





⚠ SAFETY MOMENT

155.8 million individuals were affected by data exposures in 2020.

One-in-four (24.7%) mobile apps include at least one high risk security flaw.

Reduce your R-I-S-K for Data Breaches

R-I-S-K is a simple and easy to remember acronym of cybersecurity best practices.

R: Run Updates

Regularly update your phone. Your phone is programmed to alert you when software updates are available. Delaying or ignoring updates can make your device more vulnerable to attacks.

I: Initiate Connections

Avoid “automatically” connecting to Wi-Fi networks, Bluetooth connections, and GPS tracking. These are great connectivity tools, but when not using them, turn them off. Hackers can create hotspots that spoof Wi-Fi networks.

S: Simplify Browsing

Don't visit unfamiliar sites or download questionable content – memes, images, or files. If accessing bank or financial information, avoid using public Wi-Fi connections.

K: Keep Passwords Secure

Safeguard passwords by updating them regularly, diversifying them across accounts, and increasing complexity.



Why are we here?



PURPOSE:

Share the success and learnings of the **CII** effort around applying **AWP** to **Engineering** to encourage people to download the report (when published) and put it into practice in their organizations.

AGENDA:

- Who are we?
- Why is this important?
- How did we approach the problem?
- What did we find out?
- What should you remember?
- What do you want to know?



Think AWP Is Just For Construction? Think Again!

Opportunity Introduction



- ✓ Engineering too often sees AWP as an impediment or barrier.
- ✓ We have failed to properly address “what’s in it for me?”.
- ✓ This JWG focuses on bring Engineering more closely into the AWP fold and making it worth their effort.



Opportunity Introduction





CII AWP CBA AWP For Engineering Leading Practices

Abstract

The purpose of this effort is to define AWP leading practice for Engineering

Created by:

The CII AWP CBA Engineering Joint Working Group

Published:

31st December 2023

Content:

- Engineering Process to Support Construction & Operations
- AWP Process for Benefiting Engineering Directly
- Data Support for AWP
- Contract Requirements for AWP in Engineering
- Overcoming Culture Barriers to AWP in Engineering



Who, What, When, Where?



STATUS:

- Report Drafted
- Currently Under Peer Review

NEXT STEPS:

- Provide to CII for Review and Approval
- Publish by End of 2023

OUR TEAM OF CONTRIBUTORS!

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Does **Engineering** have a big role to play in making **AWP successful** on a project?

Why Does Engineering Matter for AWP?



Common Issues

- Lack of commitment
- Lack of alignment
- Timing of construction input
- Planning to support C&SU
- Engineering 3D model

Leading Practice Recommendations

- Commitment to the AWP process
- Early construction input
- Alignment of the PoE to the PoC
- Alignment of the PoC to the Start-up sequence
- Model data attribution and support



Should **AWP** benefit **Engineering** directly?

Should AWP Benefit Engineering Directly?



Common Issues

- Construction-centric perception of AWP
- Engrained processes
- Perceived cost of implementing AWP
- Adoption drivers – why should we?

Leading Practice Recommendations

- Level 4 Planning
- Reduction of Waste
- Constraint Management
- Path of Engineering
- Accurate Reporting
- Overall project value



What **data** is needed to support **AWP**
in **Engineering**?

Engineering Data to Support AWP?



Common Issues

- Data Standardization
- Acceptance of Data Standards
- Data Transfer Between Tools
- Willingness to Map Data Requirements

Leading Practice Recommendations

- 3D Model Organized by CWA, CWP and Discipline
- Standard Component Types and Attributes
- Commissioning System Identification
- WBS to Support AWP
- Formalized EWP Progressing and Forecasting



How should **AWP** be addressed in
contracts for Engineering?

Do Contracts Matter?



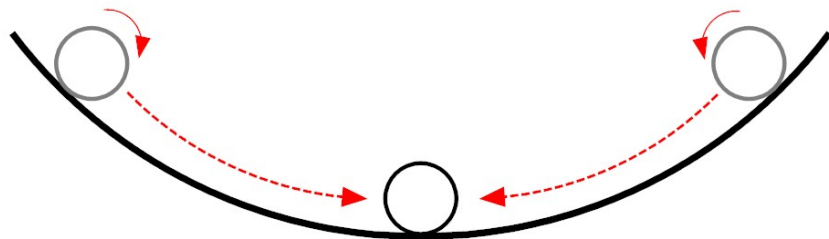
Key Issue	Contracting Connection?
Lack of Alignment	✓
Late Involvement of Construction	✓
Late Involvement of Commissioning & Start Up	✓
Perception of Construction Dominion over Engineering	✓



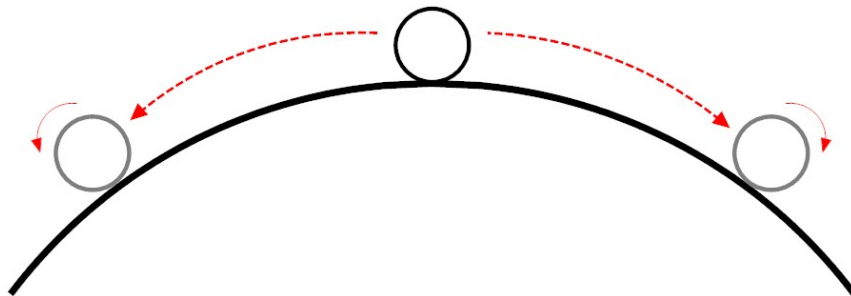
Contracts Shape Behavior - And Resistance



Concept & images courtesy of Howard Ashcraft– Hanson & Bridgett

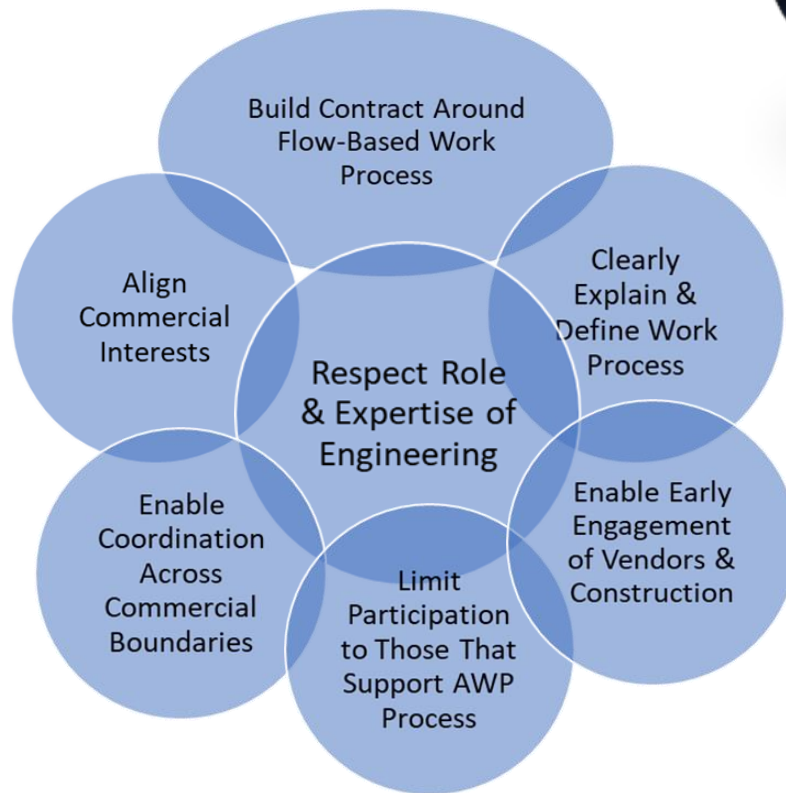


Contract language can pull the parties together.....



... Or push them apart

Key Contractual Considerations for Engaging Engineering

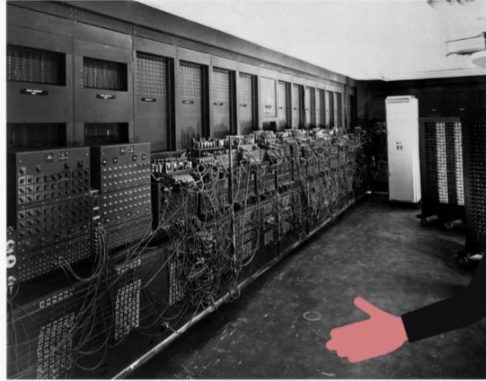




How can you overcome cultural **challenges** to **AWP** implementation in **Engineering**?



Computers are very new

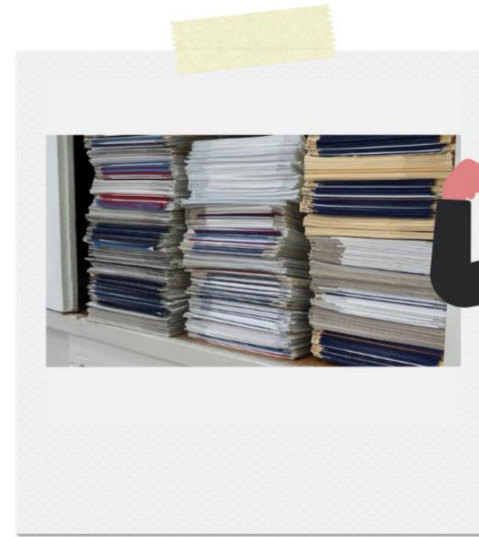
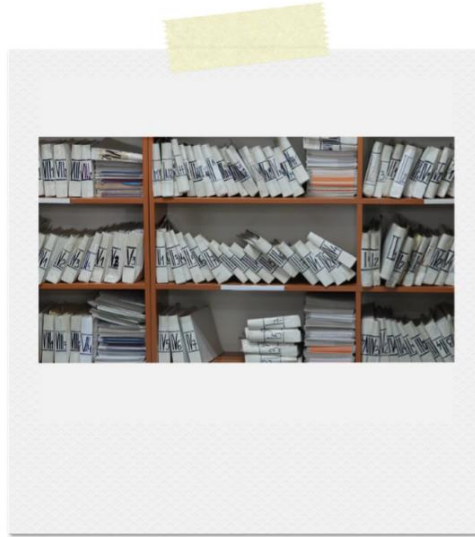


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“no value in computers other than lists”

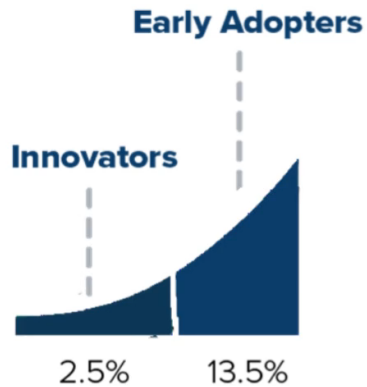




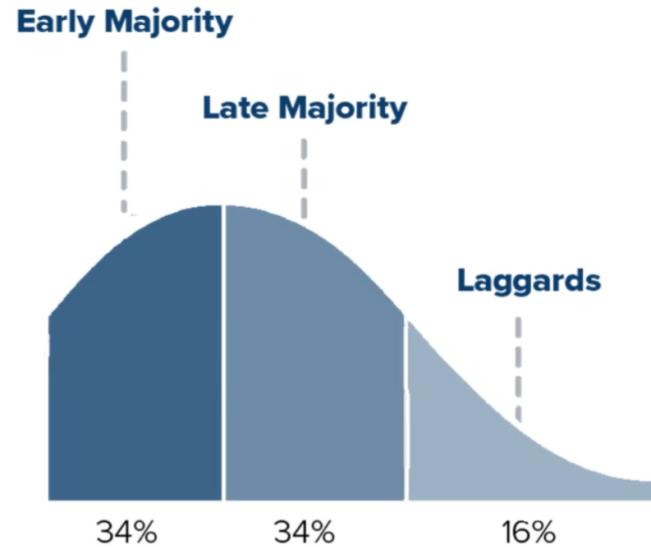


promoted for introducing innovation that helped the organization





INNOVATION



ADOPTION LIFECYCLE



Overcoming Culture Challenges



Common Issues

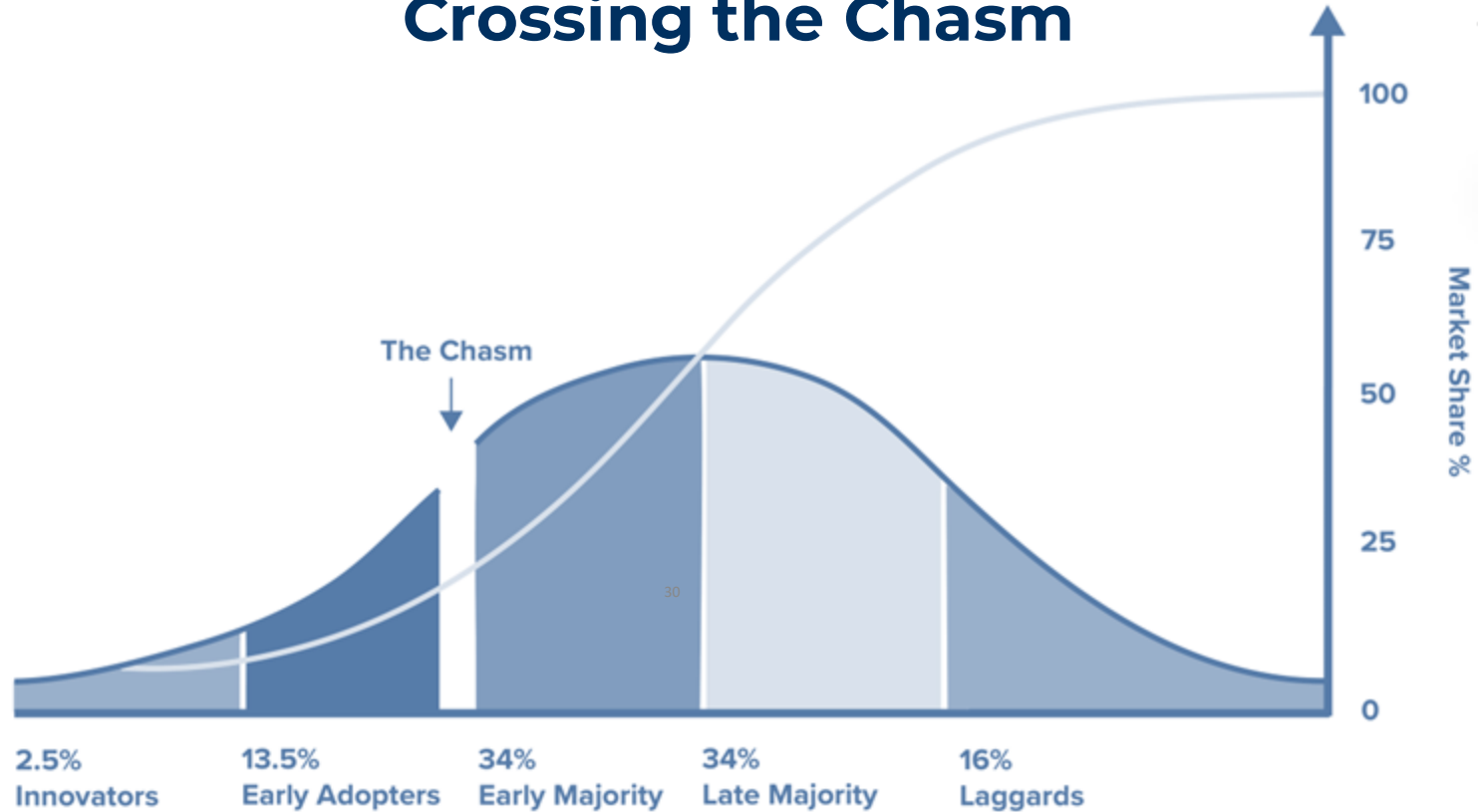
- Engineering historically operates in a silo
- Comfort with the Status Quo
- Reorganization of Priorities for Eng/Proc/Const
- Lack of Mutual Respect
- Failure to Invest in Early Learning

Leading Practice Recommendations

- Build a structured education plan
- Identify Early Adopter personalities
- Engage the Early Majority with metrics
- Use KPIs from the pilot to establish effective AWP education
- Remove physical barriers and enhance communication



Crossing the Chasm



<https://www.tbmarketing.com/blog/from-start-up-to-scale-up-crossing-the-chasm>



Key Recommendations and Highlights

Summary of Key Recommendations



Ensure that Engineering understands their role in successful AWP delivery



Explore and promote the benefits of AWP to Engineering directly



Standardize data delivery to support AWP on projects



Create clear and consistent contracting styles to support AWP



Identify and overcome cultural barriers with education, training and data



QUESTIONS?