

22<sup>ND</sup> ANNUAL



22<sup>ND</sup> LCI CONGRESS  
OCTOBER 19-23

# Optimizing Adoption of New Lean Technology

**Eric Twigg and John Jurewicz**

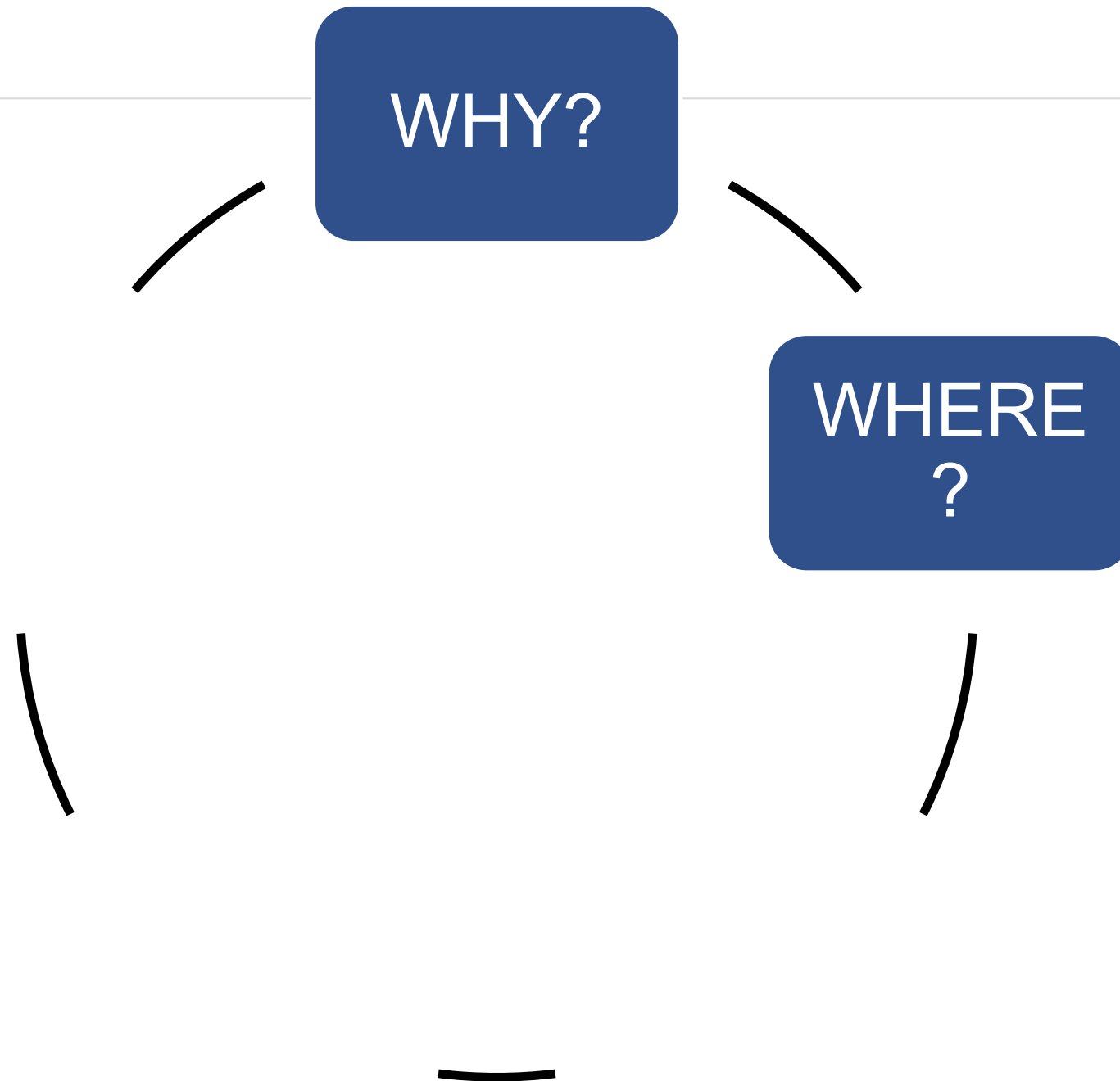


**Walbridge**

THE ABC'S OF LEAN: TRANSFORMATION THROUGH ACTIONS, BEST PRACTICES AND COACHING

Friday, October 23 @10:50 am

# Agenda



# WHY? - DRIVERS of Lean Technology





# WHY? - DRIVERS of Lean Technology

**Compete**



**Customer**



**Investment**



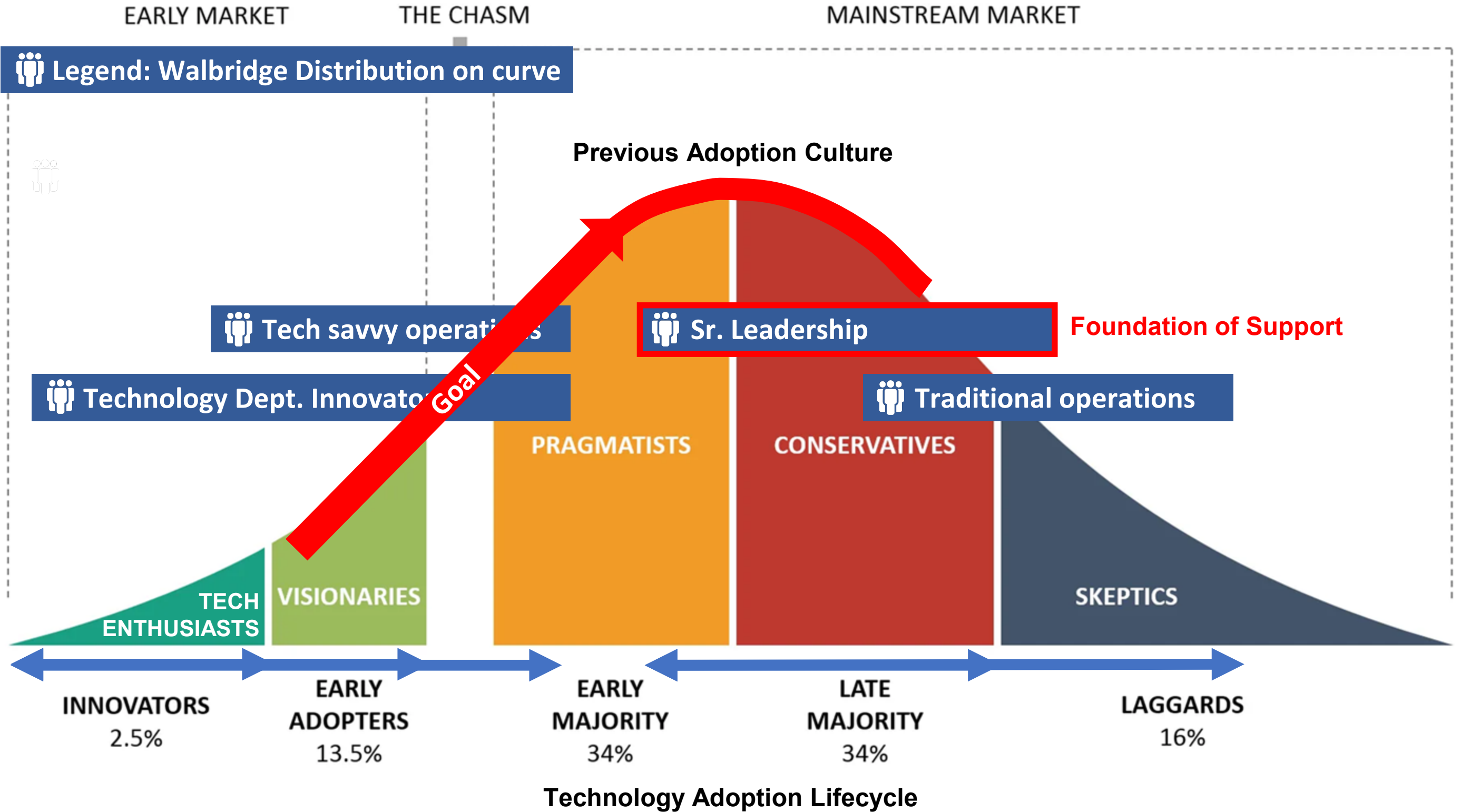
**Synergy**



# WHERE? - Culture / Environment

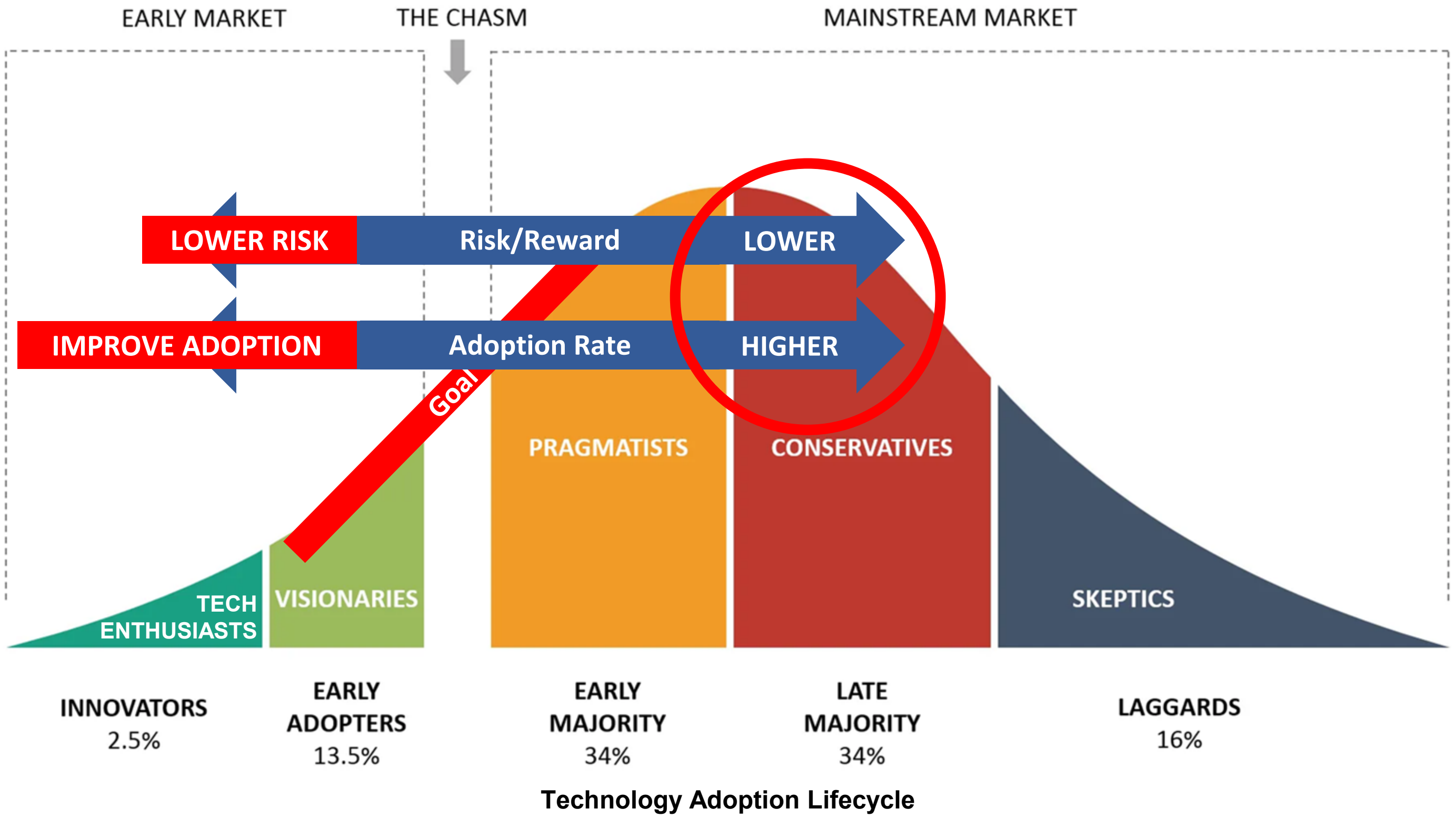


# What is the Lean Technology CULTURE / ENVIRONMENT at your company?





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# HOW and WHAT? – Optimize Adoption





# HOW and WHAT? – Optimize Adoption



## A3 Thinking Process

1. Less DISRUPTIVE CHANGE
2. ADD VALUE for operations
3. Higher ADOPTION RATE
4. Lower RISK
5. Higher REWARD (earlier)
6. Leverage LESSONS LEARNED

| A3 Decision Capture   |   | Implement smart office IT system at Walbridge HQ to improve employee engagement and productivity, increase the workforce morale and attract young talent.   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
|---|---|---|--|----------|--|---------|--|------------|--|----------------|-----------|-------------------|--|-------|--|---------------|--|--|
| Project Name:<br>SMART Workplace / Buildings -Walbridge HQ  | <b>Subject:</b><br>FlowSpace Phase II Full Deployment | <b>Pending:</b> 1) detailed analysis of (3) us based solutions 2) confirm flowSpace technical issues are solved (battery drain, timeout, panel wiring, sensor density) 3) confirm viability of colleague finder for visible/invisible employee engagement 4) confirm amount of it support vs value of benefits  |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
|   |   | <b>2) Current Condition + Goal:</b><br>- Minimize time spent on finding a room for instant meetings.<br>- Help people to use all meeting rooms in the building. Not only the one closest to you.<br>- Avoid aculture where employees book rooms and do not use them.<br>- Search where an unknown person's office is.<br>- See if a person is by their desk.<br>- Make it easy to find guest desks.<br>- Help new employees find their way in the office.<br>- Get very accurate desk and room utilization data for future decision to optimize office space.<br>- An easy tool for future reporting equipment in the office.<br>- Get an modern tool for corporate announcements and fast push messages to individuals<br>- Create an modern digital feeling in the office for employees and customers<br>The longterm goal is improving Walbridge employee engagement and productivity.   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| <b>A3 Number:</b> Tech Agenda #2  |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| <b>Total Investment Cost:</b><br><table><tr><td>Hardware</td><td></td></tr><tr><td>Software</td><td></td></tr><tr><td>License</td><td></td></tr><tr><td>Annual Fee</td><td></td></tr><tr><td>Internal Labor</td><td>\$ 10,000</td></tr><tr><td>Internal Material</td><td></td></tr><tr><td>Total</td><td></td></tr><tr><td>Over 15 years</td><td></td></tr></table><br><b>Total Return:</b><br><b>DIRECT:</b><br>\$24k monthly OH available for growth.<br>For (65) Walbridge staff (half for HQ) equals (65*15min*20days)*\$75/60min<br><br><b>INDIRECT:</b><br>- Increase ability to attract new young talent with modern digital workplace<br>- Support Walbridge SMART Buildings innovation campaign/ LO 2020 Event<br>- Create a positive, innovative image during customer visits<br>- Capture analytics on room usage for optimizing effectiveness<br><br><b>SMART Building expected EMPLOYEE benefits:</b><br>1) productivity<br>2) wellbeing<br>3) appeal to new talent<br>4) employee loyalty   |   | Hardware  |  | Software |  | License |  | Annual Fee |  | Internal Labor | \$ 10,000 | Internal Material |  | Total |  | Over 15 years |  |  |
| Hardware  |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| Software  |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| License   |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| Annual Fee  |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| Internal Labor  | \$ 10,000   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| Internal Material   |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| Total   |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| Over 15 years   |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| <b>Date:</b><br>Prepared By: J. Jurewicz, E. C. Twigg<br>Collaborators: Cynthia Weaver, Marjann Wilkins   |   |   |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| <b>3) Background (describe the issue):</b><br>Walbridge desires to be a leader in design and build of SMART Buildings. Employee Engagement is a key goal of a SMART Building design and a key driver of employee productivity.<br><br>The Ford DQ HUB will be a SMART Building. To change Ford's perception of Walbridge as just a "construction company", we hosted Ford's Global IoT team at the WINLAB for a SMART Building Innovation Showcase. FlowSpace, a leading Employee Engagement solution, was the key highlight. This was a \$15k investment for Proof of Concept.<br><br>(6) Innovation Station Ideas were submitted for improving Meeting Spaces w/ protocol. A OT team led by Pete Dargatzidis identified numerous areas for improvement. FlowSpace provides a solution to all but (1) need. SEE SECTION #2 and #3<br><br>The longterm goal is improving Walbridge employee engagement and productivity.  |   | <b>3) Analysis of Options:</b> FlowSpace with Yana and Senion sensors is the technology that was installed and tested for the Proof of Concept. Other systems were reviewed that do a portion of what FlowSpace does, but none do all the same features. <b>See comparison chart of features and costs attached.</b><br><br>For indoor positioning and colleague finder, Mix is another option to Senion (the FlowSpace tech solution) but not as accurate for locating people and is not recommended (tested on 2nd floor).  |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| <b>4) Recommendations + Execution Plan + Follow-up</b><br><b>HOLD FOR ANALYSIS OF US BASED SOLUTIONS:</b><br>(6) Implement a solution of FlowSpace for 2nd and 3rd floors. Includes: colleague finder, 100 conference room panels and 871 desk reservations.<br>- (1) year agreement, confirm milestones and determine future needs.<br>- After launch, FlowSpace (company) has no access to outlook.<br>- IT support for Room panel connectivity and integration with outlook. TBD. (ET note: what does this mean?)<br>- Reliability and performance of IoT network not yet solved.<br>- IT to insert SECURITY ANALYSIS/ RISKS<br>- IT to insert unresolved technical issues<br><b>a) Cost of resources to fully implement and train:</b><br>- Support needed includes installation of room panels and programming of 1,000 BLE beacons (\$10,000) and labor to supervise setup integration with office 365 outlook (Bruce Davis) 10 hours<br><b>d) What is Return on Investment?</b><br>- See above. \$1.2 to \$2.4k staff labor/burden savings per month |   | <b>b) Tangible cost savings and benefit?</b><br>- Better utilization of meetings rooms. Find available and right room/resources quickly, auto release room booked but not used, eliminate needs to "hold" rooms.<br><b>Streamline Workplaces:</b> People spend a lot of time searching for each other and booking meeting rooms. Ericson and Steel case estimates to be 15 minutes per employee a day. For (65) Walbridge staff (half of HQ) equals \$24k monthly savings (65*15min*20days)*\$75/60min.<br><b>Change the behavior:</b><br>- Increase ability to attract new young talent with modern digital workplace<br>- Support Walbridge SMART Buildings innovation campaign/ LO 2020 Event<br>- Create a positive, innovative image during customer visits<br>- Capture analytics on room usage for optimizing effectiveness<br><br>- See above. \$1.2 to \$2.4k staff labor/burden savings per month                               |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |
| <b>Approved by:</b><br>Walbridge IT:<br>Other Stakeholders:<br><br>Approved Date:   |   | <b>CASE STUDIES:</b><br>Erikson has calculated that they can save 15 minutes a day per employee and also 20% space.<br><br>Coor has come to the conclusion that it is possible to reduce the office space by 30% with no negative effect on employee satisfaction. "The workspaces are always changing and rising cost for many businesses, especially for those offering office spaces in central business districts and nearby suburbs. From a experience most businesses can cut these costs by up to 30 % by optimizing the use of their workspaces and at the same time increase both employees satisfaction and workload productivity."<br>(http://www.smartoffice.co.uk/smart-office-utilization)<br><br>Microsofts. https://www.zdnet.com/article/optimizing-the-smart-office-a-manage-of-technology-and-people<br><br>Steel case https://www.steelcase.com/content/uploads/2015/01/threesixty-collaboration-white-paper-v2.6.pdf |  |          |  |         |  |            |  |                |           |                   |  |       |  |               |  |  |



Collaboration



Process  
and Flow



Removal of  
Waste



Plan | Value  
Generation

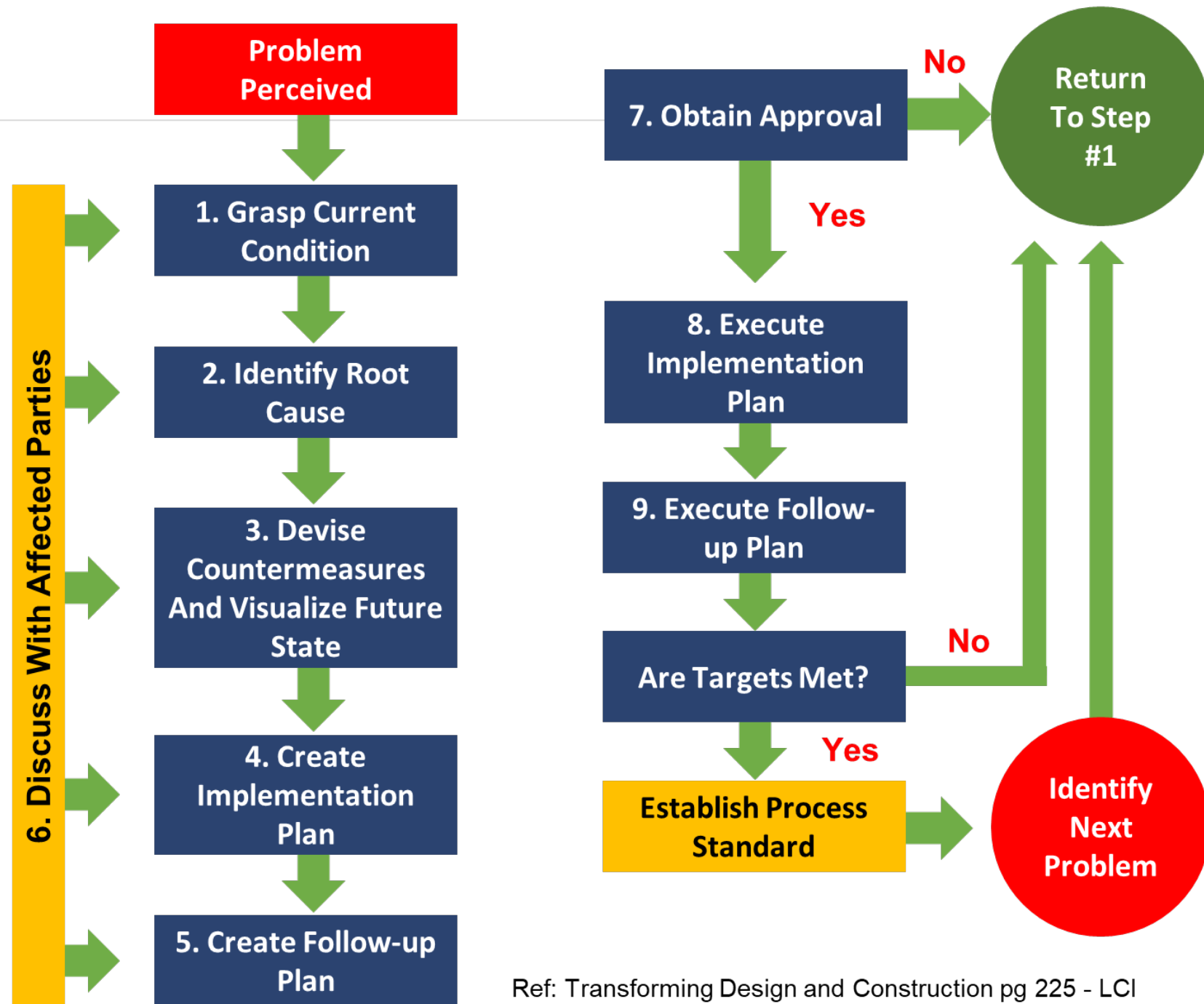


Respect for  
people | Team



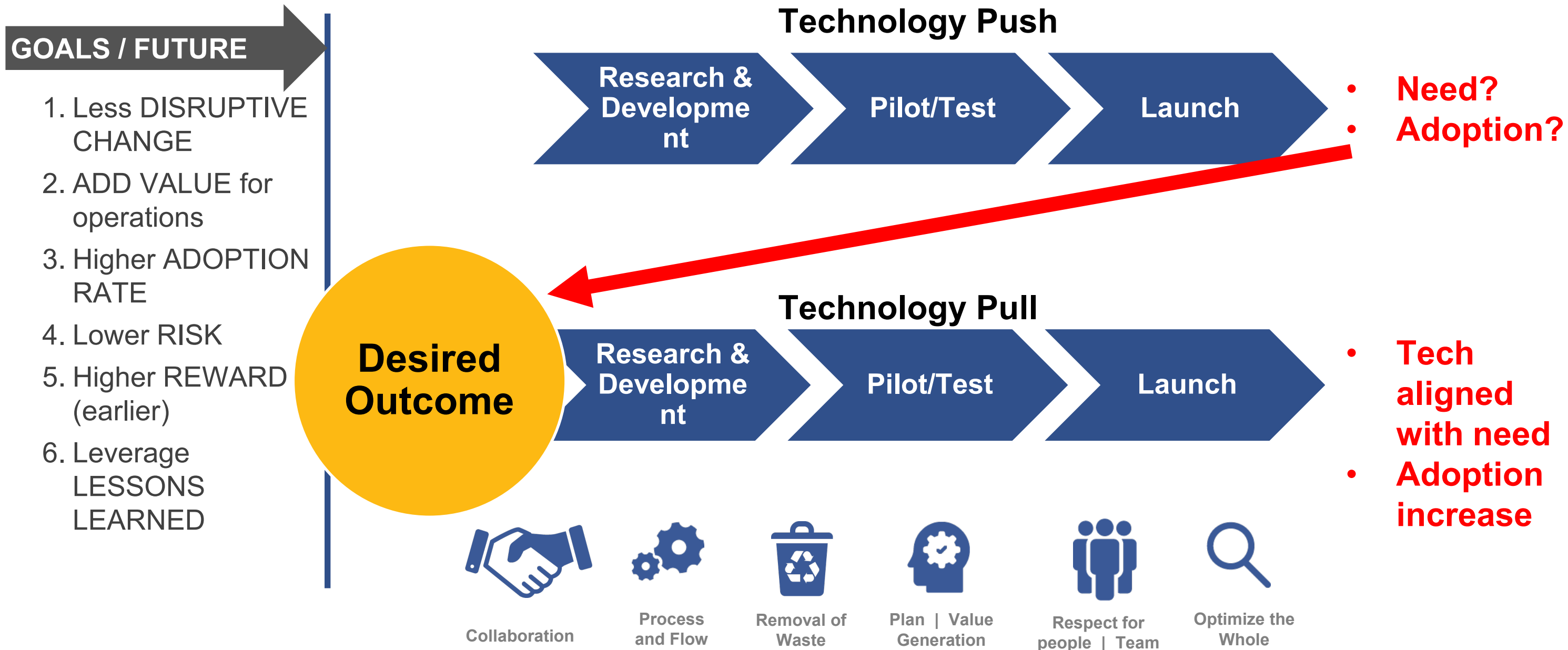
Optimize the  
Whole

# PROBLEM SOLVING – A3 PROCESS



Ref: Transforming Design and Construction pg 225 - LCI

# HOW and WHAT? – Optimize Adoption



# Workflow impact on a typical day

## GOALS / FUTURE

1. Less DISRUPTIVE CHANGE
2. ADD VALUE for operations
3. Higher ADOPTION RATE
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6. Leverage LESSONS LEARNED



When is there time to learn and deploy new solutions?



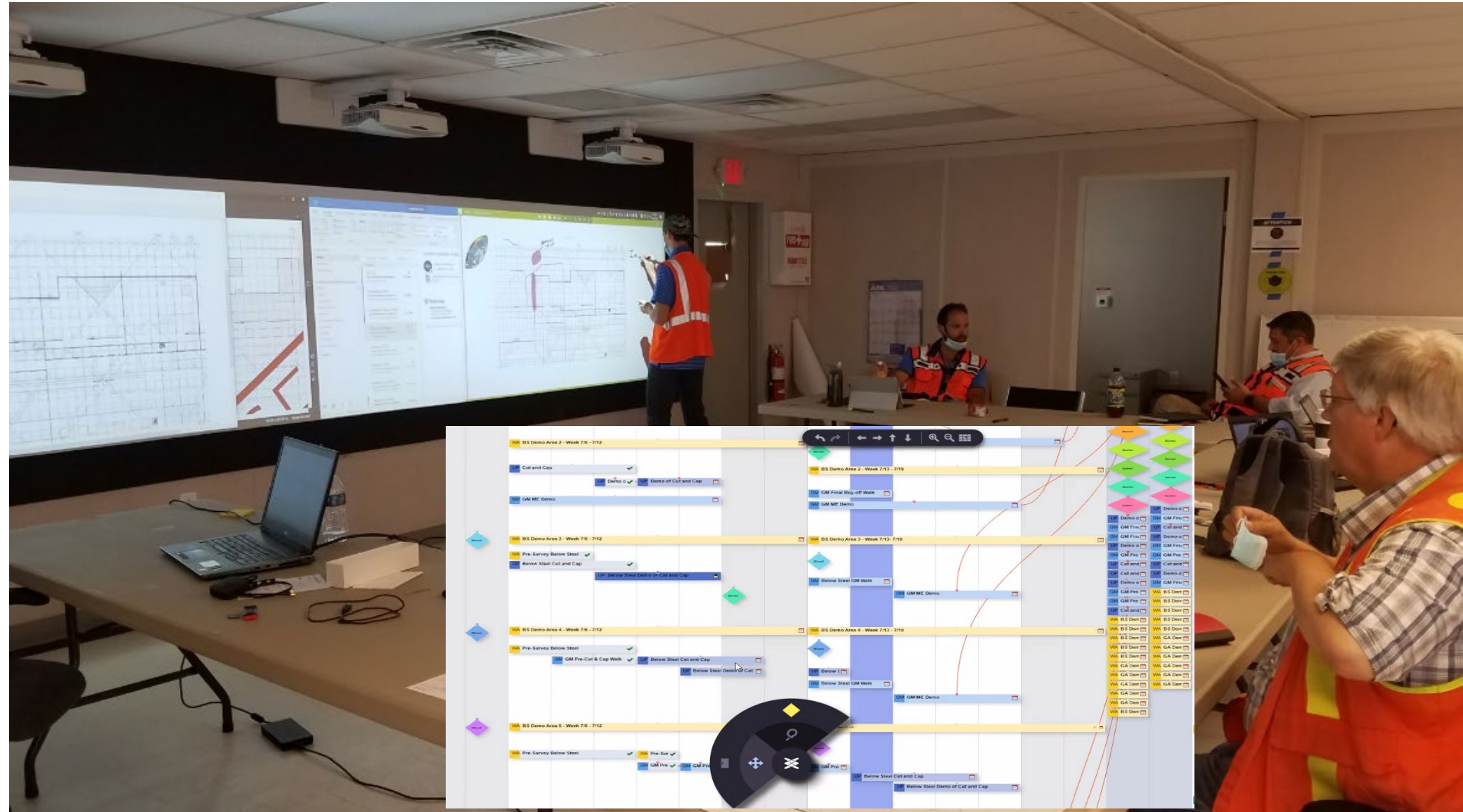
Process and Flow



# Workflow impact on a typical day

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Process and Flow

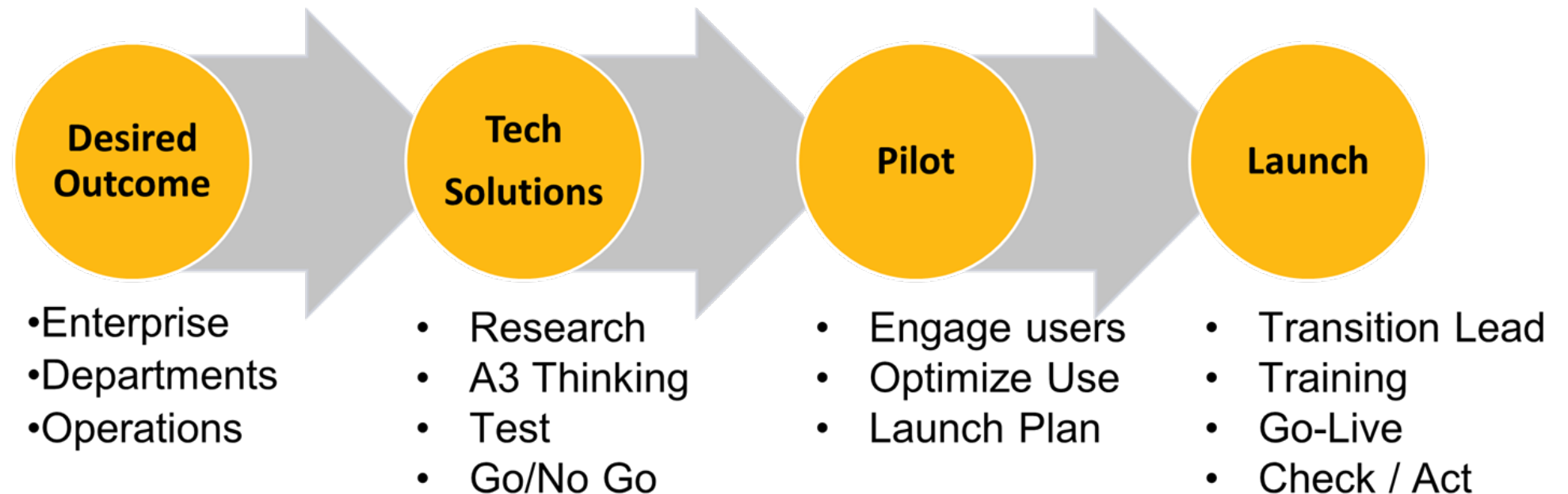
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## Pre-Launch

- **Gated process** to orient and align expectations
- Meet the team where they are at for READINESS –Lev 1, 2, 3
- Acknowledge and plan for “time scarcity” and stress level and workload at project – “mental bandwidth” – a team/project might not work for pilot or early launch



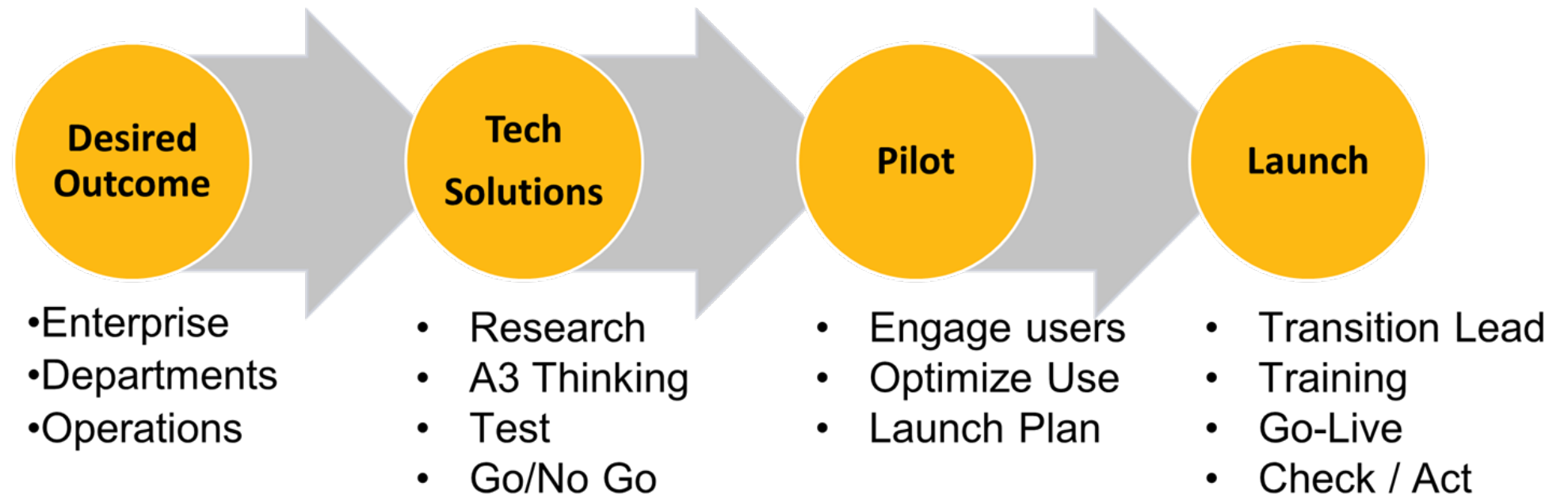
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## Post Launch

- Shoulder to shoulder support
- Engage user group – weekly lessons learned
- User manual – living document – User Group
- Regular check-ins on progress and share success stories
- Nurture your early adopters



# WHEN? – Technology Agenda



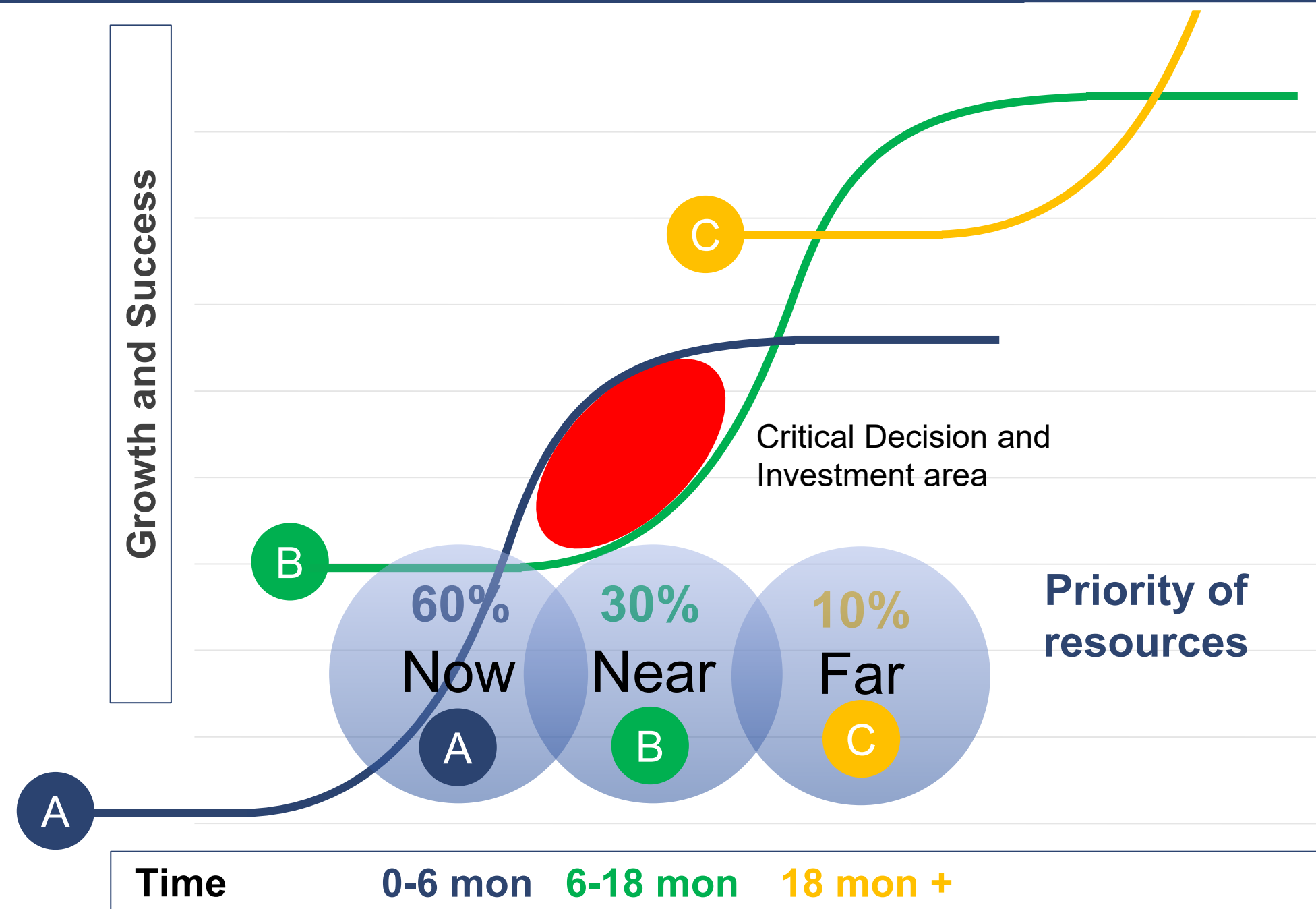


# Technology Agenda

- Tech C**
- Potential breakthrough
  - Industry shift
  - Watch / follow
  - Potential partnership
  - Competitive exclusivity

- Tech B**
- Solves desired outcome
  - Shows value
  - Competitive advantage

- Tech A**
- Solves critical need
  - Adding value
  - Competitive necessity



# ACT? - Lessons Learned



# LESSONS LEARNED ROADMAP



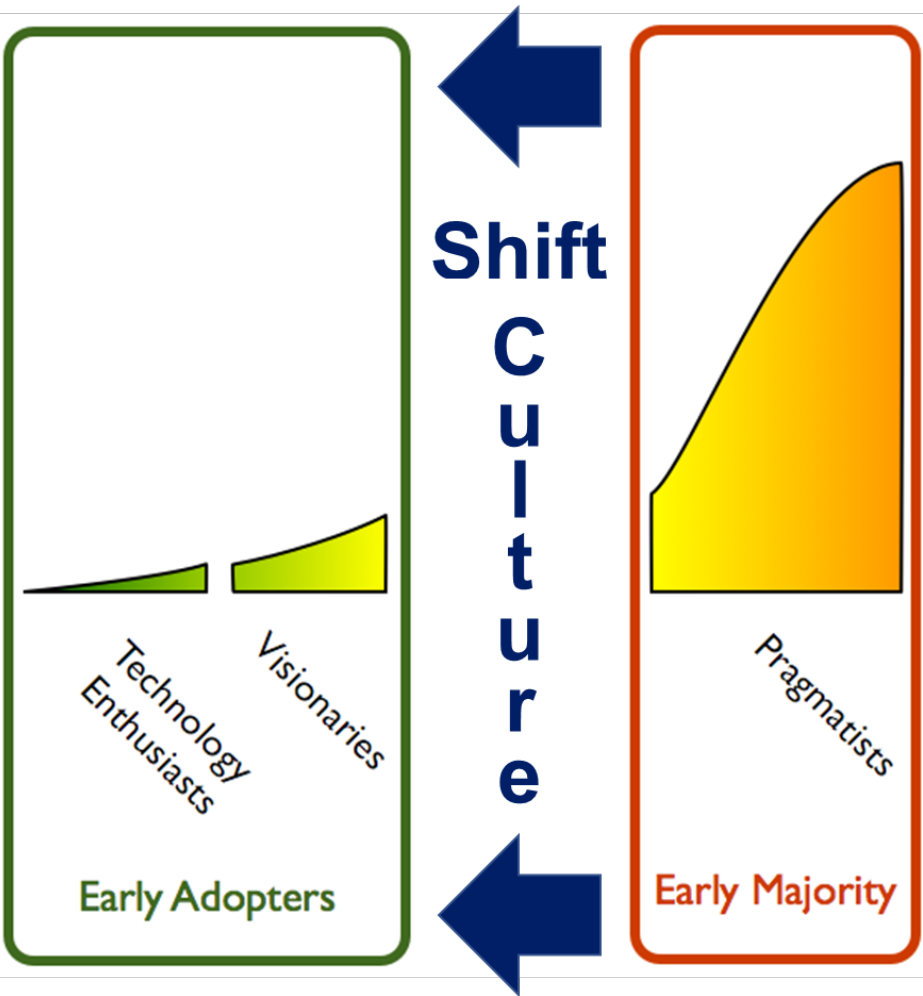
## Planning



## Early Engagement



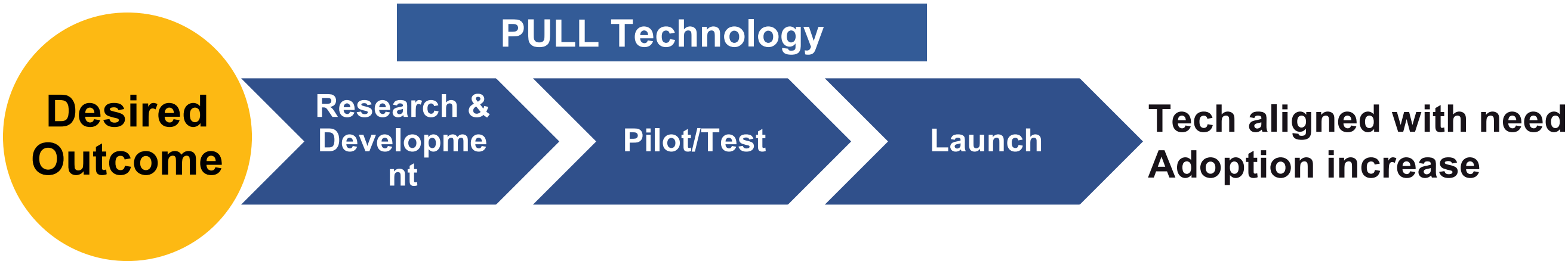
New Tech - Single Accountability



# LESSONS LEARNED ROADMAP

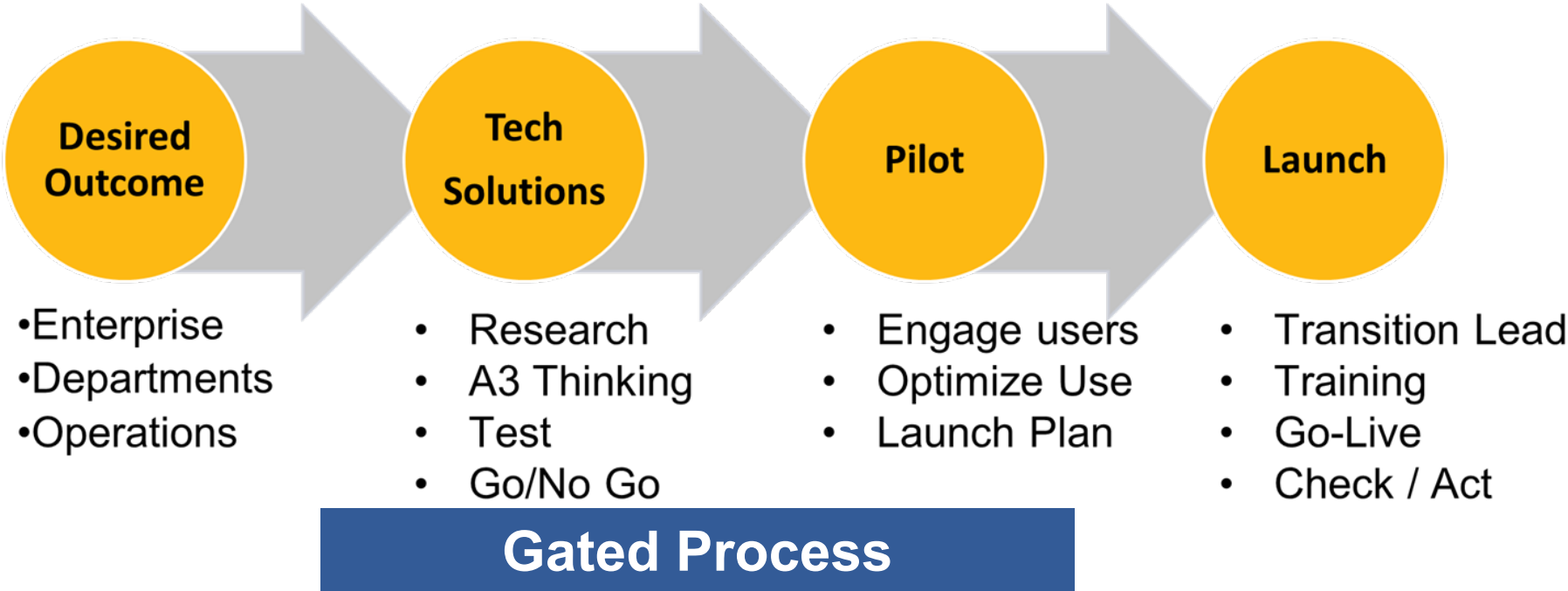


## PLAN (Pre-Launch)



|       |   |       |   |
|-------|---|-------|---|
| 7 AM  | UPDATED: Employee Health Questionnaire  | 7 AM  | UPDATED: Employee Health Questionnaire  |
| 8     | Enter Safety Observation<br>200021- GM DHam-BET- Factory ZERO- Da               | 8     | Enter Safety Observation<br>200021- GM DHam-BET- Factory ZERO- Da               |
| 9     | Sub Meeting Review  | 9     | Sub Meeting Review  |
| 10    | Pre-Installation Pit Infills<br>WinLab Trailer/ Teams Meeting<br>Sanchez, Jorge | 10    | Pre-Installation Pit Infills<br>WinLab Trailer/ Teams Meeting<br>Sanchez, Jorge |
| 11    | GM DHam Fac   | 11    | GM DHam Fac   |
| 12 PM | GM DHam Fac   | 12 PM | GM DHam Fac   |
| 1     | [External] DH<br>Skype Meeting<br>Whitman, Emily                                | 1     | [External] DH<br>Skype Meeting<br>Whitman, Emily                                |
| 2     | GM DHam Factory Zero- BET- CENTERLINE M   | 2     | GM DHam Factory Zero- BET- CENTERLINE M   |
| 3     | GM Factory Zero BET<br>Microsoft Teams Meet<br>Fraser, Cameron                  | 3     | GM Factory Zero BET<br>Microsoft Teams Meet<br>Fraser, Cameron                  |
| 4     | RECONSTRUCT   | 4     | RECONSTRUCT   |
|       | Organize/store emails into sub folders  |       | Organize/store emails into sub folders  |

### Workflow Analysis



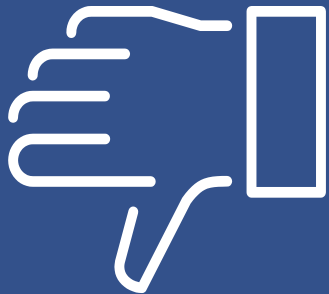


# LESSONS LEARNED ROADMAP



DO (Launch)

Show Stoppers



Stress on Team

Right Staff



Mental  
Bandwidth

Lean the  
Process



Collaborate or  
Partner with Tech  
Provider



Living Users Manual



Continuously Improve



Meet  
twice  
Monthly

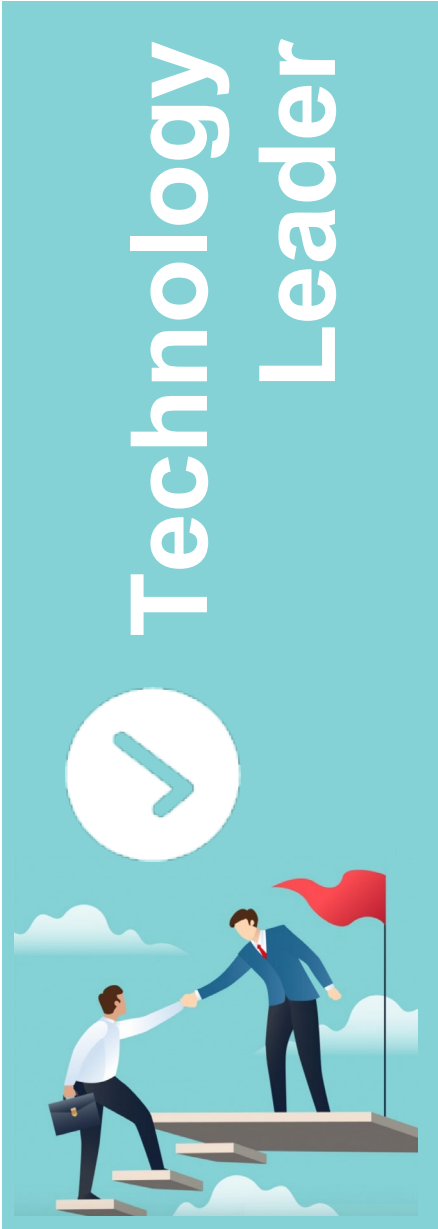


User Group  
Training



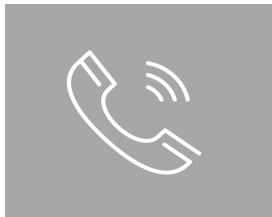
# LESSONS LEARNED ROADMAP

✓ CHECK (Utilize) and ADJUST / ACT (Improve)



Champion from  
Project Team

Shoulder to  
Shoulder



Technology meeting expectations?



Reinforce the  
Vision



Quarterly  
Breakout

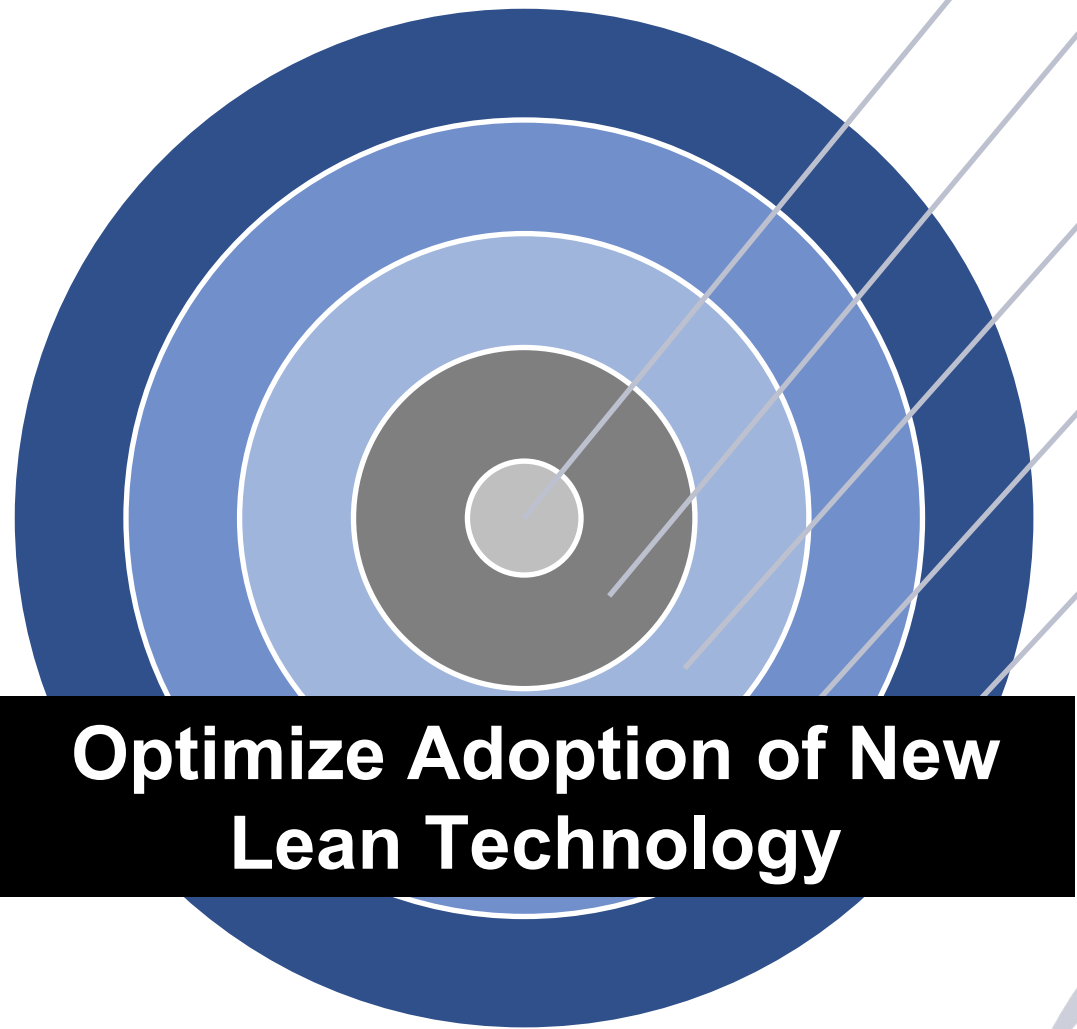
Become  
Leading  
Tech go-to  
SME for  
Customers



# Key Takeaways



# Key Takeaways



**Optimize Adoption of New Lean Technology**

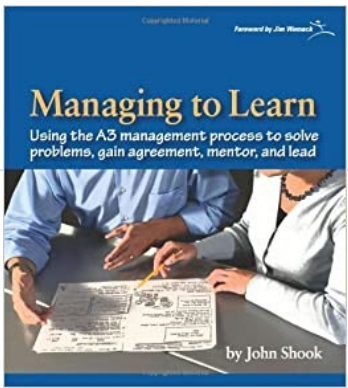
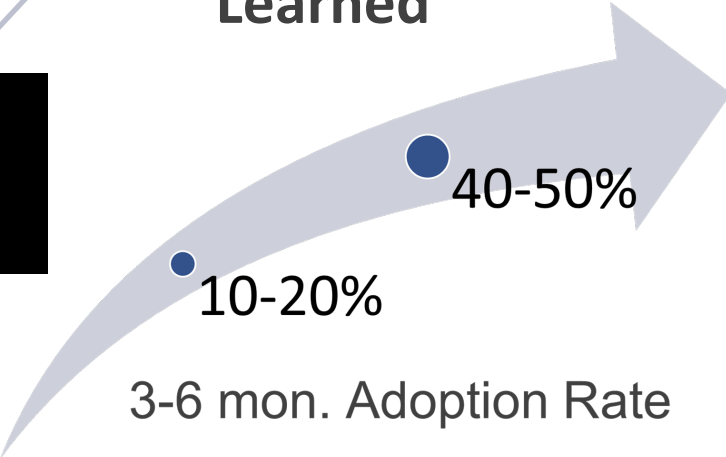
Annual Technology Agenda / Budget

PULL Technology Process – A3 Analysis

Now, Near, Far Prioritization

Gated Process

Leverage Lessons Learned



**Managing to Learn:  
Using the A3  
Management Process to  
Solve Problems, Gain  
Agreement, Mentor and  
Lead**  
by [John Shook](#)

**Excel A3 Template and Questions**

| Leverage Lessons Learned Through Failure And Growth   |  |
|---|--|
| OLD (variable results)  | NEW (consistent results)   |
| Culture / Environment   |  |
| Technology Adoption Lifecycle   |  |
| <b>Dominant Culture</b><br>- Pragmatists/Conservatives<br>- Early/Late Majority                     | <b>SHIFT EARLIER:</b><br>- Tech Enthusiasts/Visionaries<br>- Innovator/Early Adopters                |
| <b>Reacting</b><br>- Limited annual plan<br>- No investment / testing budget<br>- Ad hoc investment | <b>Planning</b><br>- Annual Technology Agenda<br>- Directional budget<br>- Focus on desired outcomes |
| Reactive or "PUSH" technology process   | Proactive and "PULL" technology process  |
| Distributed accountability and reactive priorities  | Single accountability for Now, Near, Far Technology Agenda and PRIORITIES                            |

**Lessons Learned Roadmap**





# Q & A



# Contact Us

**Eric Twigg**

Walbridge

[etwigg@walbridge.com](mailto:etwigg@walbridge.com)

**John Jurewicz**

Walbridge

[jjurewicz@walbridge.com](mailto:jjurewicz@walbridge.com)



# Walbridge