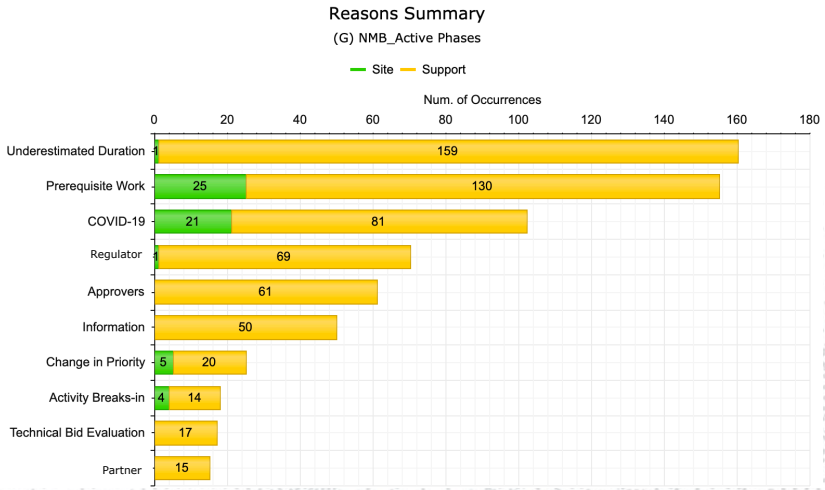
PROJECT PRODUCTION
INSTITUTE

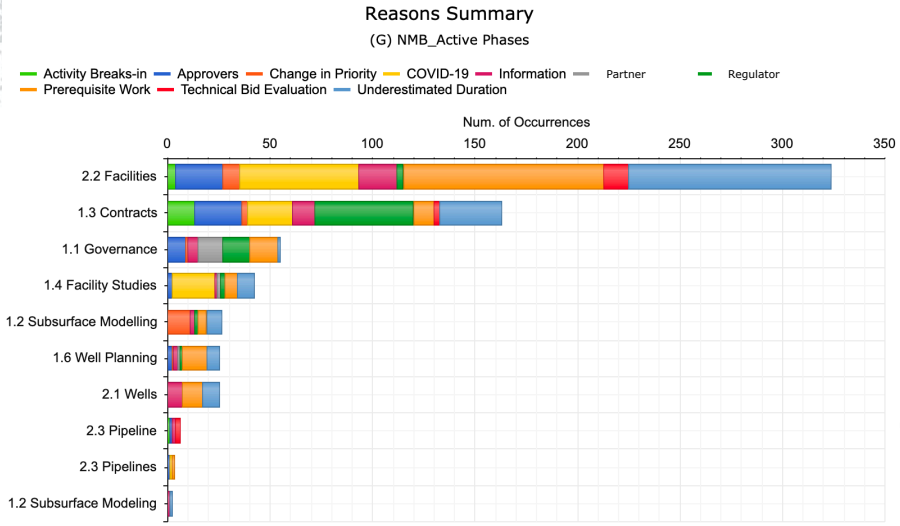
PPM Basics

7th Annual Symposium

What Does the Data Tell Us ?

Established variability categories and captured sources to take action at different levels

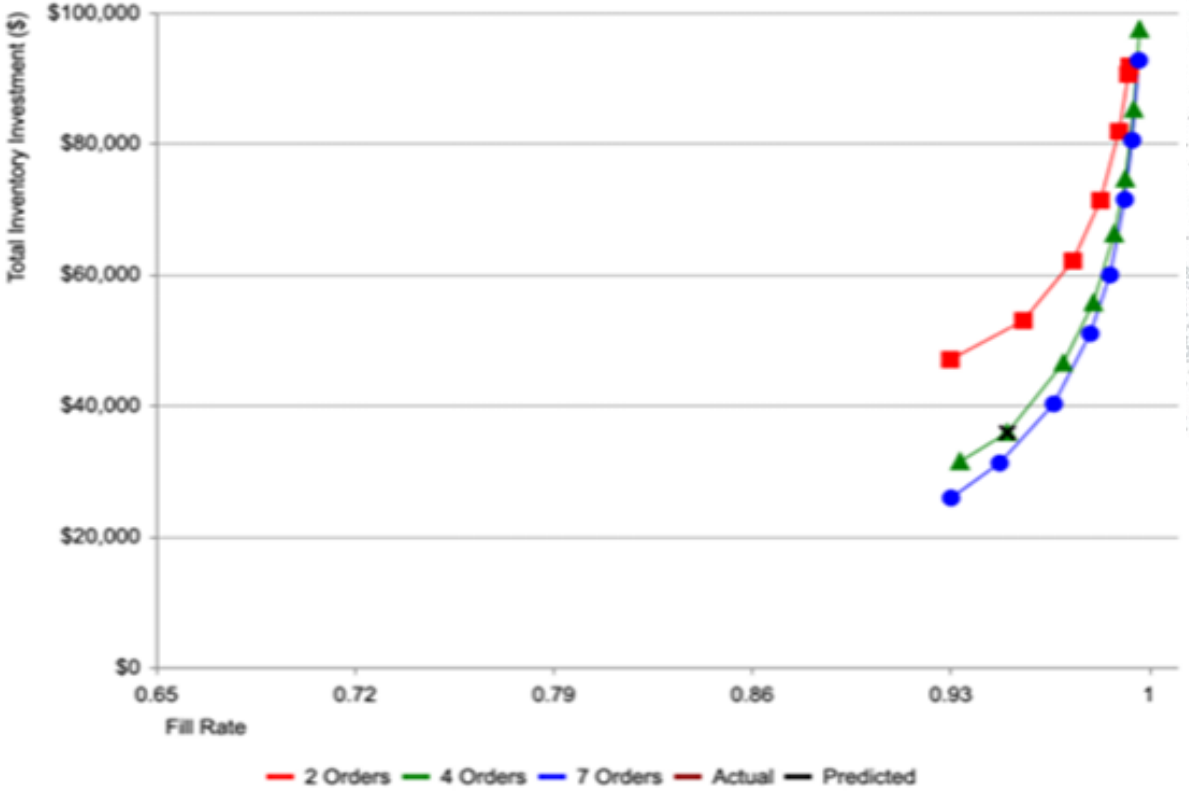




Production System Optimization (PSO)

Through **PSO**, we are learning the impacts and cost of WIP to our performance

Cash tied up in unnecessary inventory is **NOT free**!



Inventory Tradeoff Plot - Piles

AVERAGE CASH TIED UP OVER DURATION		
ORIGINAL POLICY	PROPOSED POLICY	OPTIMAL POLICY
$237,584	$68,753	$31,880

Piling - Cash Flow Benefits

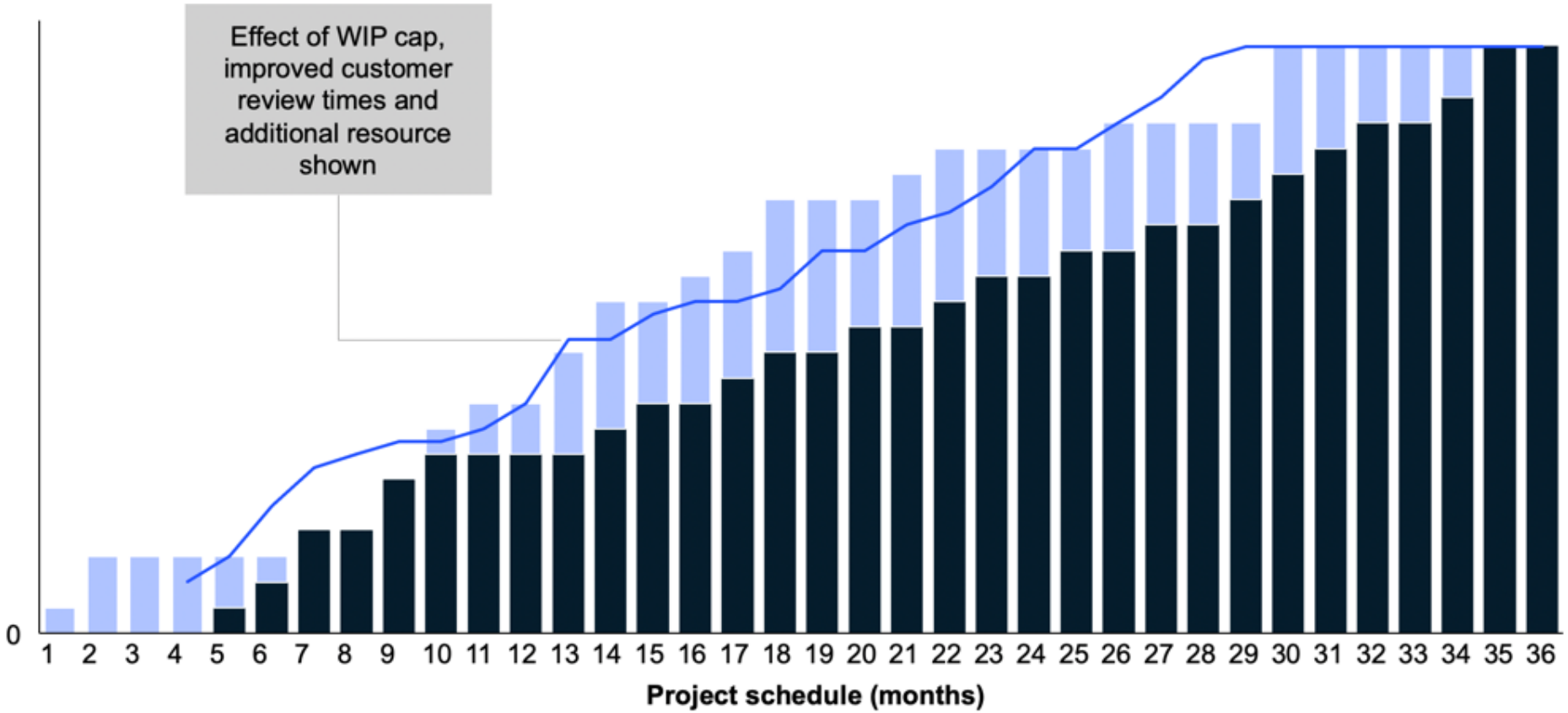
Targeted interventions could deliver project within current schedule

Scenarios applied

Production System modelled with:

- **WIP capped at xx** designs in process
- Customer team **review times reduced by 50%**
- One **additional resource added in bottleneck teams**

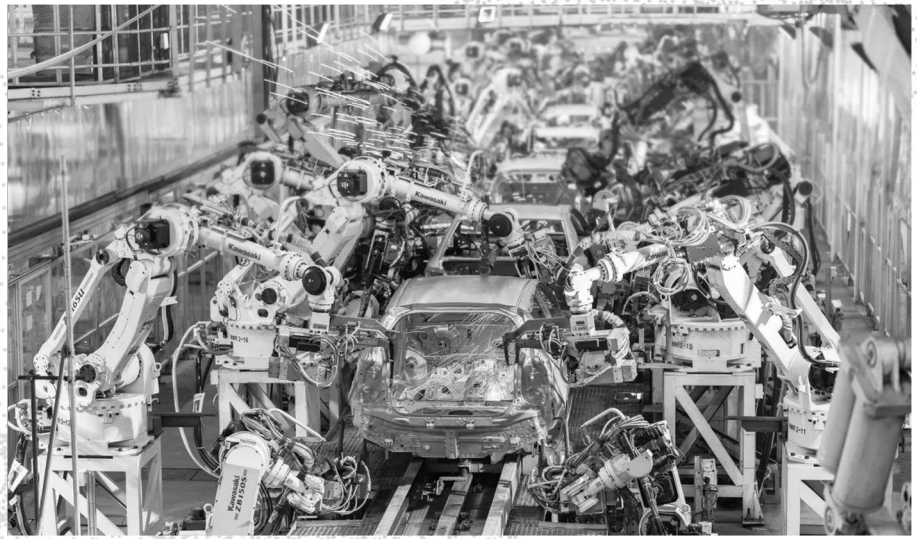
Cumulative number of designs at handover to sites, Number of designs



Source: McKinsey Capital Projects and Infrastructure Practice

Industrialized Project Delivery

Documents + Schedule + Resources

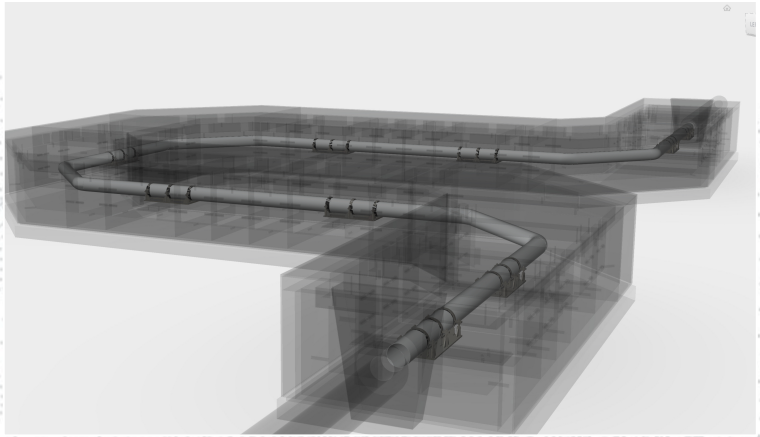


Product Design + Process Design + Capacity + Inventory + Variability

Datacenter Production System

A.G. KUNZ LLC

Our First CAPE Application – 93 Expansion Loops



Reduced cycle time by 30%

Reduced $5 M on labor

Identified 9 design issues using the construction digital prototype

Identified 27 Fabrication / Construction improvement opportunities during First Run Studies

2A: Daily production meetings create a "battle rhythm" which lays the foundation for improved performance

Cascading cadence of production control meetings help drive workflow

3 week lookahead planning meetings (1-2 hrs)

Purpose: Fully integrate project plan to resolve conflicts, optimize sequencing

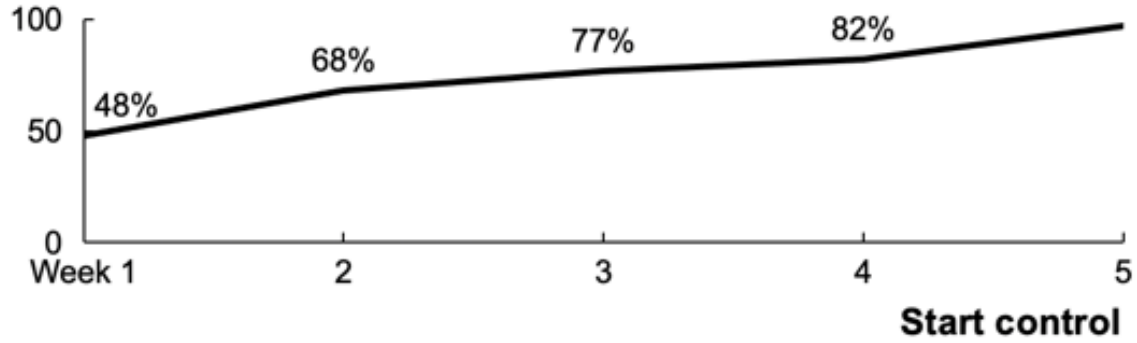
Daily production planning meetings (30 mins)

Purpose: establish specific, measurable outputs and track commitments on an individual basis

Daily field delivery meetings (15 mins)

Purpose: Link daily tasks to production targets for each crew

Commitment reliability tracking establishes accountability to a crew level



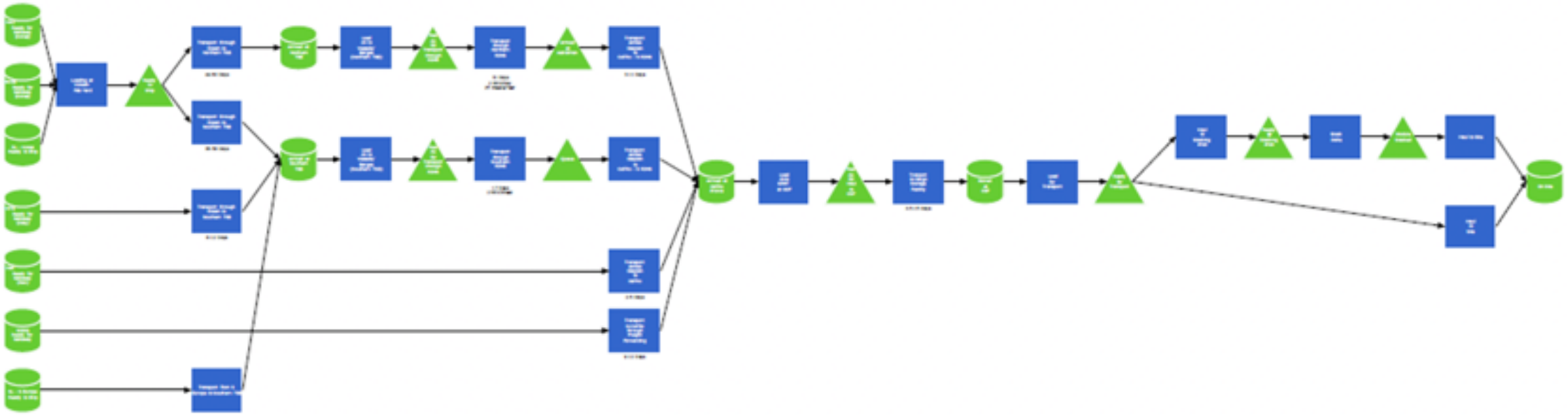
Root cause analyses highlights issue trends that can be targeted for mitigation

Understanding reasons for delay allowed management to resolve issues

Categories of incomplete tasks, number of incomplete tasks

Category	Count
Not enough materials	10
Engineering incomplete	5
Predecessor work not complete	4
Priority change	2
Insufficient duration	2

What did we find out?



Ocean Going Logistics	Inland Logistics	Offloading & Storage Logistics	Stacking Logistics
48%	52%	49%	140%

Potential to reduce ocean going vessels & inland logistics storage

Highest Capacity Utilization

Optimize Stacking Capacity (not number of stacking facilities)

Microsoft Cloud – Operating as Scale

Adrian Olteanu
Data Center Lease Strategy

Industry practices are grounded in myths and legends

ERA 1 – Taylorism

Getting more out of workers

ERA 2 – Predictability

Critical Path Method (CPM) scheduling and project controls

Front End Loading

3D CADD

Advanced Work Packaging

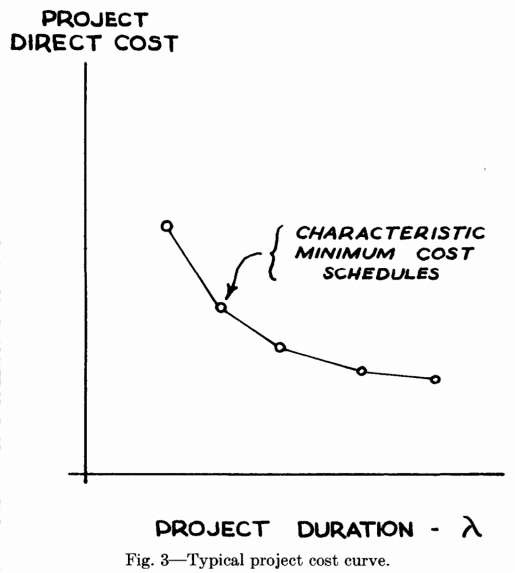
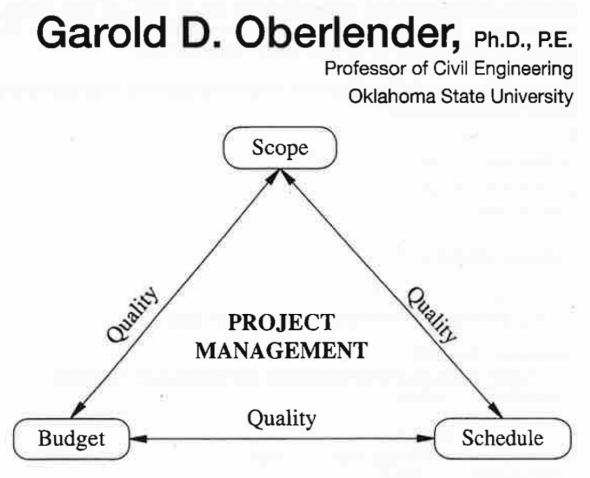


Fig. 3—Typical project cost curve.

Critical Path Planning and Scheduling Kelley & Walker



Project Management

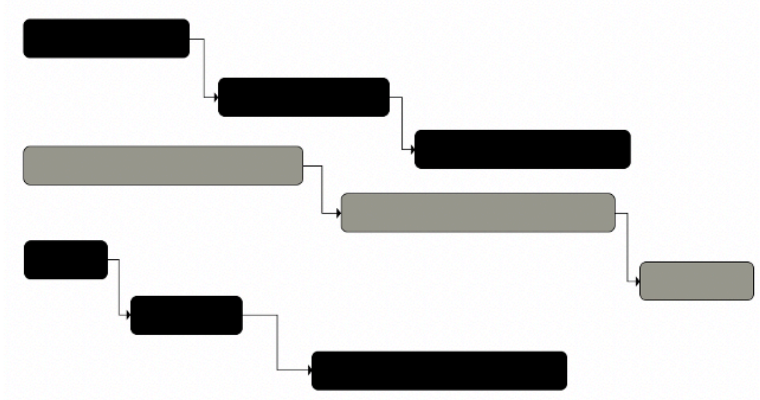
Cost, Time & Cash =  +  + 

Scope & Quality | Schedule | Resource Use

WHAT | WHEN | WHO

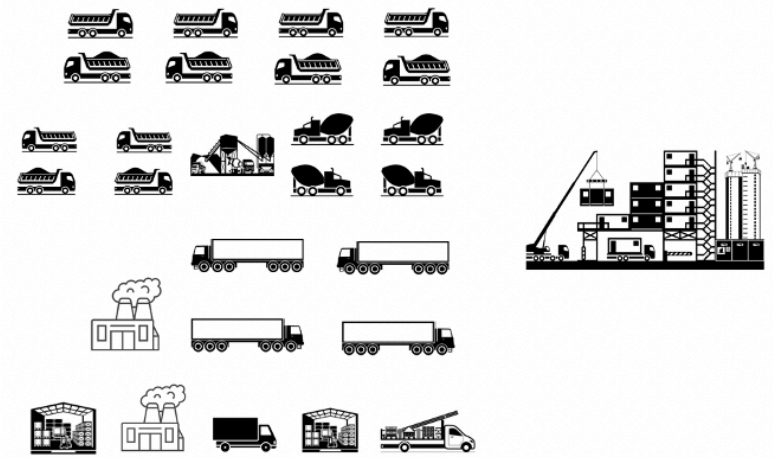
PROJECT PRODUCTION INSTITUTE

Schedule = Should Happen



Dates & Progress

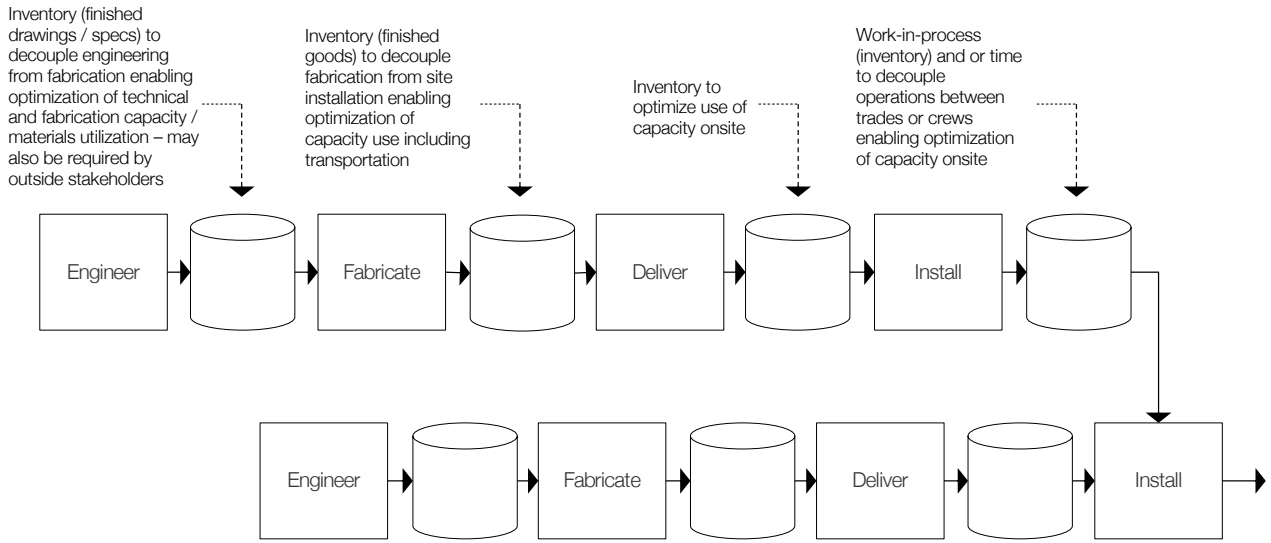
Production System = Can/Will Happen



Rates / Throughput

PROJECT PRODUCTION INSTITUTE

Projects Naturally Deal with Variability by Protecting Each Step in the Process with Inventory



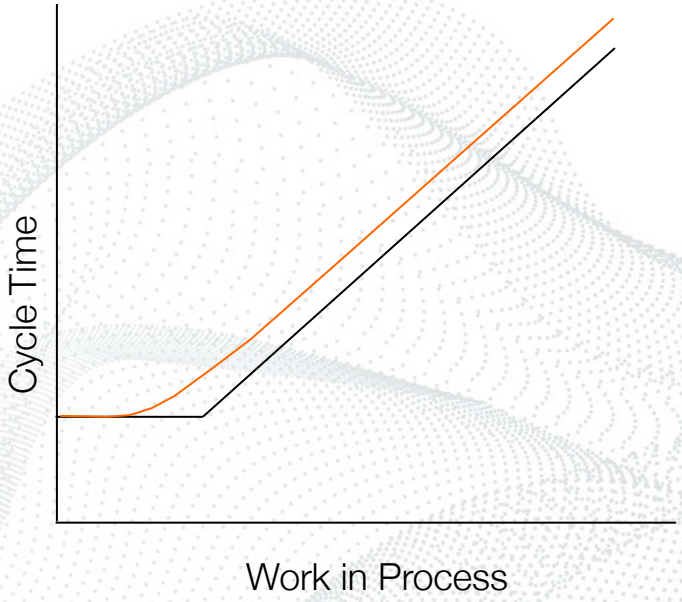
IMPLICATIONS:

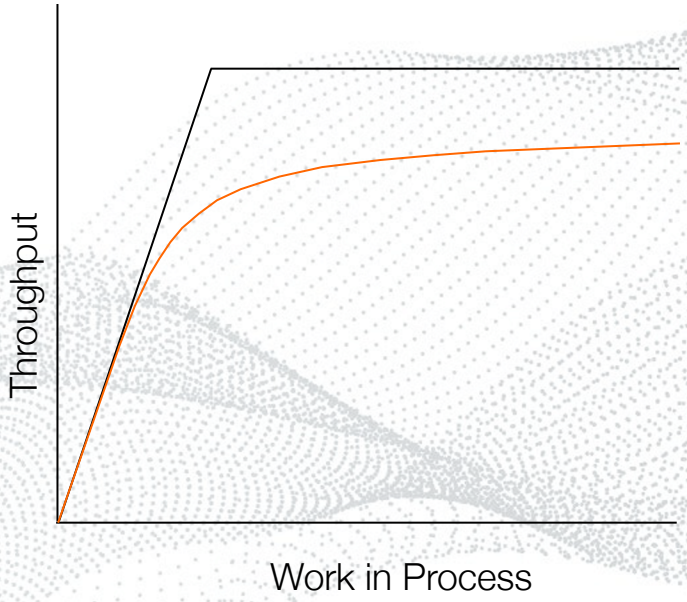
Work In Process (Inventory) = More Time

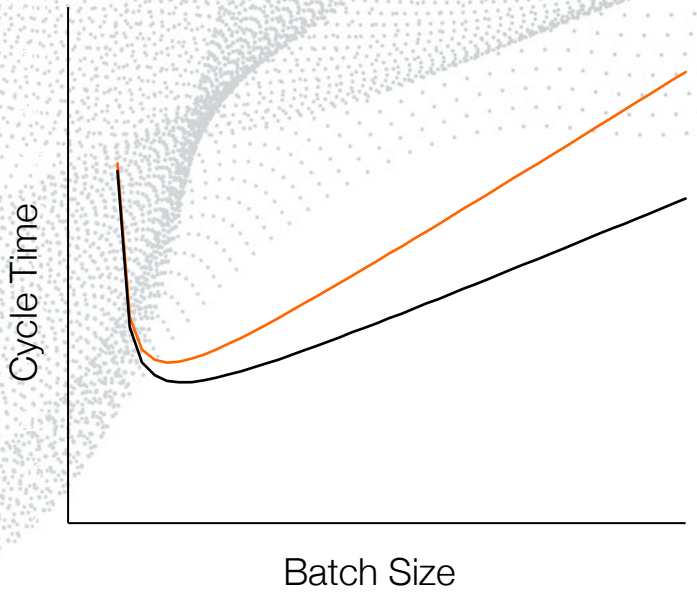
More Time = More Cost

More Time + More Cost = Lower ROI

PROJECT PRODUCTION INSTITUTE

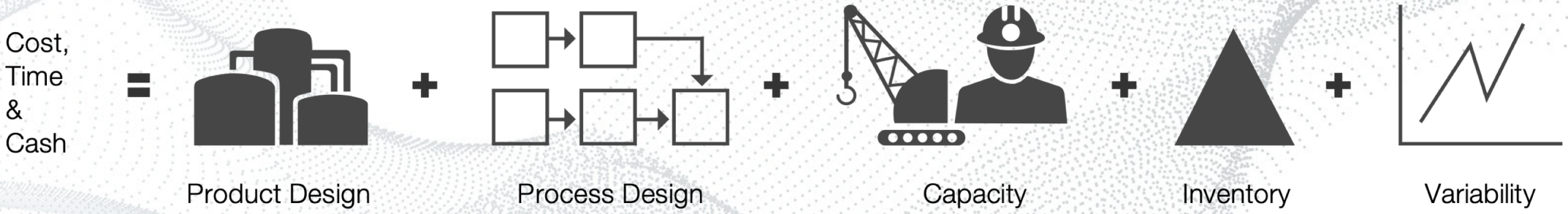






PROJECT PRODUCTION INSTITUTE

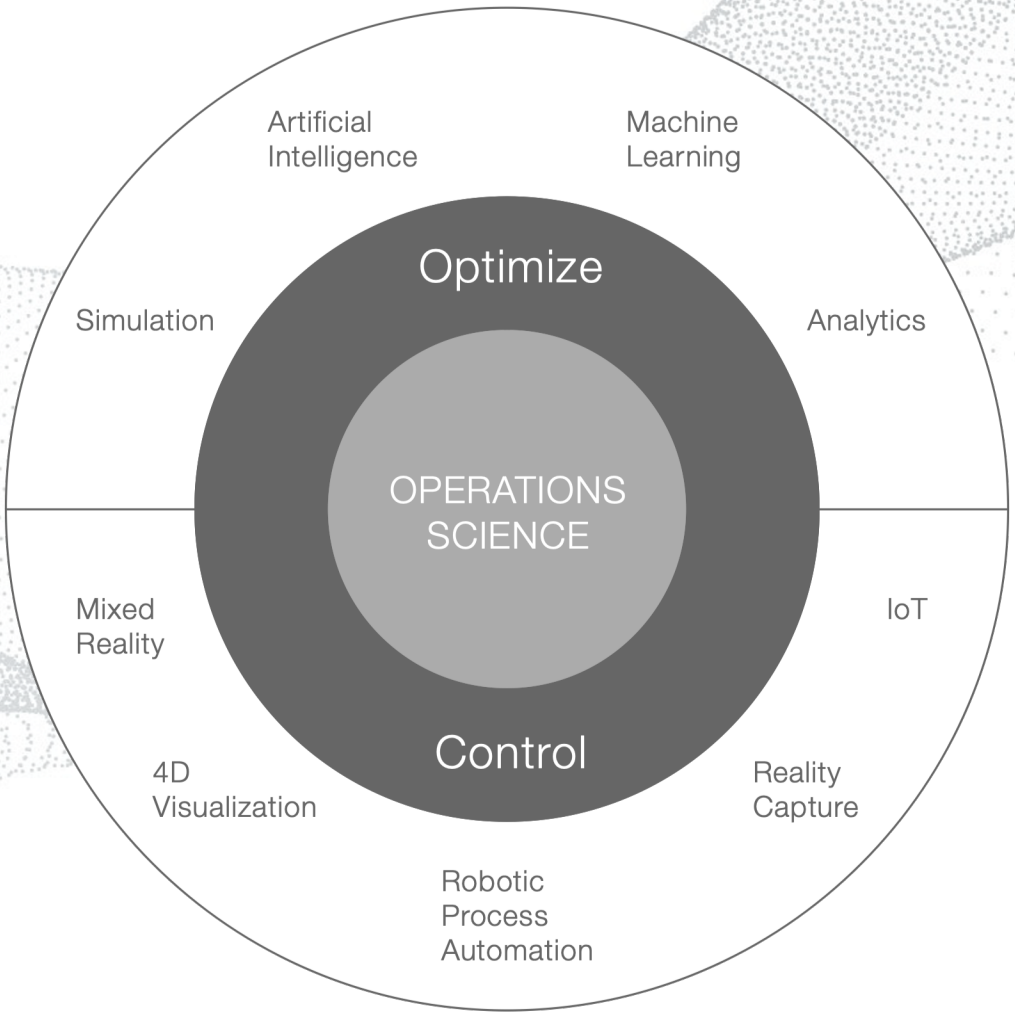
What is Really Going On?



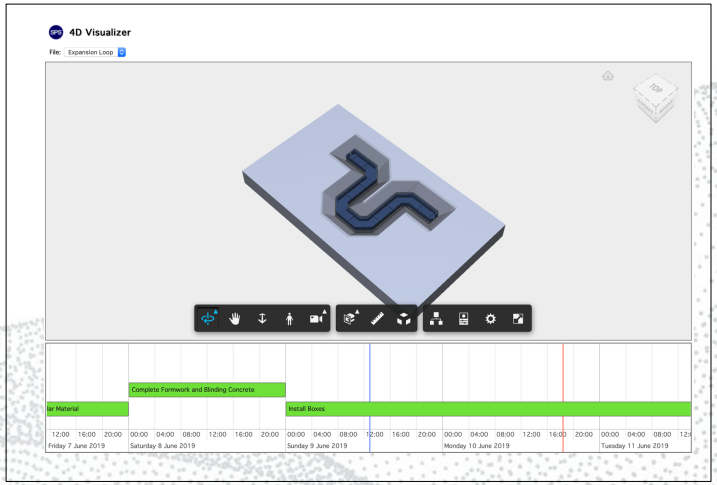
Projects Are Unrecognized Production Systems

Governed by Little's Law: Cycle Time = Work in Process / Throughput

PPM FRAMEWORK



PROJECT PRODUCTION INSTITUTE



Production System Optimization

Computer-Aided Production Engineering (CAPE)

Project Production Control

PROJECT PRODUCTION INSTITUTE

Rates drive dates

Dynamic projects require rapid replanning

People doing the work do the real planning

Follow the science

Poll: Describe your takeaways from today's sessions on how leading companies implement and benefit from PPM (one or two words per takeaway)

Scan this code with your camera

or

click the link in Zoom chat window
https://www.menti.com/hzh77r4vpb

PROJECT PRODUCTION INSTITUTE

Describe your takeaways from today's sessions on how leading companies implement and benefit from PPM (one to two words per takeaway).

PROJECT PRODUCTION INSTITUTE