

Innovations in Blockchain

PESA Supply Chain Conference

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OOC Oil & Gas Blockchain Consortium – Board of
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Eventually **everything connects** - people, ideas, objects.
The quality of the connections is the key to quality per se.

Charles Eames, American Designer, 1907-1978

It **IS NOT** about just digitizing the current process,
or adding new technologies on top of legacy systems/processes.



It **IS** about transforming **how we work**,
across **processes, people**, and **technologies**.

CHANGING How We Work



Energy Partnerships



Consortium comprising energy companies and tech vendors, predominantly in Europe and Asia Pacific, including Shell, Total and Equinor



First O&G blockchain consortium in the U.S. with ten operator members advancing four initial use cases in upstream activities



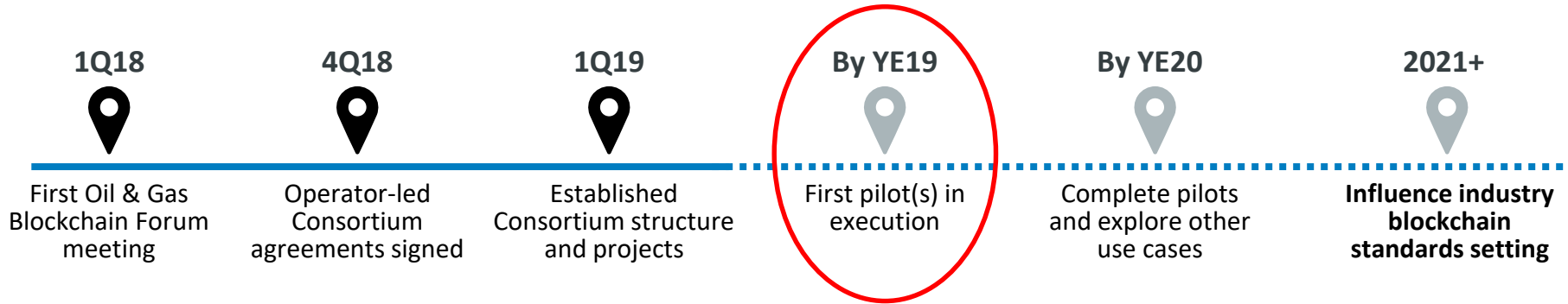
VAKT reaches one year in production and grows membership to 12 major traders; expanding commodity and geographic scope



BP, Mercuria and Shell developing new JV venture, potentially leveraging VAKT for natural gas post-trade activity in North America



U.S. Oil & Gas Blockchain Consortium



10 OPERATOR MEMBERS

- Chevron
- ConocoPhillips
- Equinor
- ExxonMobil
- Hess
- Marathon
- Noble Energy
- Pioneer
- Repsol
- Shell

ADVANCING 4 PILOT PROJECTS TO SOLVE COMMON PAIN POINTS

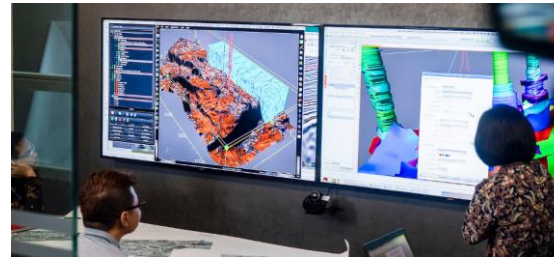
Truck Ticketing Pilot EQN Lead



AFE Balloting Proof of Concept COP Lead



Seismic Entitlement Design REP Lead



JIB Exchange Consolidated with AFE Balloting COP Lead





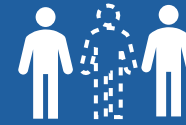
Shared data



More than one participant



Transaction dependency



Opportunity for disintermediation



Lack of digital trust



WHY PARTNER WITH INDUSTRY?

POWER IN NUMBERS **123**

TWO HEADS (OR MORE) ARE BETTER THAN ONE



DERISKING TECHNOLOGY EVALUATION



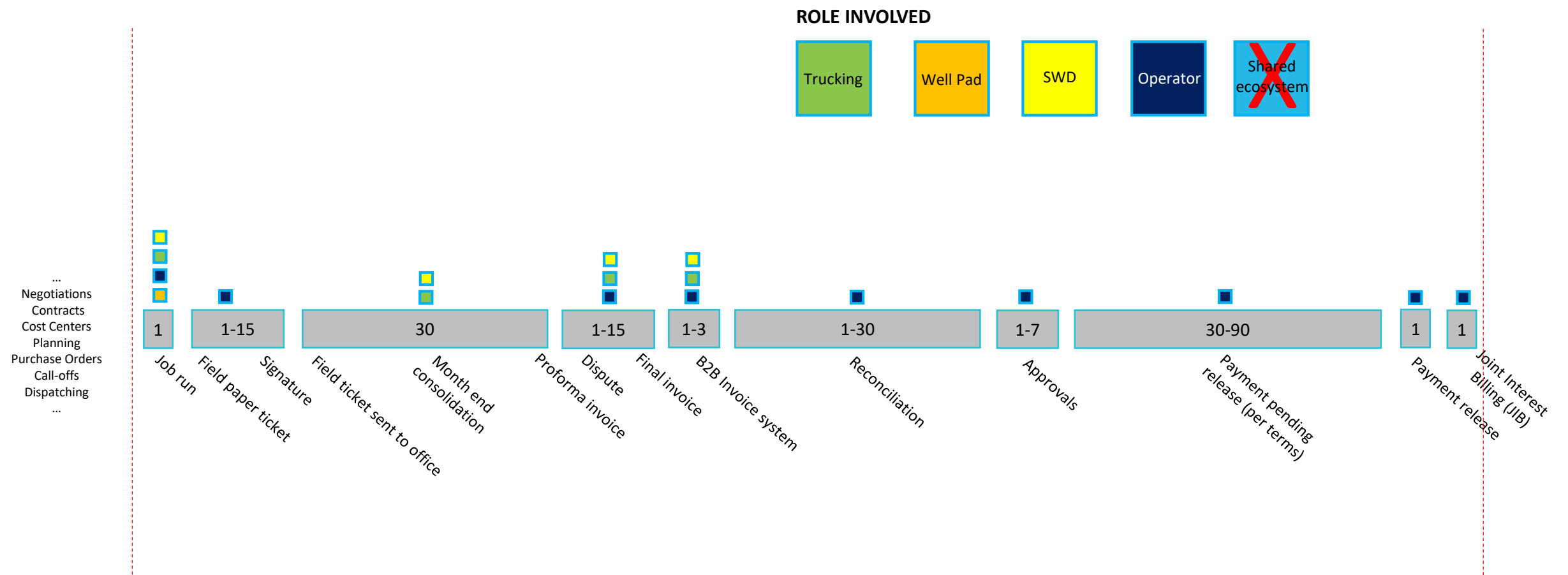
In overall US onshore operations

About **20 billion barrels** of water produced each year.

90 : 10 Split between salt water disposal by pipeline and trucking.

This produces over **100M** SWD trucking field tickets each year.

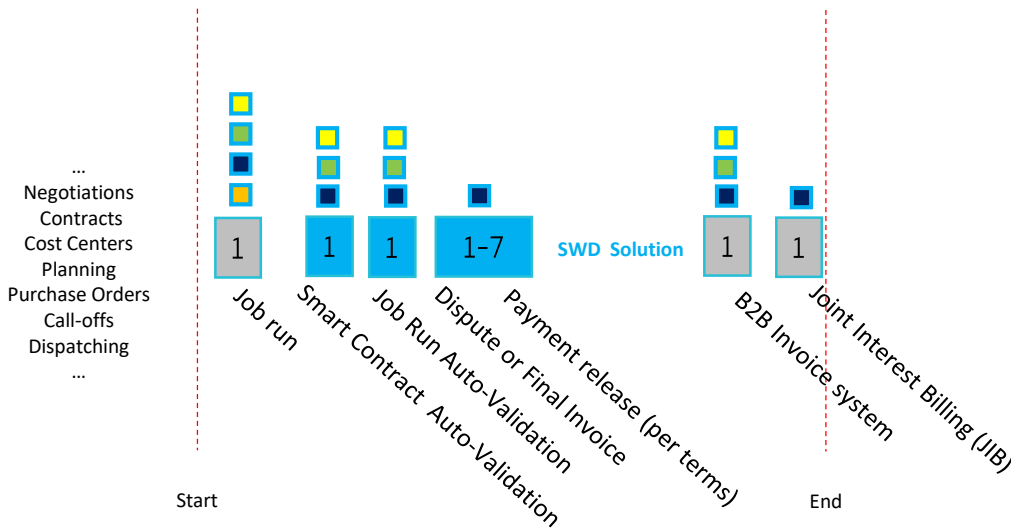
Truck Ticketing Pilot - Transforming the SWD payment cycle



Scenario	Days	Steps	Manual Intervention
SWD Pilot	6 - 12	7	3
E-Commerce	37 - 154	10	6
Manual	68 - 193	14	10

Ambition

ROLE INVOLVED



Equinor expects to realize over **25%** operational cost savings, and significant time savings with salt water alone...

and suppliers can expect to (finally) be paid on time, while also realizing their own cost and time savings*.

Scenario	Days	Steps	Manual Intervention
SWD Pilot	6 - 12	7	3
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* Based on full scale implementation.



Timing is key.



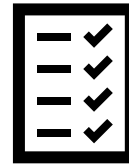
Strong stakeholder management.



Ways of working...



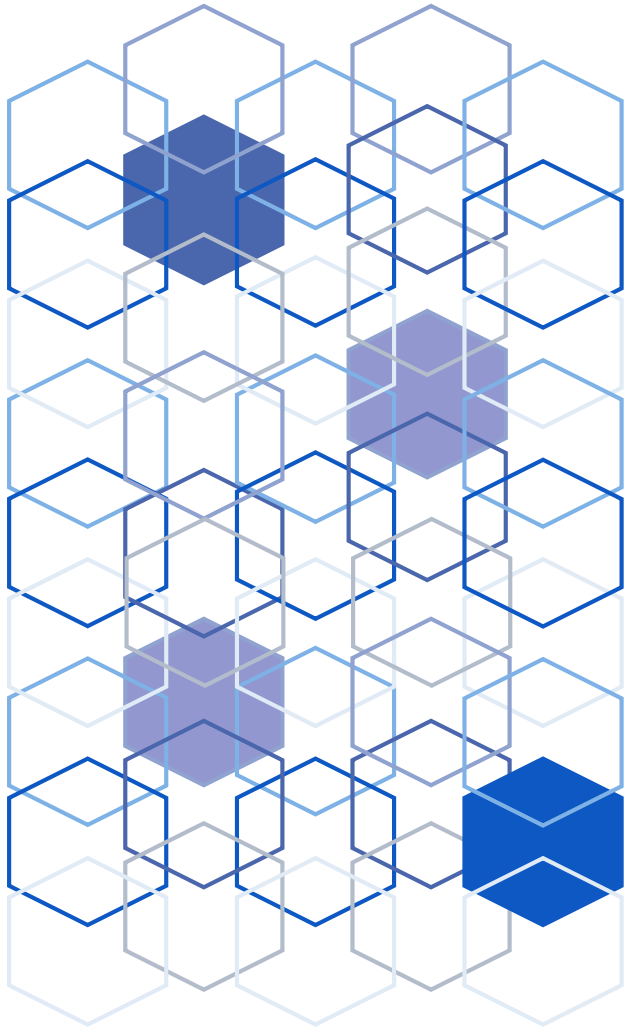
Integrated view of Systems, data and processes



It is about more than just truck ticketing.

This is paving the way for automated **vendor validation**

of any deliver of **goods** or **services**.



“Learn how to see. Realize that **everything connects to everything else.**”

Leonardo Da Vinci, Italian Polymath, 1452-1519