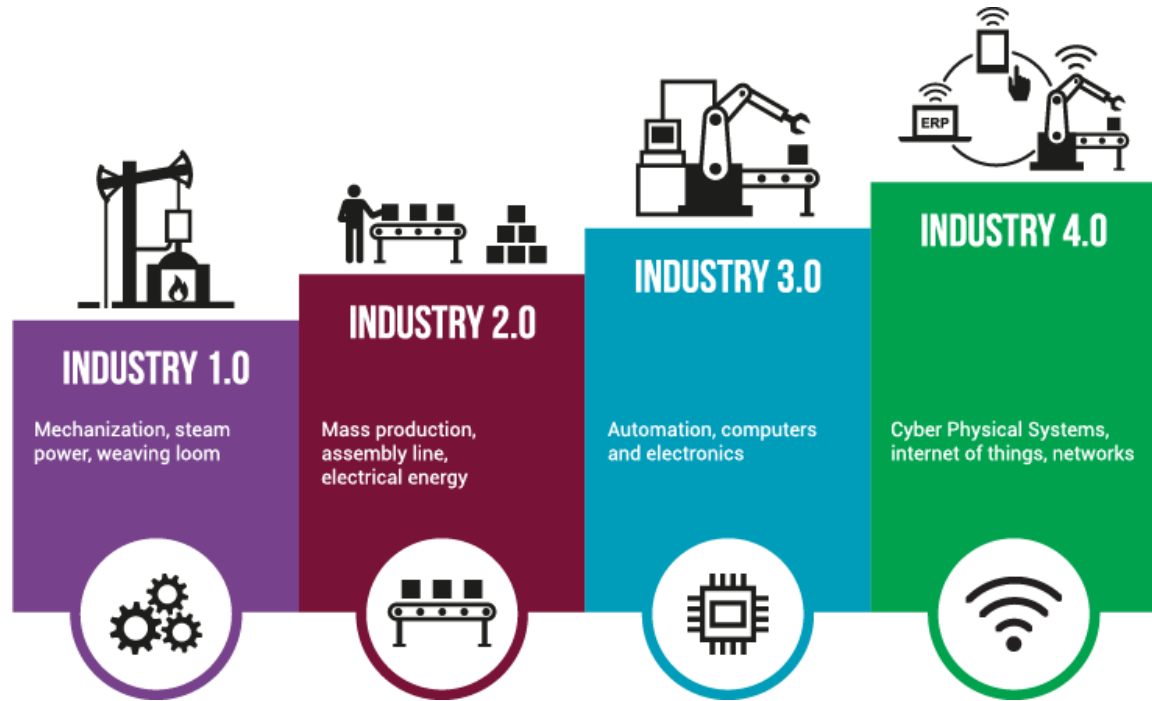


# Industry 4.0 and IIoT

Stories from the trenches

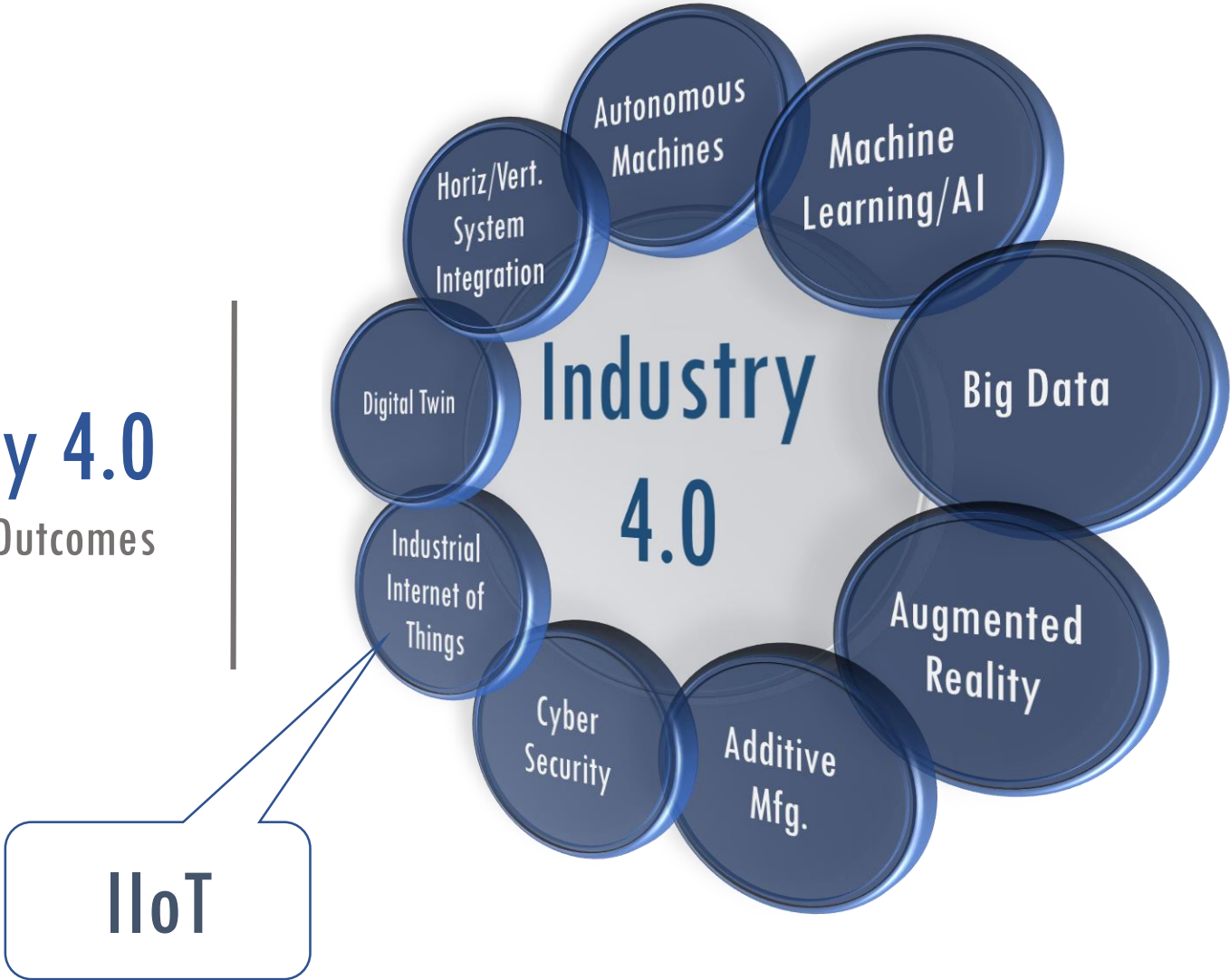
2019 ISPE-CaSA Education  
Automation Forum

# Industry X.0



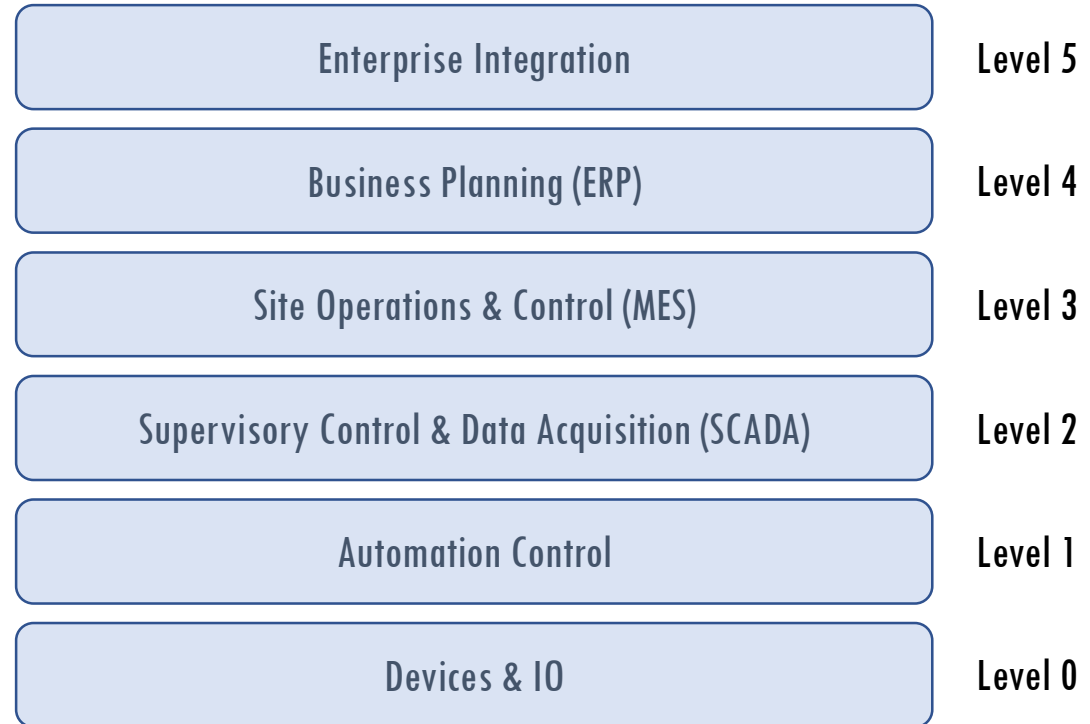
# Industry 4.0

Driving Outcomes

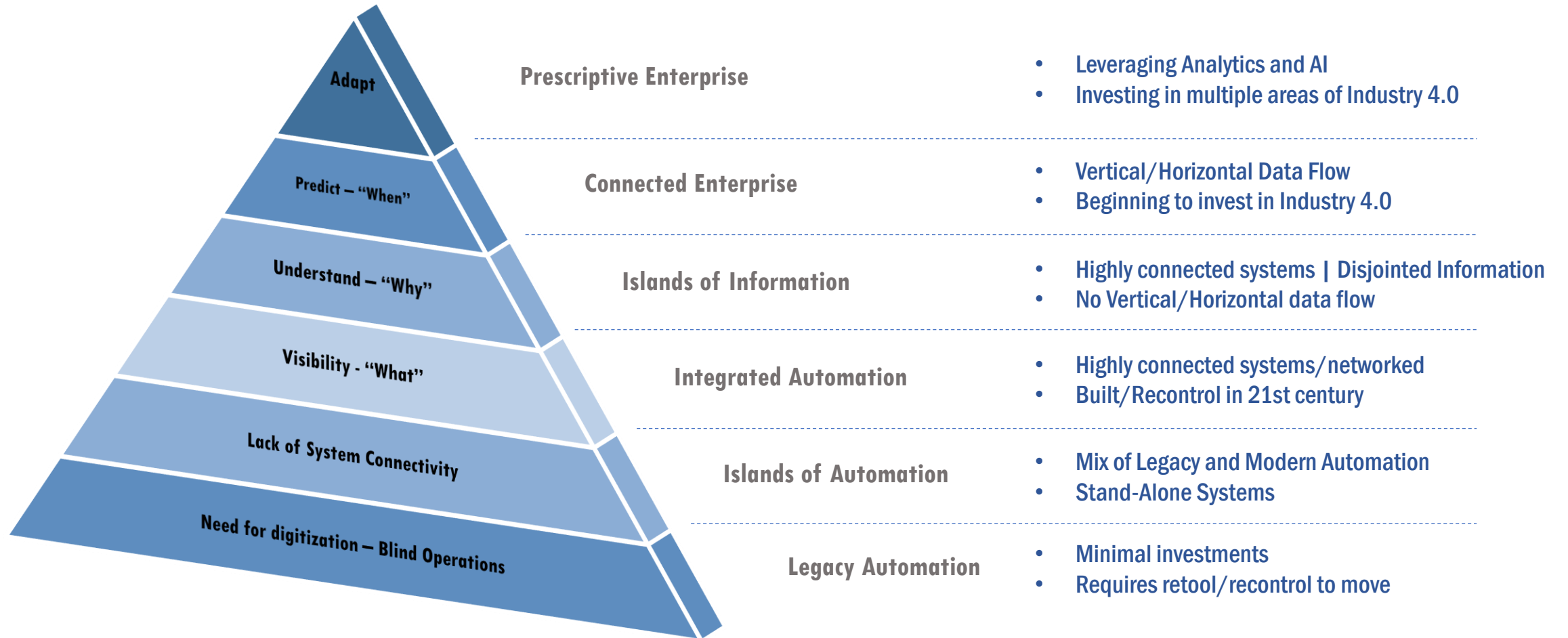


# What, Where, Why (ROI)

## IT/OT Convergence



# I4.0/IIoT Continuum



# IloT Examples

Real world applications

1. Safety
2. Security
3. Compliance
4. Data Integrity
5. Quality
6. Productivity
7. Maintenance

# Security

Major Chemical Manufacturer

1. Physical
2. Network
3. Cyber



# Compliance

Major metal producer

1. Regulatory
2. Environmental
3. Genealogy, track and trace

“Our data, it was right here last week? Dang, did I throw that out?”



“Show us your data”





# Data Integrity

Major Beverage Bottler

1. Timely
2. Secure
3. Accurate
4. Credible/Reliable
5. Backed up and accessible



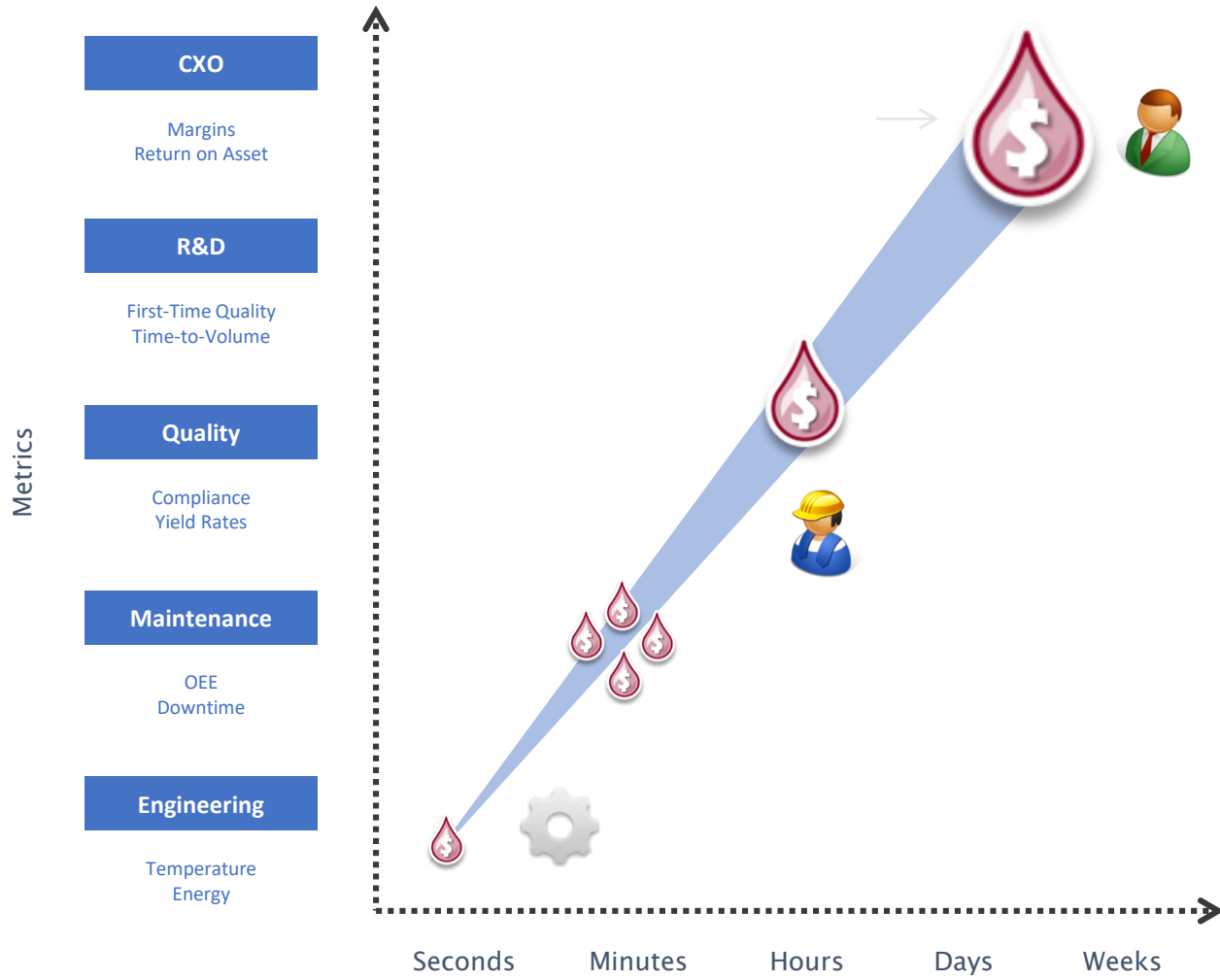
We have 25 OEMs that need access to networks in 15 different plants!?



I don't trust my data and the data we have doesn't connect to relevant systems

# Data = Money

Downtime, Waste or Recalls (ROI)



# Questions

Low-hanging fruit

1. **What are your Risk Mitigation Initiatives?**
  - Safety, Security, Environmental
2. **What are your Operational or Cost Challenges?**
  - OEE, Maintenance, Quality, Waste, Energy
  - Flow alignment (labor, material, info., schedule)
  - Stability & Predictability (Span, Golden Batch)
  - Demand vs. Capacity, Regulation?
3. **Are OT networks as secure/reliable as IT networks?**
4. **Is Data integrity an issue?**
  - Accuracy, Timeliness, Security, Storage

# Where is this headed?

Can you search your data?

Can you talk to your data?

Can your data predict the next event?

Is your data connected to your BPM?

