

Data as the New Oil – How will you choose to refine it?

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Digital Transformation of Industry

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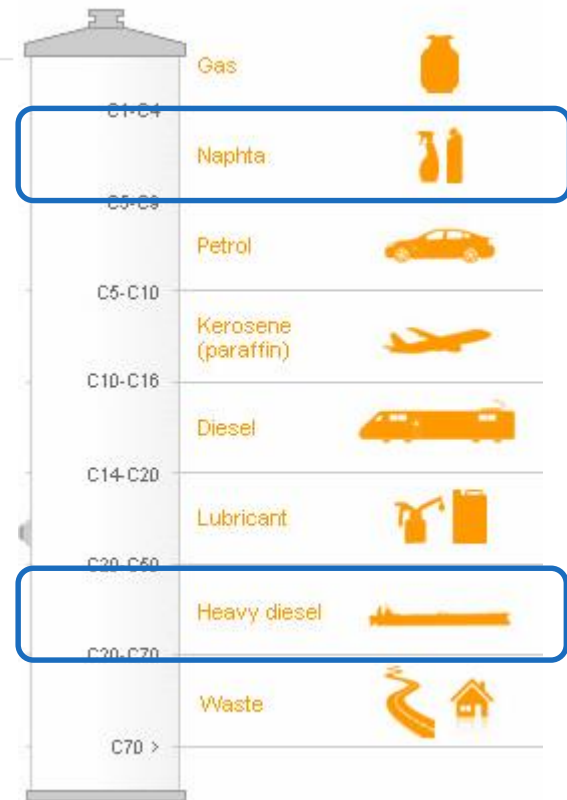
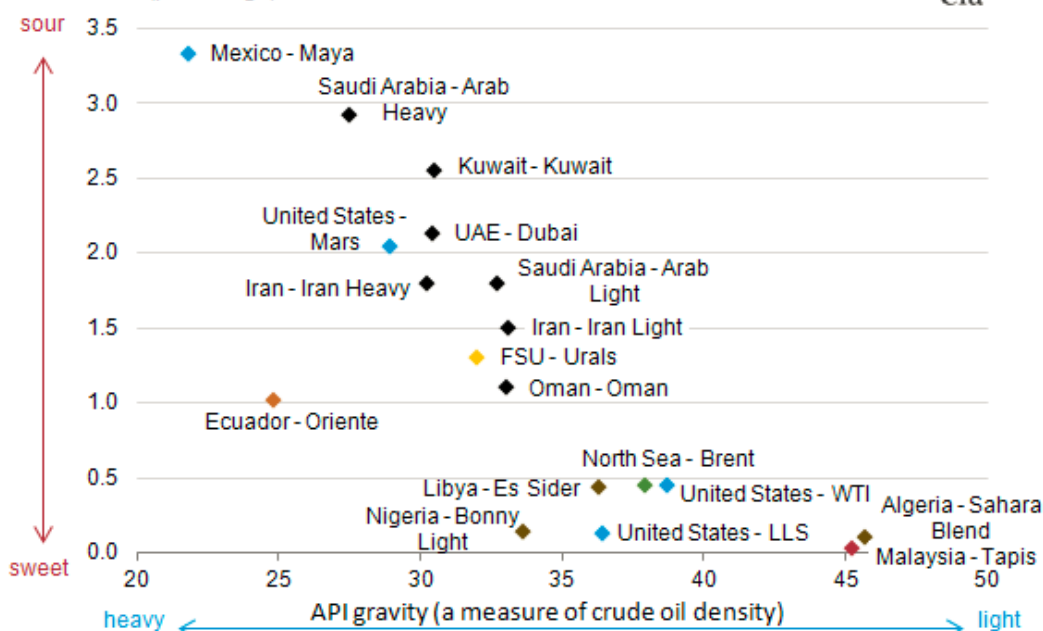
lux executive summit

Amsterdam • May 31 - June 1, 2017

Data is the new oil, and it's messy

Crude oils have different quality characteristics

Density and sulfur content of selected crude oils



Source: Galp Energia

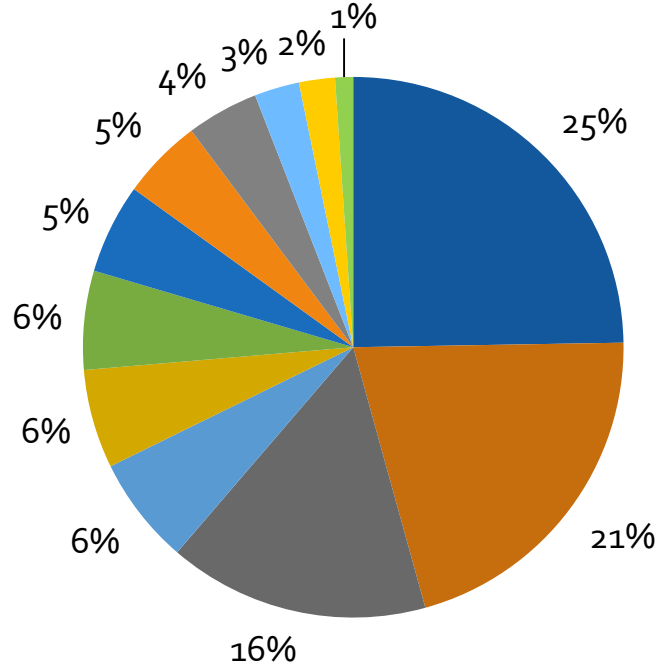
What is the opportunity?

Agenda

- **The elephant in the room: the problem with Digital tools**
- Case studies of success in Industrial IoT
 - Data visibility
 - Data opportunity
- Summary

Digitization is not uniform across industries

LES Attendees 2017 (by Industry)



- Chemicals & Materials
- Energy & Environment
- Healthcare & Life Sciences
- Electronics & IT
- Professional Services
- Automotive
- Other
- Consumer Packaged Goods
- Oil and Gas
- Diversified Industrials
- Investment/Banking

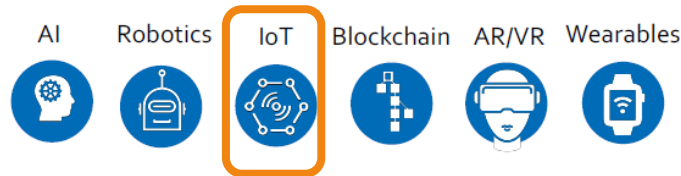
Data visibility

Sector	Overall digitization ¹	Assets		Usage			Labor			
		Digital spending	Digital asset stock	Transactions	Interactions	Business processes	Market making	Digital spending on workers	Digital capital deepening	Digitization of work
ICT	High	High	High	High	High	High	High	High	High	High
Media	Medium	High	High	High	High	High	High	High	High	High
Professional services	Medium	High	High	High	High	High	High	High	High	High
Finance and insurance	Medium	High	High	High	High	High	High	High	High	High
Wholesale trade	Medium	High	High	High	High	High	High	High	High	High
Advanced manufacturing	Medium	High	High	High	High	High	High	High	High	High
Oil and gas	Medium	High	High	High	High	High	High	High	High	High
Utilities	Medium	High	High	High	High	High	High	High	High	High
Chemicals and pharmaceuticals	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Basic goods manufacturing	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Mining	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Real estate	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Transportation and warehousing	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Education	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Retail trade	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Entertainment and recreation	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Personal and local services	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Government	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Health care	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Hospitality	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Construction	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low

Data opportunity

Source: McKinsey Global Institute

Digital Toolbox Spotlight: 2016 was the year of the IoT platform



French IoT startup Sigfox nabs €150M Series E, reportedly at €600M valuation

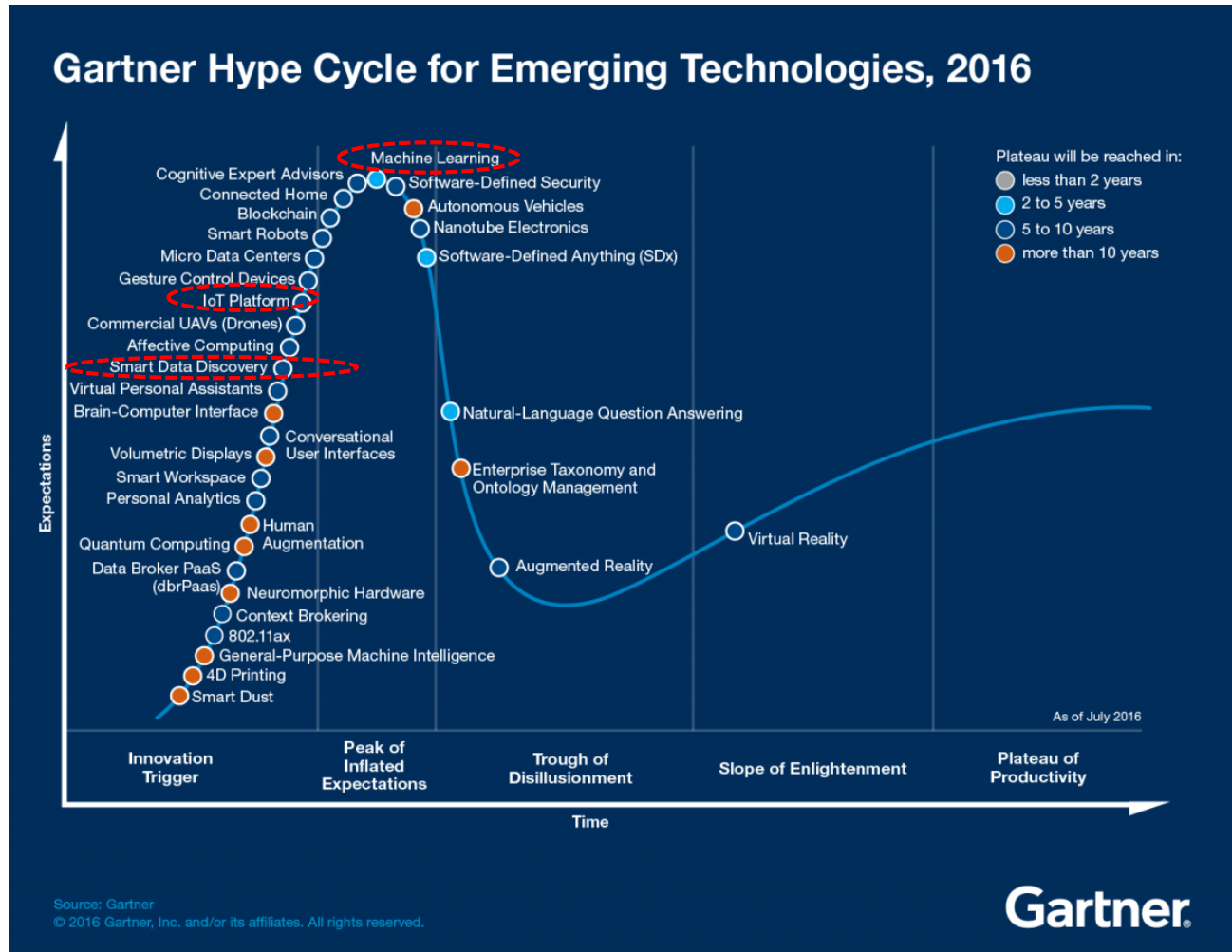
C3 IoT Closes New Financing at a \$1.4 Billion Valuation

Greenwave Systems attracts \$60 Million Funding

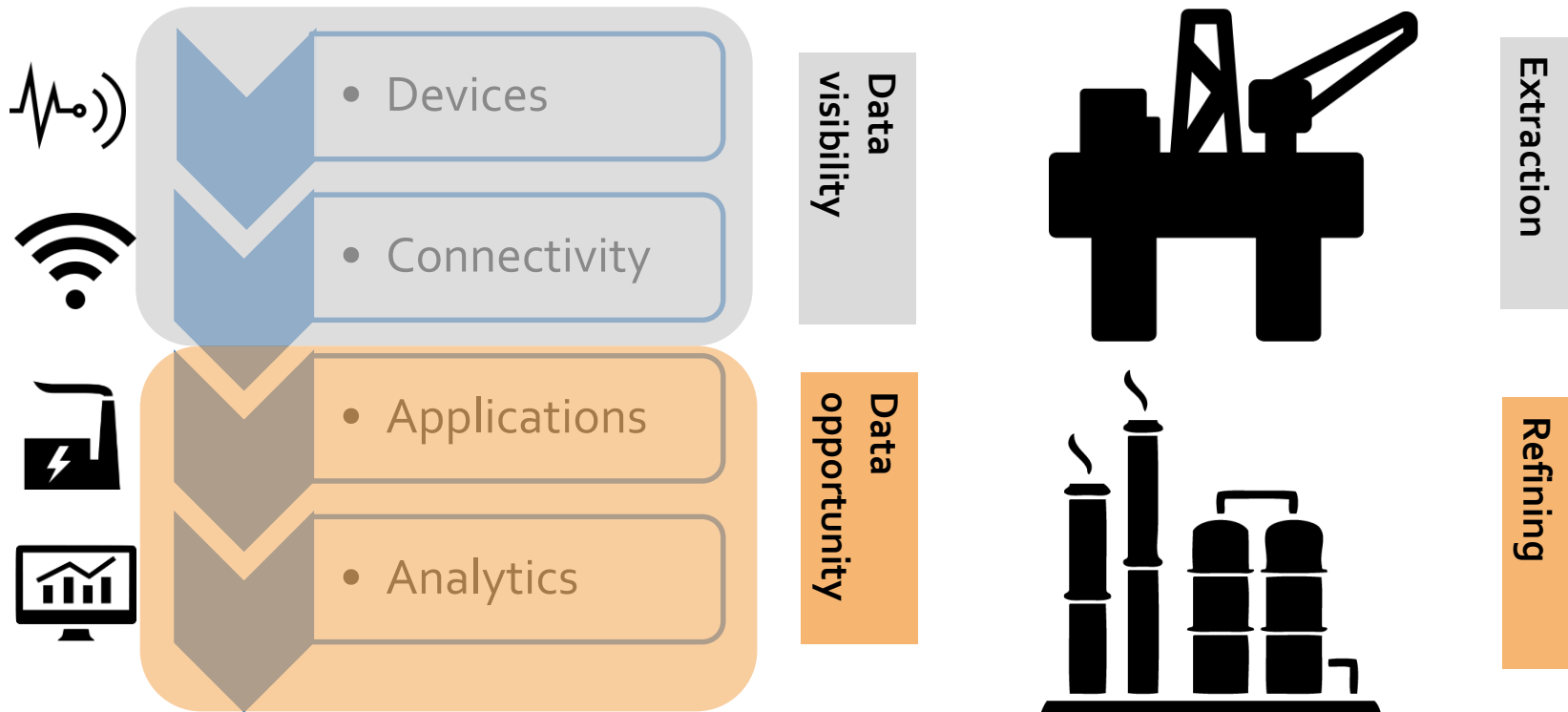
Cisco To Buy Jasper Technologies For \$1.4 Billion

General Electric buys Vancouver startup Bit Stew for \$153-million

Digital Toolbox Spotlight: 2016 was the year of the IoT platform



Defining the data journey – the IoT solution stack



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Finding the high value use cases: Commercial buildings

Energy

- Electricity and other fuels
- Cost = \$3/ft² per year



Facilities

- Real estate procurement
- Cost = \$30/ft² per year



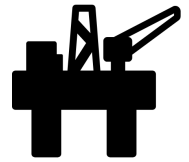
People

- Human capital
- Cost = \$300/ft² per year

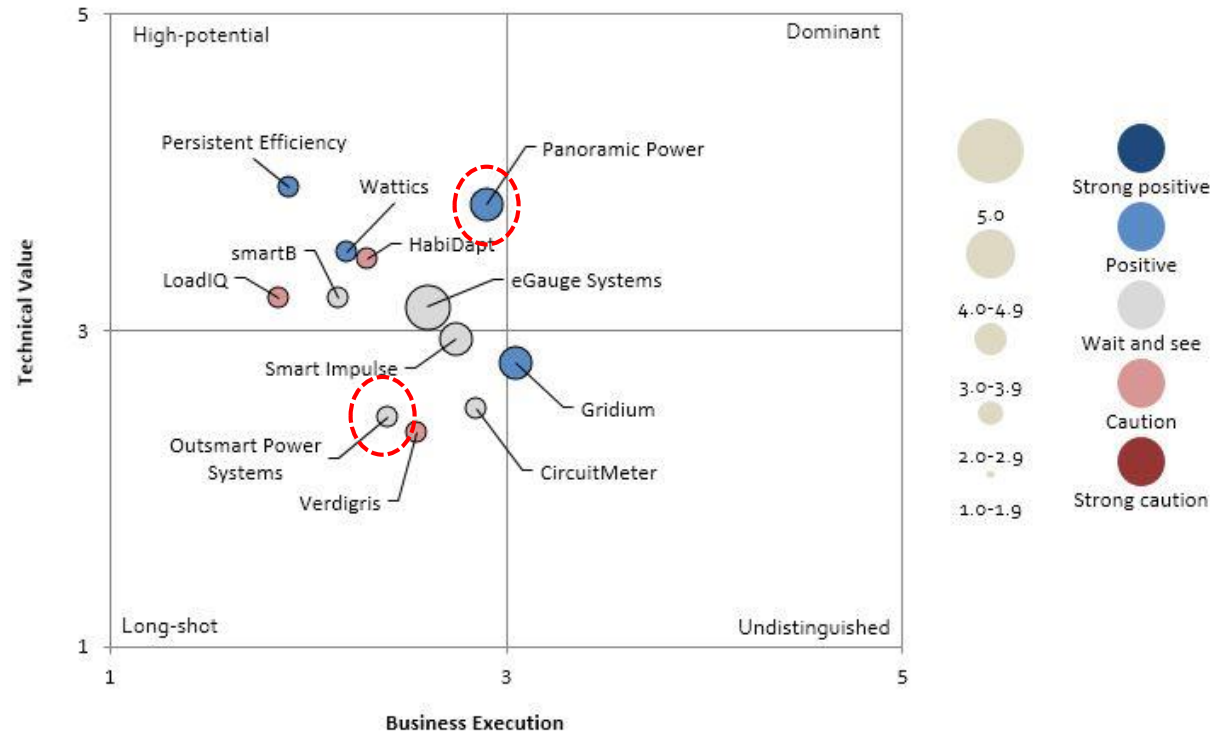


Case Study: Sensing and Connectivity

Load disaggregation

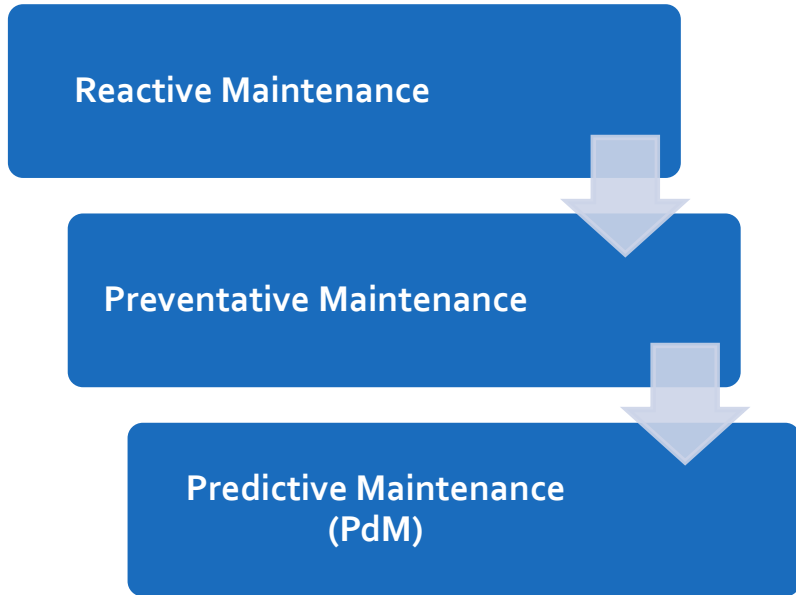


"Energy efficiency is an expectation, not a disruption" – Lux Research, 2015

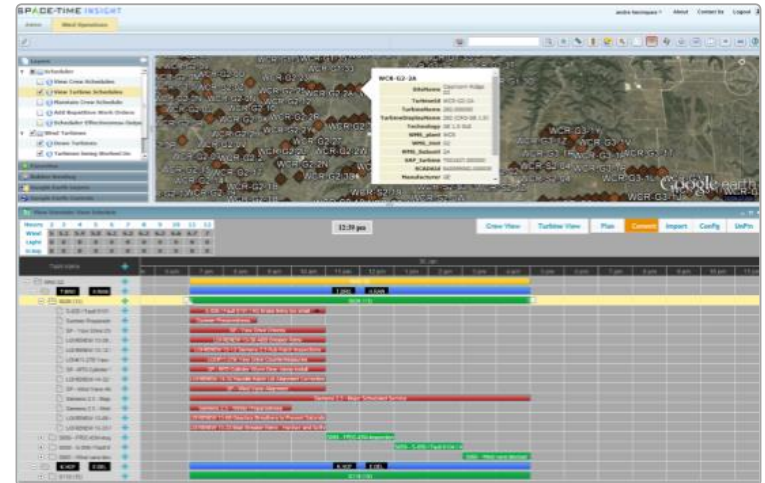


Case Study: Applications and Analytics

Predictive maintenance



SPACE-TIME
INSIGHT®



Source: Space-Time Insight



lemonbeat



M2H

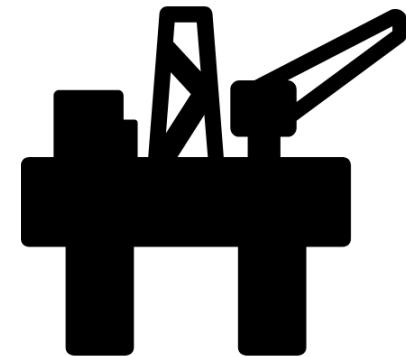


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Data is the new oil – it is up to you to choose how to refine it

- Digital adoption is *not* uniform across industries.
- IoT platforms are the new *Supermajors* of Digital, encompassing sensing, connectivity, applications, and analytics.
- Data is like oil – it varies in cost and effort of extraction.
 - Extract the data in the most cost effective way possible, and use this to guide the price of the tools (sensors and connectivity) you need
- Start with opportunity.
 - Bring vertical-specific expertise to understand how you can leverage the data for maximal impact



Extraction



Refining

Thank you



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