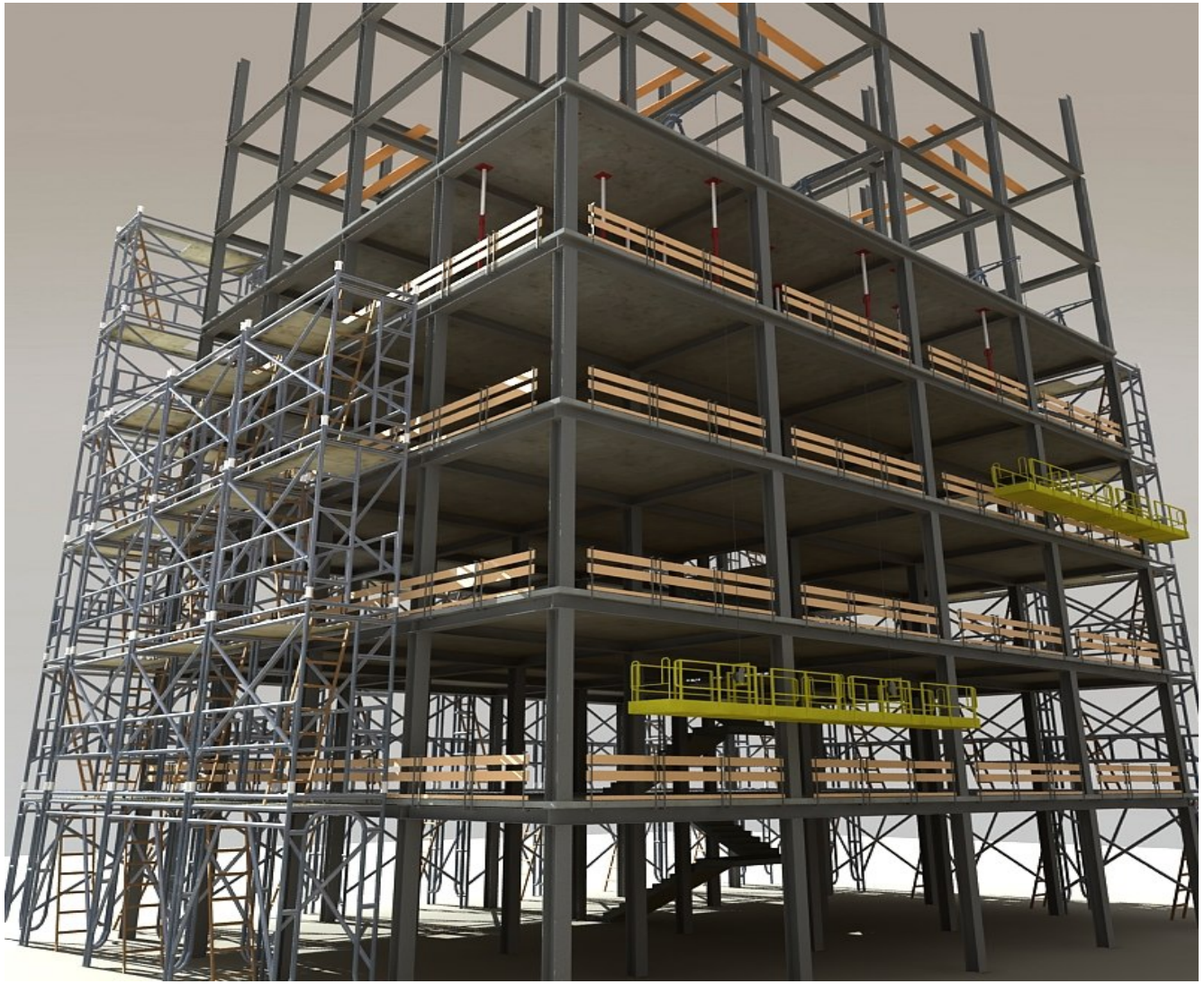
IT Trends in Construction



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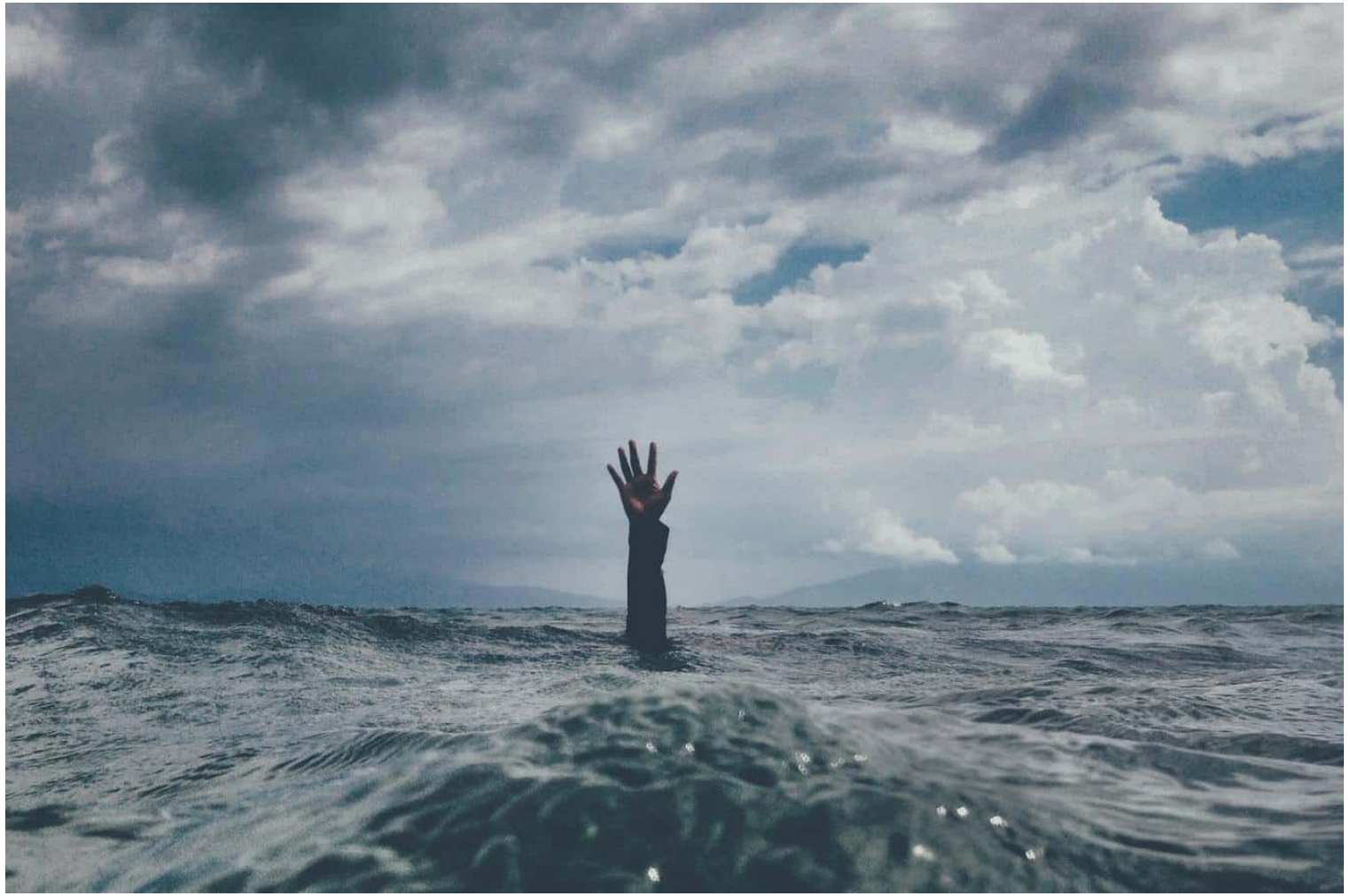
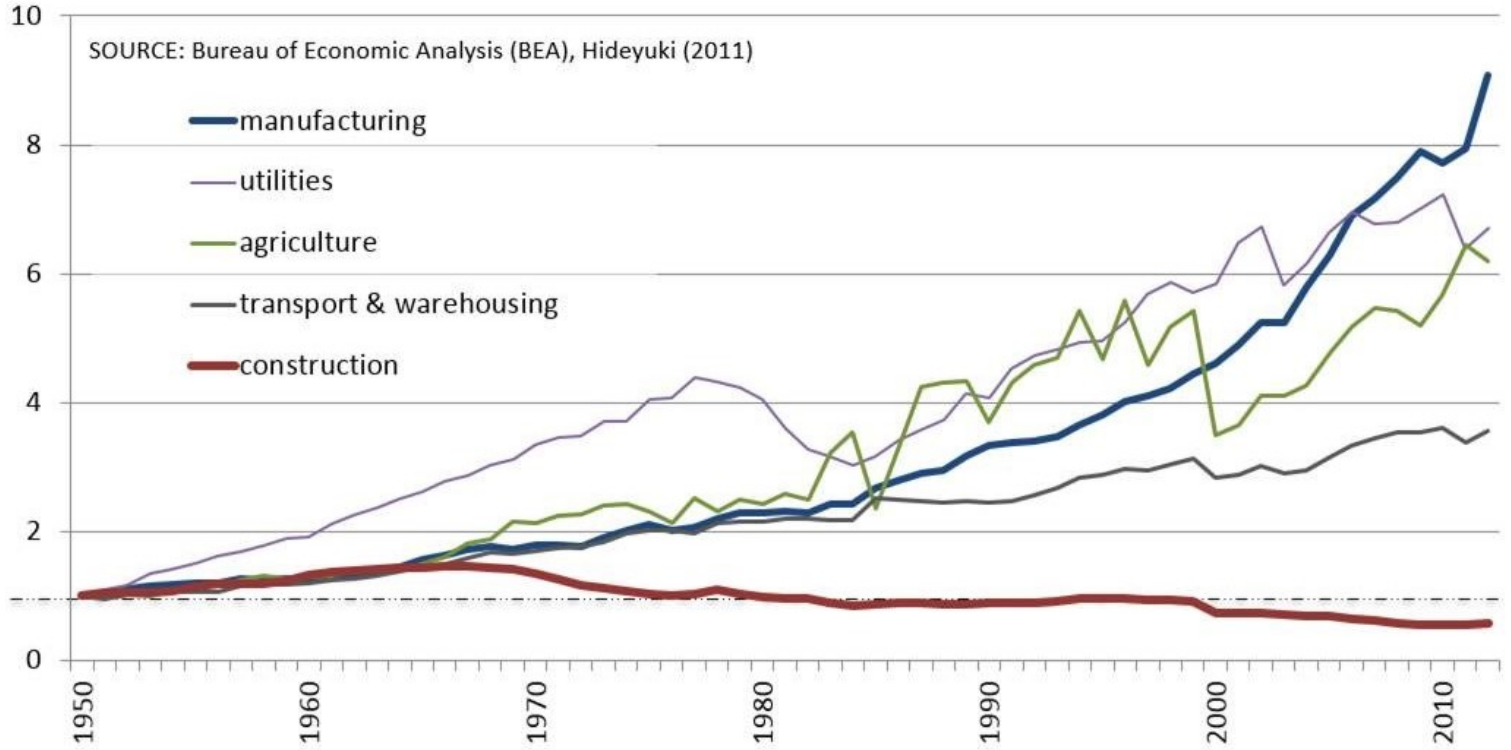
A Larger Perspective



Productivity by Industry

Construction productivity 1950-2012

Real productivity (GDP value-add per employee) by industry in the US
Indexed; 1950 = 1.0



Digitization Index

The construction industry is among the least digitized.

McKinsey Global Institute industry digitization index; 2015 or latest available data

Relatively low digitization — Relatively high digitization

● Digital leaders within relatively undigitized sectors

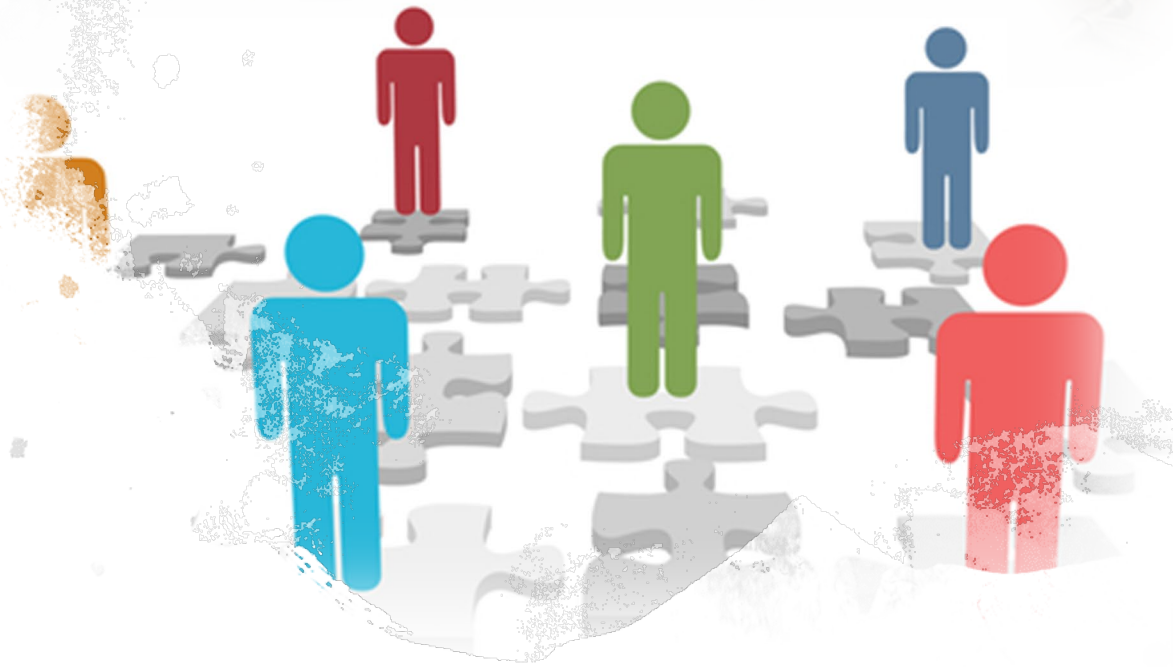
[1]Based on a set of metrics to assess digitization of assets (8 metrics), usage (11 metrics), and labor (8 metrics).
[2]Information and communications technology.

Source: AppBrain; Bluewolf; Computer Economics; eMarketer; Gartner; IDC Research; LiveChat; US Bureau of Economic Analysis; US Bureau of Labor Statistics; US Census Bureau; McKinsey Global Institute analysis

McKinsey&Company

Human Resources

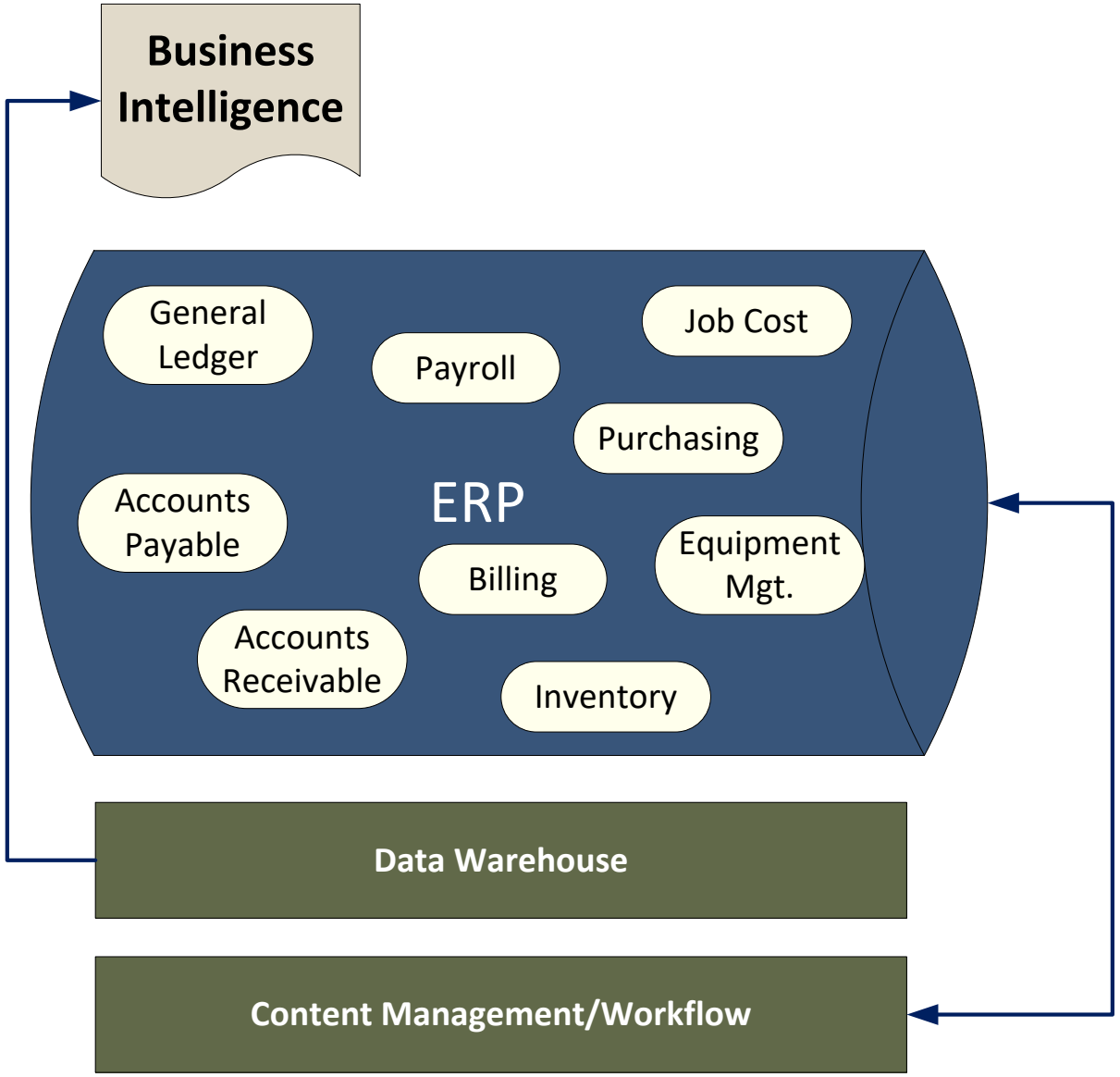
- Position has changed
- Demands are higher
- Compliance more demanding
- Recruiting/Onboarding
- Training/LMS
- Safety



Prefabrication

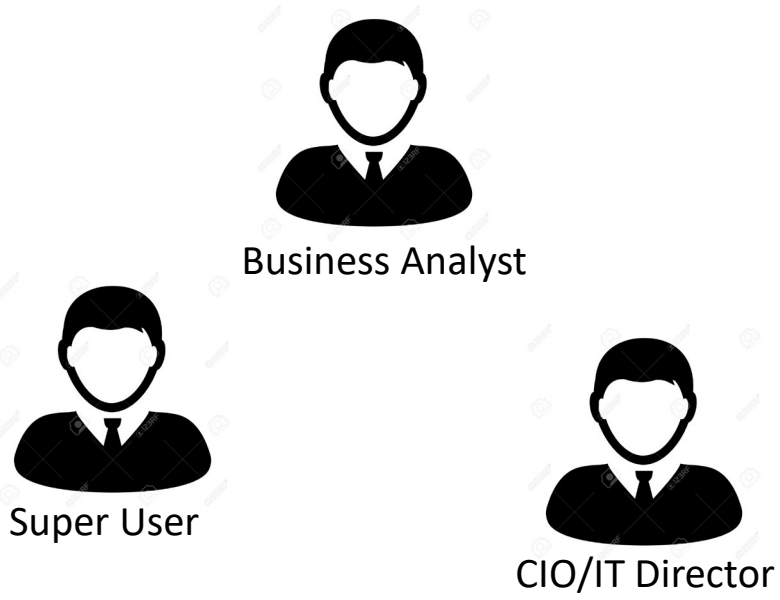
ERP

- Several legacy systems remain
- Question whether they continue as center of the universe
- Greater use of best-in-class solutions
- Middleware being considered
- Many ERPs have been acquired
- None ready for fabrication



Managing IT

- IT originally established to manage infrastructure (e.g. servers, network)
- IT was never staffed to keep pace
- IT was never supervised in a way that allowed them to grow
- Traditionally one position ***under***-staffed
- Who is providing leadership?



IT Staffing

- Traditional role has changed
- Need for more process orientation
- Understanding of IT governance
- Understanding of contracts and agreements
- Strategy/Vision is critical

- ✓ Learning to lead
- ✓ Learning to let go
- ✓ Learning to communicate

Cyber-Security

- Weakest link
- Ransom-ware far more common
- Targets are not the most ***valuable*** but the most ***vulnerable***
- Security officer
- More devices = more exposure

Movement to the Cloud

- Movement to the Cloud is strategy, it deserves thought
- Data sovereignty
- Integrations
- Single-tenant/Multi-tenant
- Storage?

Project Management

- Integrated versus stand-alone still an issue
- Procore has captured considerable marketshare
- PlanGrid acquired by AutoDesk
- Much more mobile and collaborative
- Not much integration yet with model

Procure to Pay

- Contractors paying more attention to life-cycle
- Some moving to procurement platforms like Ariba and Coupa
- Some moving to invoice routing solutions like IntelliChief and DataServe
- Textura and GC Pay have significant presence
- Industry still struggles with POs and receiving tickets
- P-cards being implemented

IoT

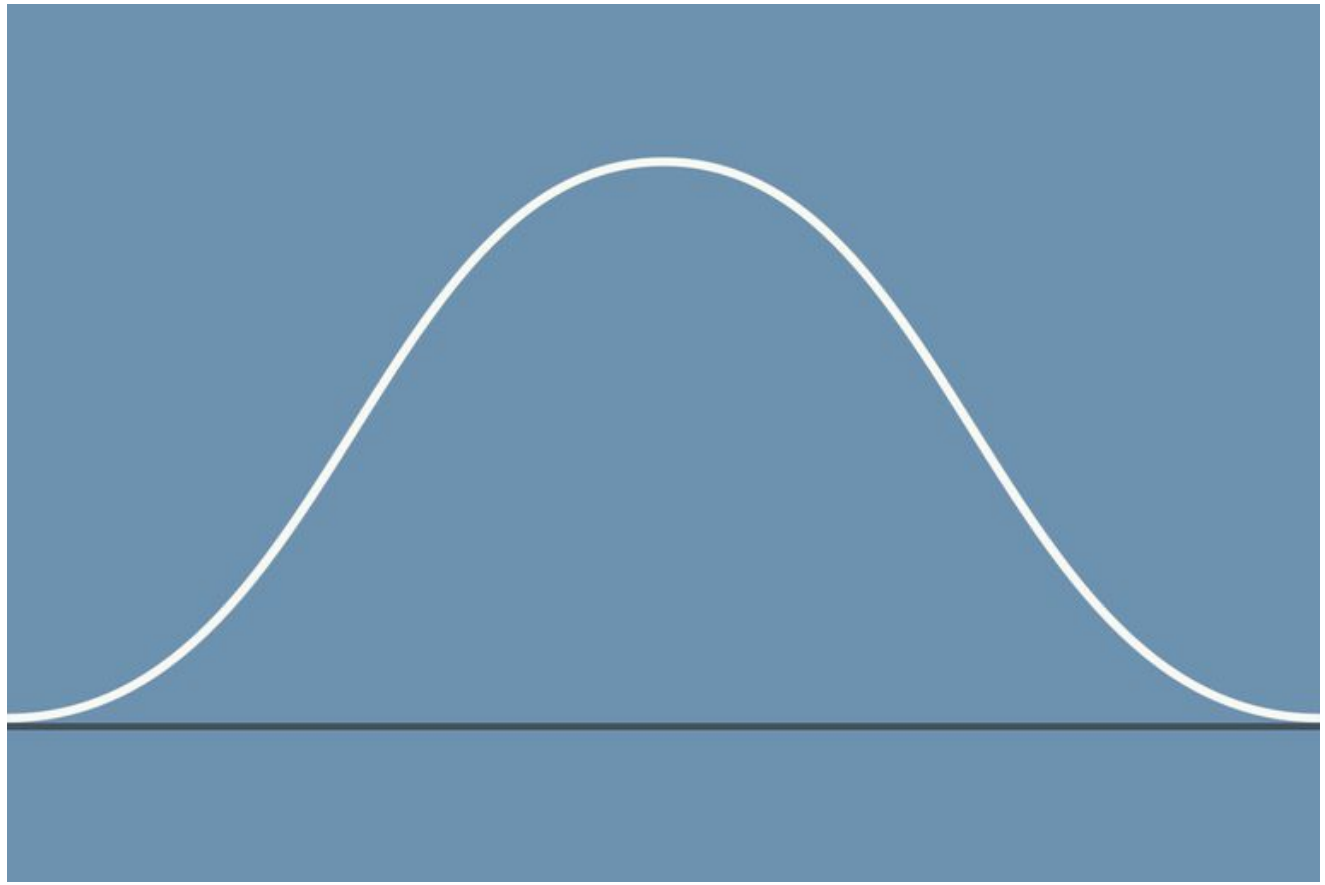
- Equipment Telematics
- Wearables
- Building sensors
- Systems not prepared

Business Intelligence

- PowerBI and Tableau have captured considerable marketshare
- Vendors continue to build dashboards and graphics in their solutions
- Condition of data is paramount
- Data warehouse is good approach

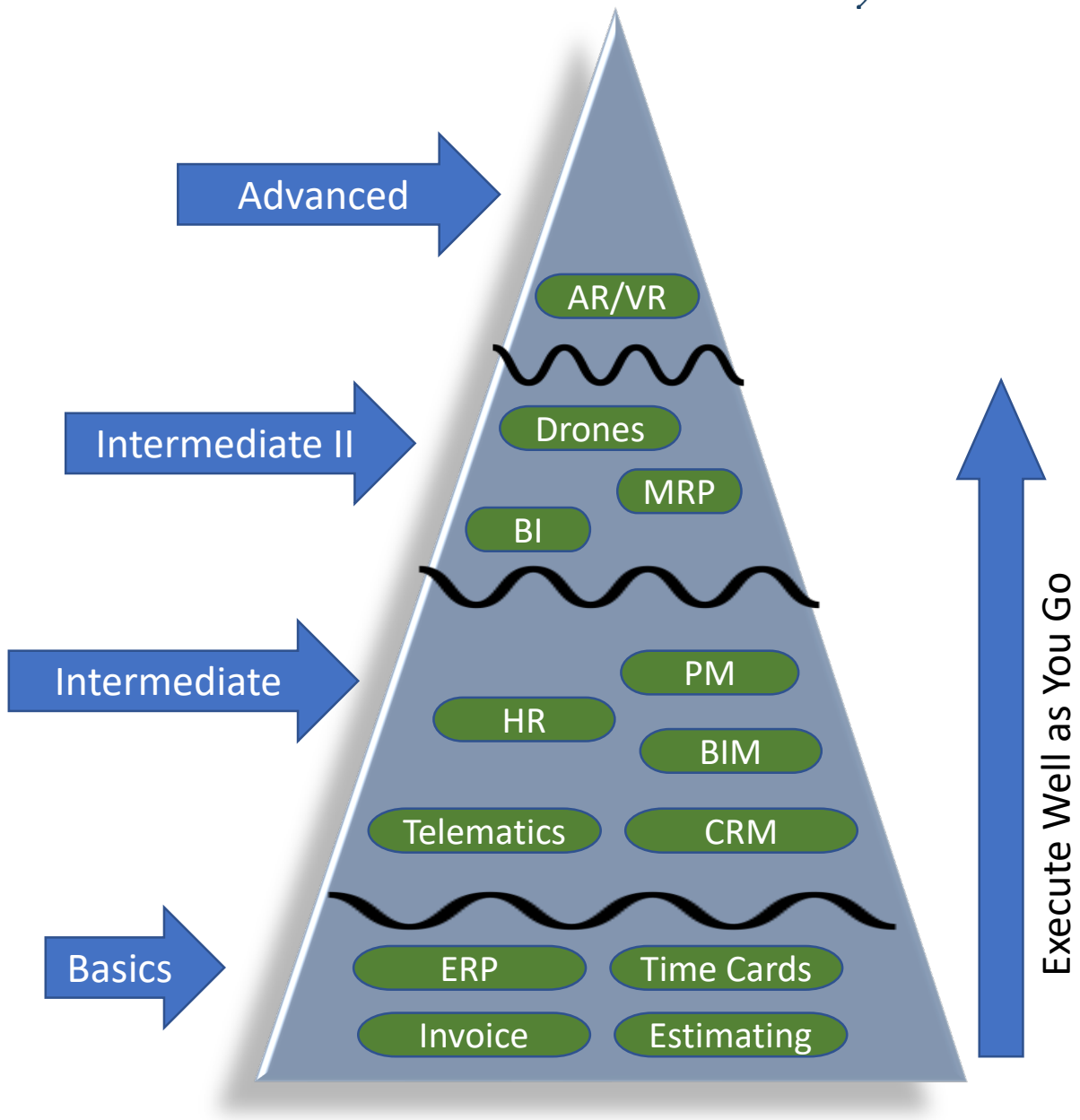
Process Improvement/ Change Mgt.

- Think beyond the application (silo)
- Involve personnel from other departments
- Think outside the box
- Be suspicious of “this is the way we have always done it”
- Design for the front of the curve



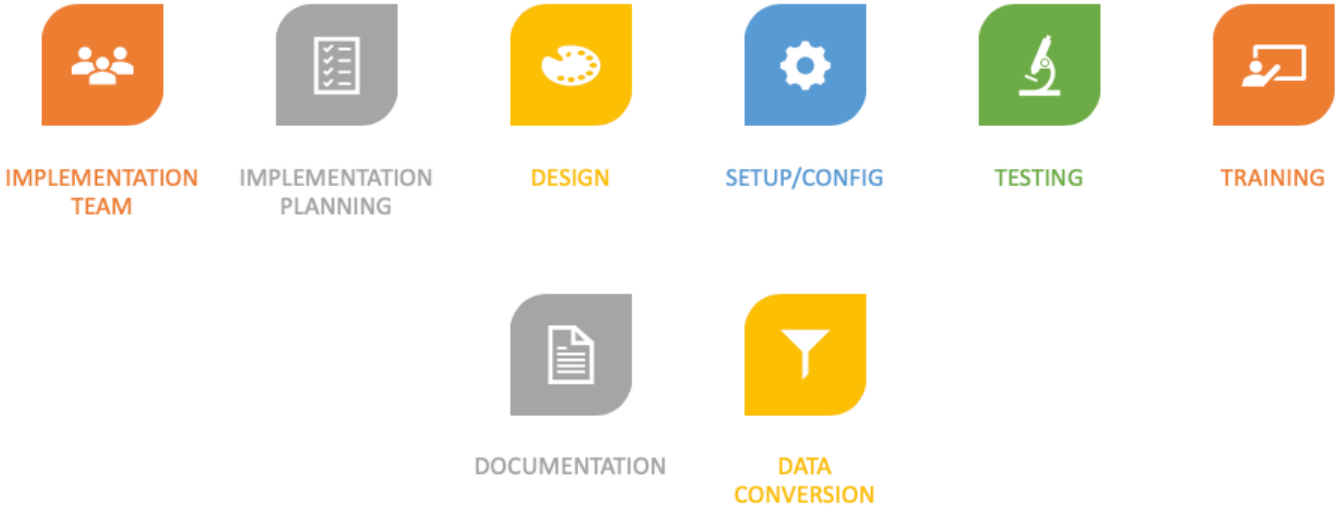
Priorities

- Cannot pursue all at once
- Should not pursue shiny objects without the fundamentals being in place
- Role of the business analyst



Implementation

Implementation



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Top 10 Processes for Construction

- Procure to Pay
- Timecards/labor
- Material Management
- Service Management
- Contract Management
- Project Management
- Equipment Management
- Billing
- Job Cost, Change Orders, Forecasting
- Estimating and Bidding

Consider Carefully

- Executive sponsorship
- Implementation team and time commitment
- Where your processes came from
- What is really required?

Questions

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