

LOWERING RISK AND IMPROVING PERFORMANCE FOR THE CONSTRUCTION SUPPLY CHAIN

RICE GLOBAL E&C FORUM

HOUSTON, TEXAS

FEBRUARY 11, 2022



Pete Dumont
CEO
PrairieDog

OPERATING
SYSTEM 2.0



Rice Global E&C Forum
Engineering &
Construction

Recapturing Lost Value is a Matter of SURVIVAL

95%

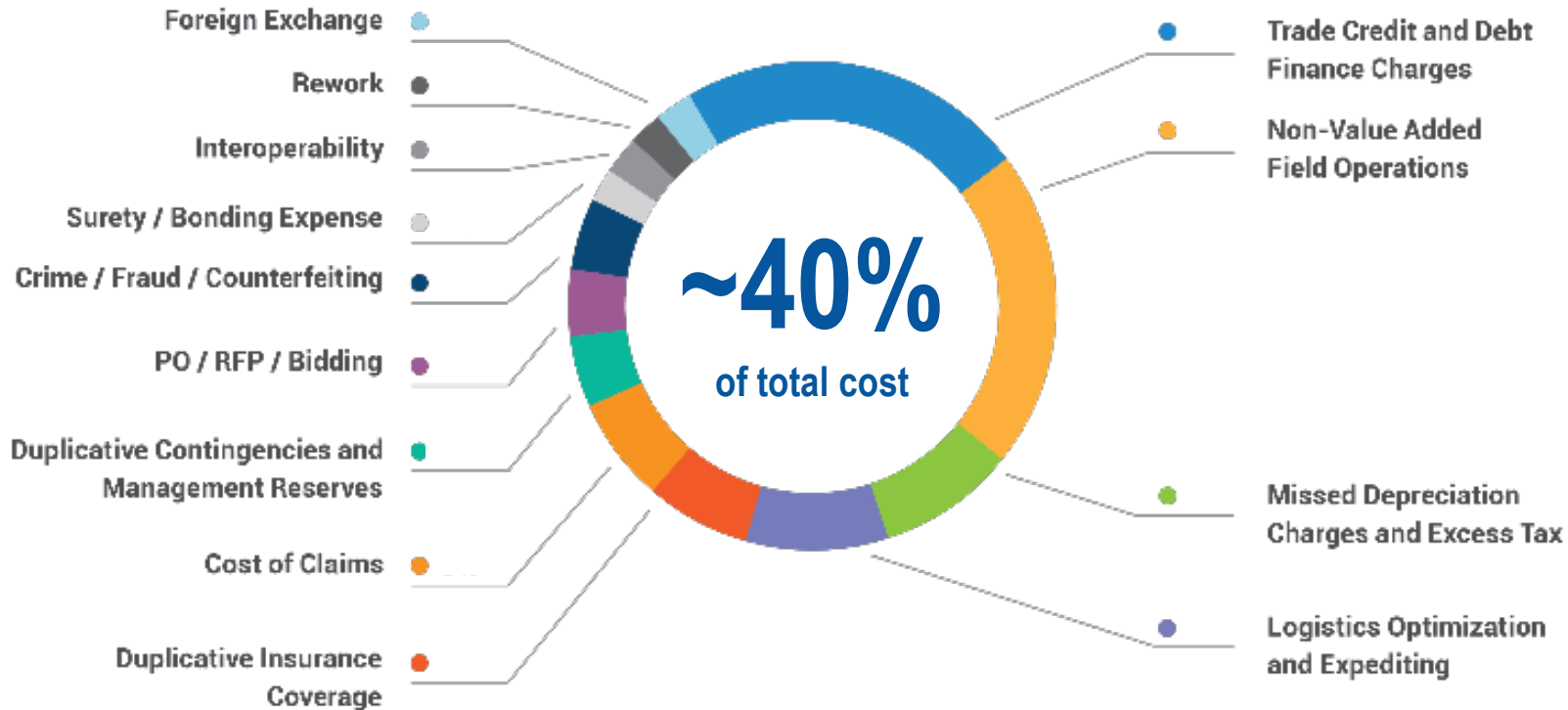
(0.84%)

\$3.4 Tn

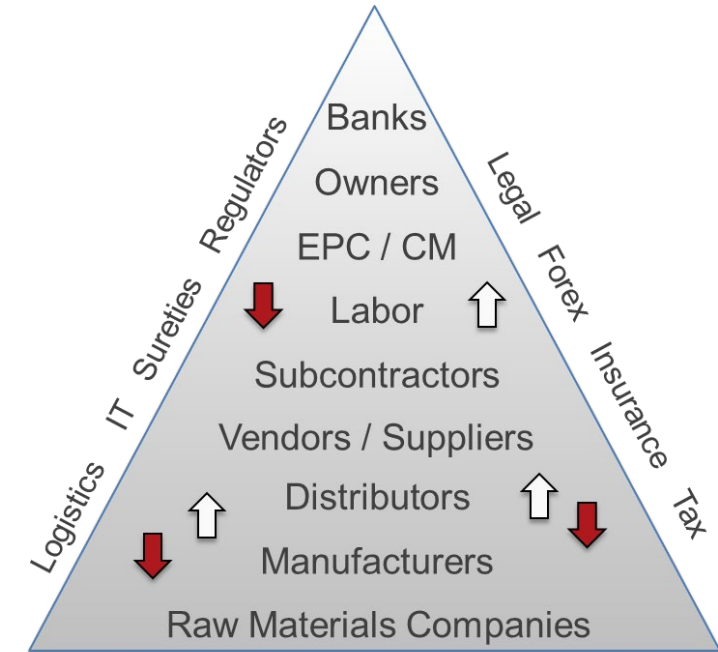
~40%

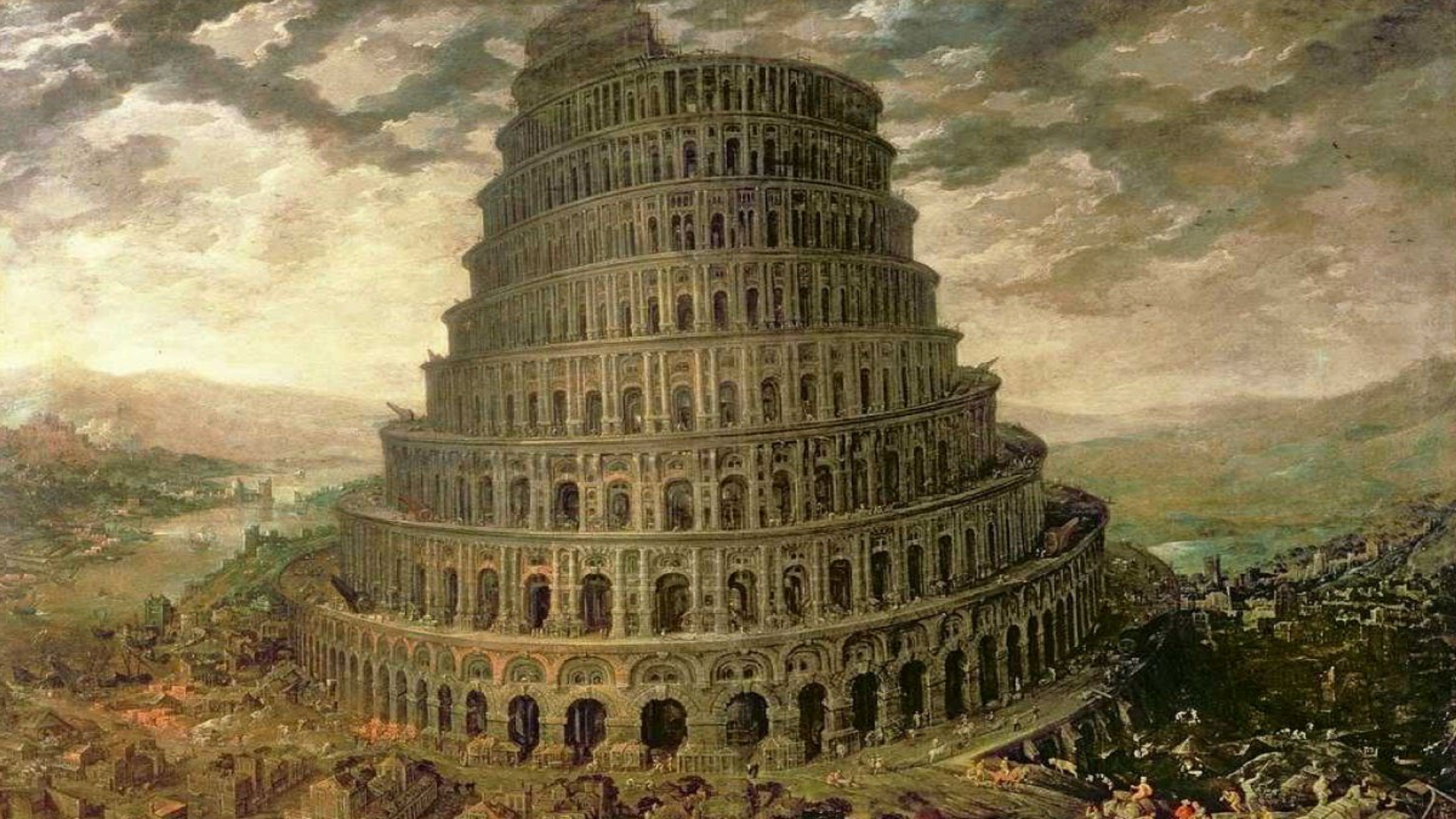
Where Value is Lost

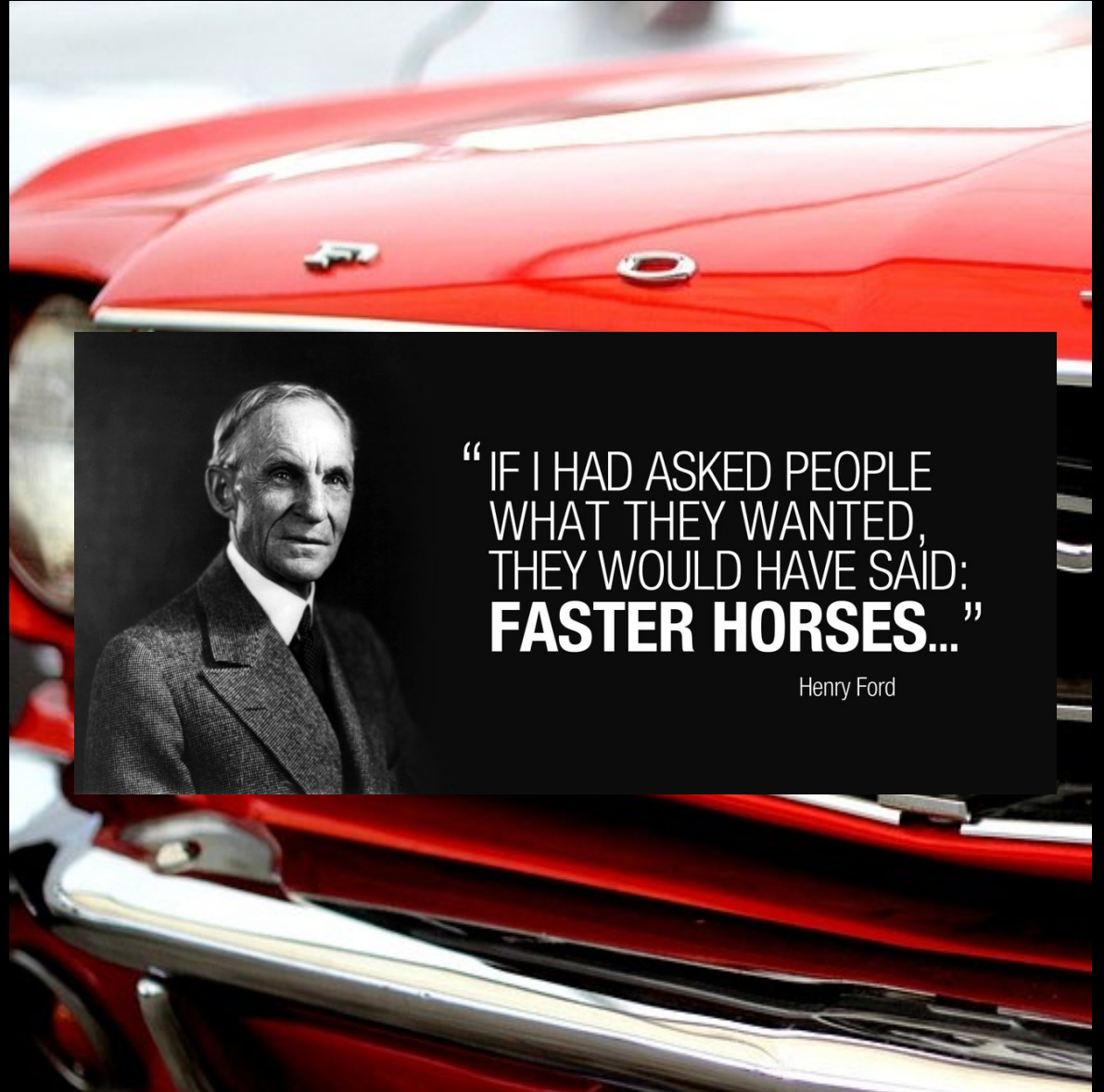
Sources of WASTE (Non-Residential Construction)



Source: CII/CURT OS2 Research







“IF I HAD ASKED PEOPLE
WHAT THEY WANTED,
THEY WOULD HAVE SAID:
FASTER HORSES...”

Henry Ford



From Hierarchies...

...to Digitally-Connected, Collaborating COMMUNITIES



RESEARCH

DEVELOPMENT



Operating System 2.0



OPERATING SYSTEM 2.0 INDUSTRIAL AFFILIATES PROGRAM

REDEFINING THE CAPITAL PROJECTS BUSINESS MODEL

 OPERATING SYSTEM 2.0 Program Profile 2020 EDITION

OS2 Transformational Focus Areas

Goal Congruence and Alignment

Supplier Engagement

Dynamic Risk Modeling

Smart Contracts and Blockchain

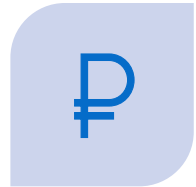
The current capital project contract model is based on DISTRUST

CURRENT: Caveat Emptor
“Let the Buyer Beware”

OS2/PrairieDog: Uberrima Fides
“Utmost Good Faith”

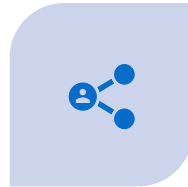


Sharing risk to create a braver world



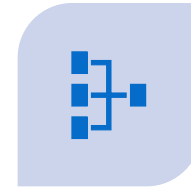
LLOYD'S OF LONDON

- INSURANCE AND REINSURANCE MARKET
- LOCATED IN LONDON
- FOUNDED 1871



OS2 DIGITAL PLATFORM

- EXCLUSIVE COMMUNITY (MARKETPLACE)
- BUSINESS ECOSYSTEM
- LLOYD'S CALLS THIS A "SOCIETY"



MARKETPLACE THAT POOLS AND SHARES RISK



MARKET REGULATOR

- RULES UNDER WHICH MEMBERS OPERATE
- OFFERS CENTRALIZED ADMINISTRATIVE SERVICES TO MEMBERS



FIDUCIARY DUTY

- TRANSPARENT AND PREDICTABLE
- DOES WHAT IS BEST FOR THE COMMUNITY (THE MARKETPLACE) AND NEIGHBORHOODS (SPECIFIC PROJECTS)

OS2 & PrairieDog are changing the legal maxim for capital projects

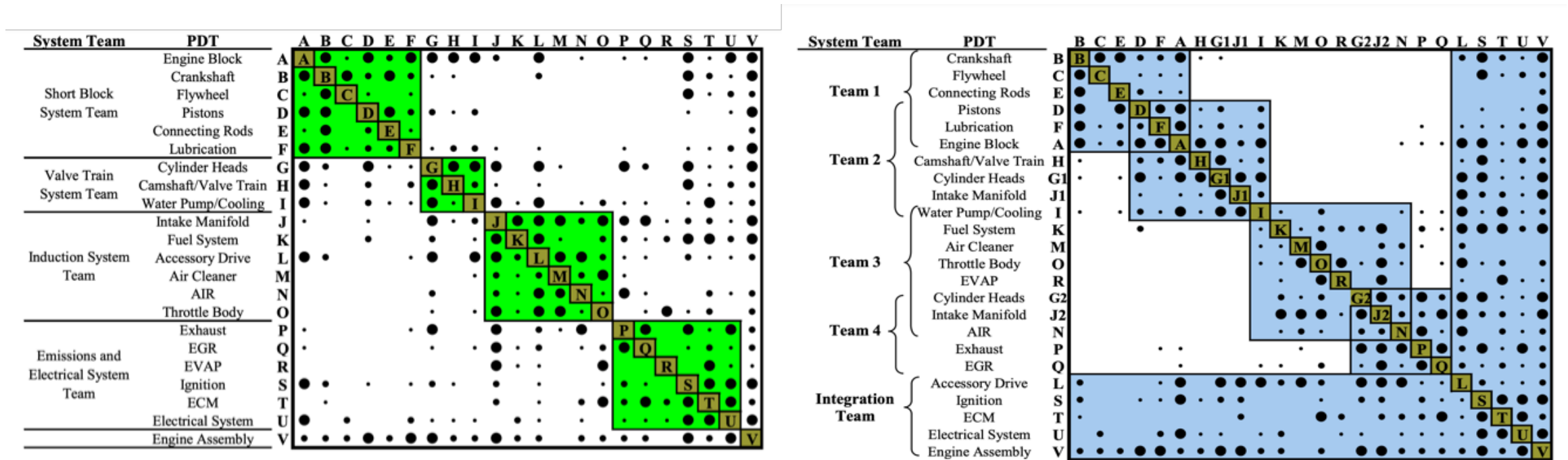
OS2 Community

(as of Feb 7, 2022)

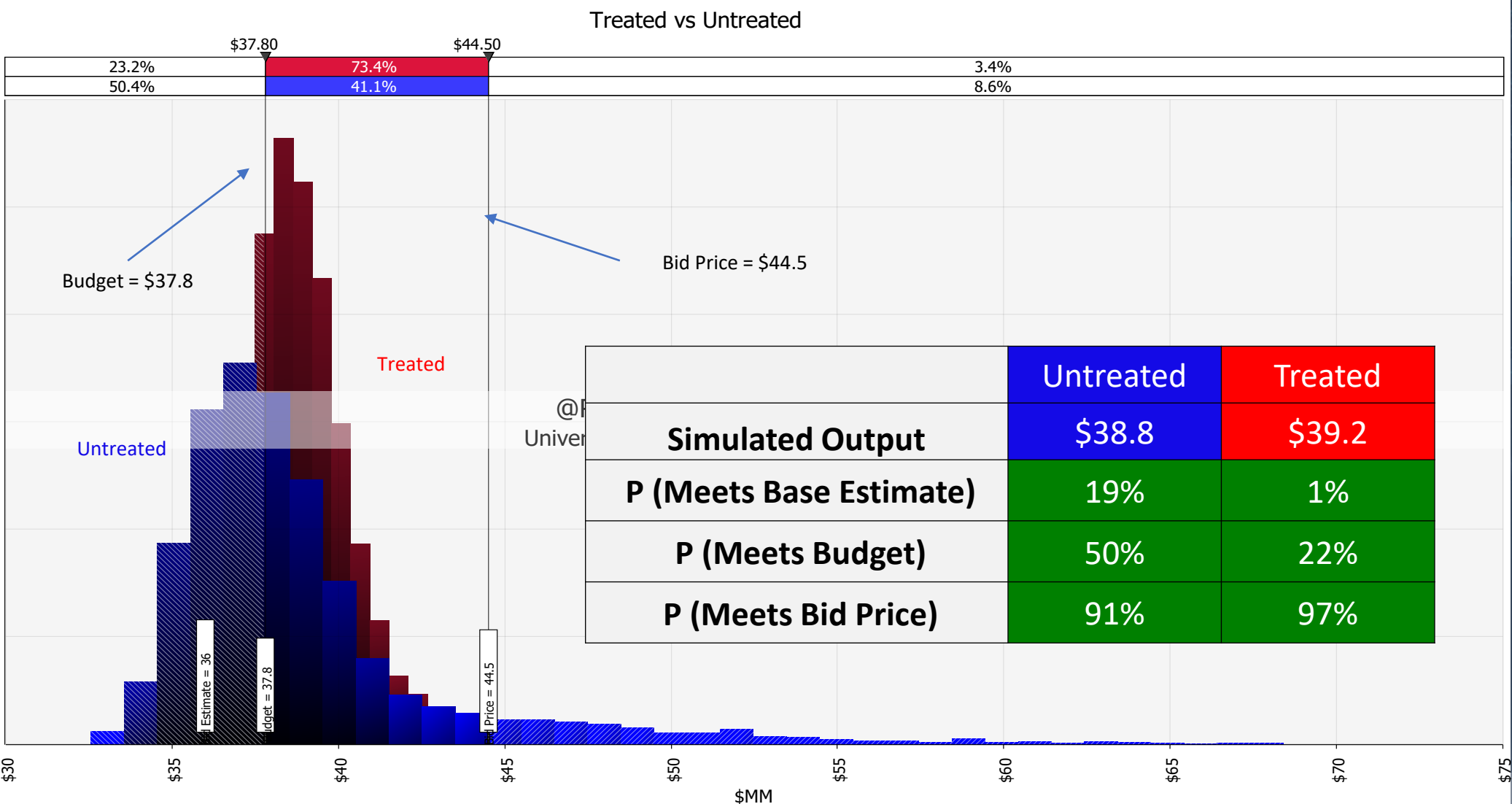


Optimizing Supply Chain Engagement

Reorganizing Construction Projects for Modularity (Dependency Structure Matrix)



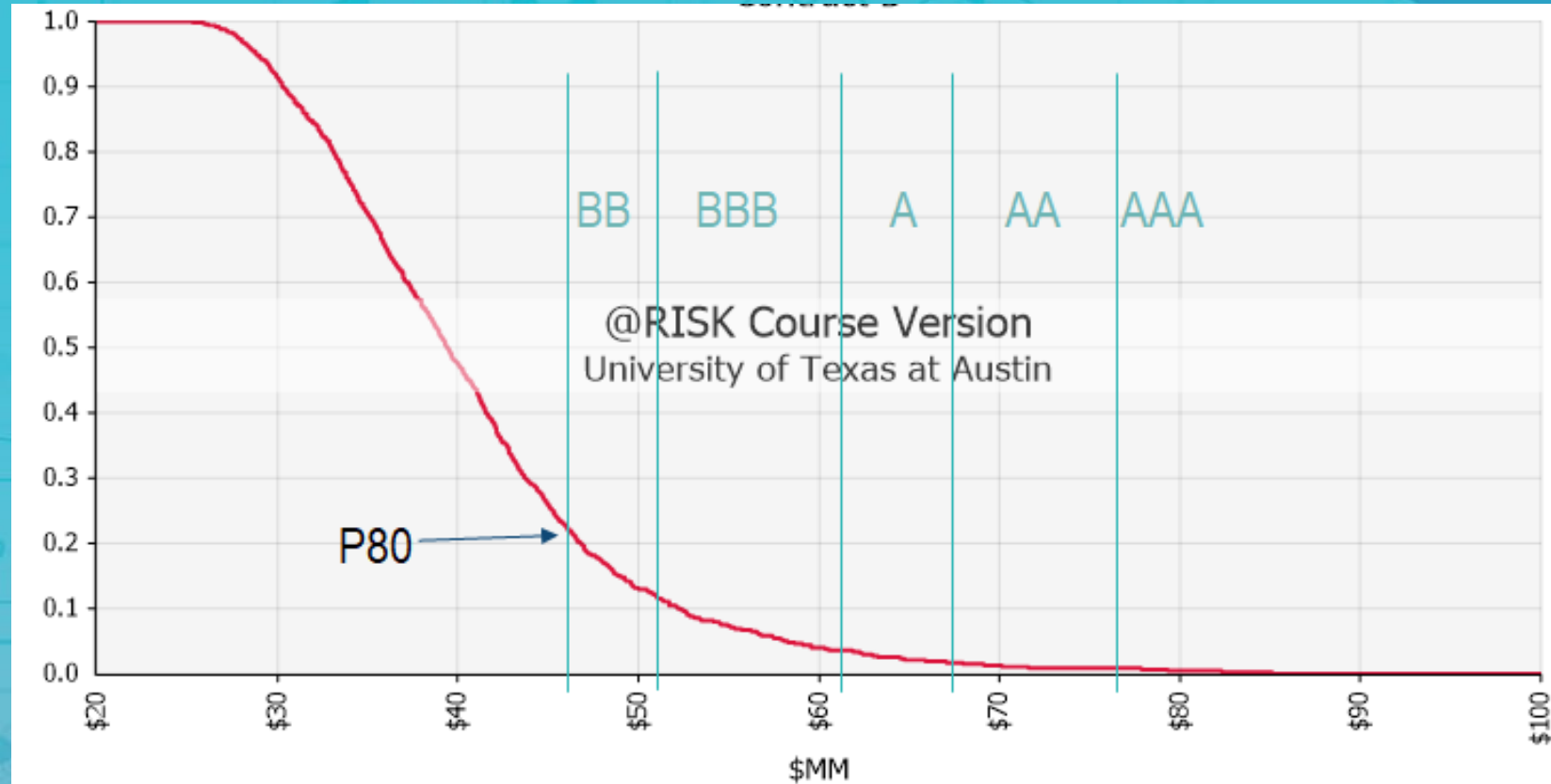
Impact of Sharing Risks – Removing the Tail



Reduction in Risk Capital

- Tail risks, often set aside for commercial reasons, exist whether we choose to acknowledge them or not
- These tail risks can be apportioned and sold, much like bonds are sold by rating type
- **17% reduction** of Risk Capital due to change in consolidated range risk-free rate.

The OS2 Community is more credit worthy



CONSTRUCTION'S BLOCKCHAIN OPPORTUNITY



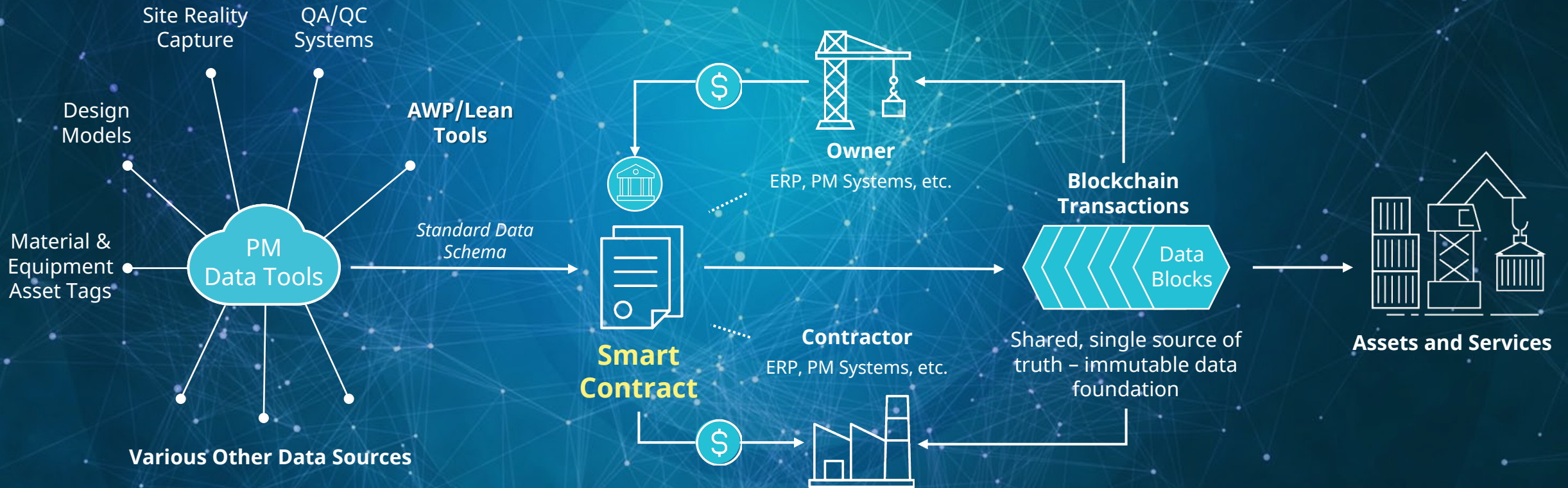
Why the Opportunity Exists in Construction

- Various data systems within and between companies
- No single source of truth
- Lack of trust
- Expensive intermediaries
- **REDUNDANCY, REWORK, RECONCILIATION (3 Rs)**
- Lack of common data standards
- Even if they wanted to, a single entity cannot solve it

Smart (digital) Contracts

- Self-executing computer program that represents the commercial terms of the contract
- Contains business logic of the natural language contract
- Works for labor or materials; and for any commercial terms

Smart Contracts + Blockchain: Capital Projects



The Power of Smart Contracts

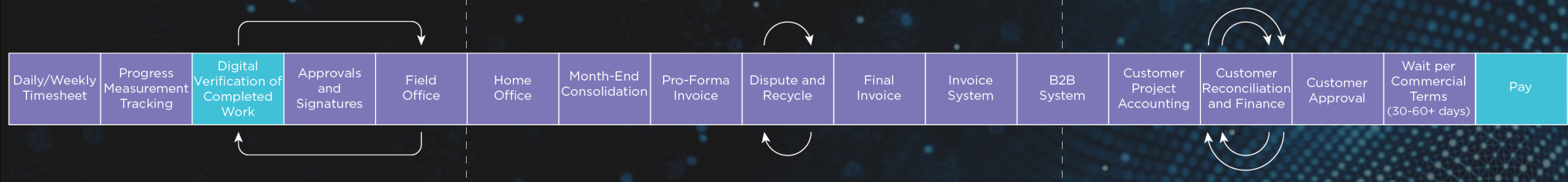
Touchless Transactions

FIELD

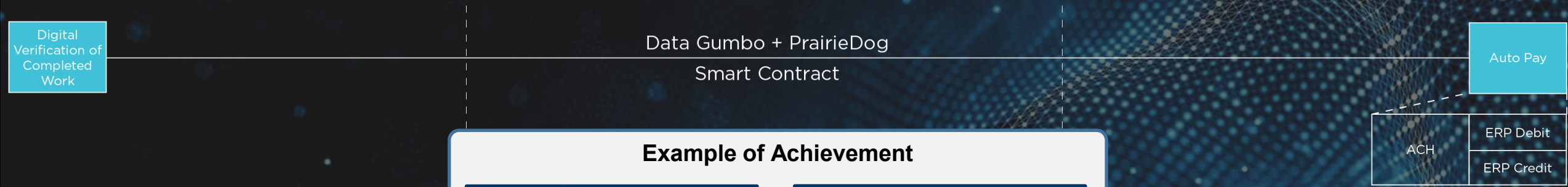
CONTRACTOR OFFICE

CUSTOMER SYSTEMS

Today's Typical Process — 60-120 days



Data Gumbo + PrairieDog — 1 day

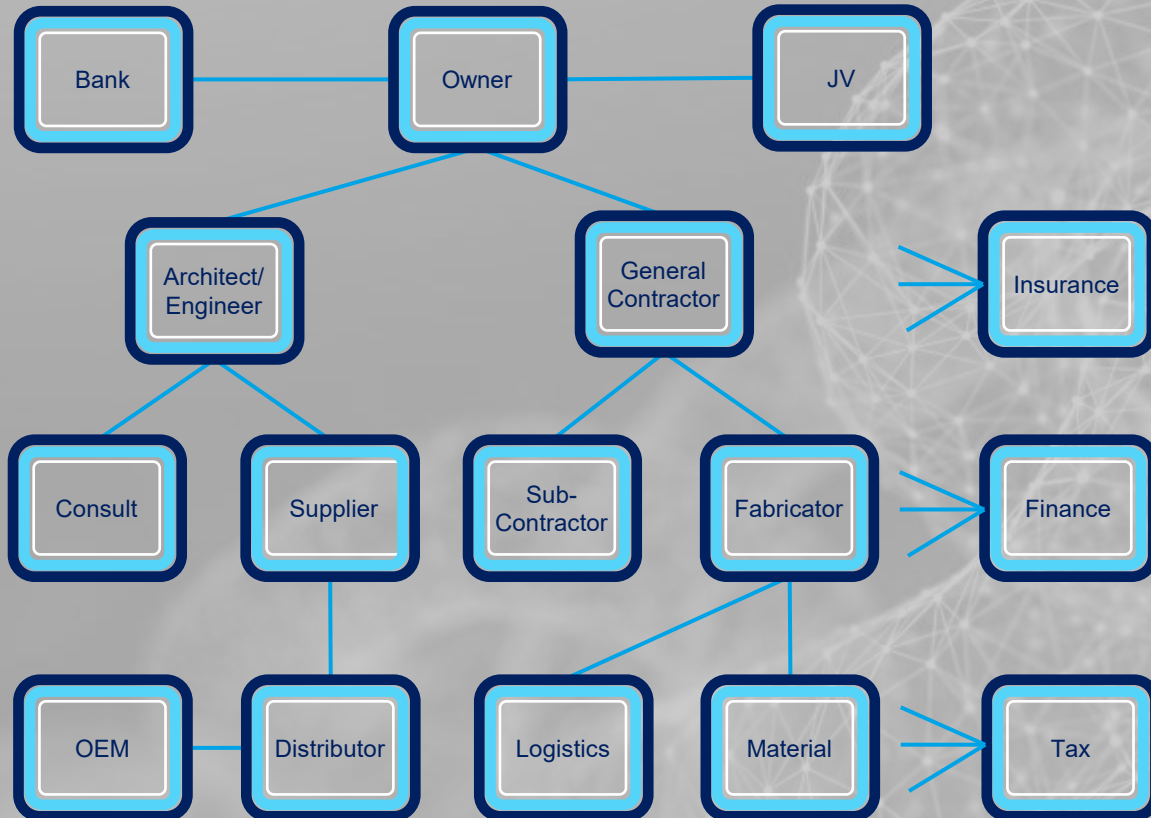


Example of Achievement

98%	Accurate Transactions	74 Days	Faster payments
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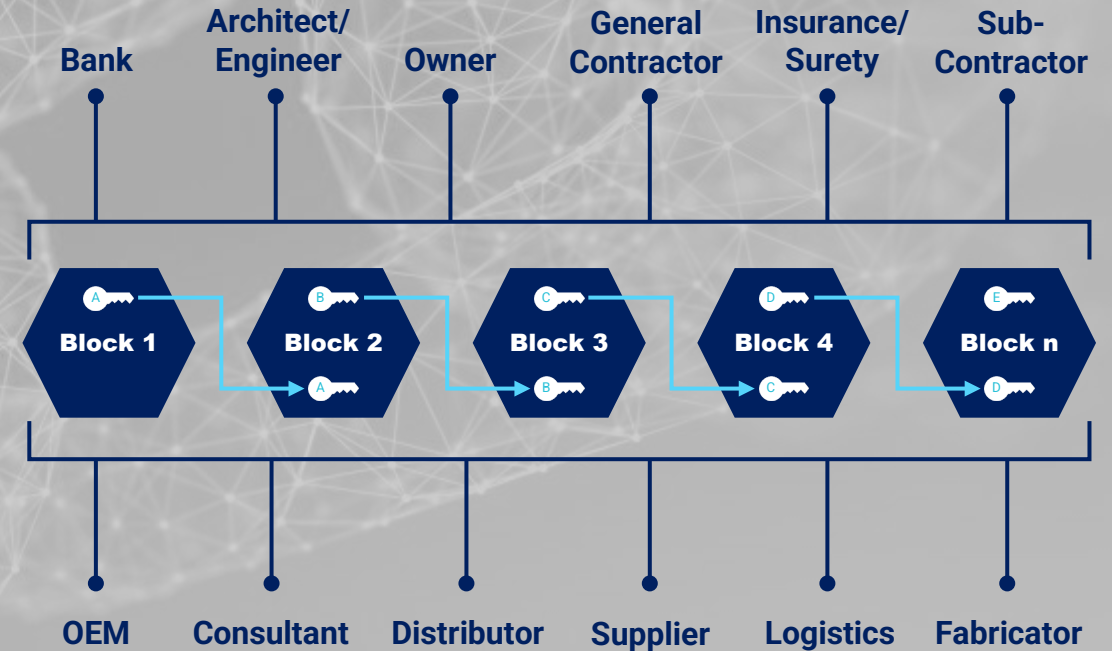
From Paper-Based to Digital Thinking

Myriad Systems & Contracts



vs.

Shared, Single Source of Truth



Benefits of Smart Contracts on Capital Projects

Owners

- receive early pay discounts
- pay only for what is received
- reduce overhead costs
- achieve lower billing rates
- achieve full digital twin
- be seen as a “client of choice”
- attract best companies & teams
- minimize disputes
- demonstrate provenance & traceability
- verify quality inspection history
- evidence ESG in supply chain (carbon)

Product & Service Providers

- get paid much faster
- free up working capital
- reduce overhead costs
- automate the invoicing process
- eliminate contract leakage
- improve client relationships
- benefit from trust and transparency
- minimize disputes
- digital asset tracking
- avoid reinspection
- automate documentation



Example Smart Contract Use Cases

Use Case	Company Type	Counter-Parties
1. Procurement of ready-mix concrete	• General contractor / Subs	• Contractor – Subs – Batch Plant
2. Procurement of bulk materials	• Specialty contractor	• Contractor – Supplier / Distributor
3. Solar system installations for DoE	• Various	• Multiple
4. EPC of engineered equipment (offshore)	• Oil & Gas Owner	• Owner - OEM
5. Inter-company transactions for services	• General contractor	• Department – Department
6. Specialty engineering services	• Engineering firm	• Owner or Architect – Engineer
7. Specialty consulting services	• Consultant	• Owner or Architect – Consultant
8. Construction rental equipment	• General contractor	• Contractor – Rental Company
9. Procurement of subcontract services	• General contractor	• Contractor – Subcontractor
10. Water treatment and carbon credit tracking	• Technology firm	• Technology firm – Owner

A CONCRETE Example

- **Scope:** Procurement and installation of reinforced concrete for a Data Center

- **Multi-party contract:**

1. Asset developer (owner)
2. General contractor
3. Concrete installer
4. Rebar installer
5. Concrete supplier (batch plant)



- **Features:**

- ✓ Automates cascading payments
 - ✓ Microsoft Environmental Product Declarations (EPD) carbon tracking
 - ✓ Historically Underutilized Business (HUB) verification and tracking
 - ✓ Tracking performance and payment bonds, including riders with contract growth
 - ✓ Validate insurance enrollments and document updates
 - ✓ Document submittals and approvals
- **Flexible template** (customizable for different applications)
 - Initial test version implementation in Q1 2022



If not OS2, then what?

If not us, then who?

If not now, then when?

It's a matter of survival.



Who
Mo[🧀]ved
My
Cheese?

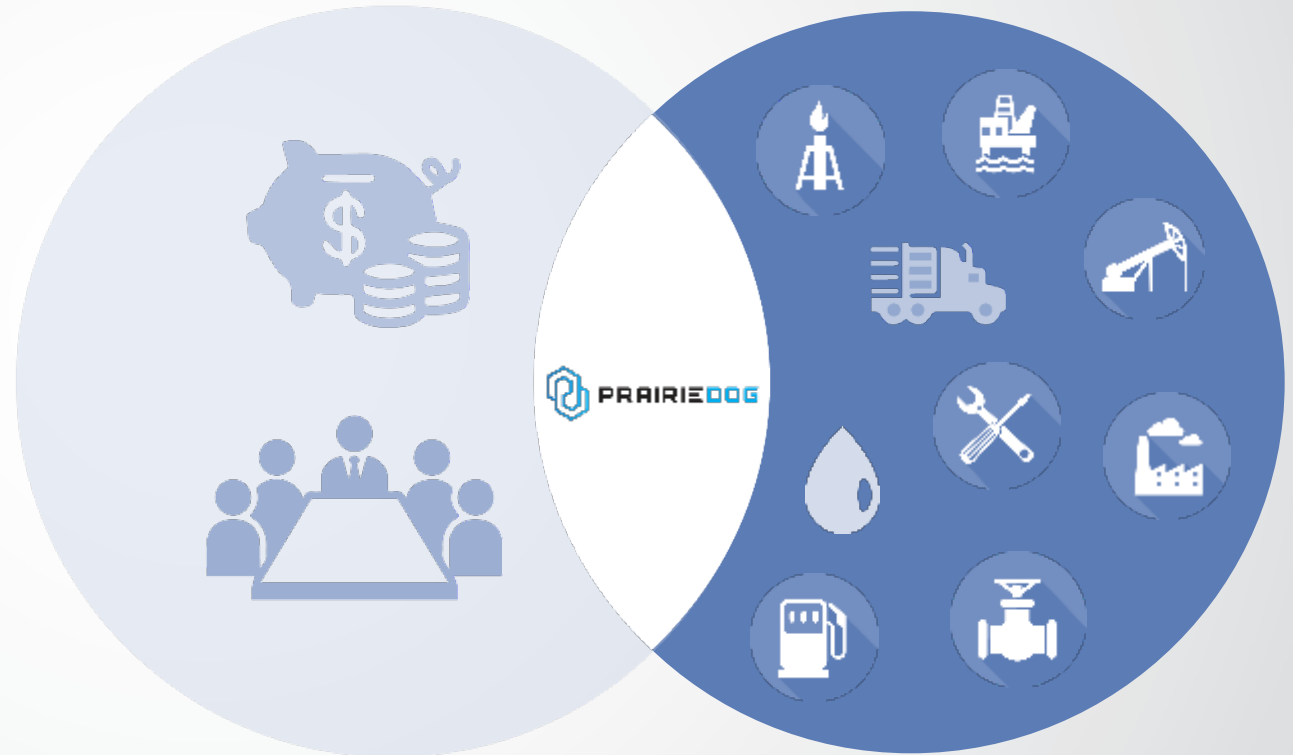
Liberating Value for a Healthier Industry

Benefits for Owners

- **35%** cost reduction
- **50%** cycle time reduction
- **60%** better ROI

Benefits for Supply Chain

- **250%** more projects
- **300%** more profit for participants



Find Out More

OS2 Research

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OS2 Deployment

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Pilot the OS2 Tools

Join the OS2 Community

Contribute to the Research

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