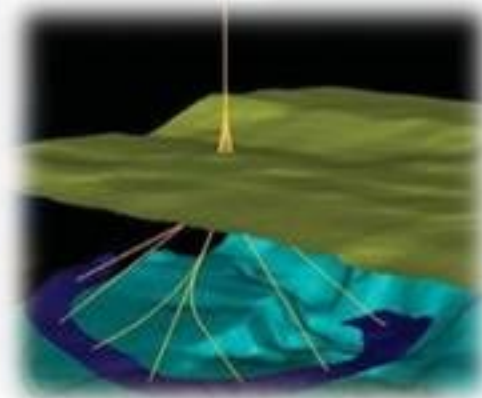
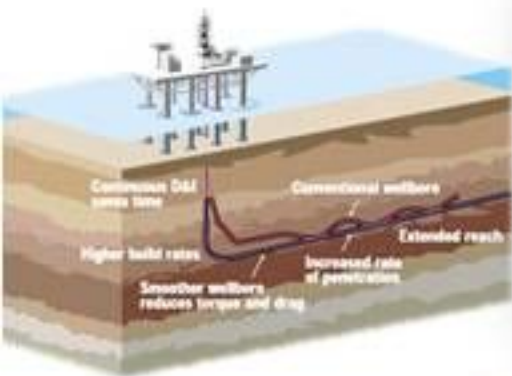


Creating a Credible Collaboration Platform for Drilling Operations

Samit Sengupta

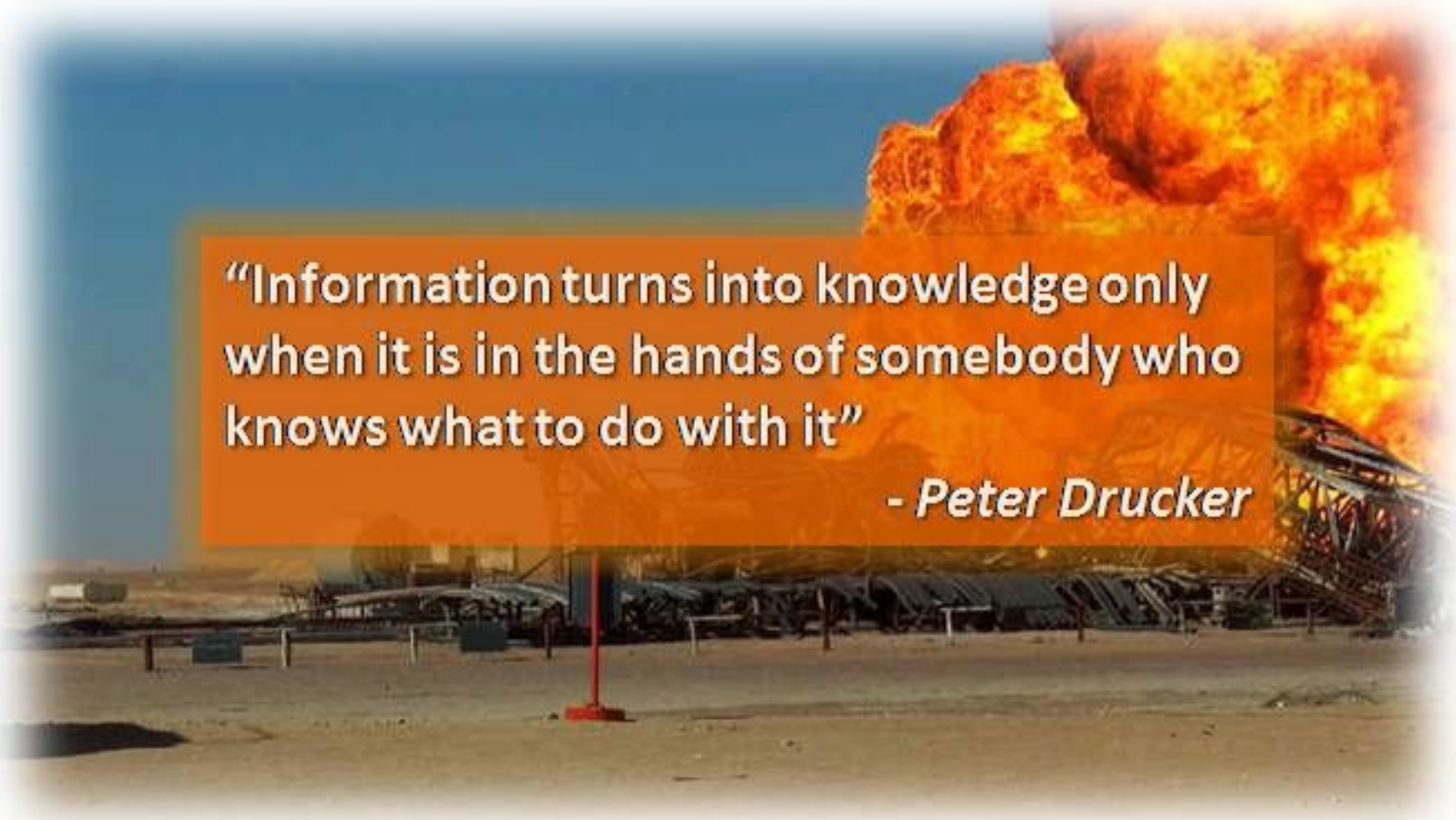


What is a drilling operation?



- Reaching your target in least possible time
 - Knowing how to get there
 - Dealing with unanticipated complexities
 - Making trade-offs between efficiency and information gathered along the way

Why collaborate?



“Information turns into knowledge only when it is in the hands of somebody who knows what to do with it”

- Peter Drucker

- Improve and accelerate team performance
- Involve multi-disciplinary experts
- Reduce risk
- **Make better decisions, faster**

How do teams collaborate?



- Share knowledge for the greater good
- Team members debate and discuss
- They visualize outcomes through what-ifs
- Scrutinize evidence to formulate their cases
- Decisions are based on goals agreed to before drilling

Essential ingredients to collaboration

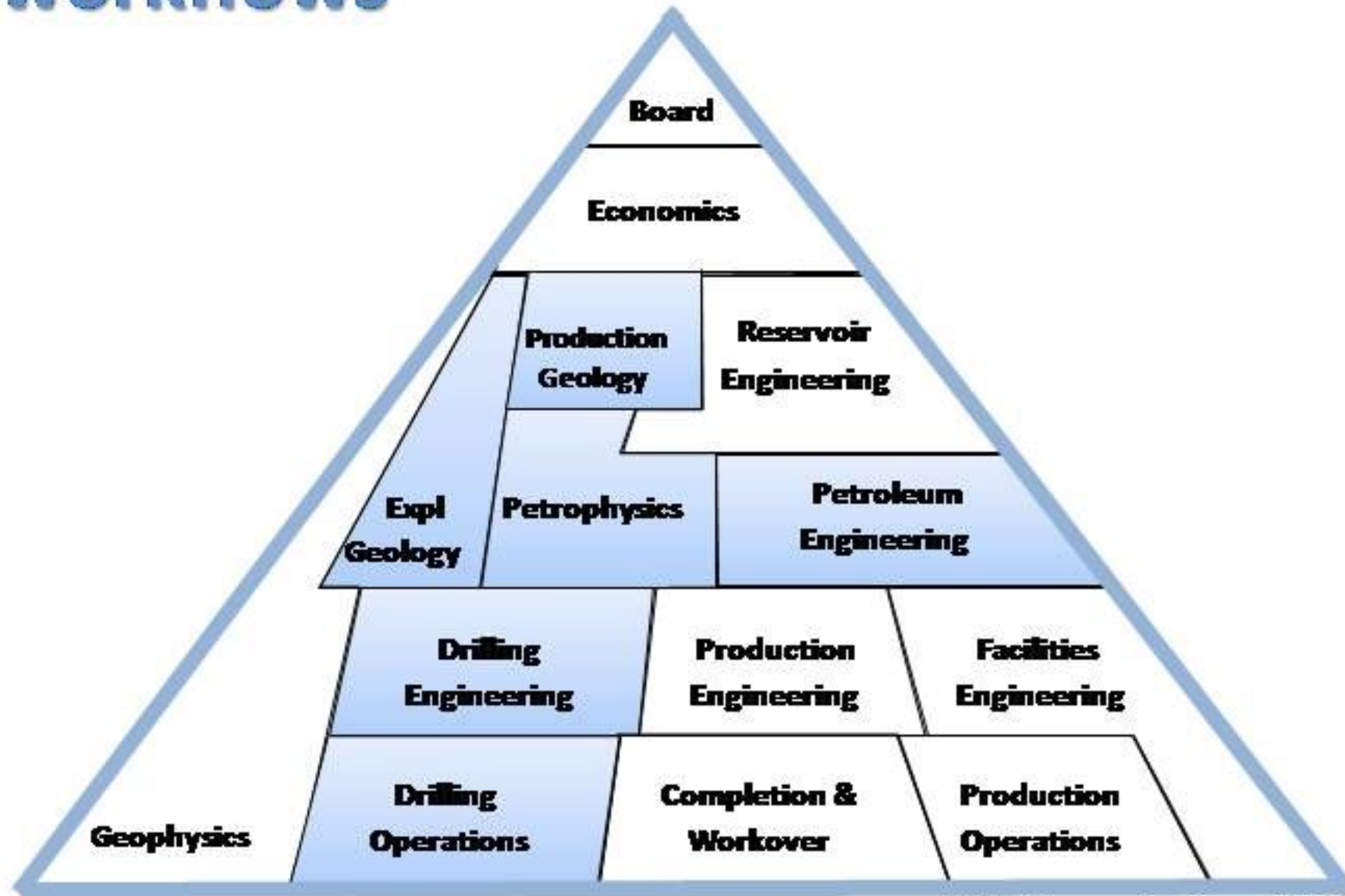


Integrated operations (IO) is about employing real time data and new technology to remove barriers between disciplines, expert groups and the company.

- Statoil Hydro

- Define goals and KPIs
- Define Workflow (People + Process + Technology)
- Define data flow
- Enabled by the use of real-time data

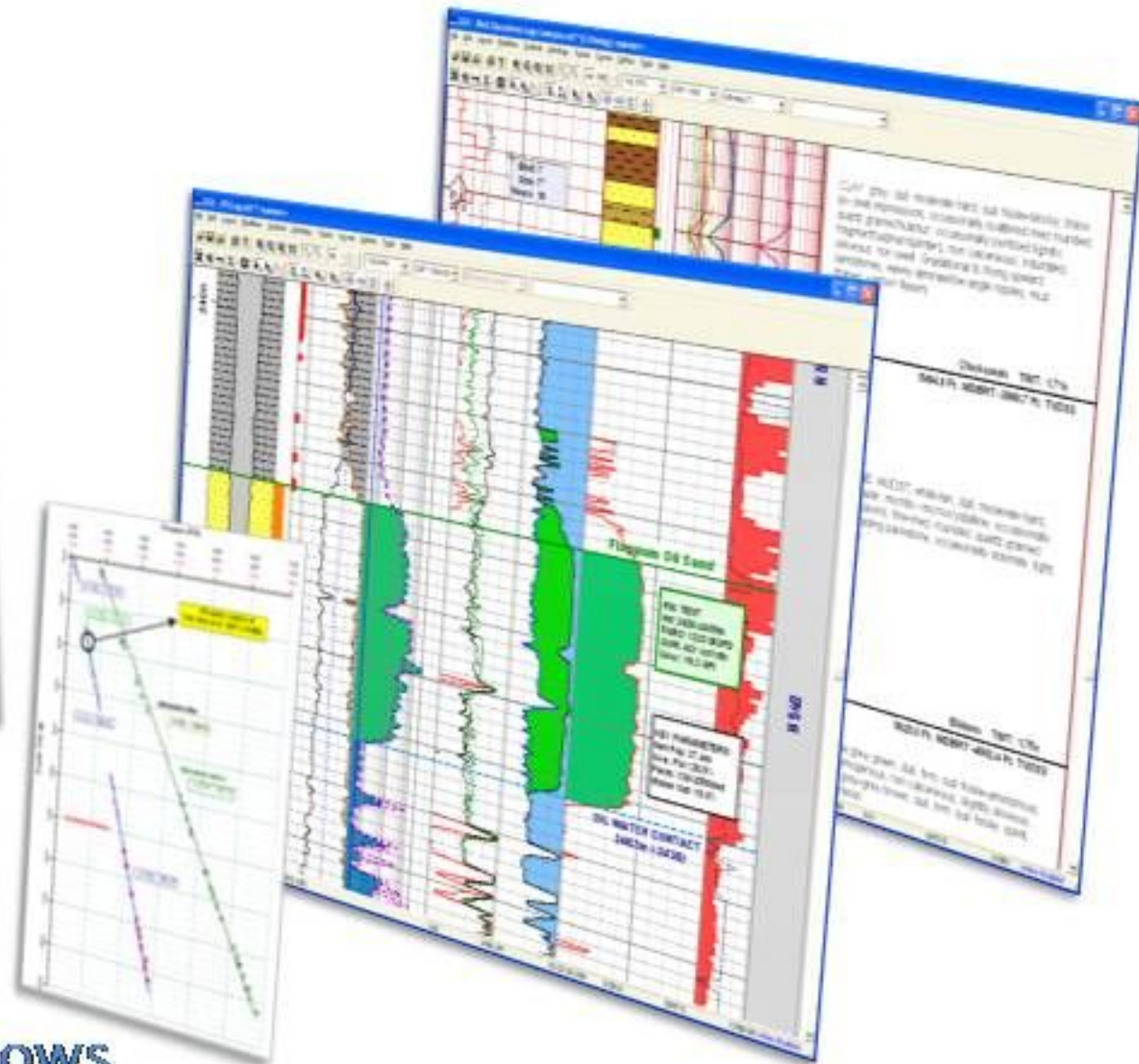
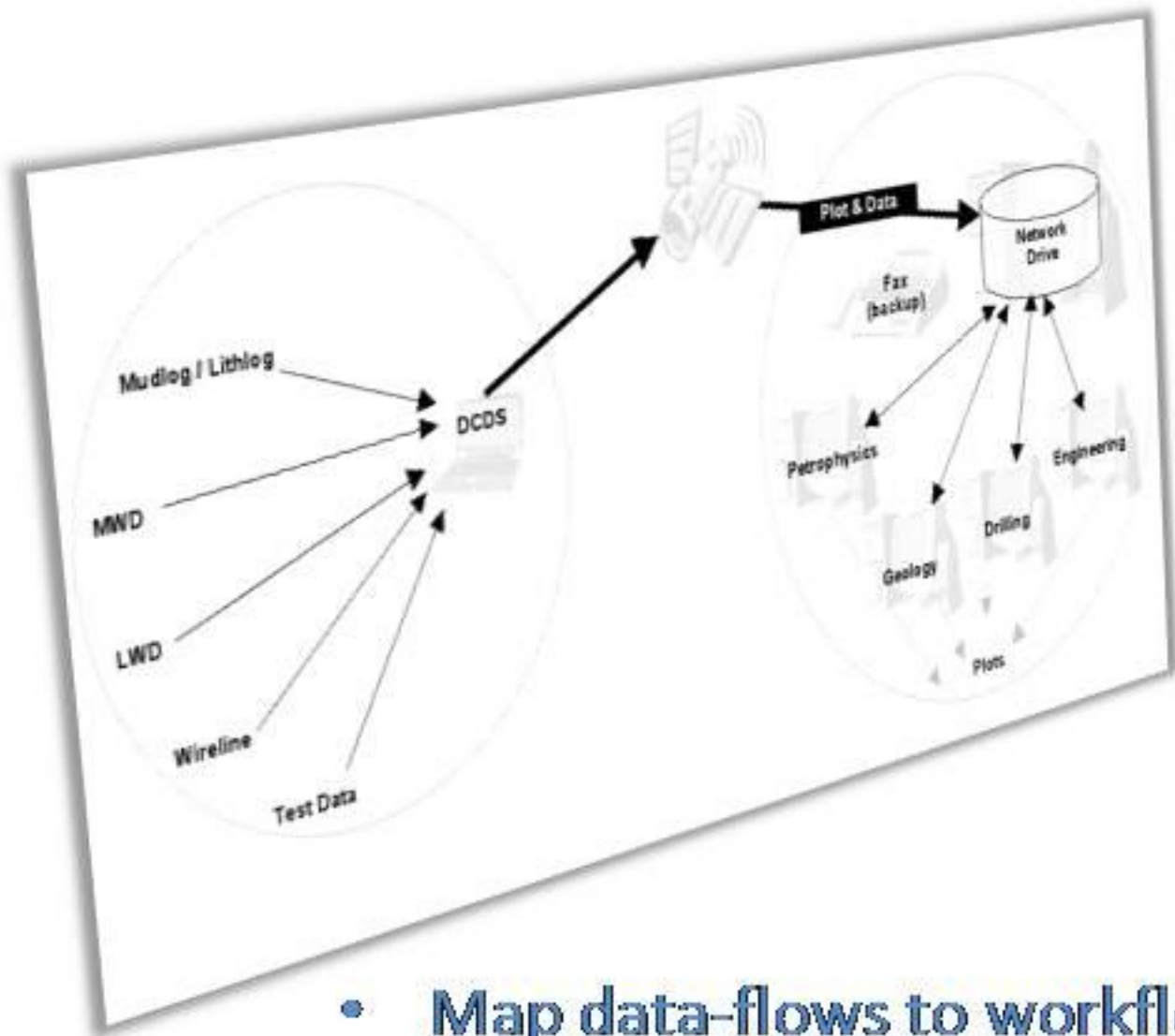
Map workflows



Subject areas : Courtesy of POSC

Workflow	People	Process	Technology
Drilling Optimization	Drilling	MSE, ROP	Expert Systems + <WITSML/>
Pressure control	Drilling, Geology, Petrophysics	ECD, DXC, Litho	
Geo-steering	Drilling, Geology, Petrophysics	Survey, Lithology	
Formation Evaluation	Geology, Petrophysics	Gas ratios, Sw	

Integrated Operations



- Map data-flows to workflows
- Use “right time” technology to aggregate data
- Set-up alerts and alarms for incident management

Beware...!

Integrated Operations (IO) is the integration of people, processes and technology to make and execute better decisions quicker. It is enabled by the use of real time data, collaborative technologies and multi-discipline workflows.

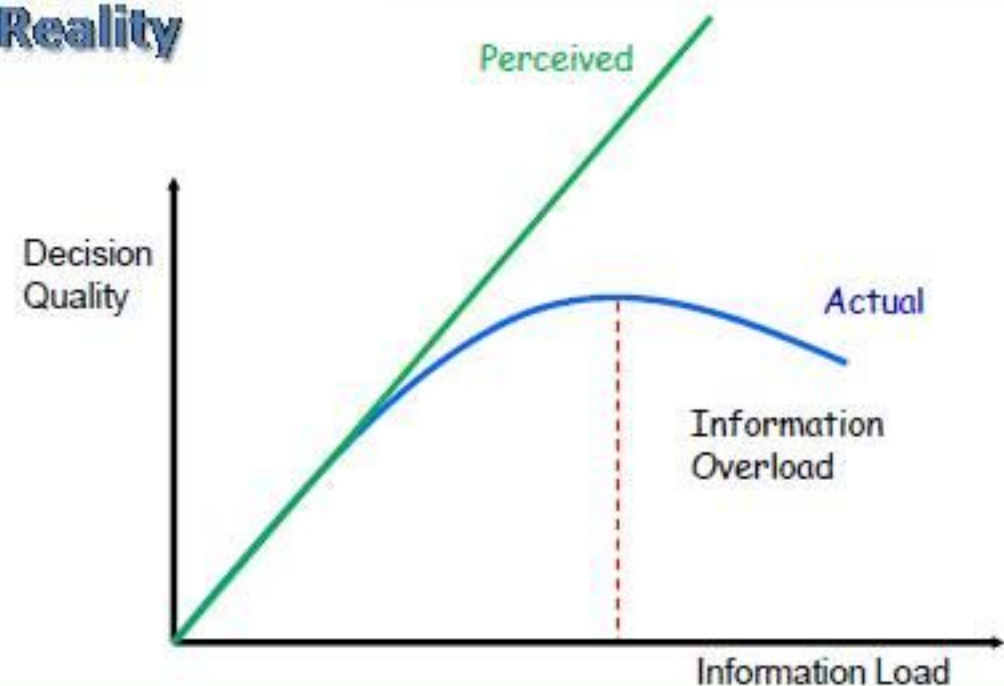
- R. Bratvold, Stanford SmartFields Center

However, more data does not always lead to better decisions!!

Perception

More information, in less time,
means better decisions.

Reality



In Summary...

- Drilling a well is a complex activity riddled with uncertainties.
- A collaborative framework needs to balance technology adoption with people and processes
- Over time the collaborative framework itself can be improved by training people and adopting newer technology to improve processes.

Thank You!

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