

# FYI in 45

# The Innovation Nexus:

## Technology and R&D

Panelists:  
Dave Neitz  
Karen Kelley

Moderated by:  
Andrew Beaton

*September 28, 2017*



**CDM  
Smith**

# Today's discussion will focus on ...

- ▶ The importance of combining new technologies with research and development to drive innovation
- ▶ How you can keep pace with the rapid changes in today's infrastructure environment
- ▶ The new technologies and innovations that are impacting design and construction today, and in the next 5 years

# Before we begin...



**Recording  
in progress**



**All phones  
are on mute**



**Questions  
encouraged**

# Our Panel

## Featured Speakers



**David Neitz**  
Chief Information Officer



**Karen Kelley, PE**  
R&D Coordinator

## Moderator



**Andrew Beaton**

What Does Innovation  
Mean to You?

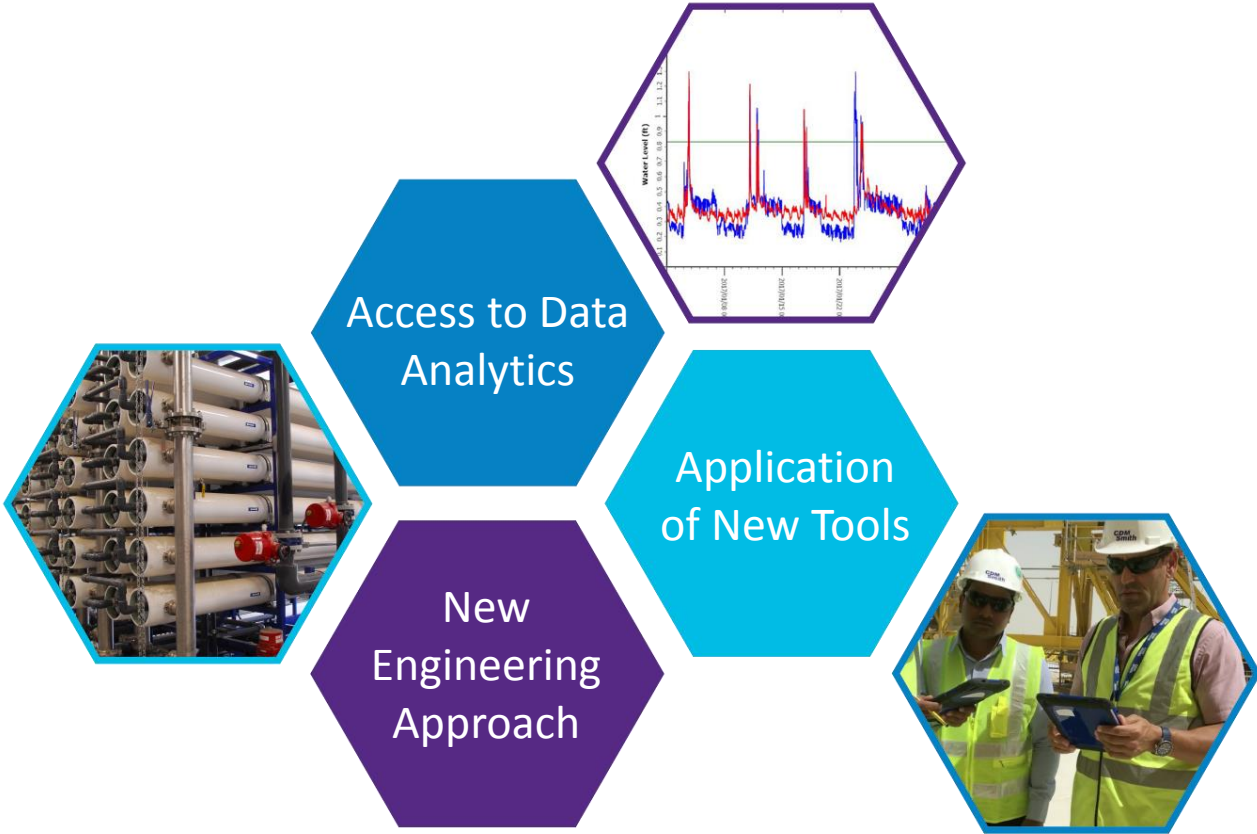
Breakthrough  
Changes



Technological  
Advances



Engineering  
Advances



Where are You Combining New  
Technologies and R&D?

What are the Results?





**Mixed-used  
Roads**

**Intelligent  
Infrastructure**

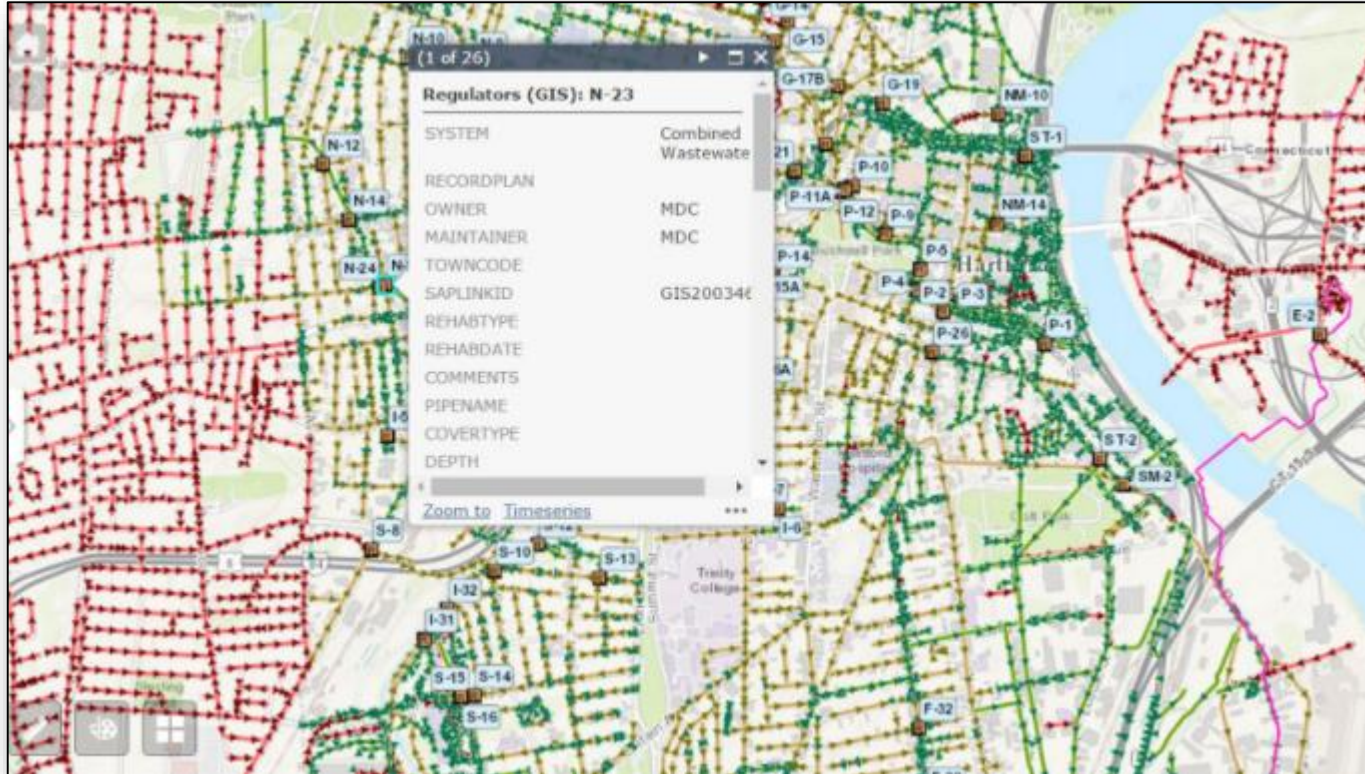
**Traffic  
Patterns**

**Autonomous  
Vehicle**

# Visualizing Possibilities...



# Real Time Analytics



# Is Collaboration Critical to Innovation?



# Disciplined Innovation – The 7 Questions

|                     |  |
|---------------------|--|
| <b>Imagine</b>      | What could we imagine that would create a great experience?        |
| <b>Look</b>         | What could we look at in a new way, or from a new perspective?     |
| <b>Use</b>          | What could we use in a new way, or for the first time?             |
| <b>Move</b>         | What could we move, changing its position in time or space?        |
| <b>Interconnect</b> | What could we connect in a different way, or for the first time?   |
| <b>Alter</b>        | What could we change or alter, in terms of design and performance? |
| <b>Make</b>         | What could we make that is truly new?                              |

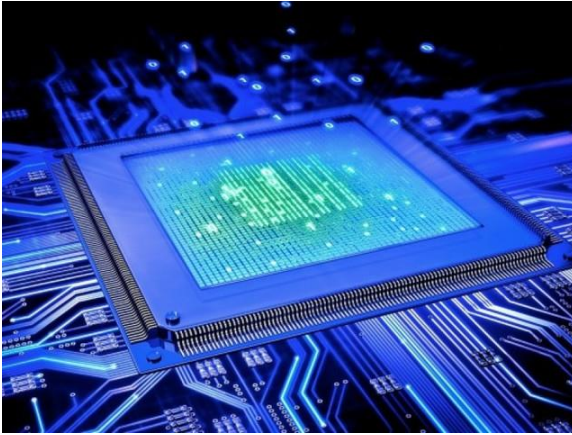
Credit: AUTODESK Innovation Genome: <http://innovation.autodesk.com/2015/10/05/the-innovation-genome/>

# HoloLens – Immersive View of Drone Imaging



# How Will Artificial Intelligence Impact the Engineering and Construction World?





## ar·ti·fi·cial in·tel·li·gence

/,ärdə'fɪʃhəl in'teləjəns/

Development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.



**Autonomous Cars**



**SCADA Systems**



**Smart Cities**

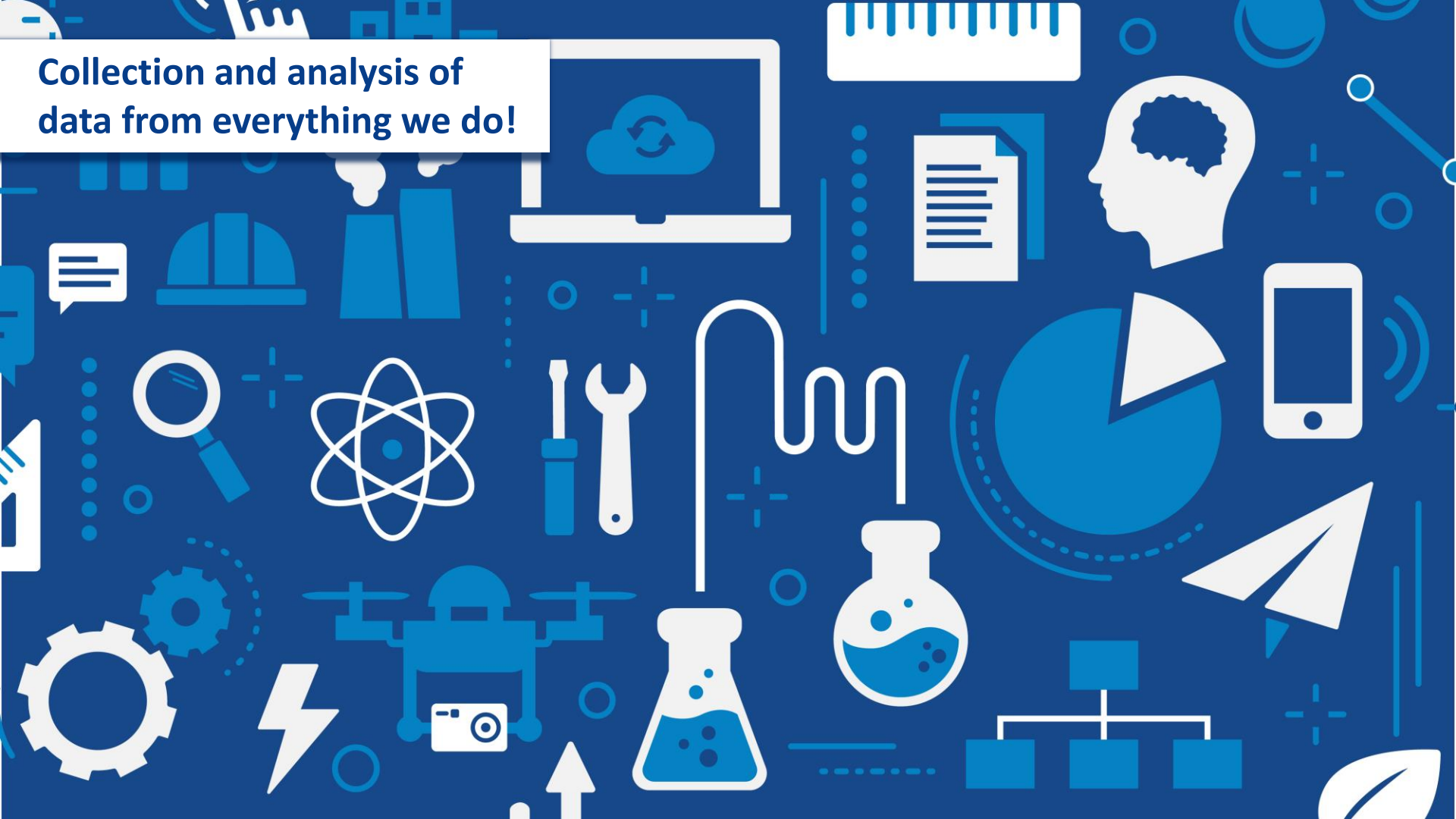
How Do You Keep Up With the  
Rapid Pace of Change?

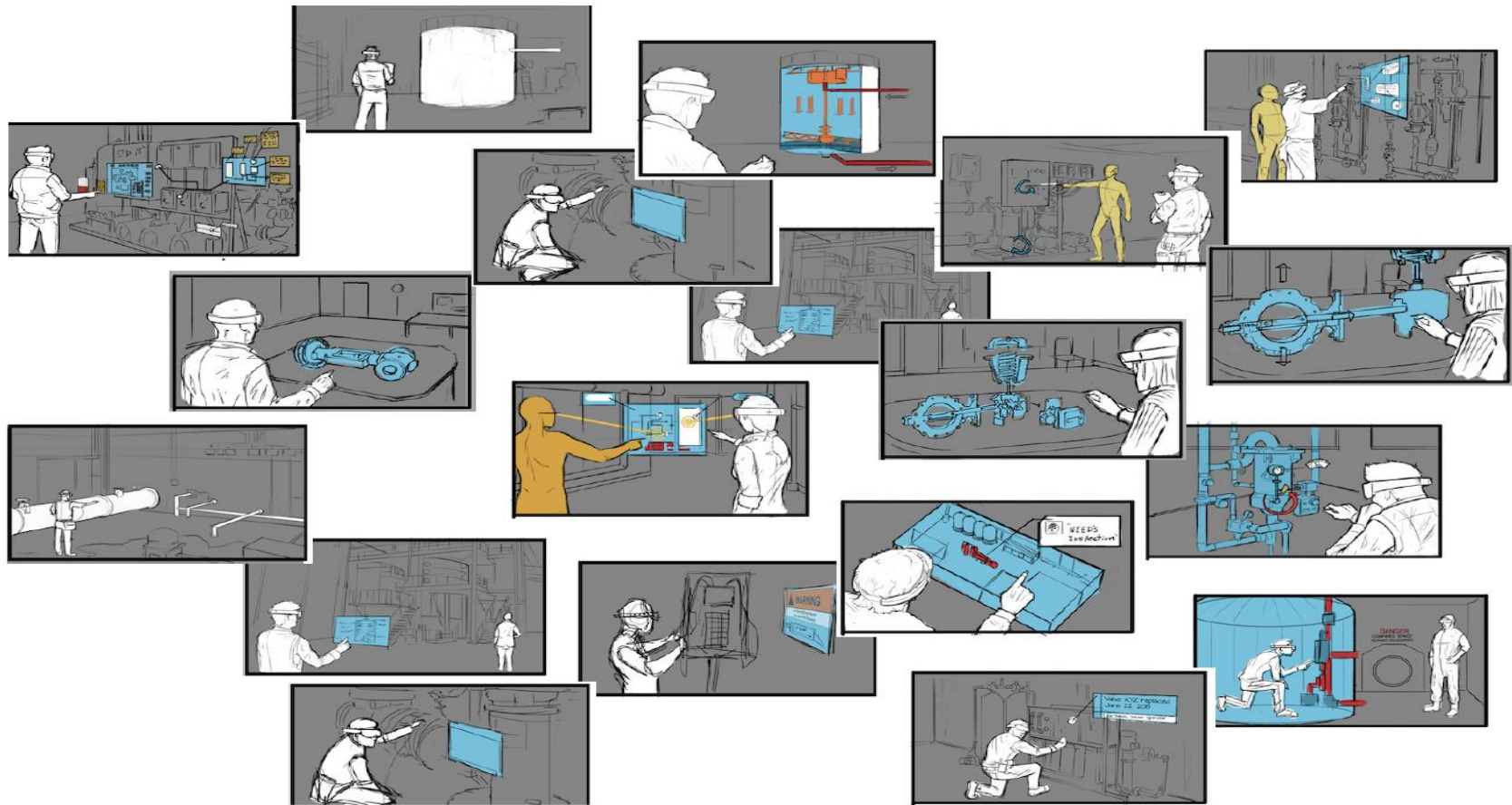




What Do You See Happening  
in the Next 5 Years?

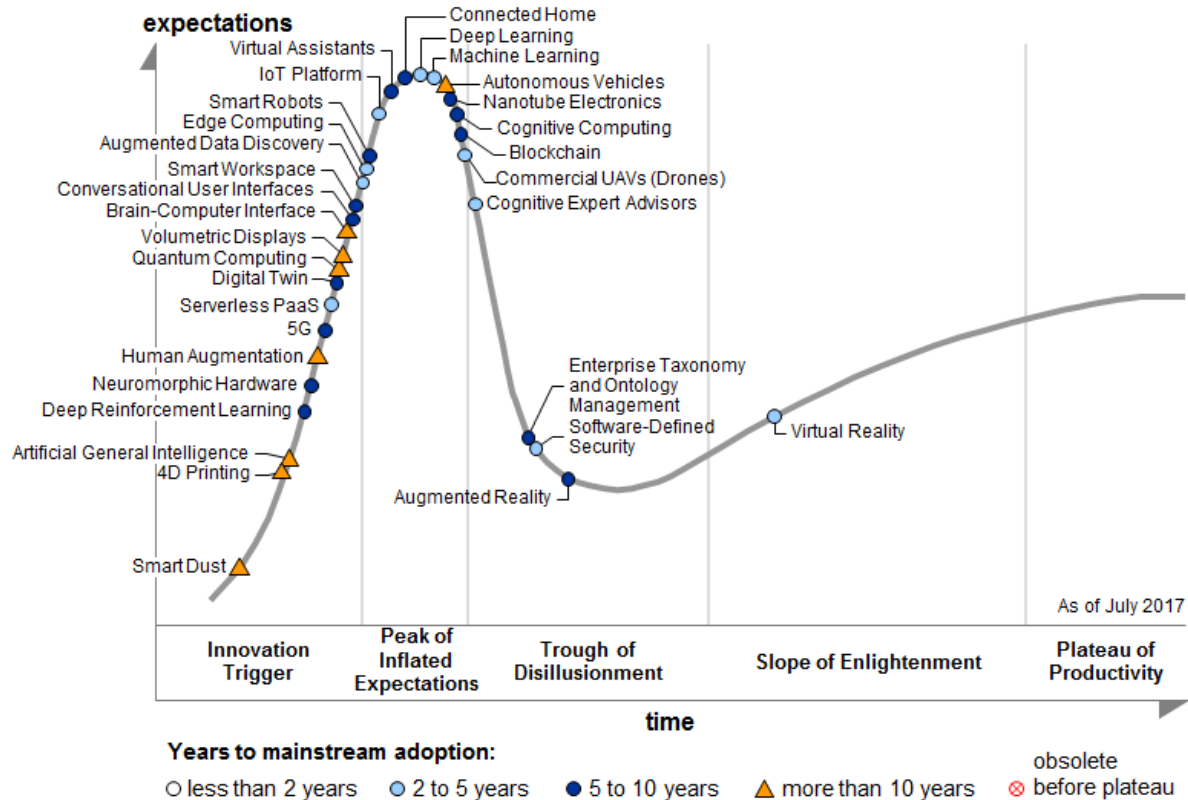
**Collection and analysis of  
data from everything we do!**







# The Technology Hype Cycle

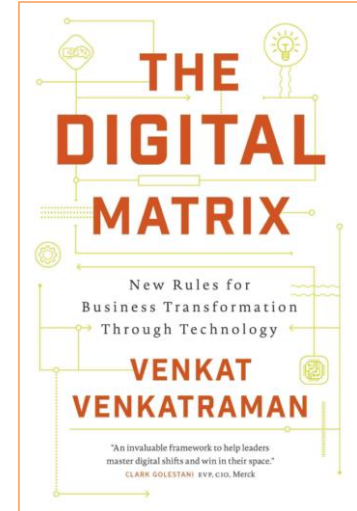
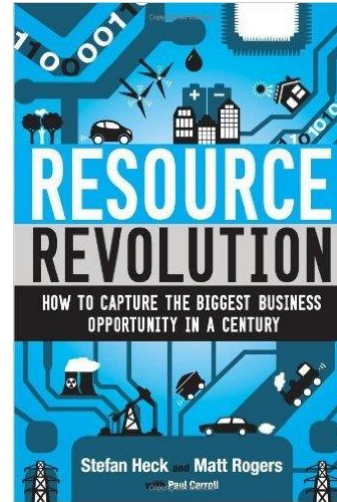
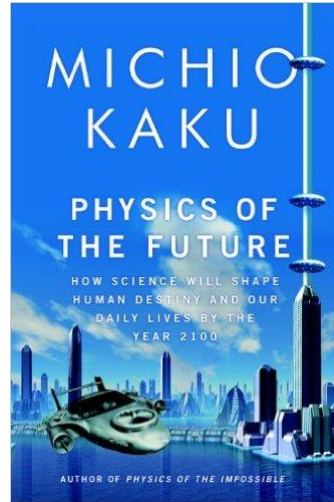
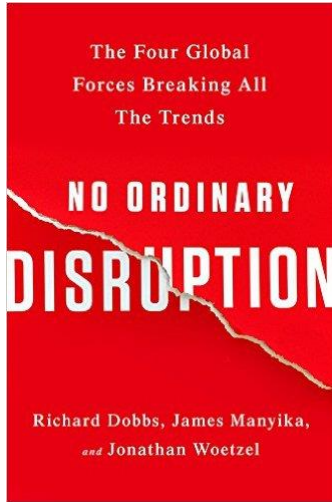


Credit: Gartner,  
[www.gartner.com/smarterwithgartner/top-trends-in-the-gartner-hype-cycle-for-emerging-technologies-2017/](http://www.gartner.com/smarterwithgartner/top-trends-in-the-gartner-hype-cycle-for-emerging-technologies-2017/)

What Advice Do You Have  
For Those Who Are  
Weighing Innovation  
Against Cost Constraints?



# Recommended Reading



# Contact Information

## Featured Speakers



**David Neitz**  
Chief Information Officer  
NeitzDM@cdmsmith.com



**Karen Kelley, PE**  
R&D Coordinator  
KelleyKE@cdmsmith.com

## Moderator



**Andrew Beaton**



Thank You