

# Internet of Things

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IoT will disappear






Imagine a city with no congestion



Imagine airports with no delays



Imagine perfect energy consumption  
everyday, everywhere



Imagine medicine tailored for you



# IoT is about three expectations



## Reduce risk

Better understanding of what is happening to get more visibility



## Optimize costs

More output for lower cost through understanding of the value chain, and waste drivers



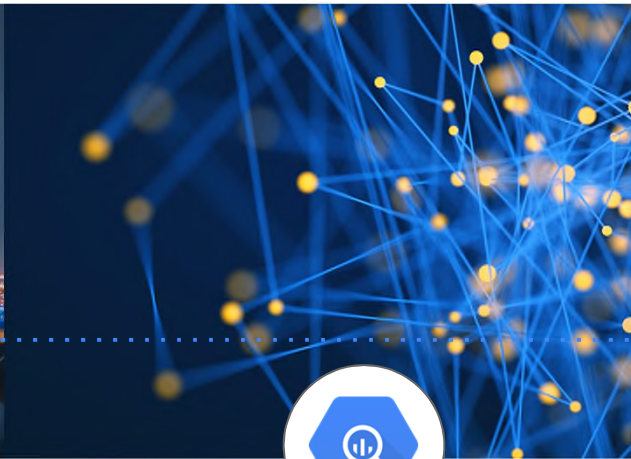
## Grow

Better user or customer experience to increase usage and adoption of a product

# IoT should not be focused on things



Connected things



Big data



Machine learning



# Industries impacted and volume of data



Mfg. / industrial

0.5-4Tb/machine annually



Healthcare

~1Tb/mth



Transportation / insurance

2-25Gb/hr



Consumer products

~4Gb/day/product line

What happens when you collect petabytes and exabytes of data?



# Mastering big data





seven  
products with



1B

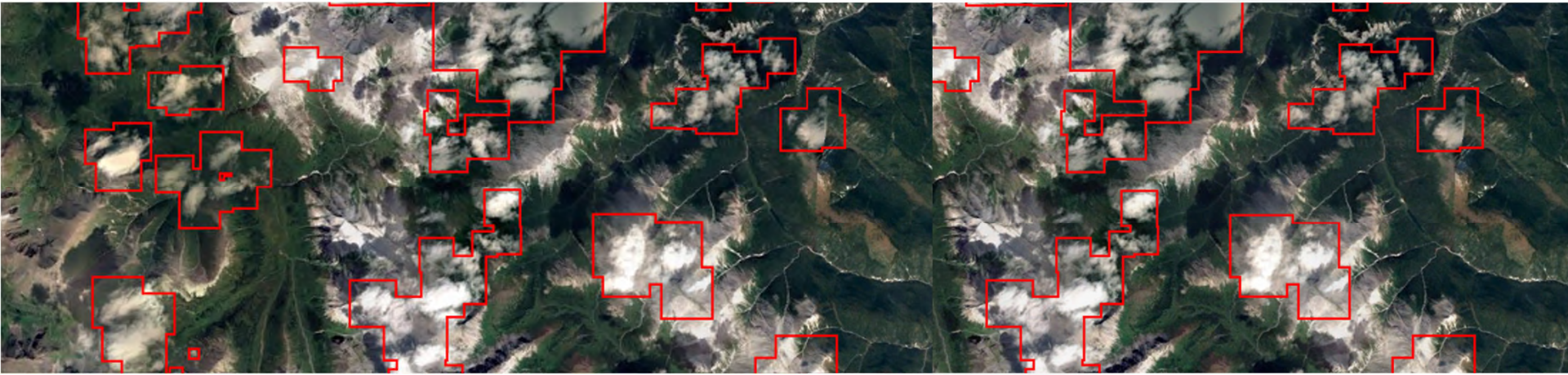


users



# Supercharge innovation by leveraging machine learning on IoT data

# Connected satellites



Is it cloudy?

Google Cloud

**AIRBUS**

Confidential + Proprietary



# Connected data centers



Are they energy efficient enough?

# Three key challenges with connected things



1

Securely  
connecting things



2

Scaling  
big-data



3

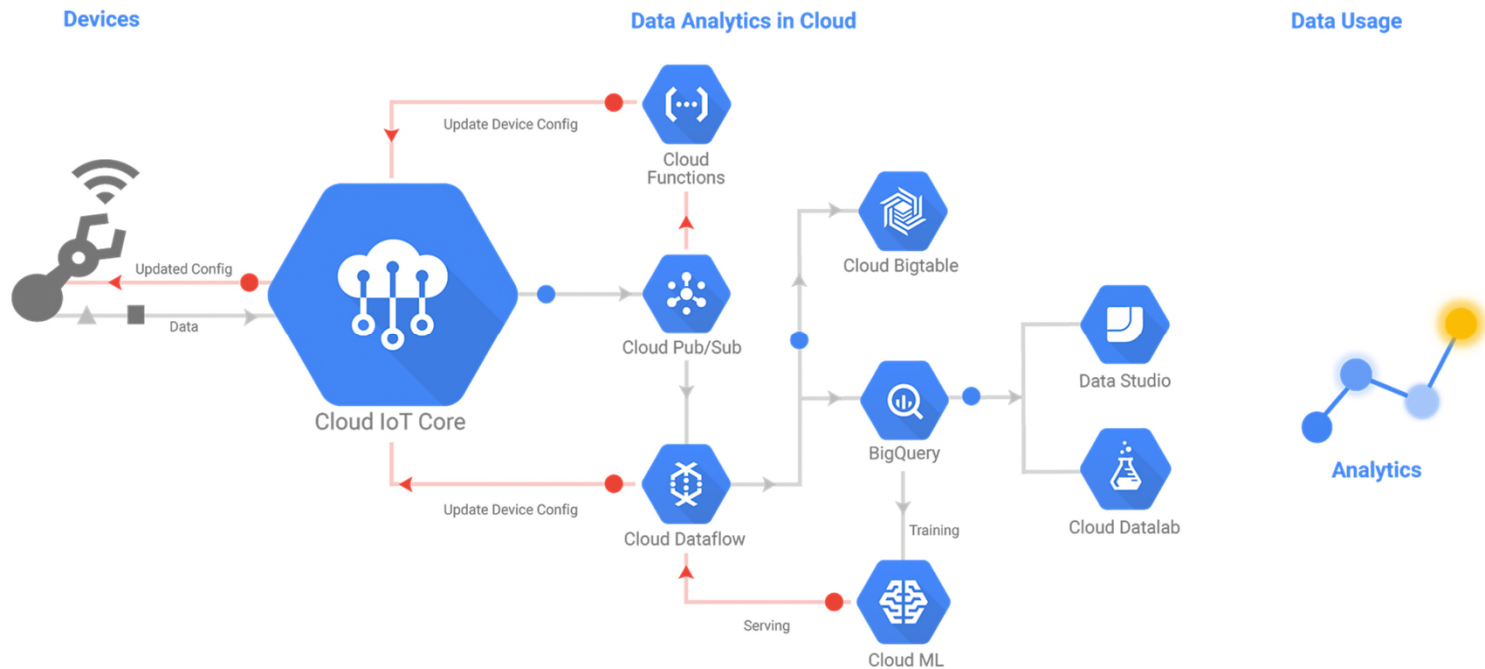
Actionable insights  
machine learning

# Google Cloud IoT





# A new service in Google Cloud IoT to bring intelligence in the moment



# Planet Scale deployments: single end-point globally



# IoT Conscious Security

Smallest footprint for highest security and independence



Google  
root.pem



Private  
Key

**TLS**

Basic TLS  
stack



JWT helper Libs

Partnered with Microchip for Security for  
secure element



# Smart cities



## Smart Parking Technology



Parking sensors



Smart Parking Services

Direct Benefit: 50% reduction time to market

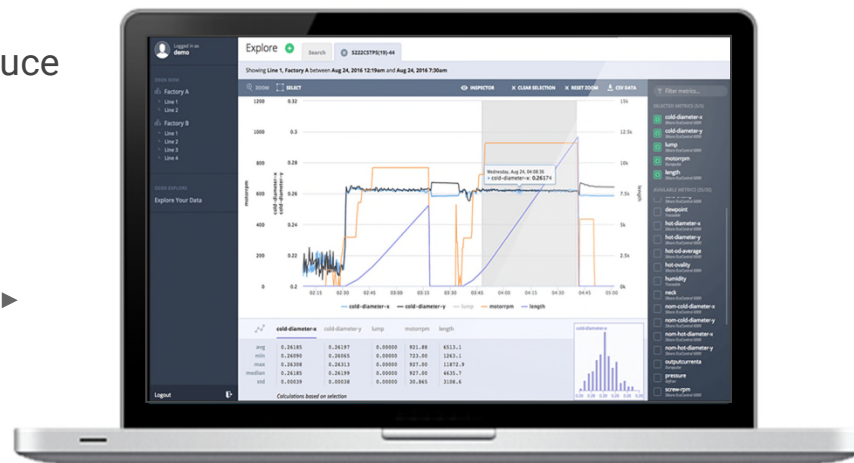


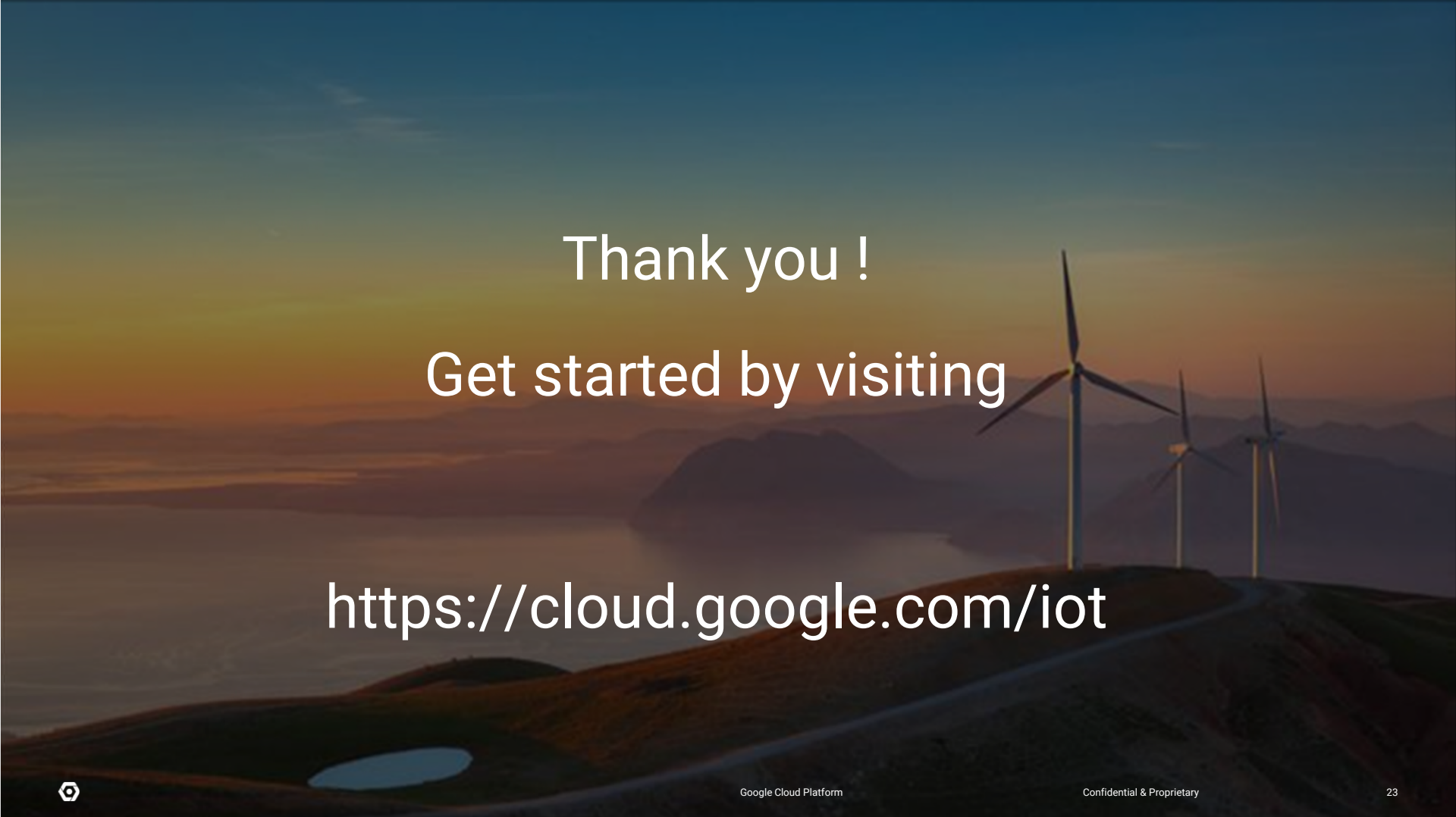
# Manufacturing

## Oden Technologies

Operation optimization for plastic moulding factories

Customer benefits: 3500 more hours of production, reduce changeover time 33%, \$1M/year





Thank you !  
Get started by visiting

<https://cloud.google.com/iot>