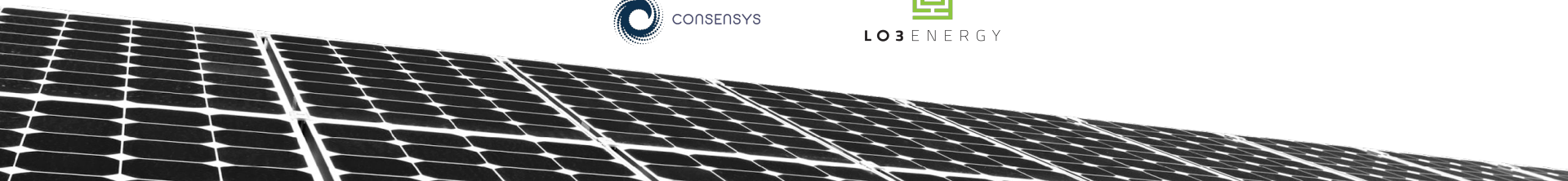
TRANSACTIVEGRID

Peer-to-Peer Energy Transaction and Control

Microgrid Intelligence System for Energy built on Ethereum

CONSENSYS

LO3 ENERGY




Distributed
Energy
Resources

Microgrids

Martha

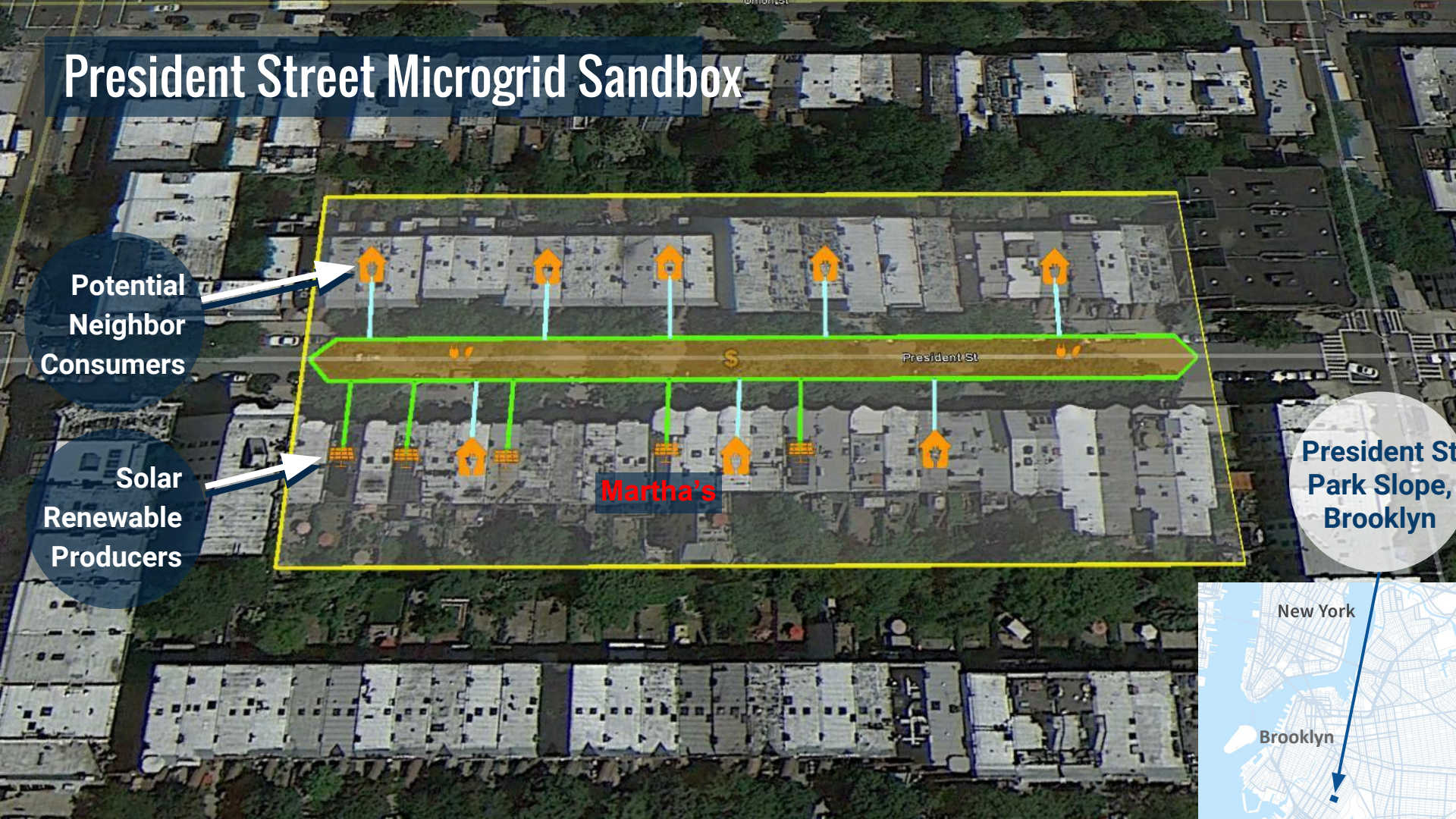
40-year homeowner in Park Slope, Brooklyn
1st solar panels on her block

Net Metering

Surplus spins her meter in reverse

Can Martha sell her solar surplus to neighbors? Not currently.

President Street Microgrid Sandbox



Is our “green energy” really green?

RECs

(Renewable Energy Credits) and its inefficiencies

Microgrids

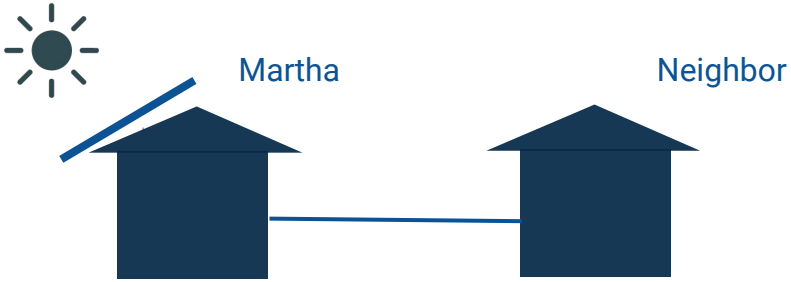
produce energy ***locally*** (less dissipation) and add resiliency to grid

Smart Meters

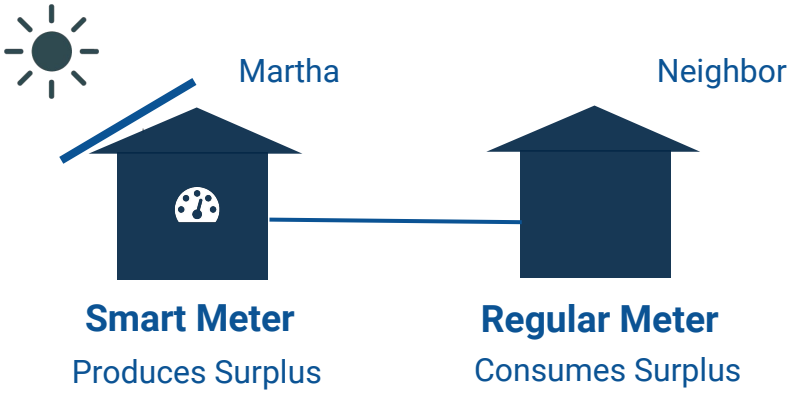
providing near-real-time data and granular information


TRANSACTIVEGRID

Transacting Local Energy with Neighbors



Transacting Local Energy with Neighbors



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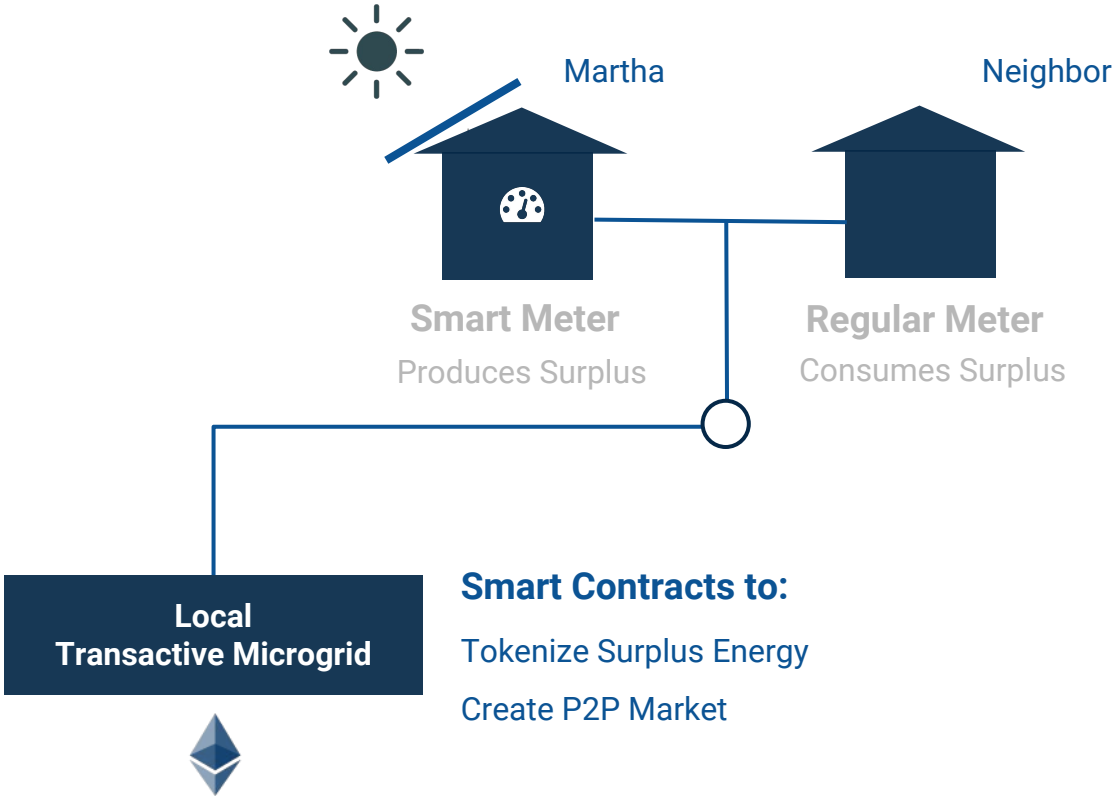


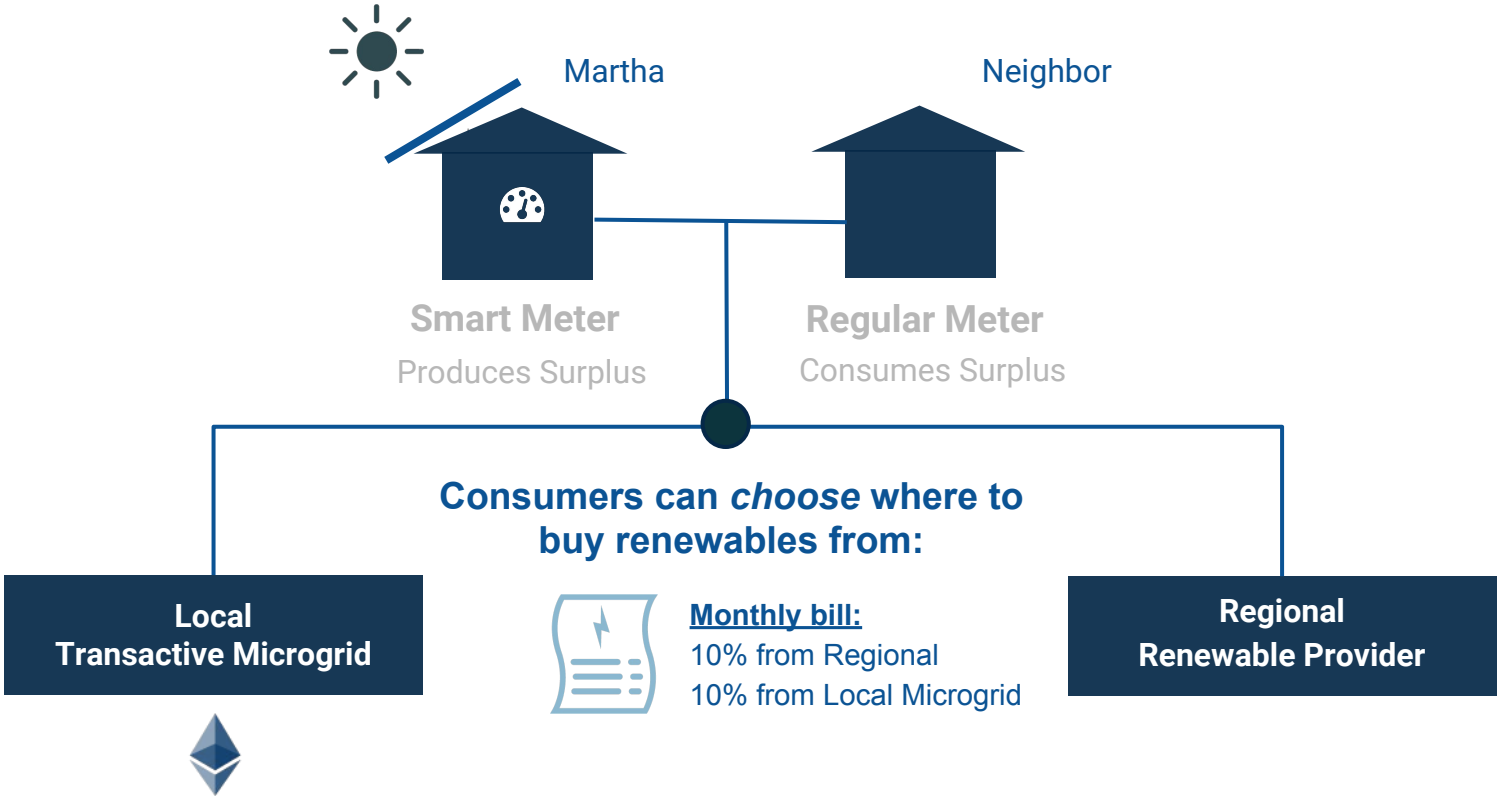
Smart Contracts to:

Tokenize Surplus Energy

Create P2P Market

TRANSACTIVEGRID

Transacting Local Energy with Neighbors

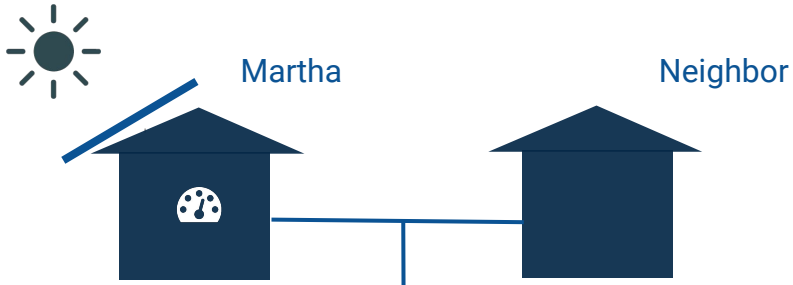


TRANSACTIVEGRID

Transacting Local Energy with Neighbors

Works on top of existing infrastructure.

Utilities can receive transaction & maintenance fees.



Smart Meter
Produces Surplus

Regular Meter
Consumes Surplus

Consumers can *choose* where to buy renewables from:

Local Transactive Microgrid

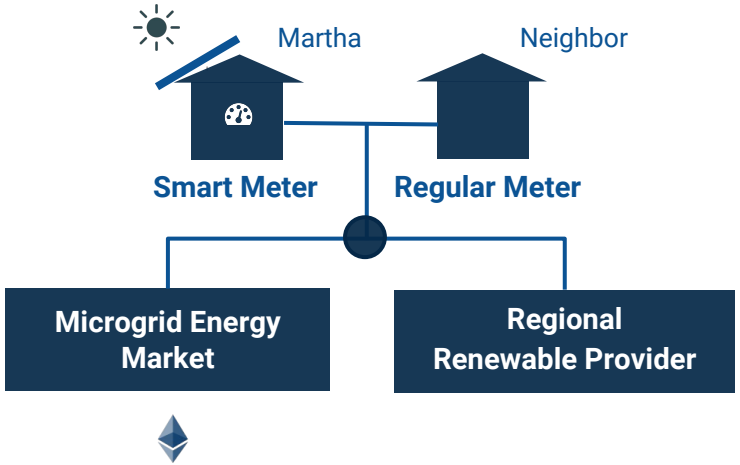
Monthly bill:
10% from Regional
10% from Local Microgrid

Regional Renewable Provider

TRANSACTIVEGRID

TransActive Grid 1.0 (MVP)

Simple: Build on current infrastructure



Surplus energy ***physically*** flows from house A to B to be compatible with existing Regular Meters, but local ***accounting*** at Smart Meter is different:

Smart Meter:

- **Solar Surplus** ➡ **Energy Credits**
- **Energy Credits** traded in a local **Microgrid Energy Market** based on smart contracts

Ethereum

Bitcoin

Digital Currency

P2P Consensus

Distributed Ledger

\+

Turing-Complete Programming Language

value-awareness, blockchain-awareness, state-awareness

Ethereum

Smart Contracts

Decentralized Applications (dApps)

TRANSACTIVEGRID

Community Energy Market - Sharing Economy

Tokenization

P2P Markets

Tokenization of energy consumption and surplus energy production **makes a market**

Markets recognize local investments, impacts and the **real value** of local renewable energy

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Prosumers

Rise of the **Prosumer:** Producer-Consumer of Energy.Neighbor-to-neighbor, neighbor-to-business

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Community ESCOs

Community Microgrid and Energy Services Companies (ESCOs): **empower customers** to optimize energy costs according to their priorities, monetizing system & social values

Future Milestones

TransActive Grid 2.0 Smart Meter Proliferation

Transact and price energy with Microgrid neighbors directly

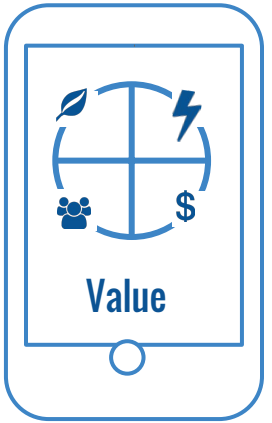
TransActive Grid 2.5 User Value-driven

Transact based on *values*

Price, green energy, clean signals, social good

Multi-factor tokens to encourage what you want to see in the market

Reputation system



TransActive Grid 3.0

Blockchain-Based, Microgrid Intelligence System

- Transactive, distributed consensus intelligence system developed to control Microgrids
- Based on open source, cryptographically-secure protocol layer delivering military-grade cybersecurity and real-time data
- Auditable, immutable, peer-to-peer & secure

Smart Grid Control

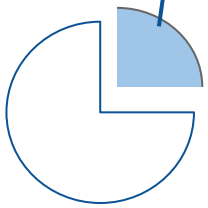
Smart Grid Technology

TRANSACTIVEGRID

Daily

Your Total Usage 7.6 kWh

Your Local Microgrid Offset 25%



From	per kWh	total cost
Con Ed	$1.25	$7.13
Local Microgrid	$2.01*	$3.82

* price may change based on local demand

Your Max Contribution

Your Max $4 daily

Your Usage | Neighborhood

UI Concepts

How much do you *want* to pay for local renewable energy?

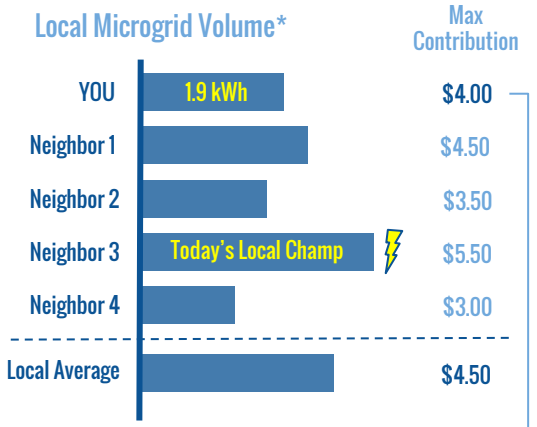
Neighborly competition, incentivization

P2P market sets price

Set it and forget it

Daily

Neighborhood Stats



* Increasing Your Max can increase your Volume tomorrow

Your Max Contribution

Your Max $4 daily

Your Usage | Neighborhood

TransActive Grid - Team

Lawrence Orsini

Energy Domain Expert

Founder LO3 Energy with more than 15 years experience in all aspects of utility energy efficiency program management, design, implementation and marketing – as well as a strong understanding of the energy policy and regulatory environment, Lawrence is versed in the technology and inner workings of the utility industry.

William Collins

Energy Markets Expert

Bill is a finance professional with decades of experience in investment banking, structured finance, and environmental markets. Working as a derivatives specialist in Asia, Bill used his creativity and knowledge of financial markets to spot unique and innovative ways to help his customers (large government, state and private counterparties) identify and manage complex financial risks.

Joseph Lubin

ConsenSys Founder

Co-founder of Ethereum and founder of ConsenSys. An academic background in Electrical Engineering and Computer Science from Princeton University and research experience in the field of Robotics Learning. Former VP of Technology at Goldman Sachs in the Private Wealth Management Division.

Christian Lundkvist

Crypto-Financial Engineer

Received a Ph.D. from the KTH Royal Institute of Technology in Math with a specialization in Algebraic Geometry, Moduli Spaces. Christian has worked as a software engineer at Bloomberg Financial and is a smart contracts developer and blockchain strategist at ConsenSys. He works on diverse projects including financial applications, wallets, and identity & persona..

John Lilic

Project Manager

Dedicated to delivering solutions that enable companies across industries and geographies to benefit from simplified technology landscapes, integrated processes, streamlined operations and improved agility and performance the Ethereum blockchain ecosystem delivers. Project Manager at ConsenSys Enterprise and Operations at LO3 Energy.

Eva Shon

User Experience

UX designer and UI developer improving end-user experience for Ethereum and blockchain-based applications at ConsenSys. Eva has a background in transit and geospatial projects at open source organizations. She holds a Masters in Human Computer Interaction from Carnegie Mellon. At ConsenSys she helps with UX for various projects.

is a joint venture between