

TERADATA®

## doing **MORE** with **PRODUCTION** data

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2<sup>nd</sup> "Doing More With Production Data"  
Digital Energy Journal  
Stavanger, Norway  
7 May 2014



# a Production wish list

(non-exhaustive;  
non-exclusive;  
in no particular order;  
and in case I/you have limited  
human/financial resources...)

*I/you want...*

**More  
production**

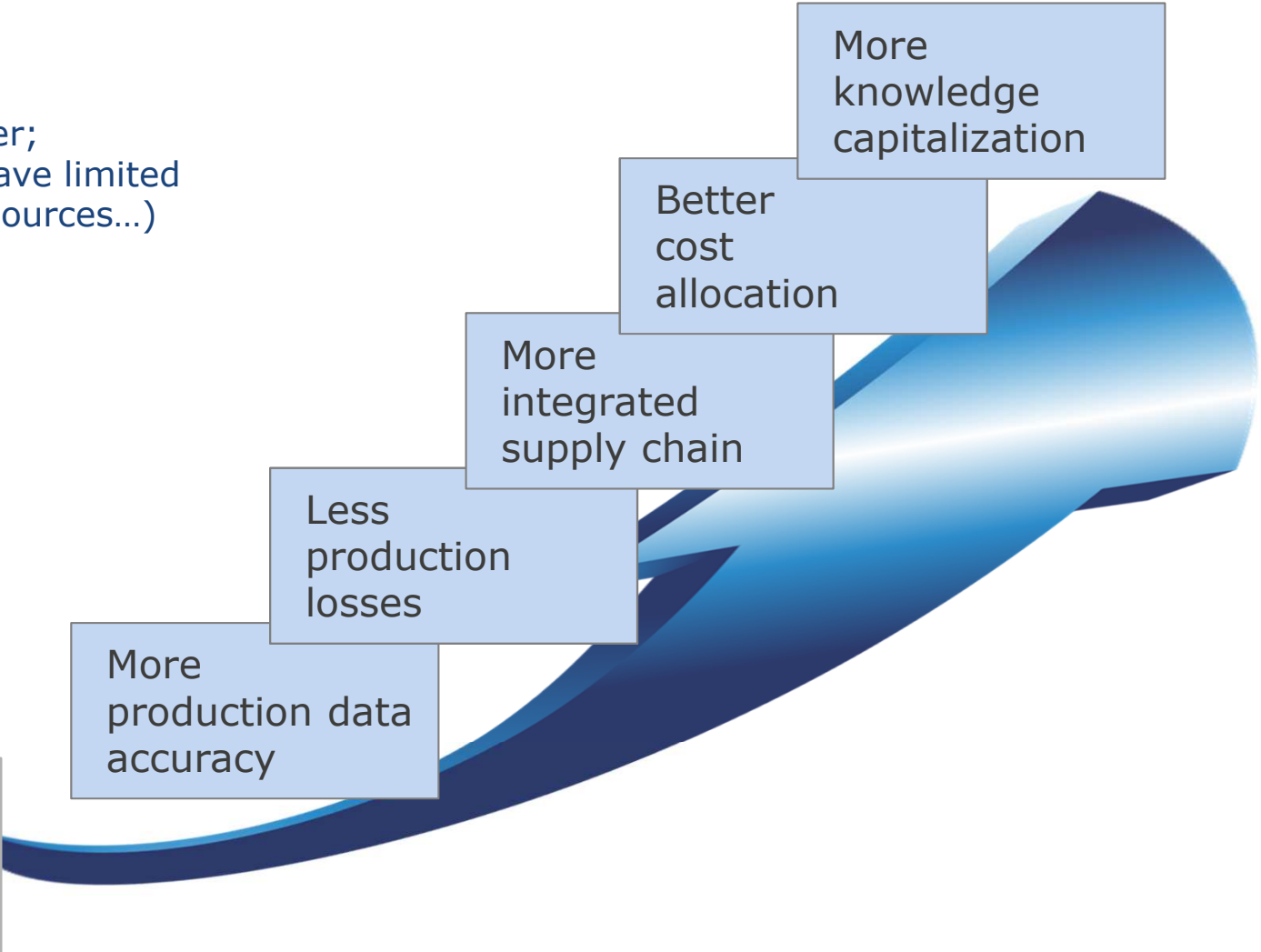
More  
production data  
accuracy

Less  
production  
losses

More  
integrated  
supply chain

Better  
cost  
allocation

More  
knowledge  
capitalization



# 1| More production... more production data accuracy

## Data is the asset

### Scenario

- Let's pretend that I/you are producing 100,000 barrels a day today
- Forecast for year-end is 120,000 barrels a day
- How are we going to fill the gap and meet the target? And... from which wells?

### Actions

- We need to identify individual well contributions,...  
... and even individual → pay zones, formations, completions, etc.
- Utilize all available data (include raw data; do not throw out)
- Forecast production at the most *granular* level
- Report:
  - (Predictive) intervention plan to Operations, *and*
  - (Descriptive) performance dashboards to Management

## 2| More production... less production losses

# Take specific actions on specific wells

Loss Report

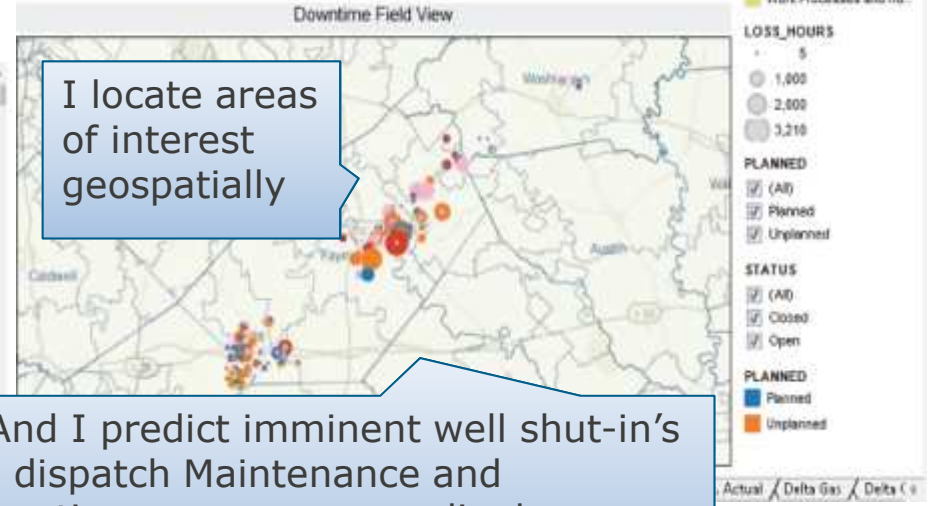
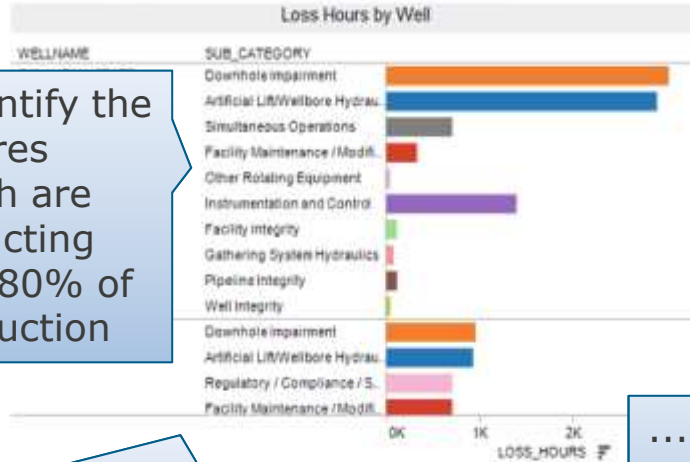
SUB_CATE	LOSS_DATE				2009	2010	2011	2012	2009
	2009	2010	2011	2012					
Artificial Lift	20,26	141,203	271,522	2,688	1,182	5,824	13,688	30	
Commercial	40,69	2,775	654	171	103	103	91		
Downhole I.	11,65	109,162	1,710,362	17,21	1,95	4,946	32,108	76	
Downhole O.	42	8	2,98	24					
Extreme Co.				12					
Facility Integ.	6			143	10				
Facility Main.	40	1,11		173	162				
Gathering S.	12,13	11,88		1,21					
Instrumental.	12,37	21,04		227	21				
Other Rotat.	14,27	15,9		116	107				
Pipeline Inte.	16,29			28					
Process Ups.			12,16	33					
Processing			51,25	14,8	119	154			

I monitor well production on a real-time basis



I determine what failures are causing unplanned losses

I identify the failures which are impacting e.g. 80% of production



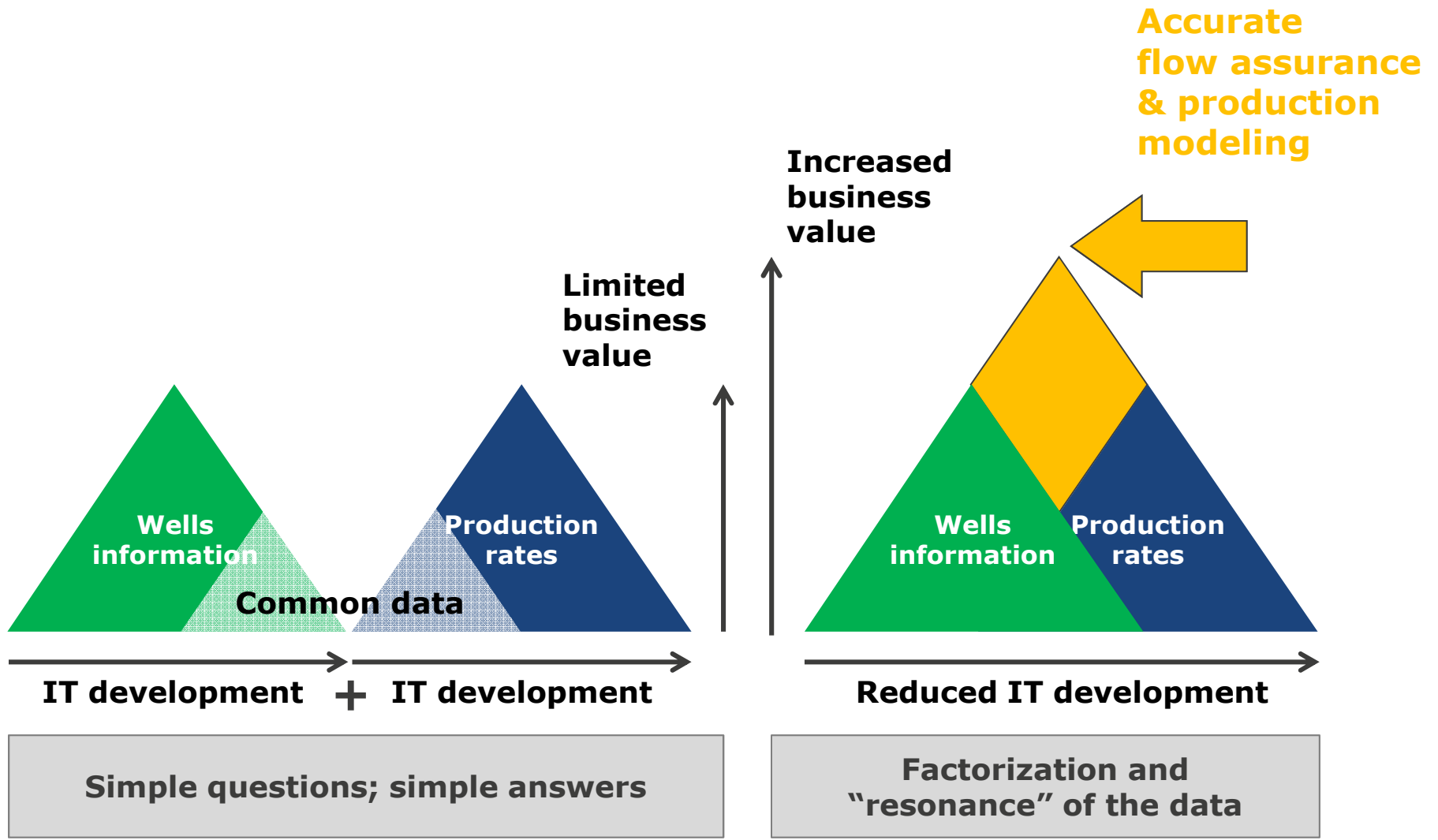
I locate areas of interest geospatially

... And I predict imminent well shut-in's and dispatch Maintenance and Inspection resources accordingly

... And I run Production Modelling to optimize well settings and maximize production

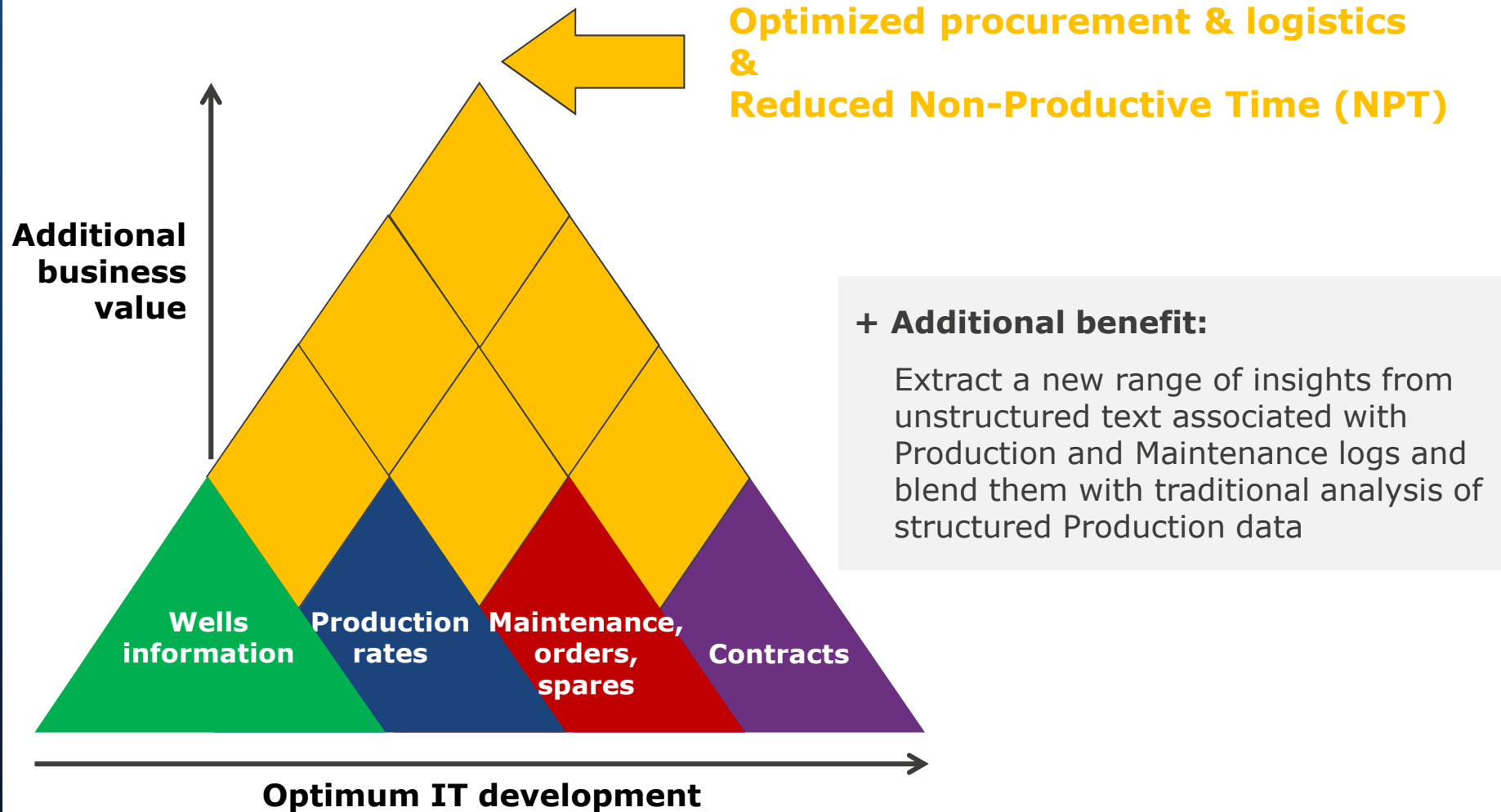
### 3| More production... more integrated supply chain

## Initiating integration



### 3| More production... more integrated supply chain

## 360° view of operations



Fictitious oil company!

# 4| More production... better cost allocation \$pend the budget where it yields mo\$



Total \$ Revenue

Tied to dynamic \$/bbl pricing

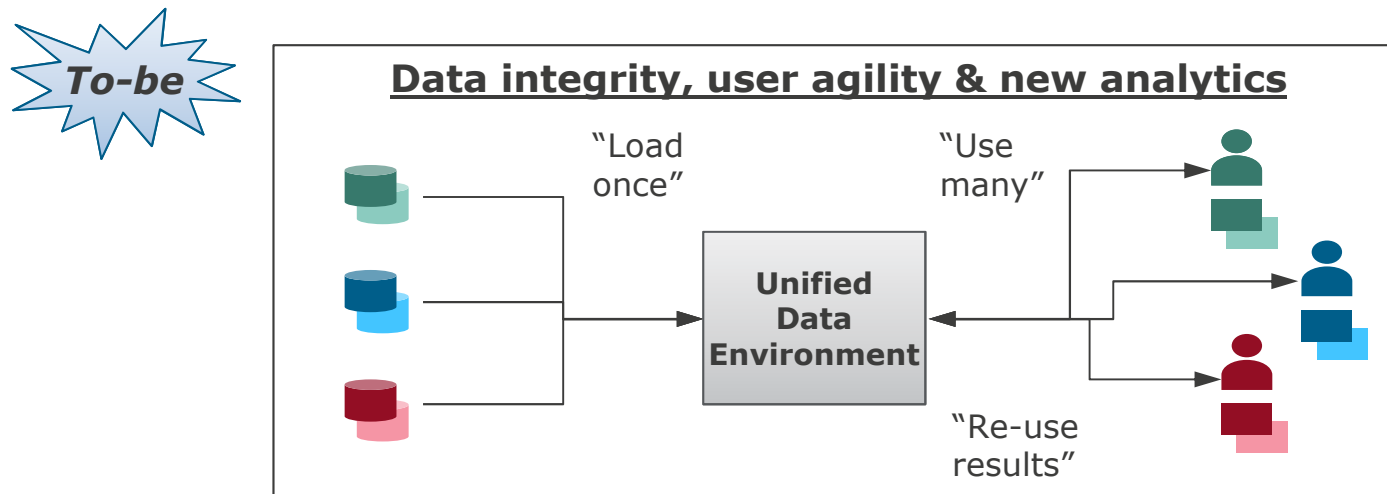
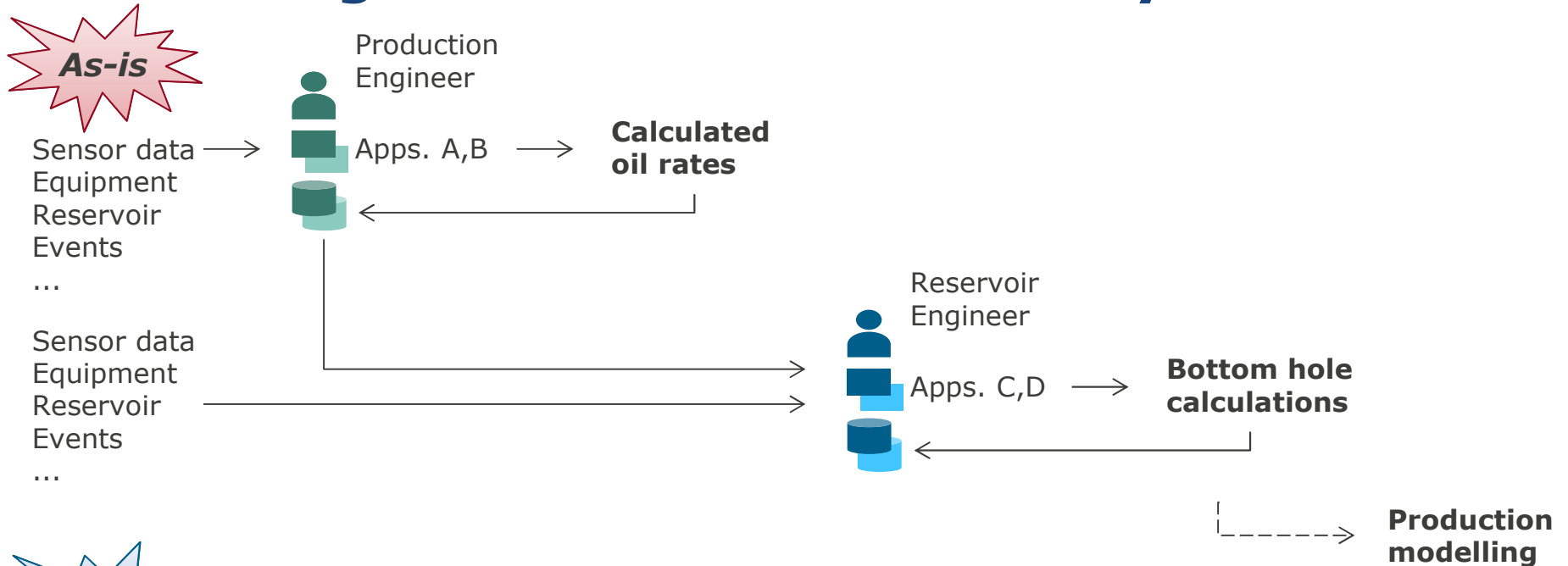
Should I/you...  
... invest (more) in the high producers?  
... stop spending on the low producers?  
... bring the low producers up to the high?

Annual \$ Operating Cost

Includes well intervention expenditures

# 5| More production... more knowledge capitalization

## Leverage multi-dimensional analysis





More production...  
**Conclusion**

*I/you want...*

**More  
production**



All detailed data  
Structured and not  
In a unified ecosystem  
Enabling analyses &  
Knowledge



**Big  
Data  
Integrated &  
Analytical  
Environment**



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