

# Solving E & P Problems with Digitisation

## **Near Miss Management**

### **Using Machine Learning to Improve Business Performance**

**PetroMall**

**Putting relevant science and engineering back into  
every decision made!**

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[www.petromall.org](http://www.petromall.org)

**Mother**

**Holly**

**Ash**

**Kryten**

# Influencers

## *Alan Turing*

The idea behind digital computers may be explained by saying that these machines are intended to carry out any operations which may be done by a human computer

## *Ray Kurzweil*

**The Law of Accelerating Returns**

**Brain Extenders**

**Predictions – 2029 Turing Test**

# Just imagine....

**Boiler advises OEM it is about to fail....send technician**

**Public bins advise waste management control when they getting near to full**

**Your GPS tells you where there are parking spaces**

**Driverless cars**

**Etc etc etc etc**

**The point is the potential for economic added value must be enormous - efficiency, cost, safety, satisfaction**

# How Does Google Drill?

## Oil and Gas Investor March 2016

### The kinds of things we have done

- leverage seismic acq and proc.
- horizontal and smart wells
- logging
- fracking/better rock mechanics
- simulation

### The kinds of things we must do

- from trial and error to AI/unstructured data processing BEFORE the \$\$\$ trial
- from opinion to prescriptive analytics
- from punched cards to incorporating ALL data regardless of source  
(data volume, variety and velocity increasing exponentially)

# Gartner's Views

**Field development - from connected, to collaborative, to predictive, to autonomous**

**Top technologies – mobile, cloud, IoT, automation, analytics  
PLUS – digital twin, connected 3D visualisation, mixed reality**

**A whole new way to see an asset**

**92 mmboe/d to 112 mmboe/d over the next 25 years (XOM)**

**Our example – Digital Risk Analyser**

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# And finally

**Hal**

