

# Integrated Asset Modeling Applied to Challenging Fields for Successful Reservoir Management

Emerson - Exploration and Production Software  
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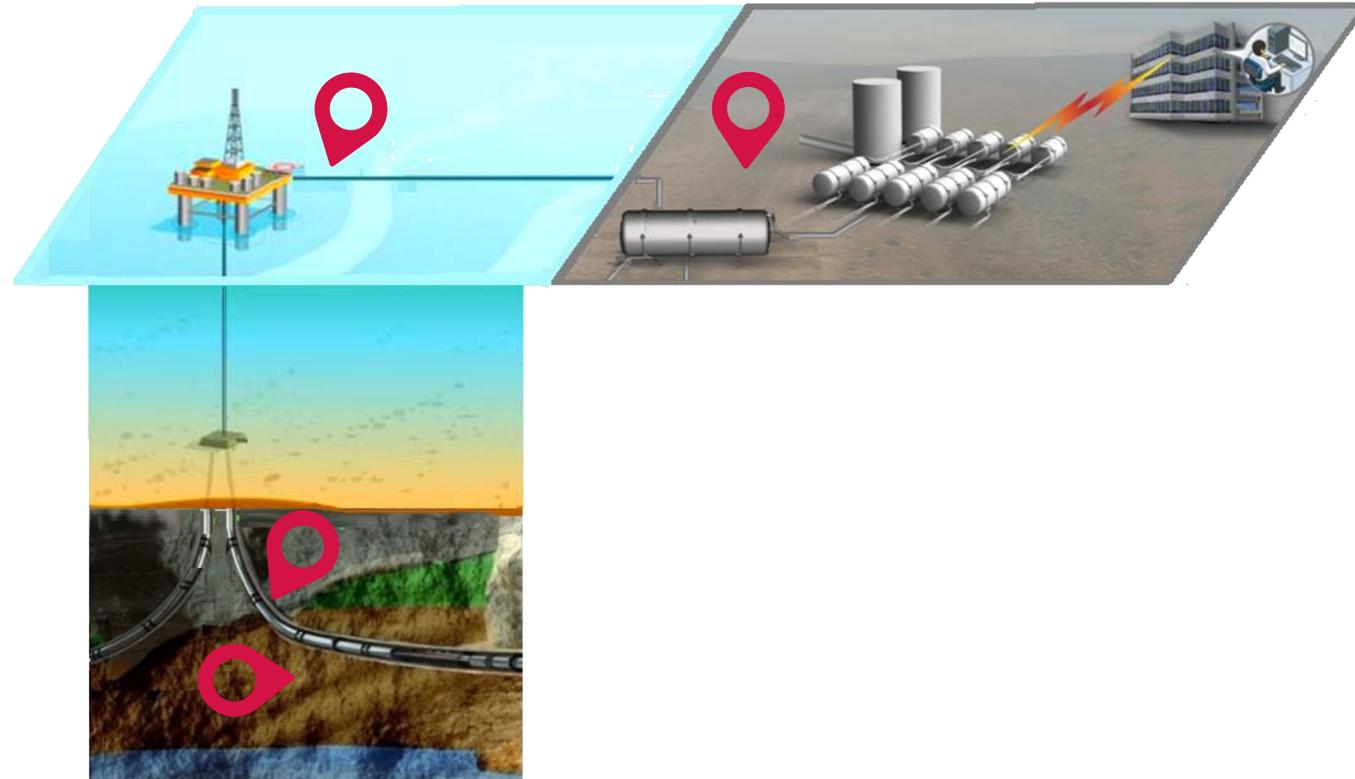


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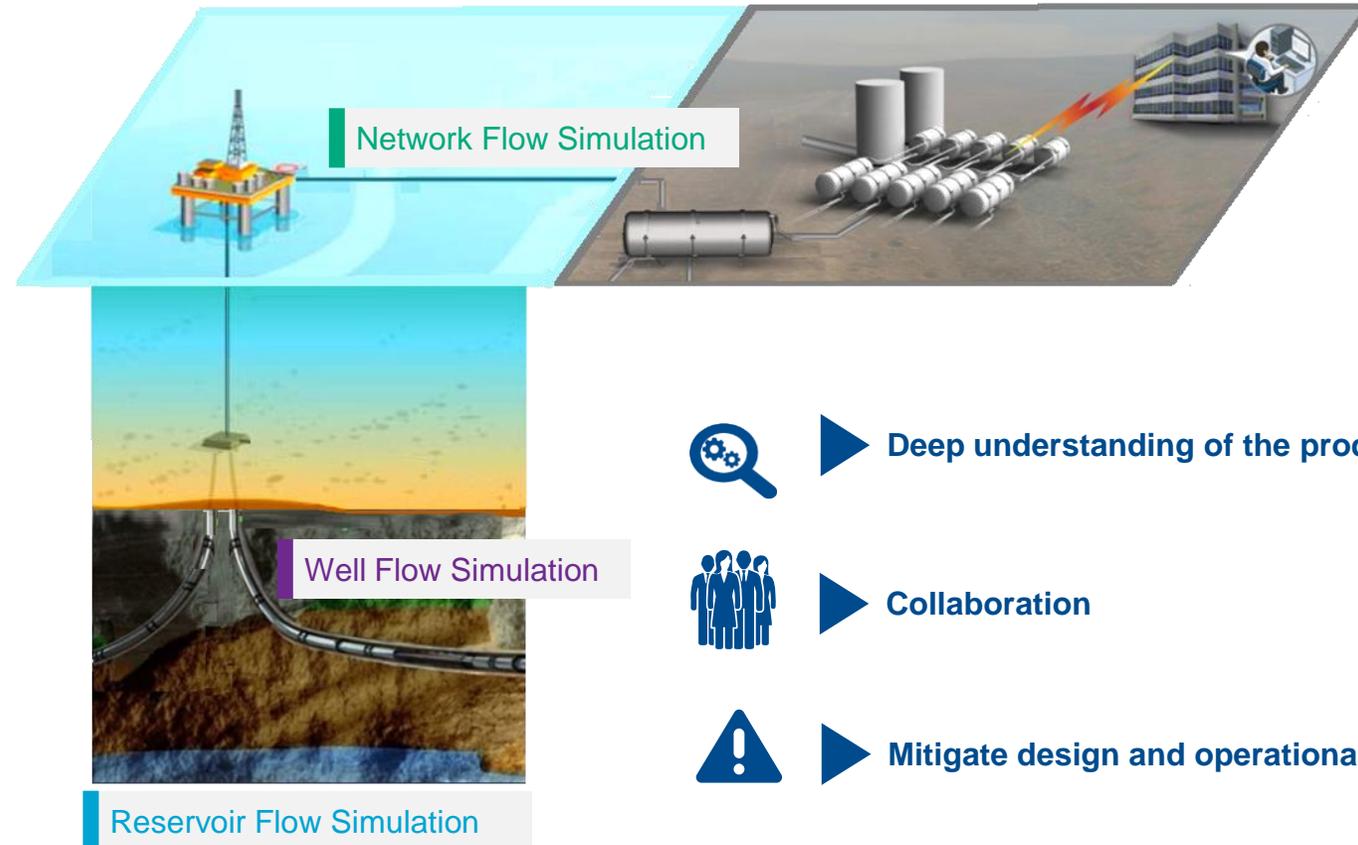
A key element of successful production is continuous modeling of flow from subsurface through the production network to processing facilities



# INTEGRATED ASSET MODELING: WHAT IS IT?

Integrated asset modeling is used to model the complete oil or gas production system including the reservoir, the wells and the surface network

A key element of successful production is continuous modeling of flow from subsurface through the production network to processing facilities



▶ Deep understanding of the production system



▶ Collaboration



▶ Mitigate design and operational risks

# INTEGRATED ASSET MODELING: APPLICATION TO CHALLENGING FIELDS

## Subsea oil field development solution

### Challenge

- 3 different reservoirs
- **What is the optimum development scenario?**
- Tight schedule and limited resources

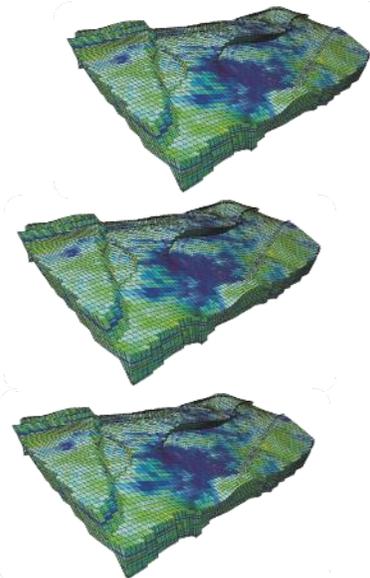
### Solution

- Integrated production modeling: ECLIPSE™\* reservoir models connected to METTE™\*\*
- Effective screening of development scenarios: artificial lift, pressure boosting, separator capacity at oil platform
- Assessment of production capacity, insulation requirements, power requirements

\* Mark of Schlumberger \*\* Mark of Emerson

### Results

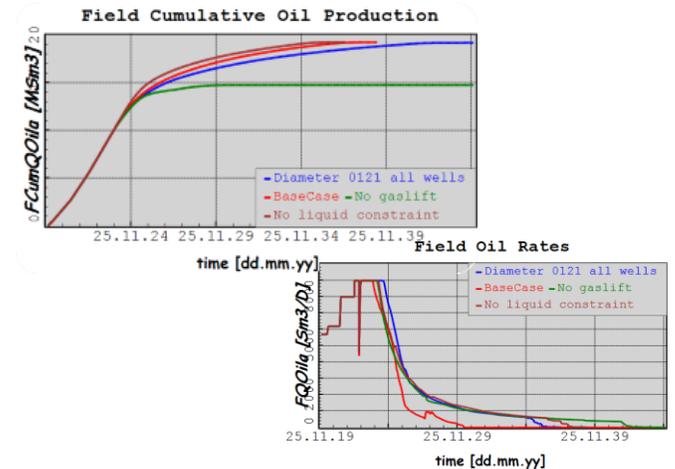
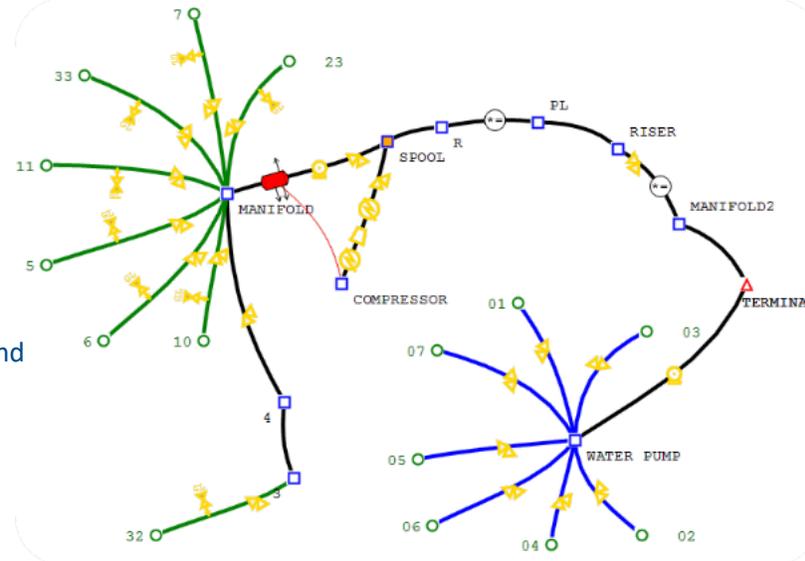
- A comprehensive integrated flow assurance solution, including integrated production optimization
- Concept dependent production profile
- Informed infrastructure design decision
- Technical and economical project viability input



METTE simulates integrated network



and dictates well and group target to reservoir models



# INTEGRATED ASSET MODELING: APPLICATION TO CHALLENGING FIELD

Large onshore field under production

## Challenge

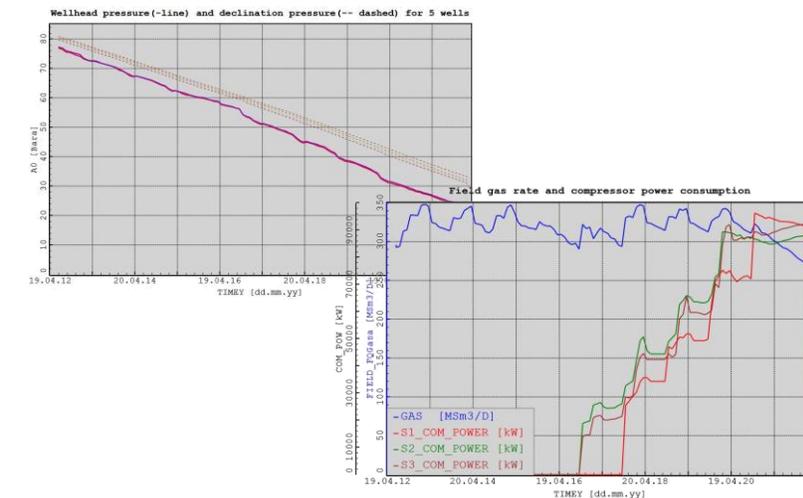
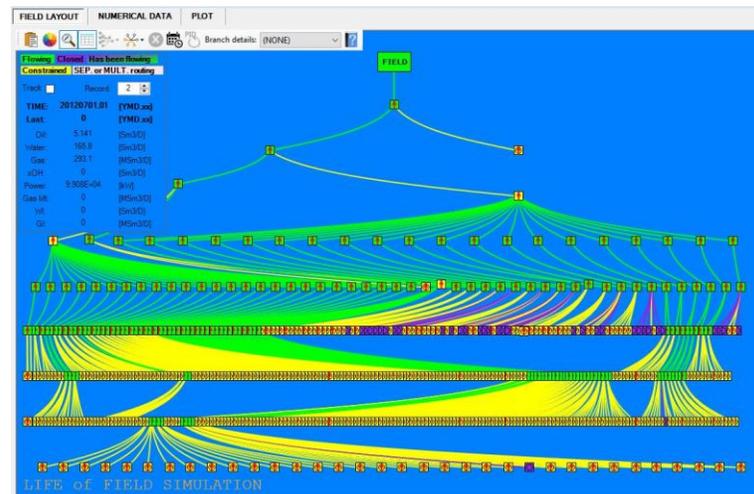
- 400+ gas producing wells sharing common production system
- **How to operate the field keeping the well flowing?**

## Solution

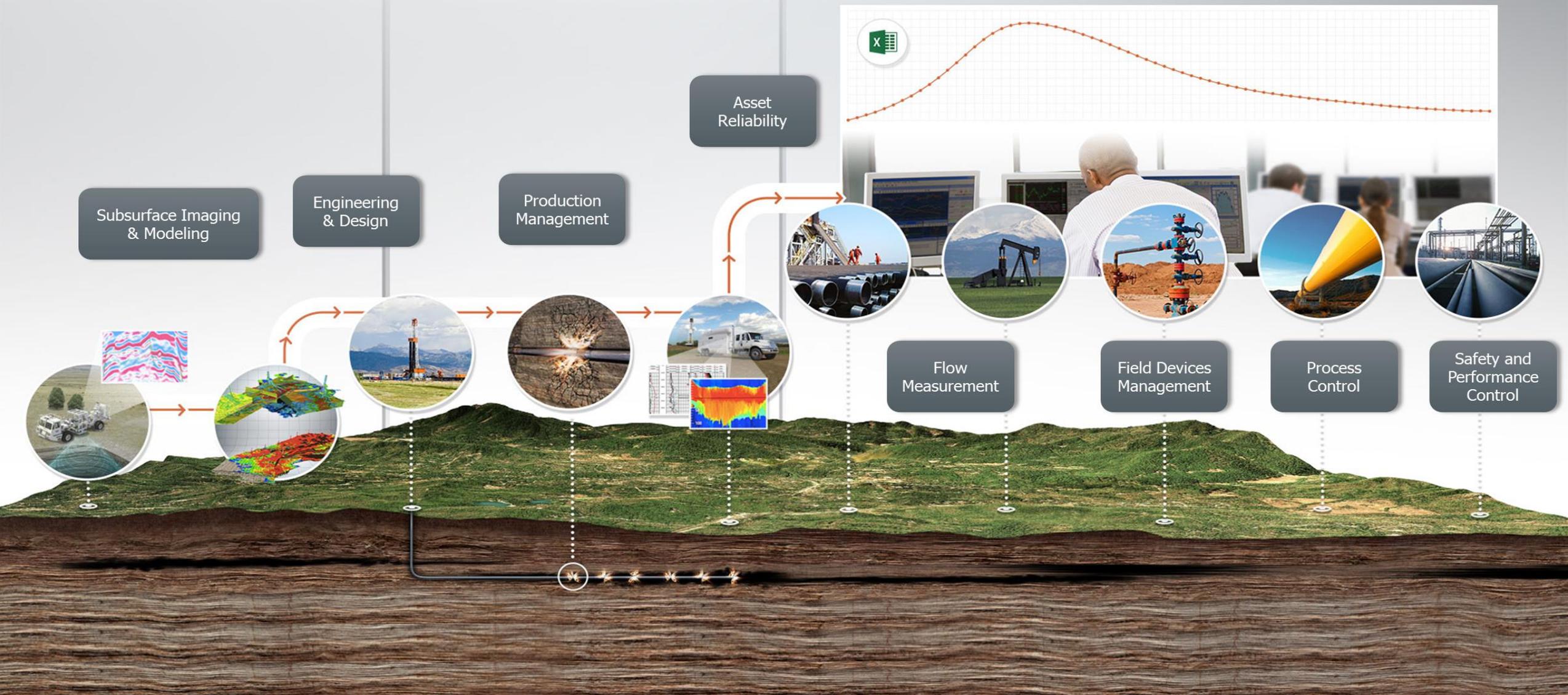
- Integrated production modeling with **METTE™**
- Production forecast taking into account the interdependencies between the 400+ wells

## Results

- A comprehensive integrated flow assurance solution, including integrated production optimization
- Timing and quantification of the future compression needs
- Technical and economical project viability ensured



# INTEGRATED ASSET MODELING: A NATURAL FIT WITHIN THE EMERSON ECOSYSTEM



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