

Data Innovation for Energy

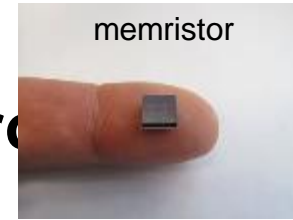
Creating the data driven and agile enterprise



Martin Houghton
Chief Data Officer

New style of analytics is driving business innovation

An opportunity to create game changing insights



Systems of Control



Machine and sensor data
Scada, m-m automation

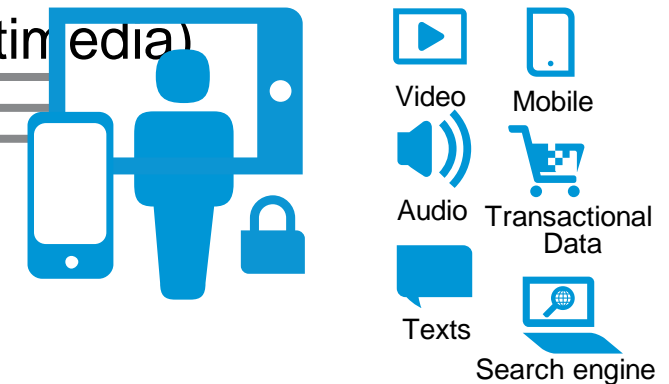
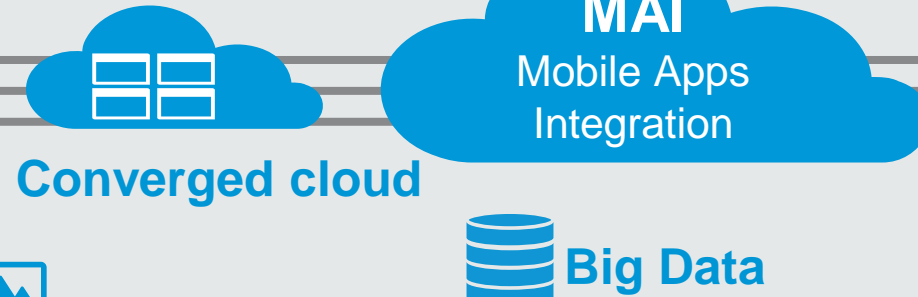
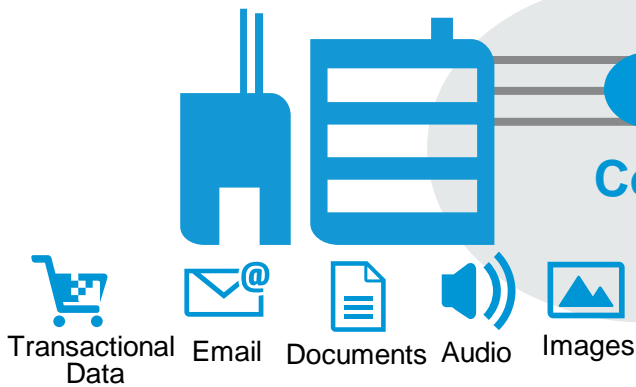
Systems of Record

(ERP, CRM, HR etc.)



Systems of Engagement

(Social and mobile, multimedia)



- Visible to and governed by CIO
- Consumes majority of IT budget
- Modernization and cloud migration dominated

Systems of Insight

Create insights that change the game.
Enable multi-disciplinary discovery teams
Multi-media transparency for operations

- Driven by business objectives
- Easily acquired
- Scale and security are key challenges



Data challenges in upstream

- General

- Lost Knowledge
- Changing workforce demographics and an ageing workforce
- Royalty Discrepancies
- Regulatory Requirements
- Integrated Operations
- Reduce time to first oil
- Asset Optimization – Production, Drilling
- Maximize Recovery & Defer Abandonment

- Data Management

- Disparate data stores, and Not knowing where data is
- Data inconsistencies
- Data across the project portfolio
- Data inaccessibility
- Data Loss / Degradation
- Data Quality issues
- transformation of data into the information in timely manner to make sound business decisions



Combined forms of analytics



syngenta

CONSERVATION INTERNATIONAL



Met Office

Socio-environmental Analytics

Collect and analyze external data to understand, monitor and respond to factors that impact objectives.



Walmart

Person/Entity Analytics

Combine transaction, behavioral, attitudinal and demographic data for a complete 360* view of stakeholders (Consumers, Customers, Shoppers, Partners)



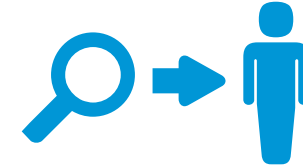
Continuous Analytics

Monitor continuous streams of information from sensors and machines to manage and predict performance.



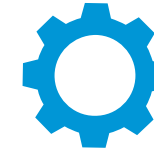
Intelligent Command Centers

Immersive environment presenting multiple streams of information for deeper and timelier intelligence.



Custom Analytic Solutions

Design and deliver Enterprise Analytic Solutions that meet the unique needs of our clients.



Operations and Machine Analytics

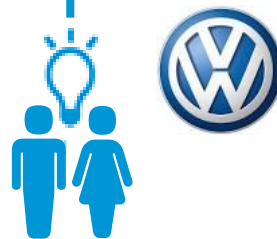
Improve the design, marketing, sale and provisioning of products services and manufacturing/production facilities.



Product/Service Analytics

Improve the design, marketing, sale and provisioning of products and services.

Combine
d
Analytics



Data Lab

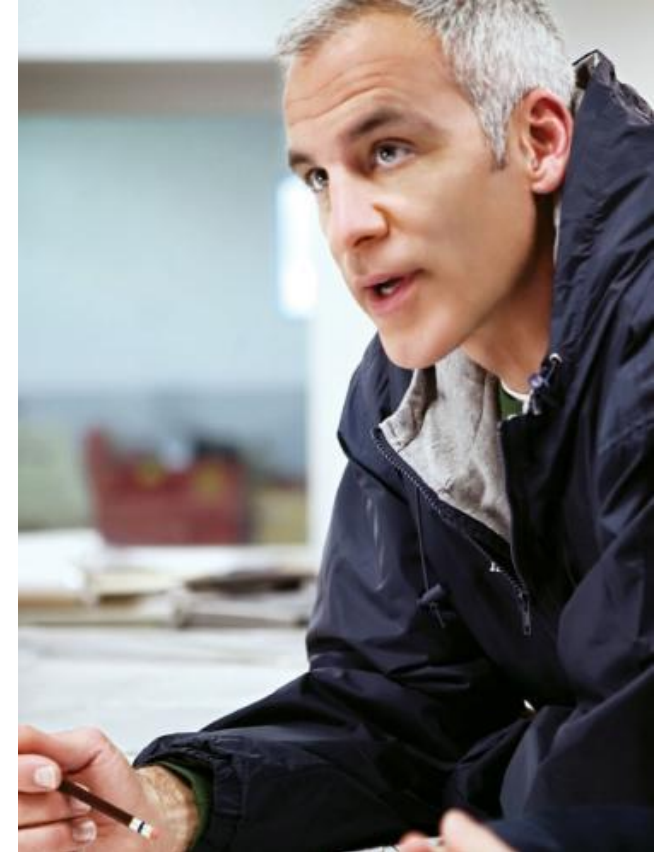
Exploratory and investigative, hypothesis based experimentation

What CIO's and business leaders said they wanted

A service to enable business exploration with innovations and innovators in a risk free environment

- **Accelerates time to insight** and ability to make decisions
- Looks and provides understanding of **data not seen before and how it correlates** with other types of information
- Incorporates **new data and methods** driving empirical evidence, statistical modeling, and cost/benefit analysis
- Utilizes **test and learn** methods for **proofing use cases** and **identifying potential innovation**
- **Encompasses** a risk free environment to learn, fail and learn more
- Provides **assistance and guidance** through the discovery process - including:
 - assistance with **ROI development**
 - plans to **operationalize** new insights
- At a **predictable cost**
- **Without capital** investment

Security!





Machine Data



Video/Images



Audio



Company Data

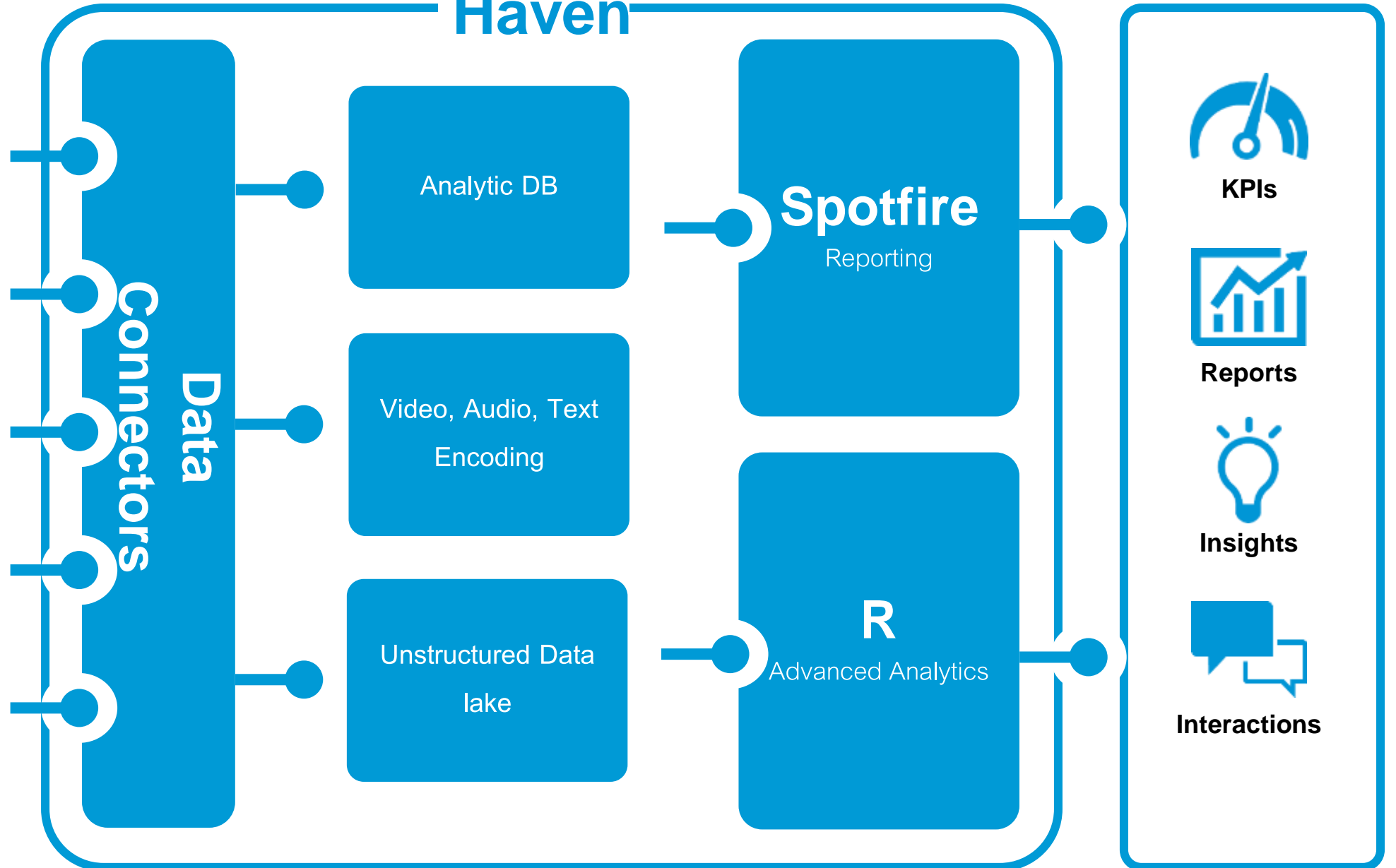


Broadcast



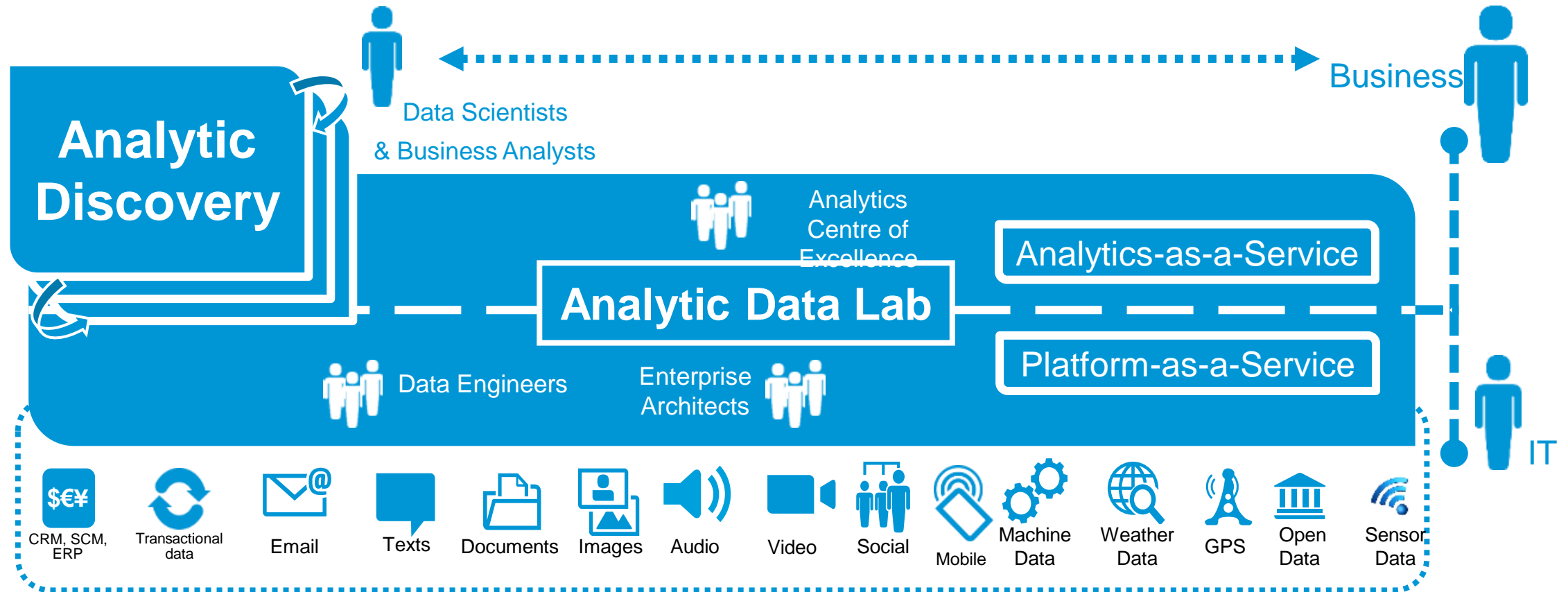
News feeds

Haven



On-consumption Analytic Discovery.

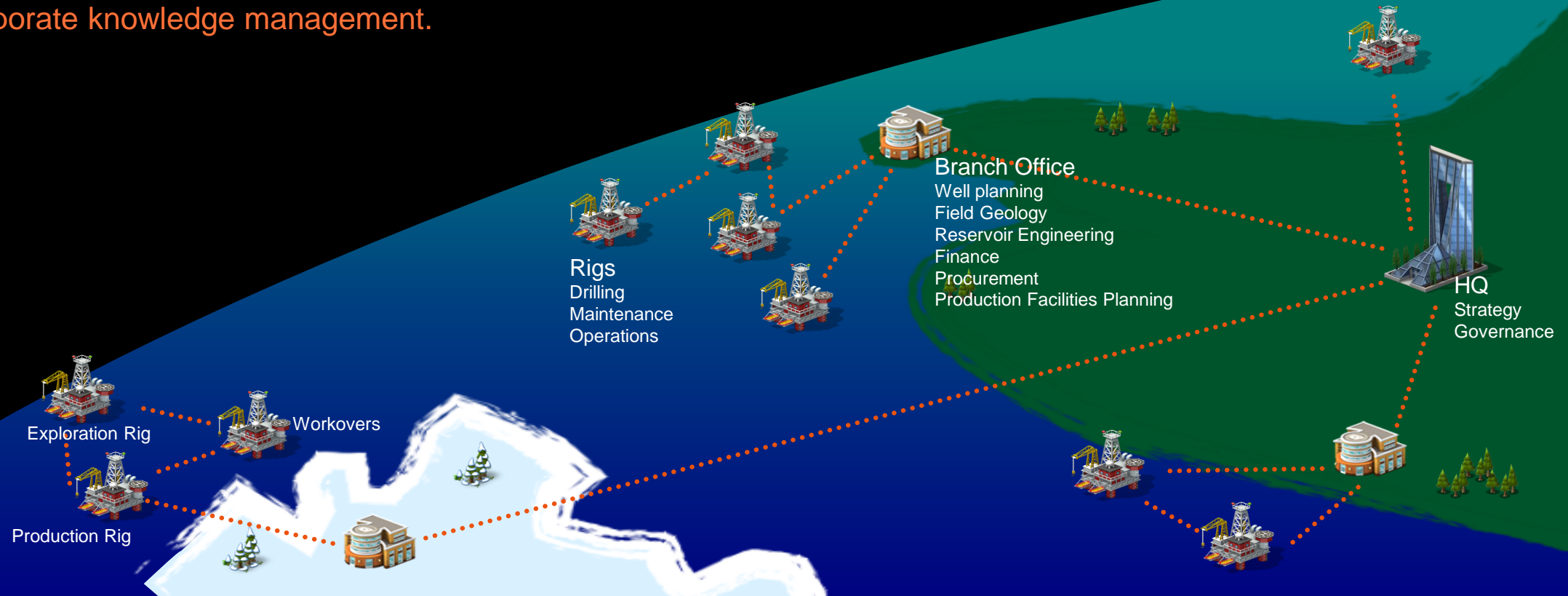
Discovery to Deploy, Collaborative & built to Scale



Upstream problem statement.....



Data everywhere but limited insight. Point to point 'collaboration' with personal rather than corporate knowledge management.



HP Data Lab

Everywhere to everywhere, insight based collaboration and optimization.
Corporate knowledge repository to enhance performance and drive best practice.

