyer
- Material tracking of construction site supply chain management with the company Intelliwave Technologies with their app Site Sense



**STEVEN : CALIFORNIA POLYTECHNIC
GRAHAM UNIVERSITY, SAN LUIS OBISPO**

