

Mind Mapping on Steroids

Finding Petroleum

Transforming Subsurface Science!

London, 18 April 2016



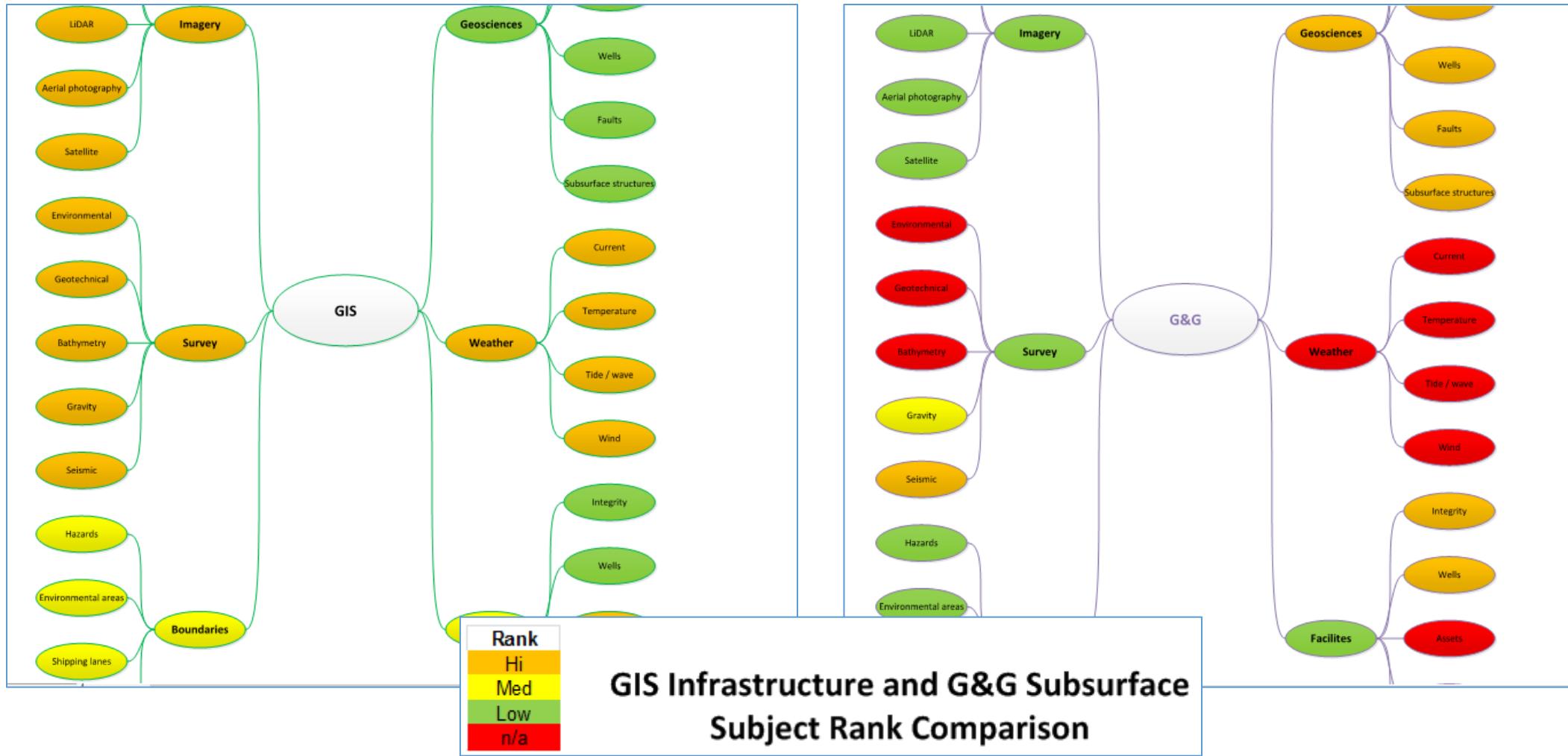
ZOLNAI.CA

Twitter diary excerpt from an information mgr.

- *Vast majority of information is not held on computers but in people's heads*
- *If Information is Communication, then what is Metadata?*
- *Monday E&P IM mantra: METADATA. METADATA. METADATA*
- *Data, data everywhere. Hidden. [...] High value. Low awareness*
- *Would like to take a broom to the data management techniques used*

blog.zolnai.ca/2010/02/standards-and-metadata-part-vii.html

What are mind maps?



Where does this come from?

A little history of mine

Early projects

- Mobil, Dallas TX, 1996, Landmark / Geoquest
 - Application rationalization prior to merger with Exxon
 - Geoshare data exchange workflows Finder data store ⇔ Zmap etc.
 - 3-way = 1 stakeholder + 2 vendors interoperability, personnel & technical
- Aera Energy, Bakersfield CA, 1998, Landmark / SAP
 - Application rationalization reducing hundreds of apps. to dozens
 - 3 mo. user interview, 3 mo. execution (1 mo. each pass with amendments)
 - 75 years over well as sub-acre spacing logged daily for steam flooding
- bp, Sunbury UK, 1999, Halliburton / Schlumberger
 - 10 TB G&G data cross-over, data to SIS & apps to Landmark
 - Overnight remote sync to Azerbaijan, Angola and Algeria
 - Workflow restructuring with indigenous staff & Geoquest
- Halliburton, Houston-London, 1999-2000
 - Global team collaboration across 12 offices & 12 time zones



Recent projects

- Shell, Rijswijk NL, 2001, ESRI
 - Global licensing agreement for GIS – Geoscience interoperability
 - Client global team collaboration across 4 centers & 12 time zones
- Total & ENI, Paris, Pau & Milan, 2004-2007, ESRI then Petris
 - GIS for oil&gas from subsurface geoscience to surface infrastructure
 - Workflows and training of ESRI Model Builder scripting & automation
- ExxonMobil, Leatherhead UK, 2008, GeoSolveIT
 - GIS training for Oil&gas
- NCOC-AGIP KCO, Milan-Atyrau, 2009, SAIC-Allegis
 - Business process re-engineering of GIS & G&G systems
 - ESRI + Landmark + Intergraph + Documentum + Google
- Kuwaiti NOCs and JVs, 2010-2012, OpenWare (EsriKW)
 - Wafra Joint Operation, KOC North Fields, KUFPEC abroad
 - GIS training for oil&gas, enterprise agreements
- bp, Sunbury UK, 2012-2013, Wipro Oil&Gas
 - Global workflow and toolkits rationalization
 - Business analysis and transition recommendation



TOTAL

ExxonMobil



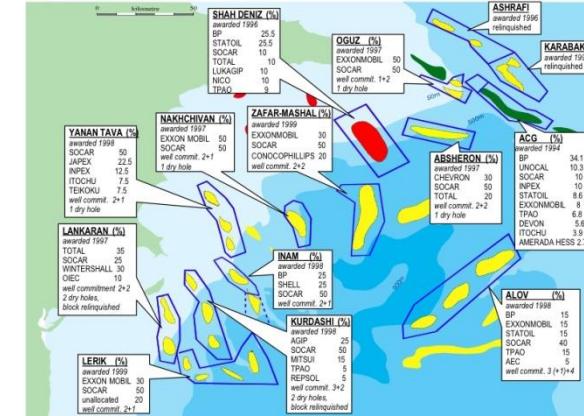
NORTH CASPIAN
OPERATING COMPANY



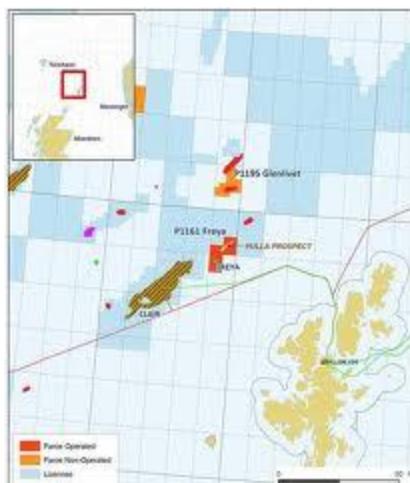
KUFPEC



Kashagan, Shah Deniz, Burgan, Clare and Kern River



Clockwise from top left
Same scale, 50 km bar



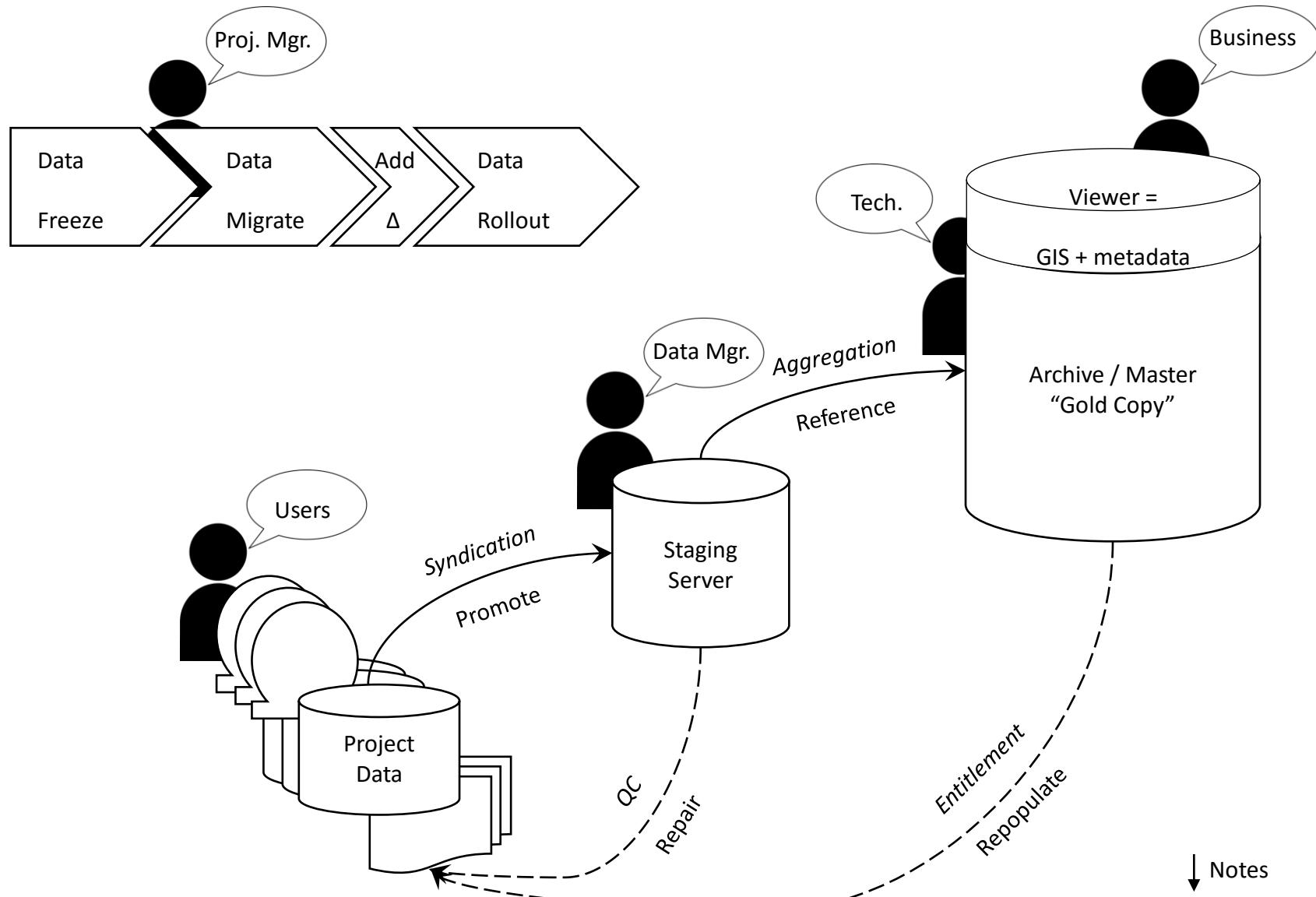
Said one CDO (Chief Digital Officer) recently:

- *I don't go to my clients with: data this, or: standards that...*
- *I don't ask: is our data clean?, I ask: is our asset in good shape?*
- *I don't ask: do our data conform to standards and procedures?*
- *I ask: is our asset meaningful and useful across our departments?*
- ... *And all of a sudden, I'm not imposing anything on anyone!*
- I. Am. With. Them: *helping do their job in a greater context...*
- ***Data should be treated as an asset, traded, exchanged, and moved around to help the organisation...***
- *Perhaps we should talk to regulators in the City, and have data show up on our balance sheets...*
- *And trading works better with standards like coins, weights & measures do elsewhere*

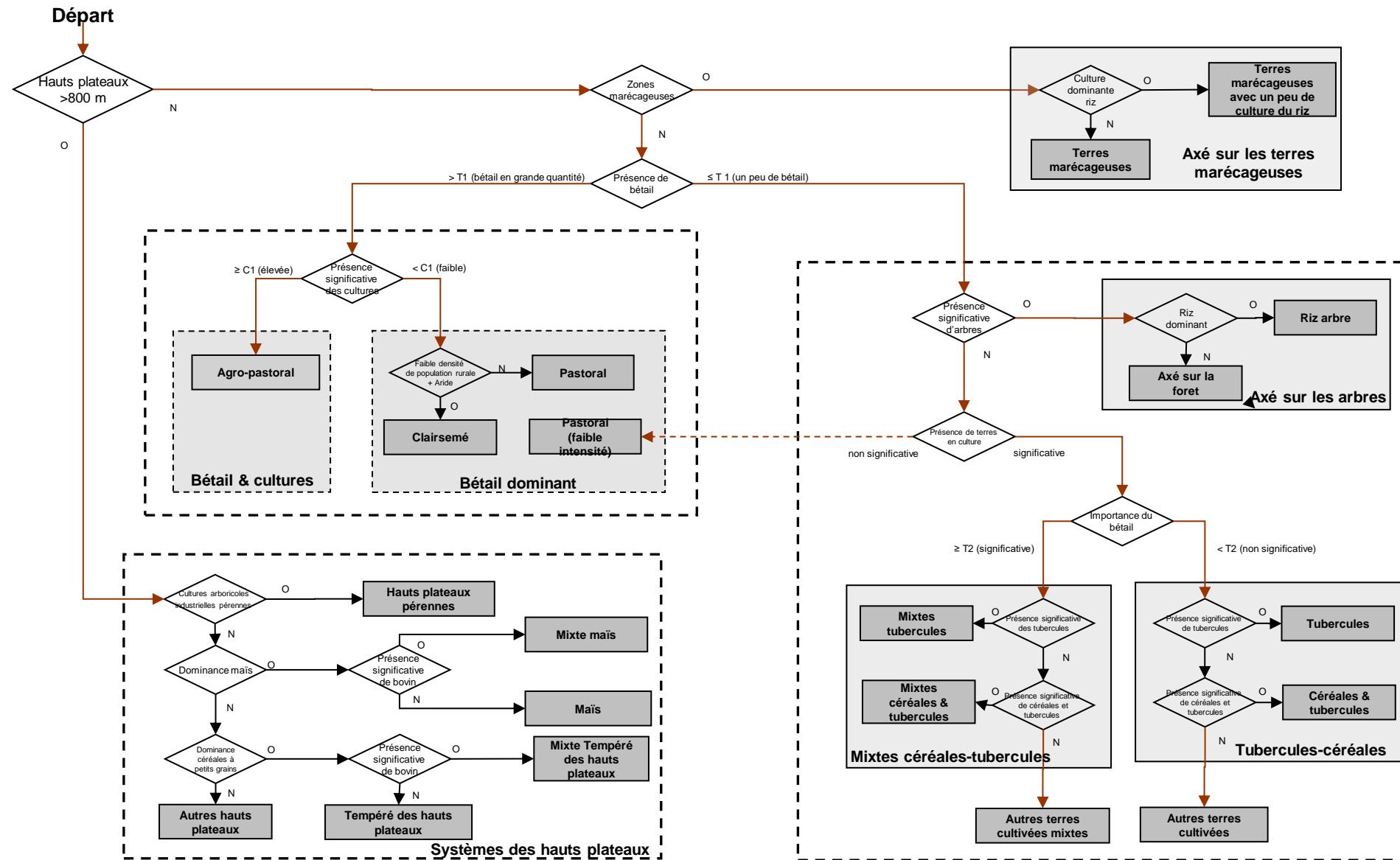
Where are we?

Examples through time

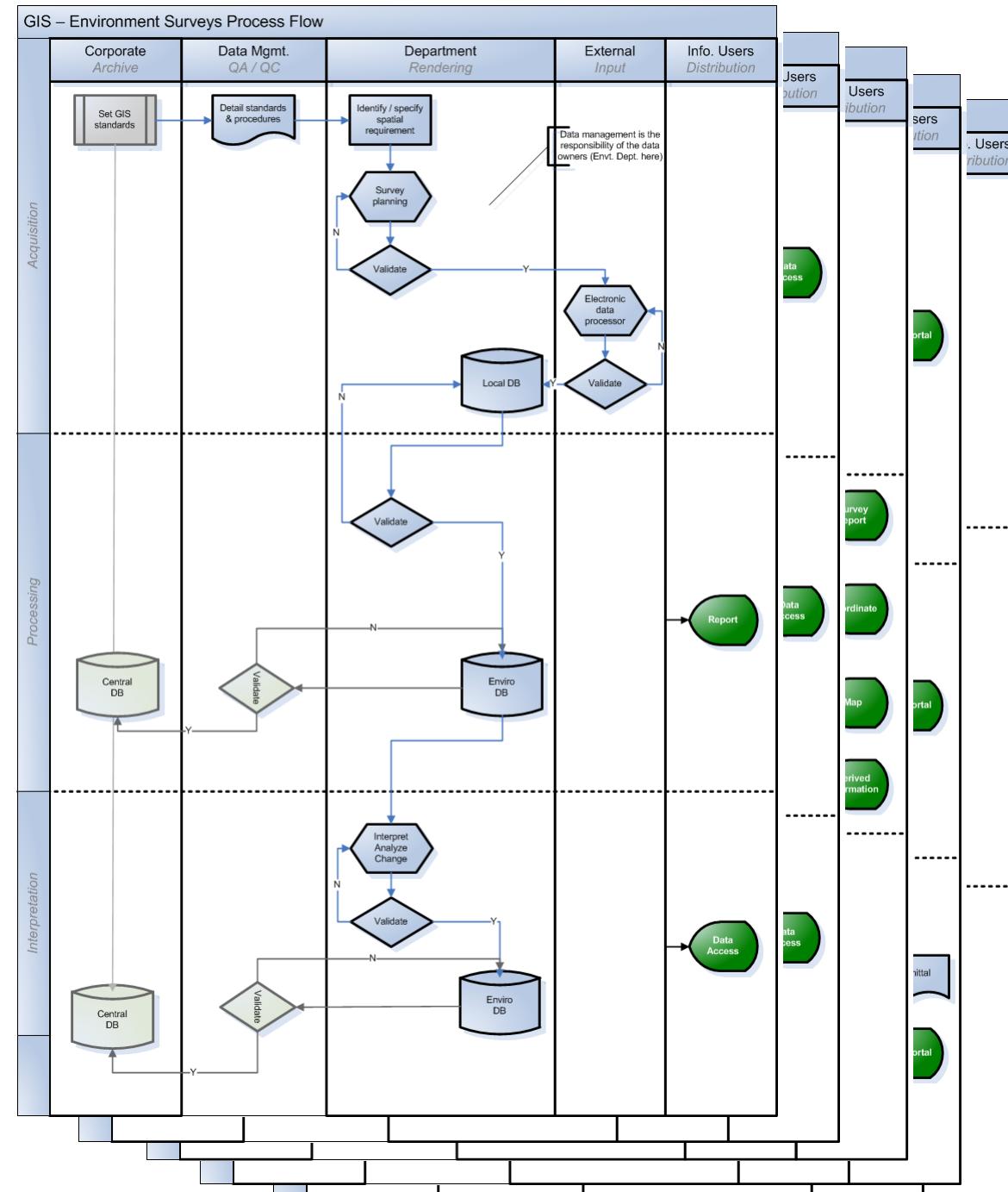
Information management workflow (Aera Energy, 1996)



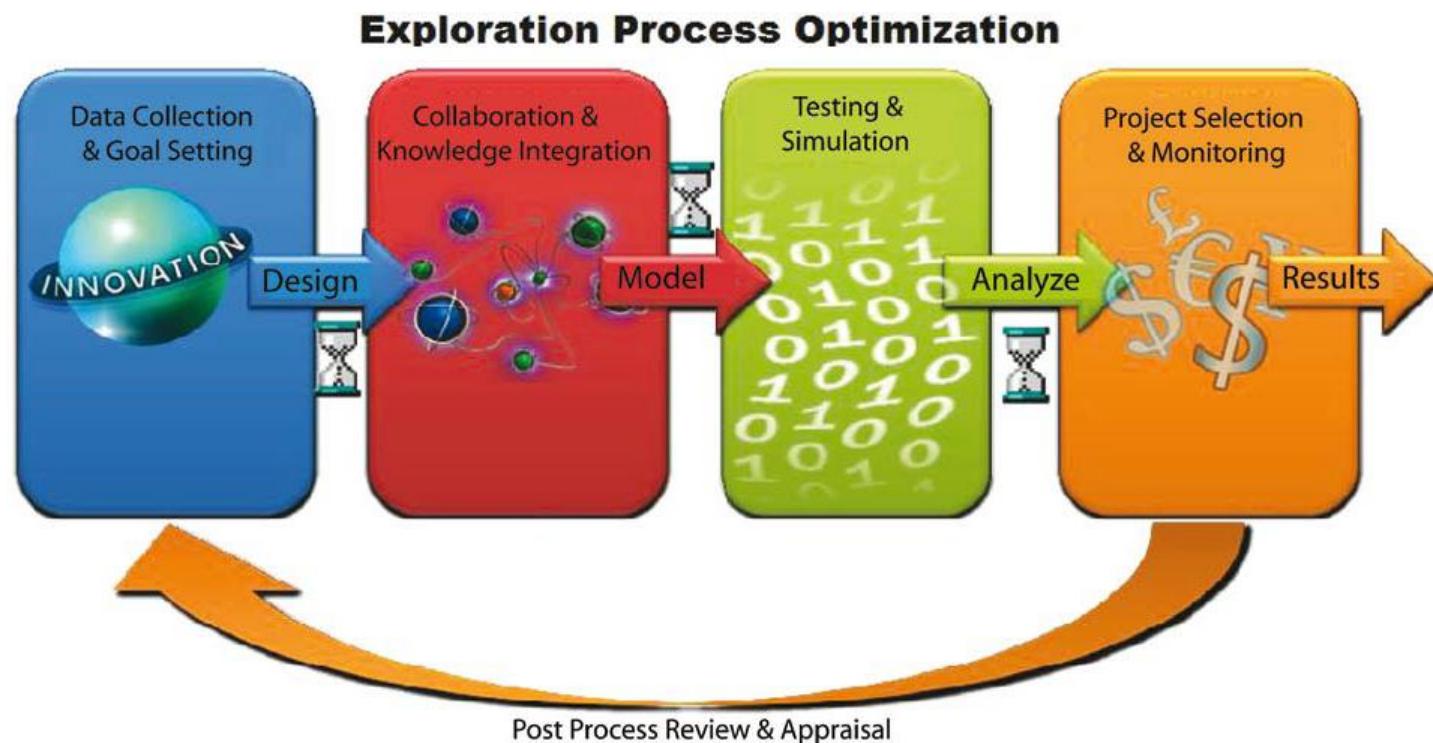
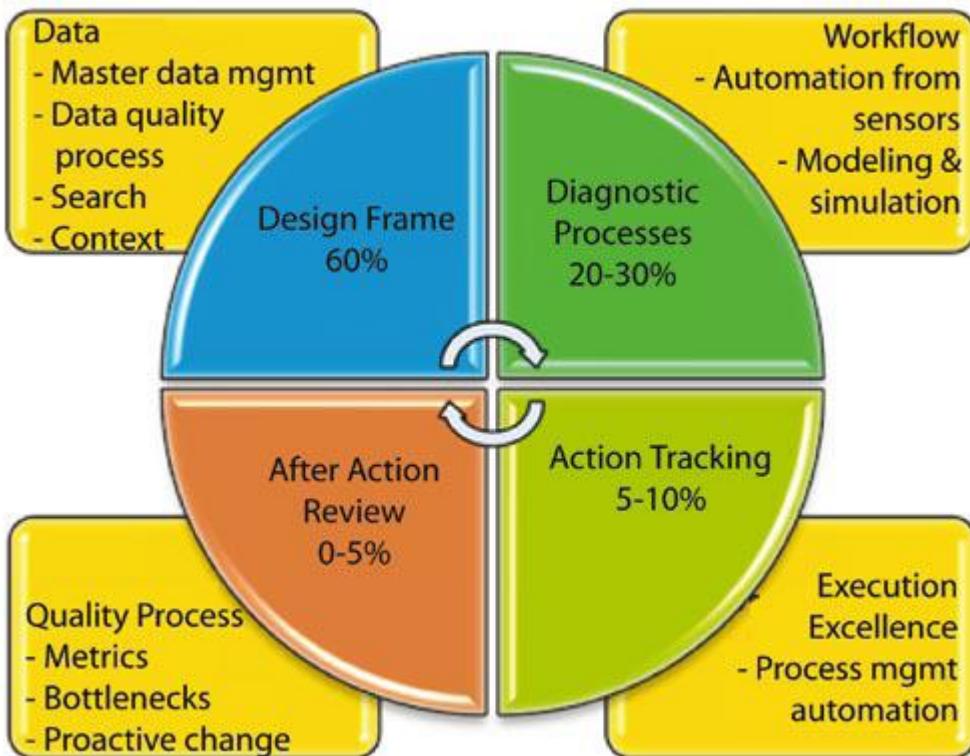
Decision tree (FAO, 2006)



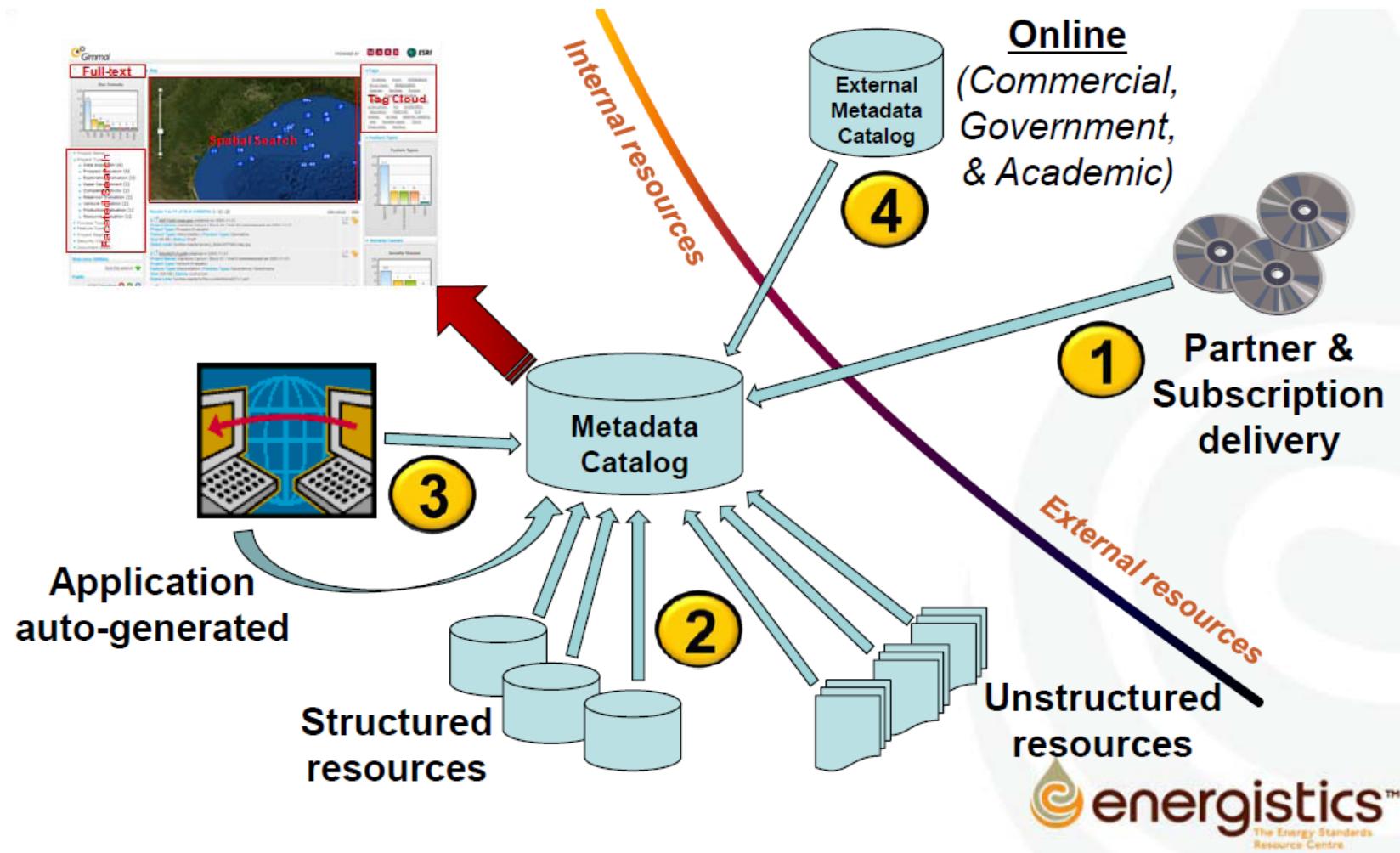
Replica standard workflow suite (AGIP KCO, 2009)



Exploration process optimization (Microsoft, 2010)



One Rendering of the Vision (Energistics, 2010)



"Slide Diagram Courtesy of Energistics™"

The following Energistics (c) product was used in the creation of this work:

Slide 4 of *Energy Industry Meta Data Work Group Initiative Overview and Requirements presentation to ISO-19115 Revision Project team, Quebec City, Quebec, Nov 3-4 2009*

Schlumberger CEO Paul Kibsgaard (last month)



“... Based on this, we believe that project performance can only be improved by finding ways of breaking with the past and replacing the existing model with a new approach based on collaboration and commercial alignment between the operators and the largest service companies.”

Scotia Howard Weil

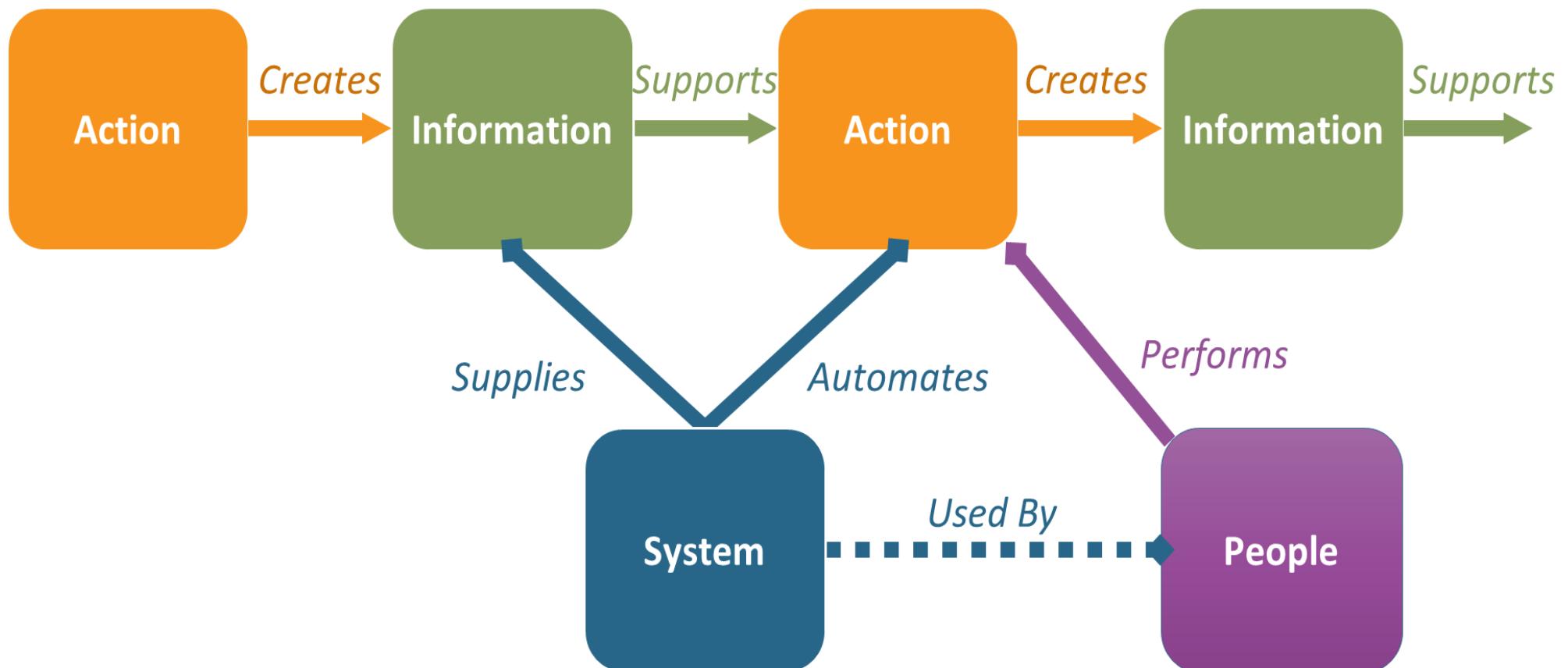
2016 Energy Conference

New Orleans, 21 March 2016

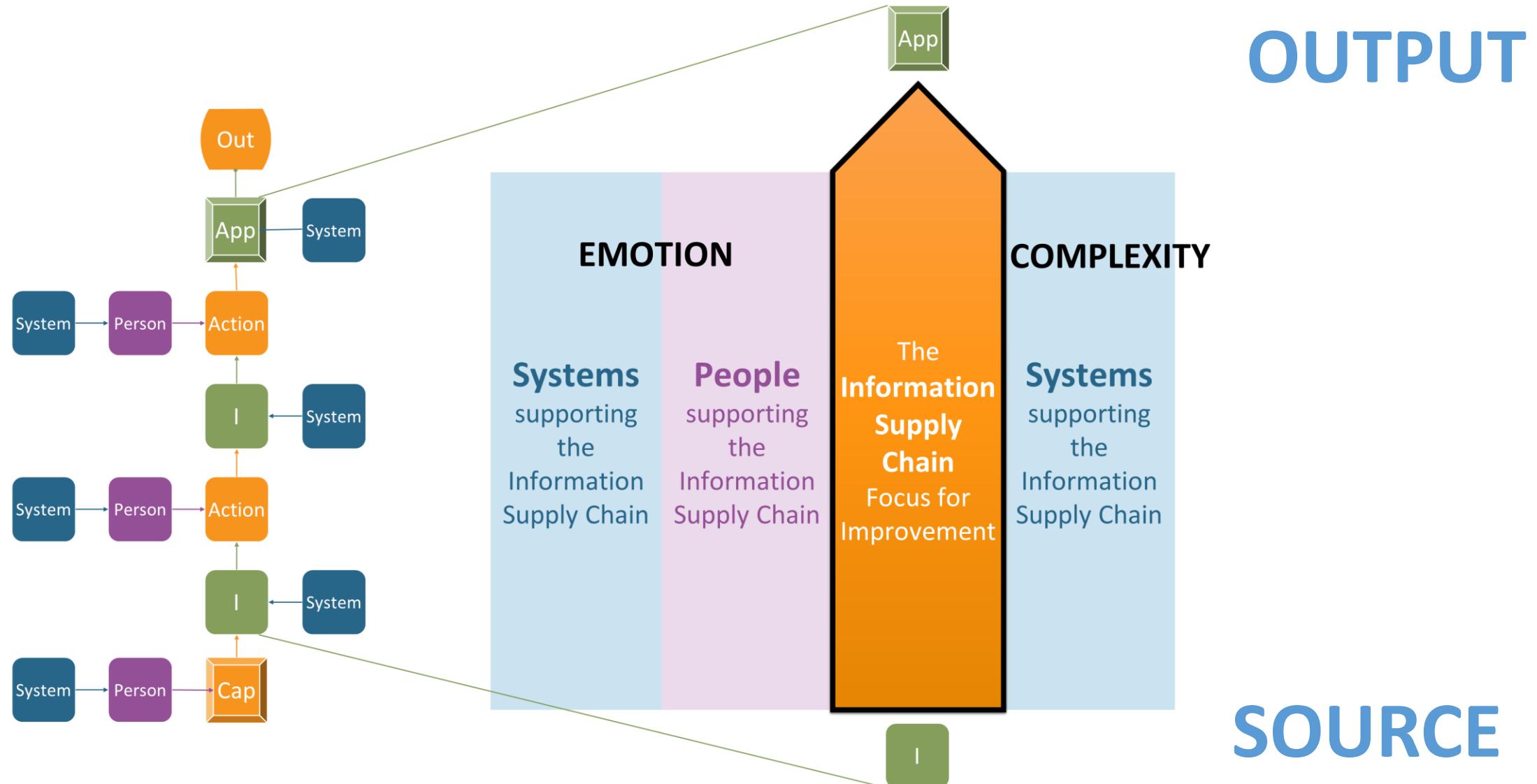
Can we wrap this all together?

[Linq.it](#) early adopter

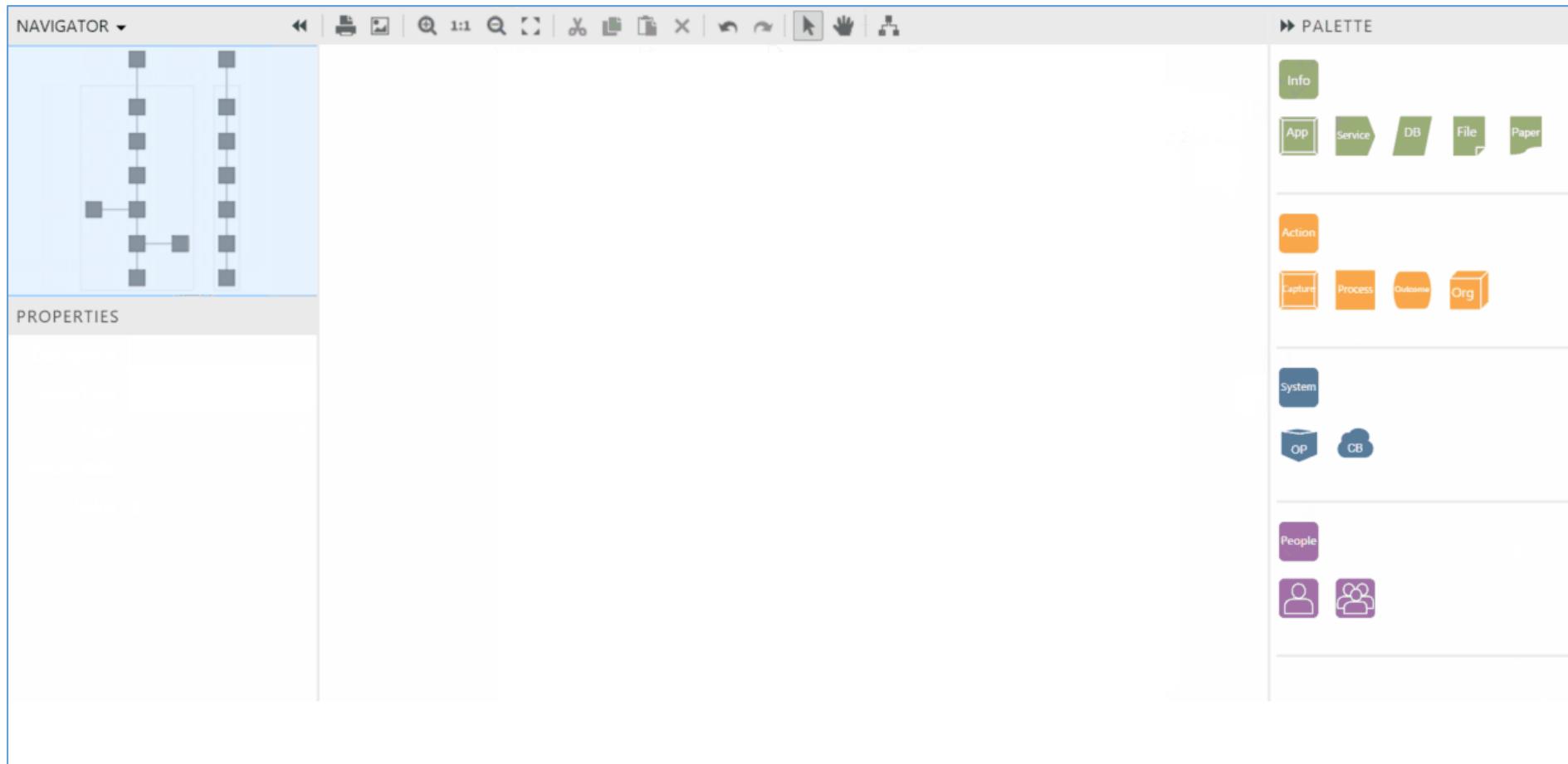
A Simple Language Enables 'SEEING'



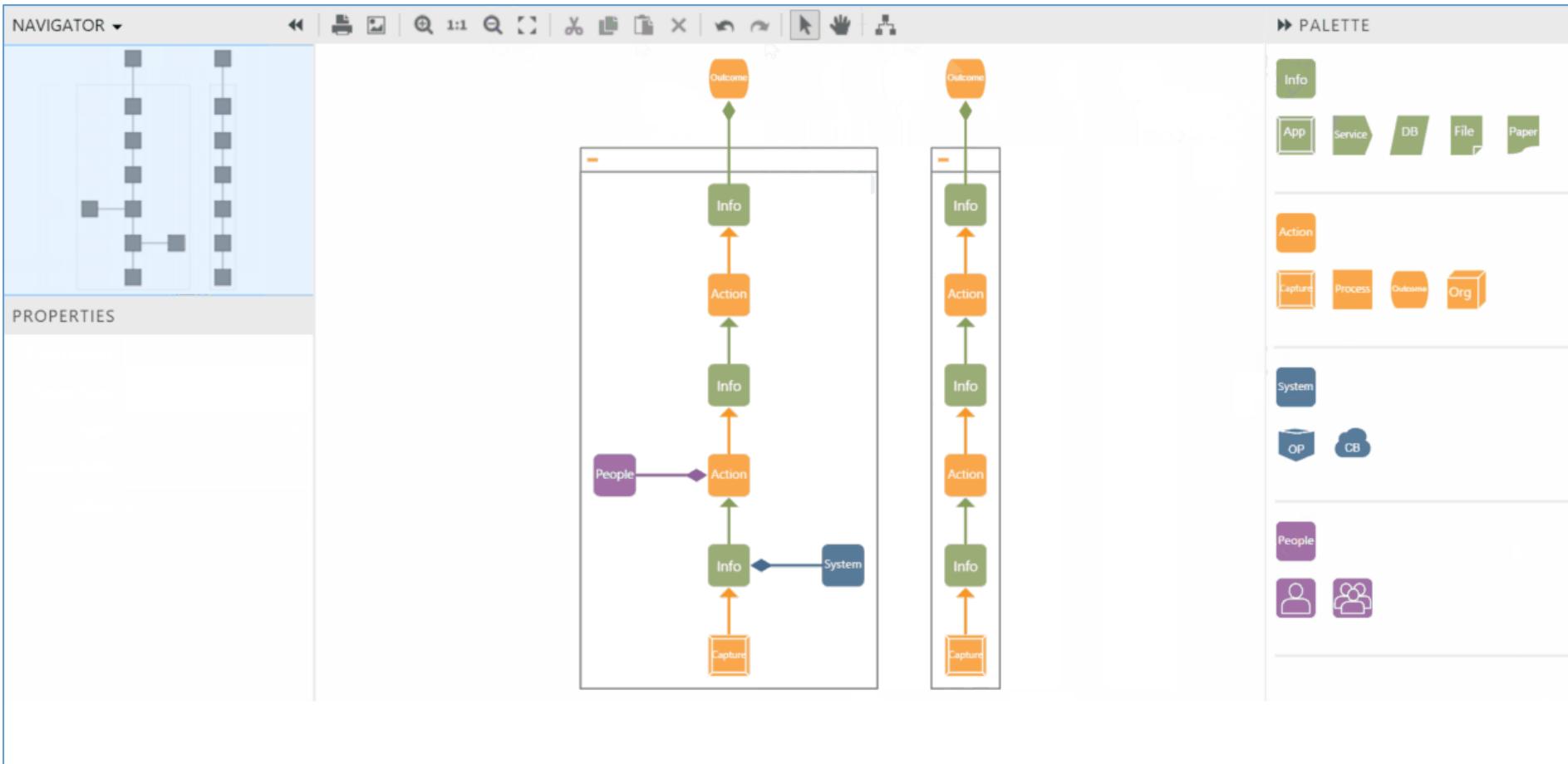
Focus on the Information Supply Chain



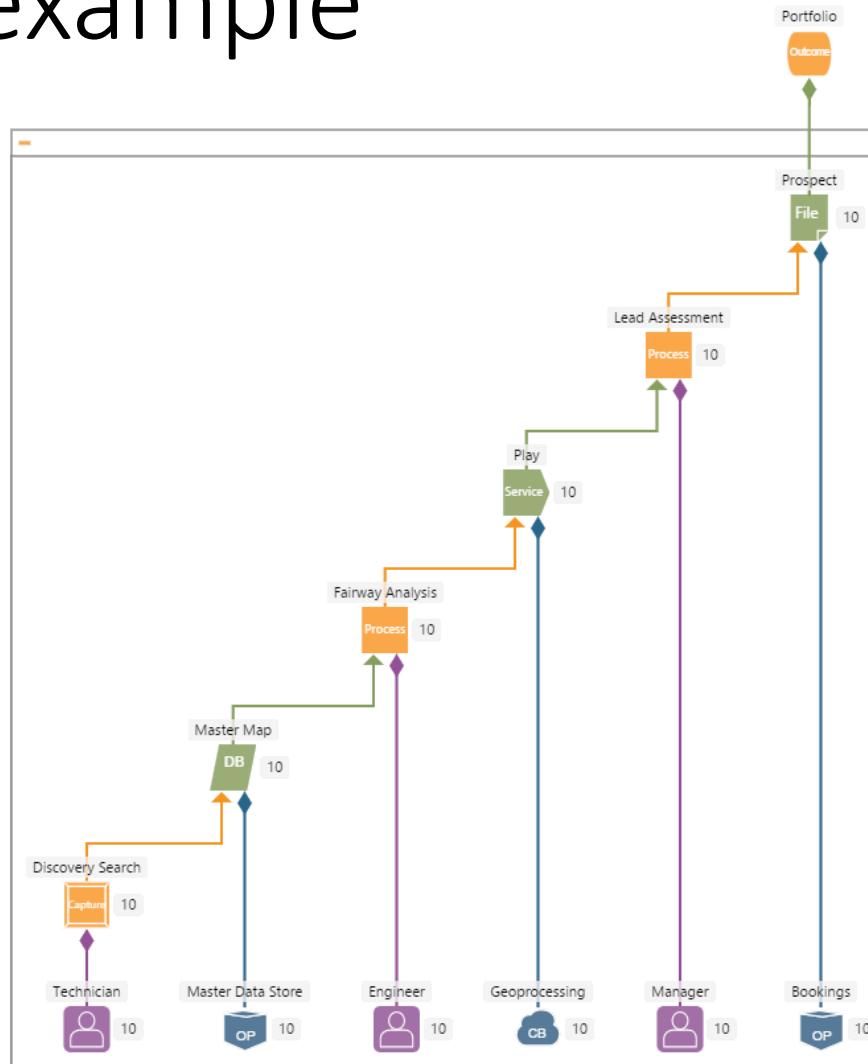
Palette



Layout



Outcome – example



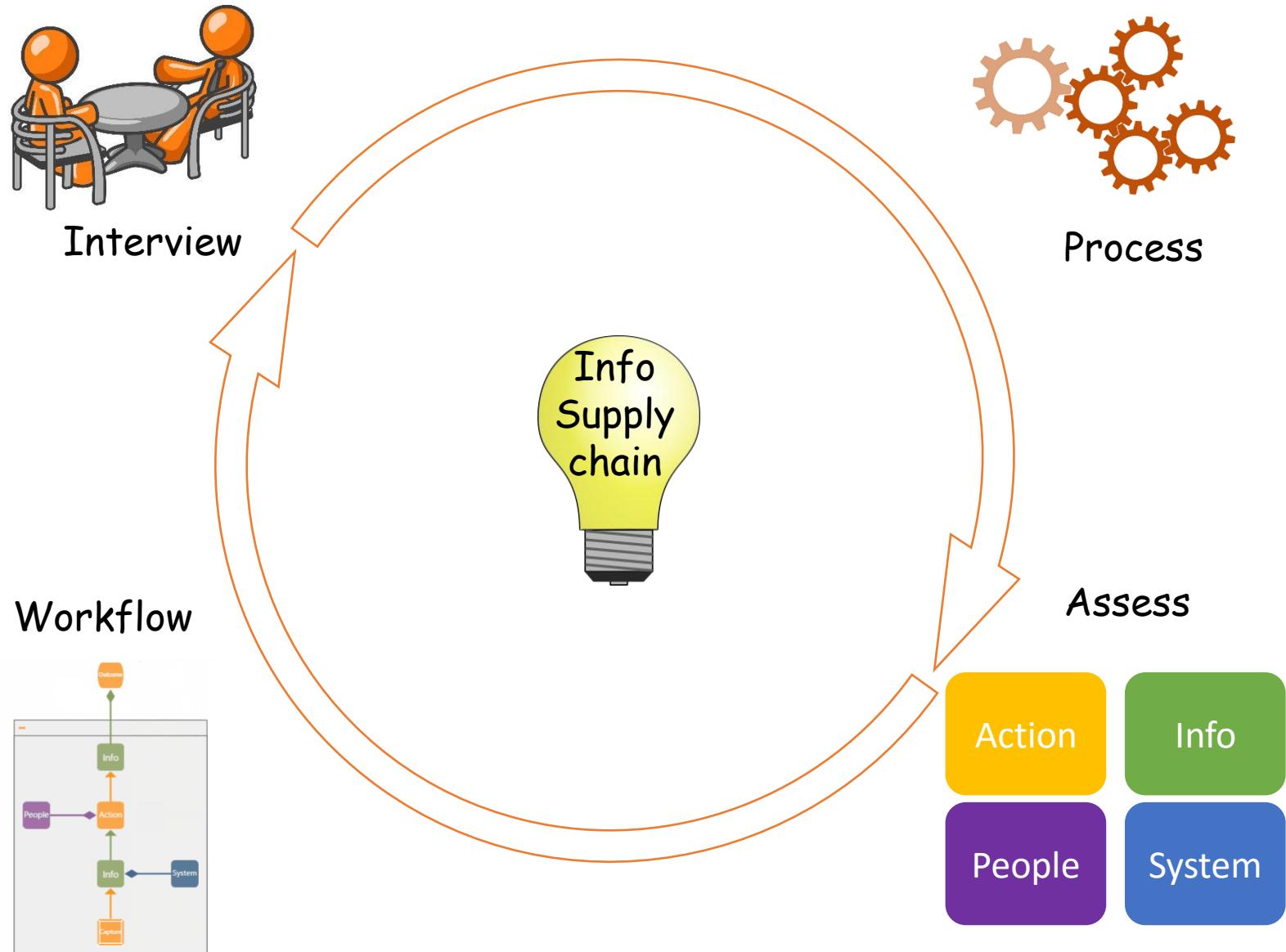
Where do we go?

Business process mapping

How-to

- *Business process first* approach to resource management
- *Mind mapping on steroids* a talking point:
 - to help asset teams determine workflows
 - and enhance resource planning operations
- Offer innovative and affordable 3D and web solutions
- Start with small wins, ramp up to successful implementations

“... I wish I had this ten years ago!”



Thank you!

Questions?

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Petroleum Information
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*See companion article
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