Staying Competitive

How Digital and AI Enables Upstream Oil & Gas Business

Thanasit Vichaipairojwong
SVP, Digital Technology Center of Excellence Division
PTTEP

PTTEP Operation Portfolio

2026 Sales Volume (E)

~560

KBOED

Sales Volume

75%

Domestic

Gas/Liquid

70:30

Volume mix

E&P Business Value Chain

Capital Intensive and High-Risk Business

We search for oil & gas

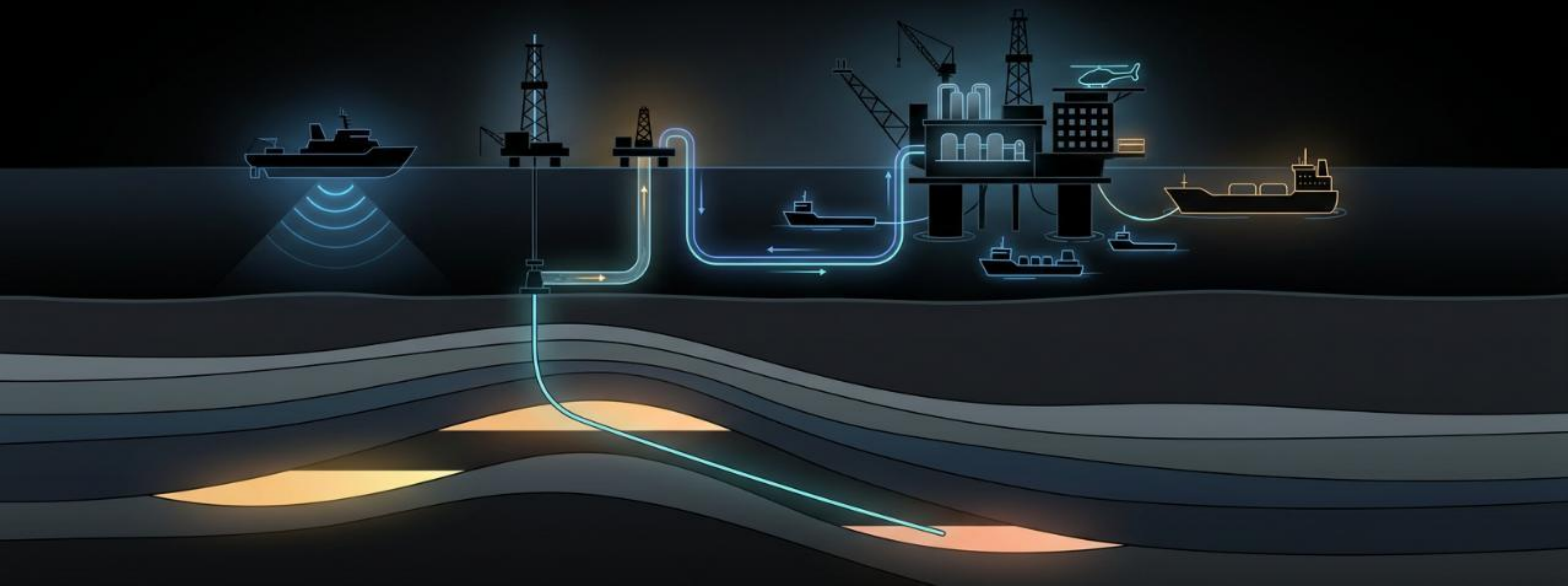
Exploration

We build infrastructure needed to bring it to surface

Development

We produce and manage till end of its life

Production



Digital & AI as a key enabler for staying competitive in E&P

Enable

Digital & AI

Selected Digital & AI Impact Examples

Representative impact from deployed digital solutions

1 Fast & Successful Exploration

Automated Prospect Polygon

10 DAYS to 1 HOUR

Faster prospect identification, fewer misses

2 Effective Development

Well Targeting & platform optimization

15% Platform reduction

Optimized well placement & design

3 Efficient Operation

Drilling risk analytics

~85% Reduction in stuck pipe incidents

Reduce Drilling risk & Non-Productive Time

Procurement Automation

>60% Simplified

AI assisted procurement process (8 → 2 steps)

Lesson Learnt:

5 Key Success Factors for Digital Transformation

1. Corporate Strategy Driven
Set it as a corporate agenda &
identify priority with clear goal

2. Data
Create single source of
trusted data

3. Process Design
Work with business to redesign
End-to-End process before technology

4. People & Culture
Drive deep cultural and leadership
change to build literacy and adoption

5. Governance
Establish governance for AI, Data,
and Solution lifecycle

Data	Process, People & Culture	Business outcomes

governance

Technology alone does not create value

Value emerges when **leadership drives change**,
data is trusted,
and people embrace **new ways of working**.