

INDUSTRIAL REVOLUTION 4.0 AND NATURAL RESOURCE INDUSTRIES

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Sustainable Development and Circular Economy

A PECC International Project 2017-2018

IR 4.0 -

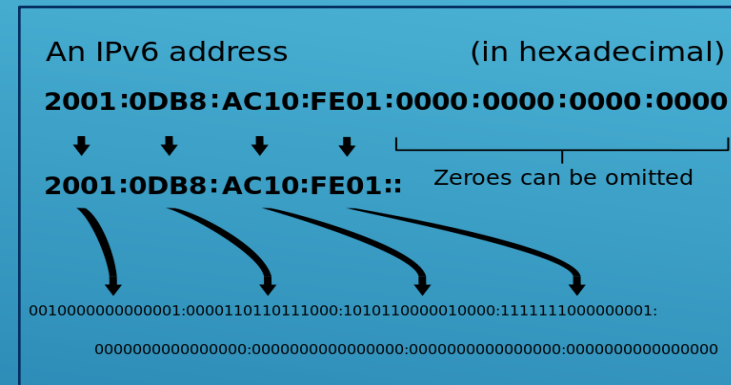
- ▶ A range of new technologies that are fusing the physical, digital and biological worlds, and impacting all disciplines, economies and industries

- Connected Things - Everywhere: IoT

Car, Phone, House, Atmosphere, Body – (Nano, Bio, IT Convergence)

- IP-6:

128-bit addressing, 3.4×10^{38}

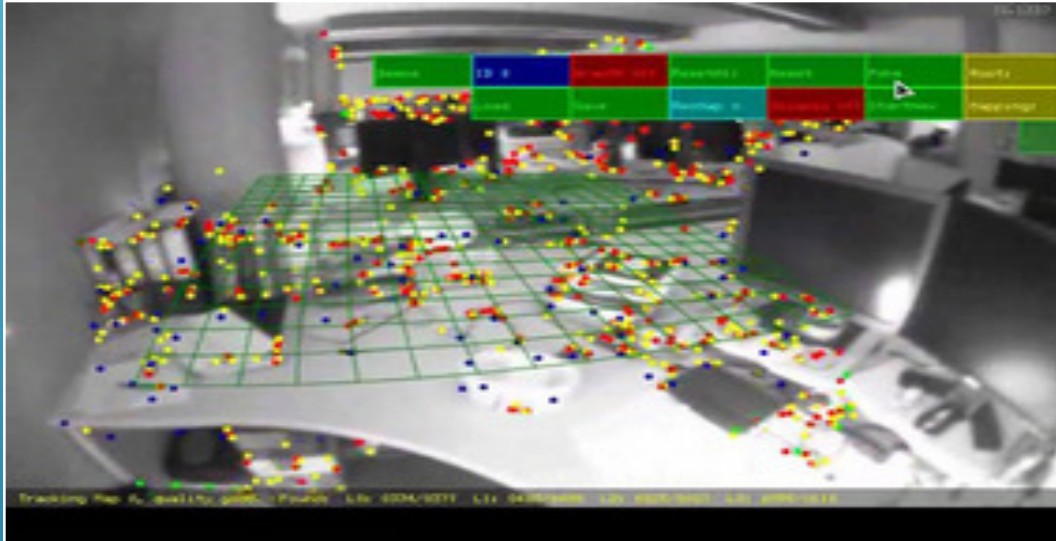


- Connected Things: – 8.4 Billion Connecting Devices – 2017

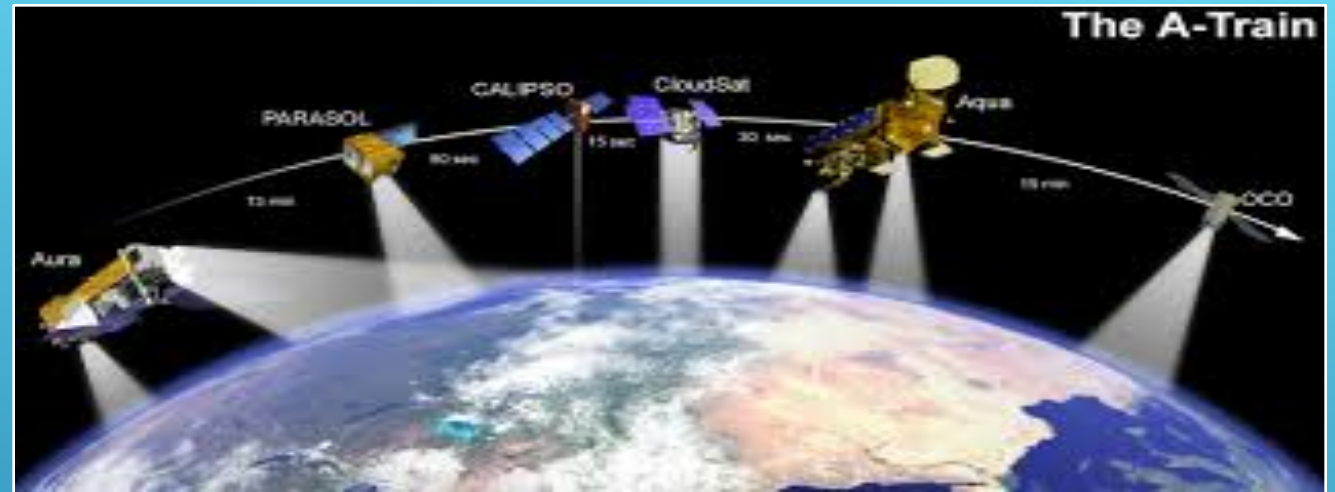
29 Billion Connected Devices – 2022

\$267B Market
by 2020 (Forbes,
Gartner)

Augmentation



Earth Observation

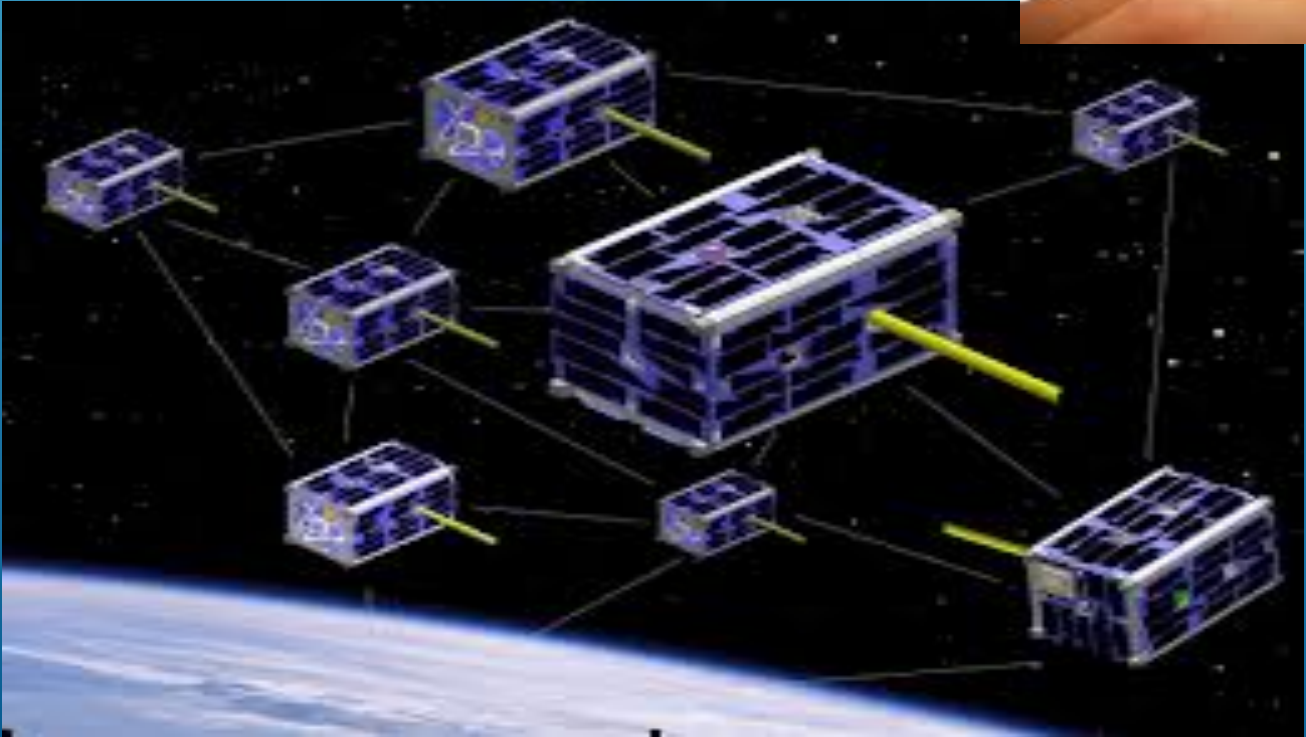
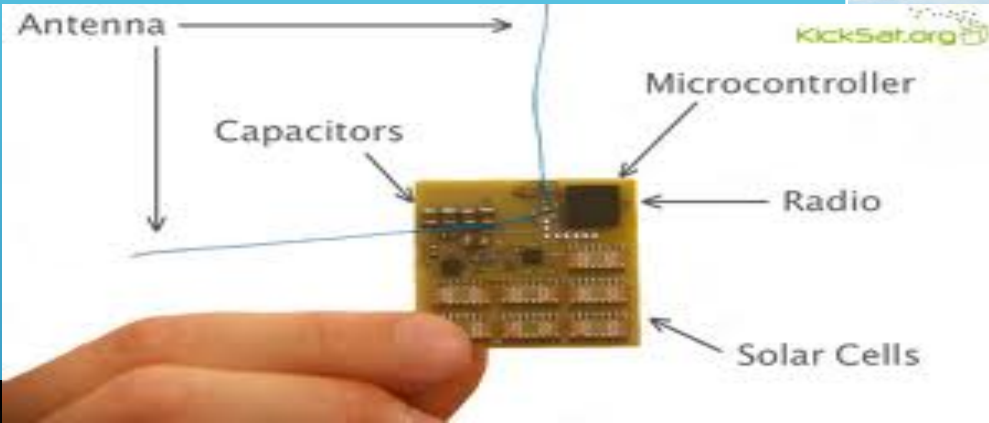


IP-Addressed Digital Video Cameras

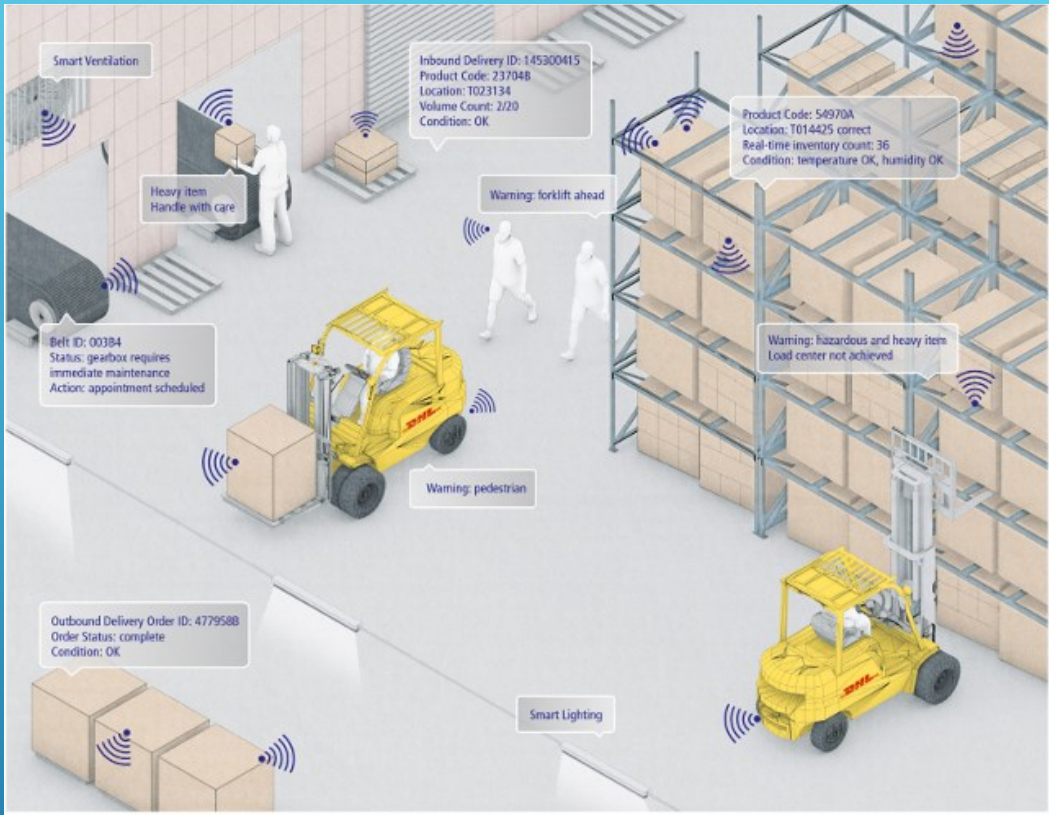
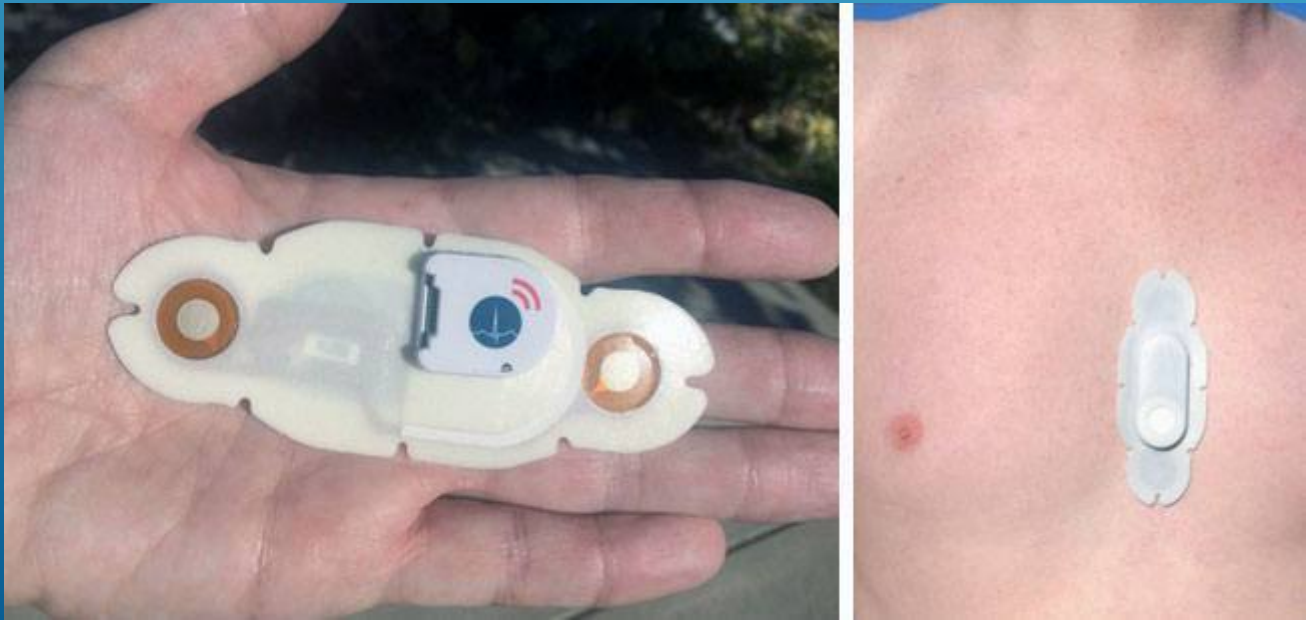


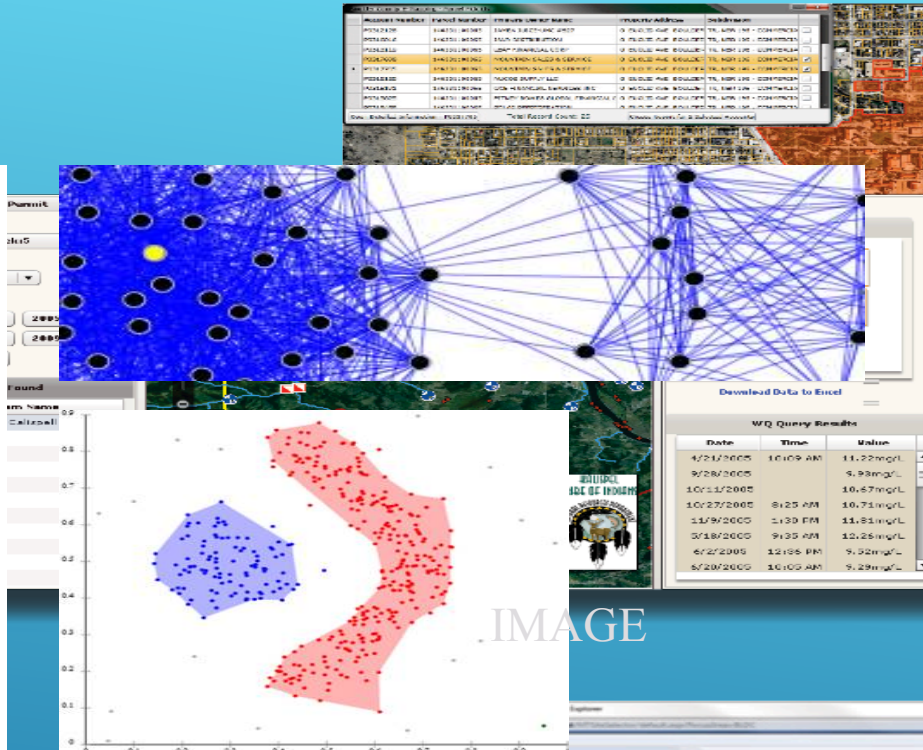
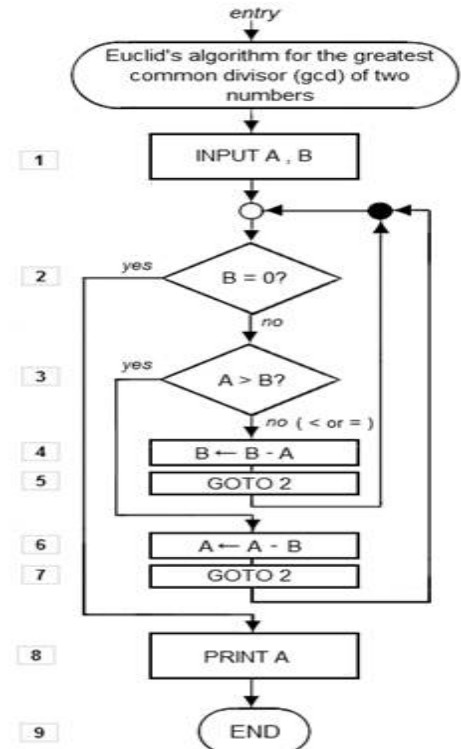
Autonomous Systems



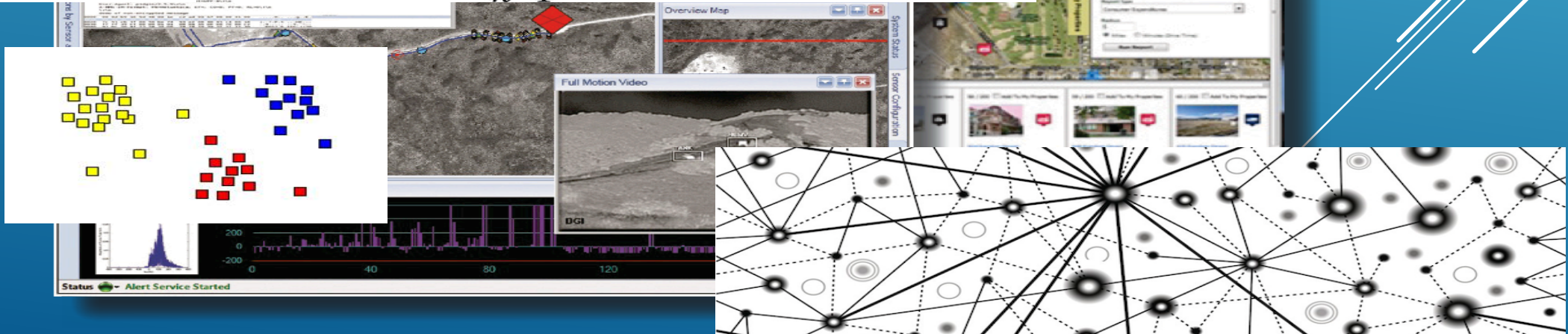
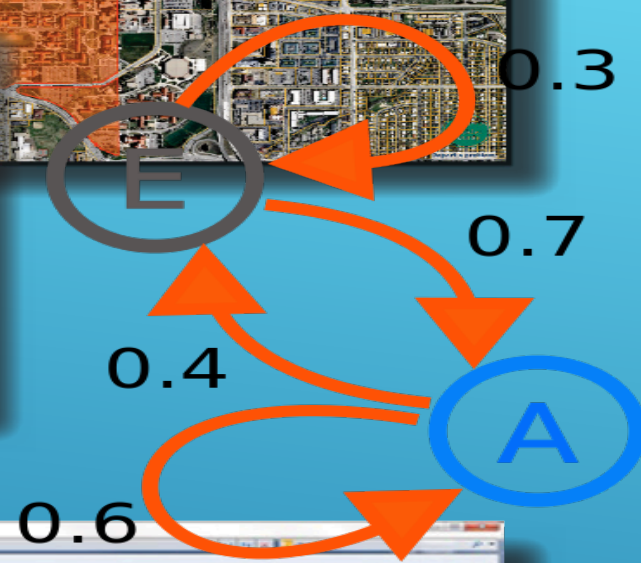








$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi x}{L} + b_n \sin \frac{n\pi x}{L} \right)$$

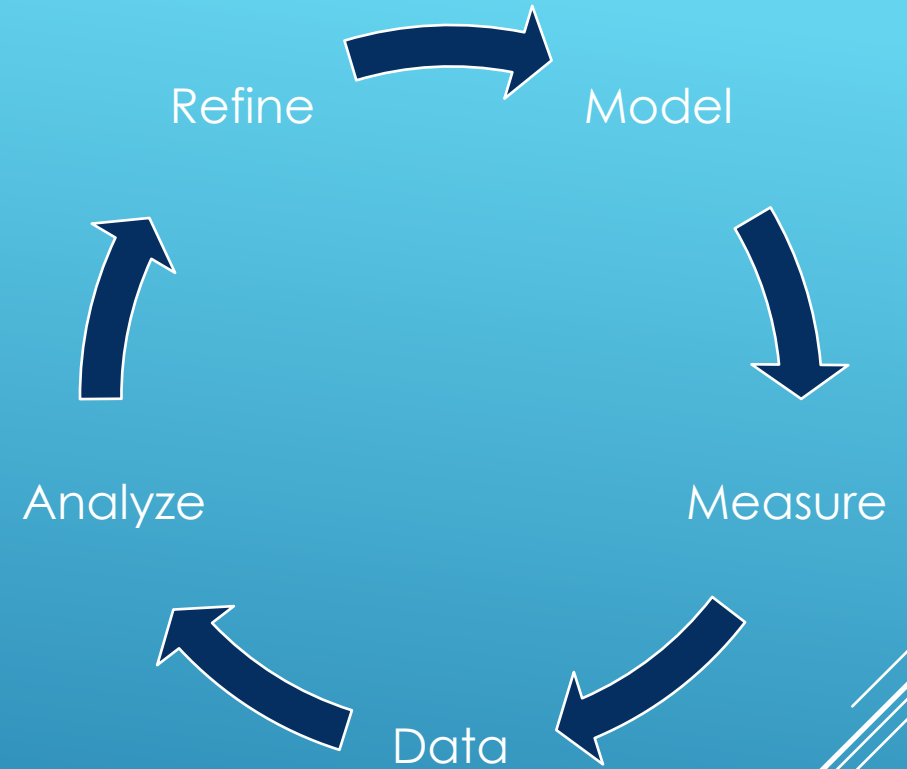


Model Drive Prediction

Data Drive Prediction



Dynamic Continuous Analytics



Mr. Tim Sheehy, CEO, Ascent Vision and Bridget Aerospace

Mr. SJ Camarata, Director, Esri

Mr. Jordan Lind, CEO, Clearas

A series of several parallel white lines of varying lengths, slanted diagonally upwards from left to right, located in the bottom right corner of the slide.