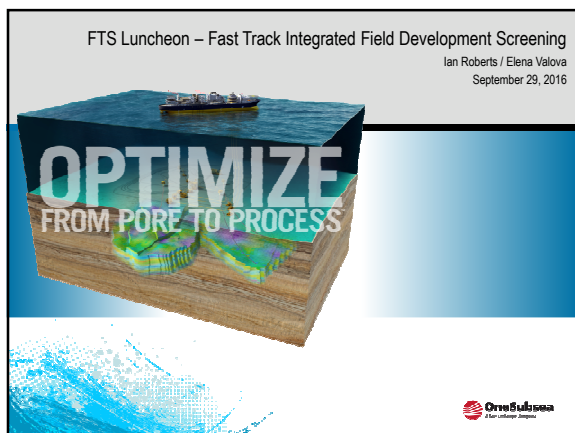




Introduction

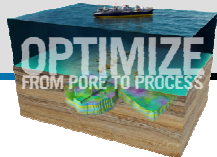
- OneSubsea formed with vision to tighten integration between reservoir and production system
- Has become even more important in current low oil price climate
- Need fit-for-purpose solutions using new technologies and standard specs
- Today's presentation shows some of what has been done towards the vision
- The workflow uses commercially available off-the-shelf software
- Work in progress under active development

2

Presentation Overview

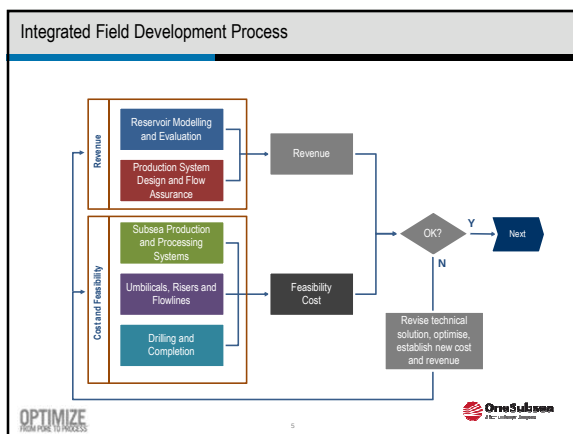
Background
Integrated methodology
Application example
Concluding remarks
Question and answer

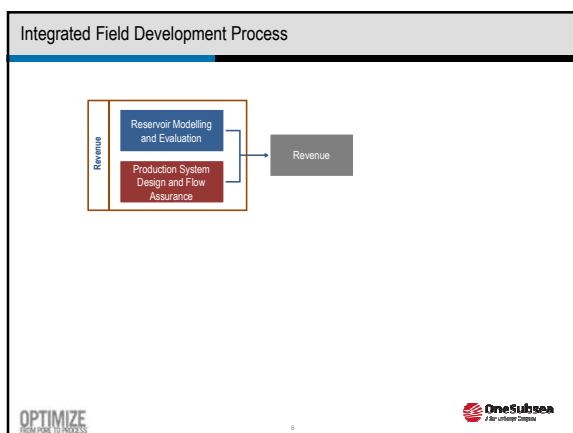
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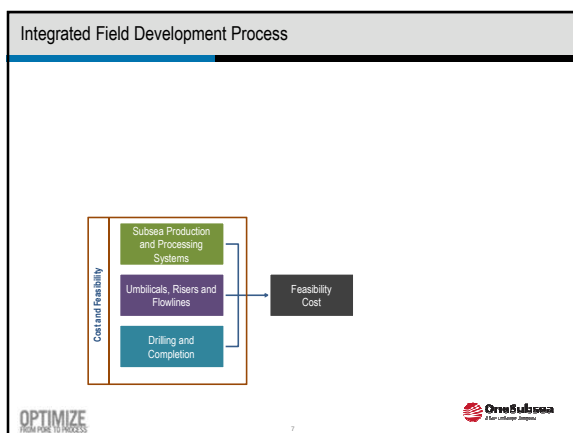


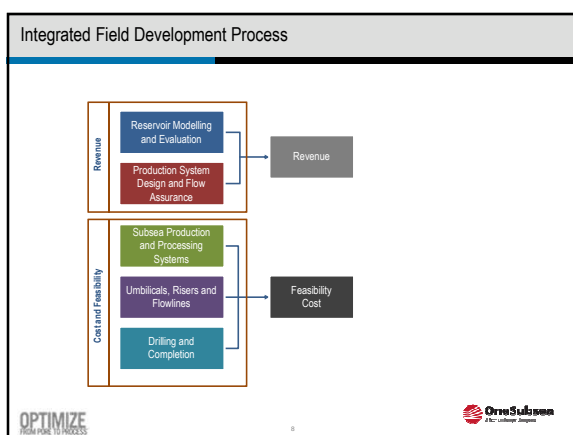
Background

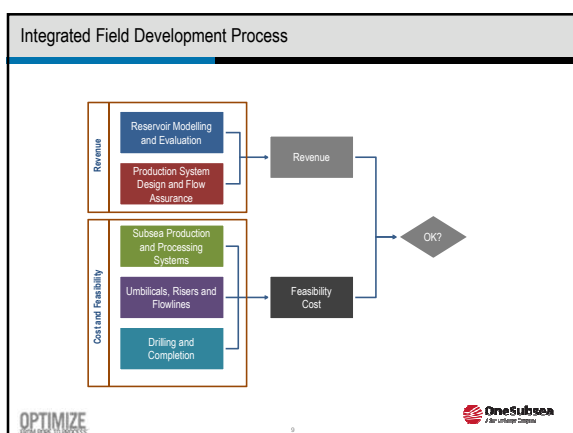


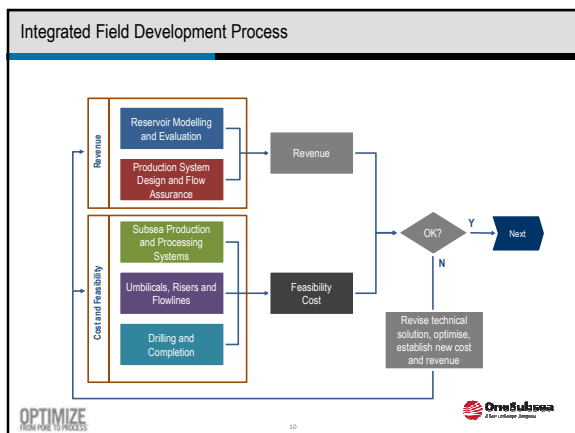


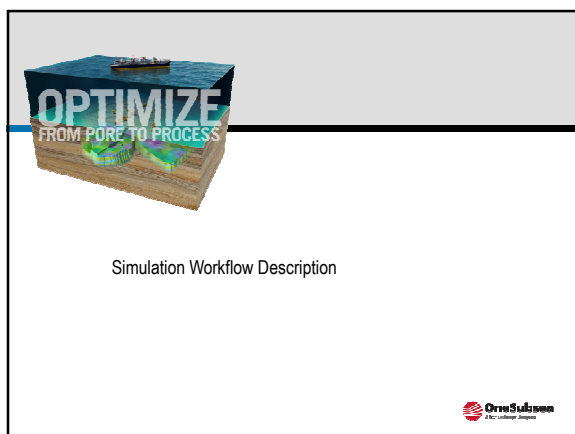


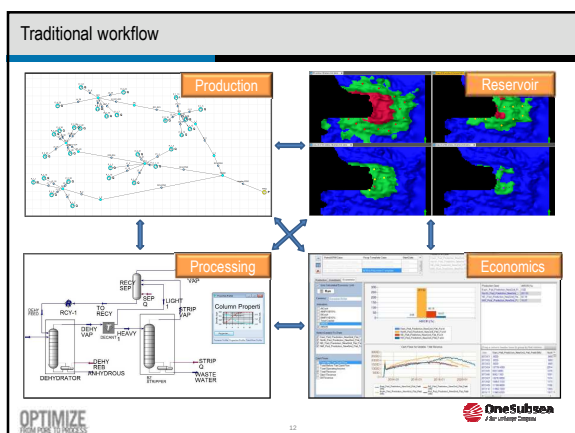


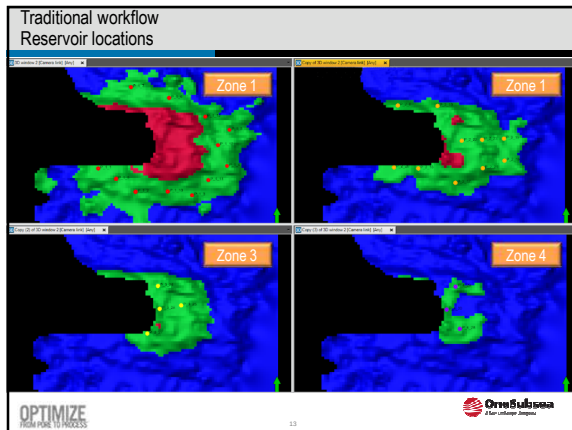


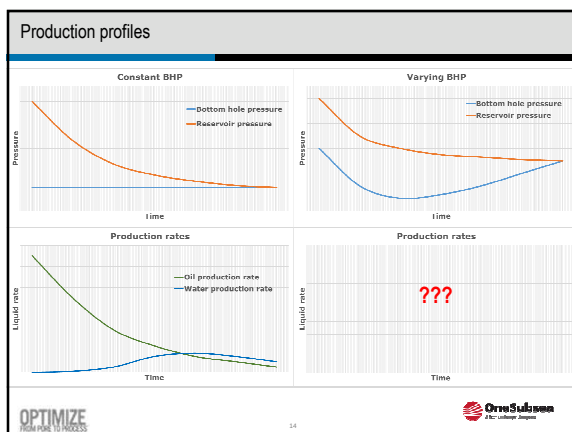


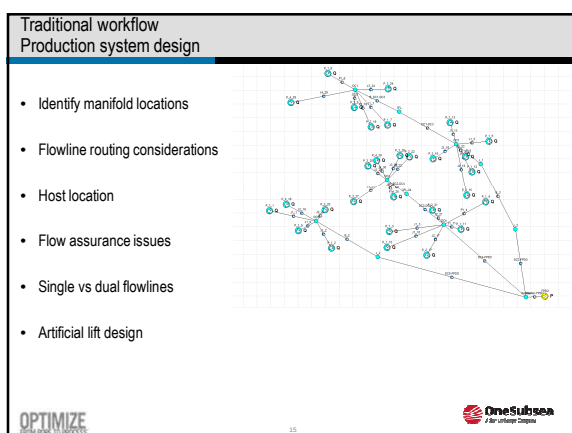








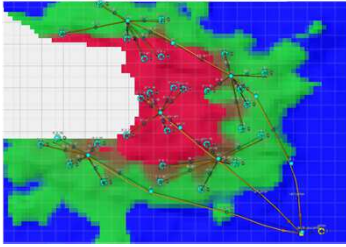




Integrated workflow

Combine with drilling plan and reservoir model

- Use true deviation surveys
- Use seabed bathymetry
- Use actual PIs changing with time



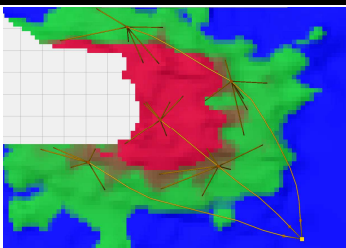
OPTIMIZE
FROM PLAN TO PRODUCTION

OneSubsea
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Integrated workflow

Actual reservoir response

- Use actual production system back pressure

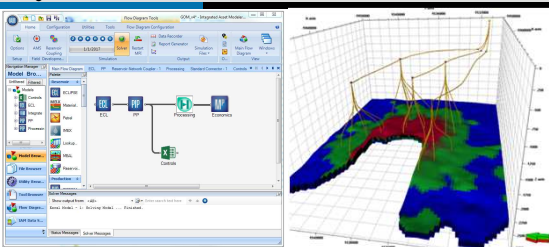


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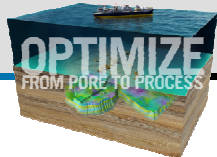
Integrated workflow

Integrated Asset Modeler



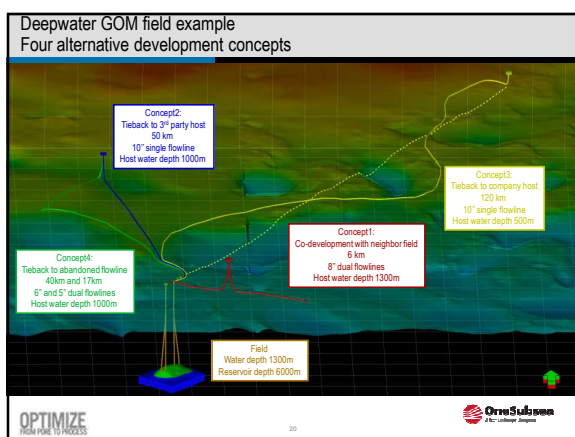
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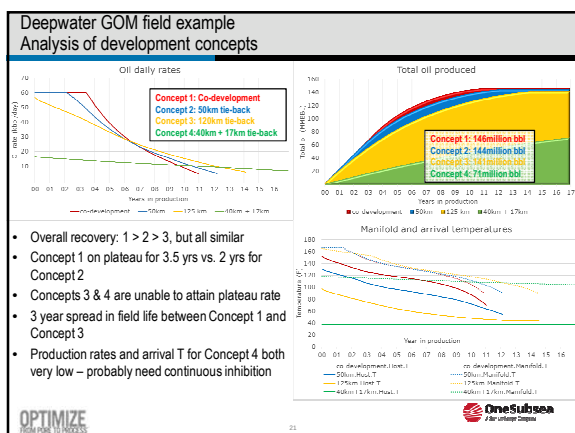
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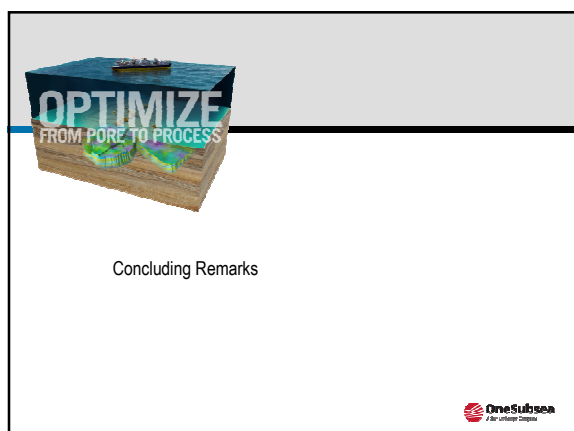
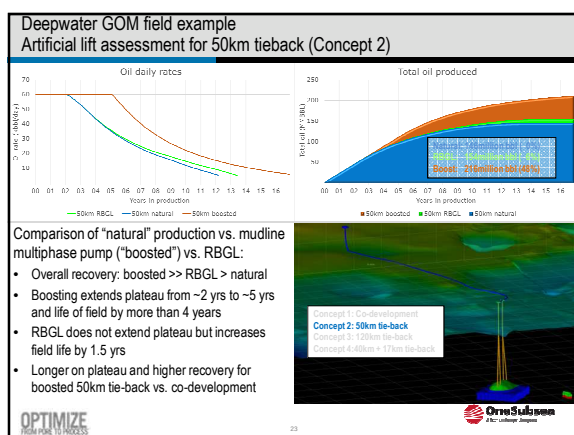
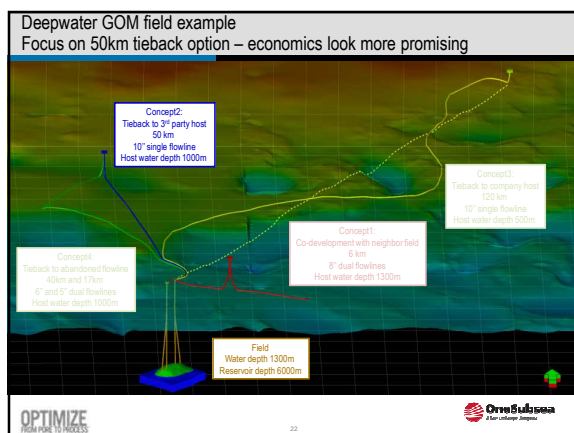


Application Example



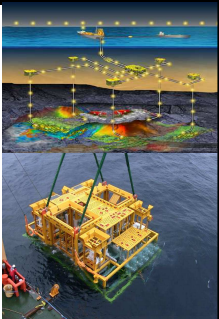






Future Plans

- Workflow presented is a work-in-progress
- Option to include economics (PEEP) already exists
- May include OneSubsea and 3rd party equipment costs via Excel link
- Kick off periodic OLGA simulations to check for transient events:
 - Slug flow
 - Well load up
- OneSubsea funding specific developments of PIPESIM and IAM
 - These features ultimately will be made available in commercial versions



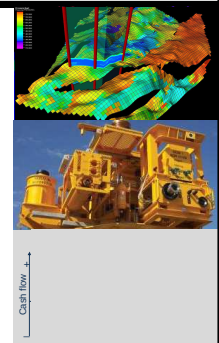
OPTIMIZE
FROM PORE TO PROCESS

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Take Away

Integrated Simulation workflow:

- Not difficult
- Doesn't take a lot of time
- Uses best in class domain simulators
- Scalable
- Promotes collaboration between disciplines
- Highlights inconsistencies in input data
- A powerful tool for concept screening and evaluation
- Assists in rapidly converging on viable and cost-effective concepts



OPTIMIZE
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Thank You
Open for questions.....

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