

THE  
FUTURE  
IS HERE  
ARE YOU READY?

# Recent Productivity Research Studies Conducted by the Construction Industry Institute (CII)

2019 ANNUAL  
CONFERENCE



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# Agenda

- 2019 CII Annual Conference Overview
- Summary of Selected Research Studies
  - Analysis of Productivity Improvement Opportunities
  - Virtual Reality in Design, Construction, and Maintenance
- Other Relevant CII Initiatives



# 2019 CII Annual Conference Overview



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# 2019 CII Annual Conference - Research Presentations

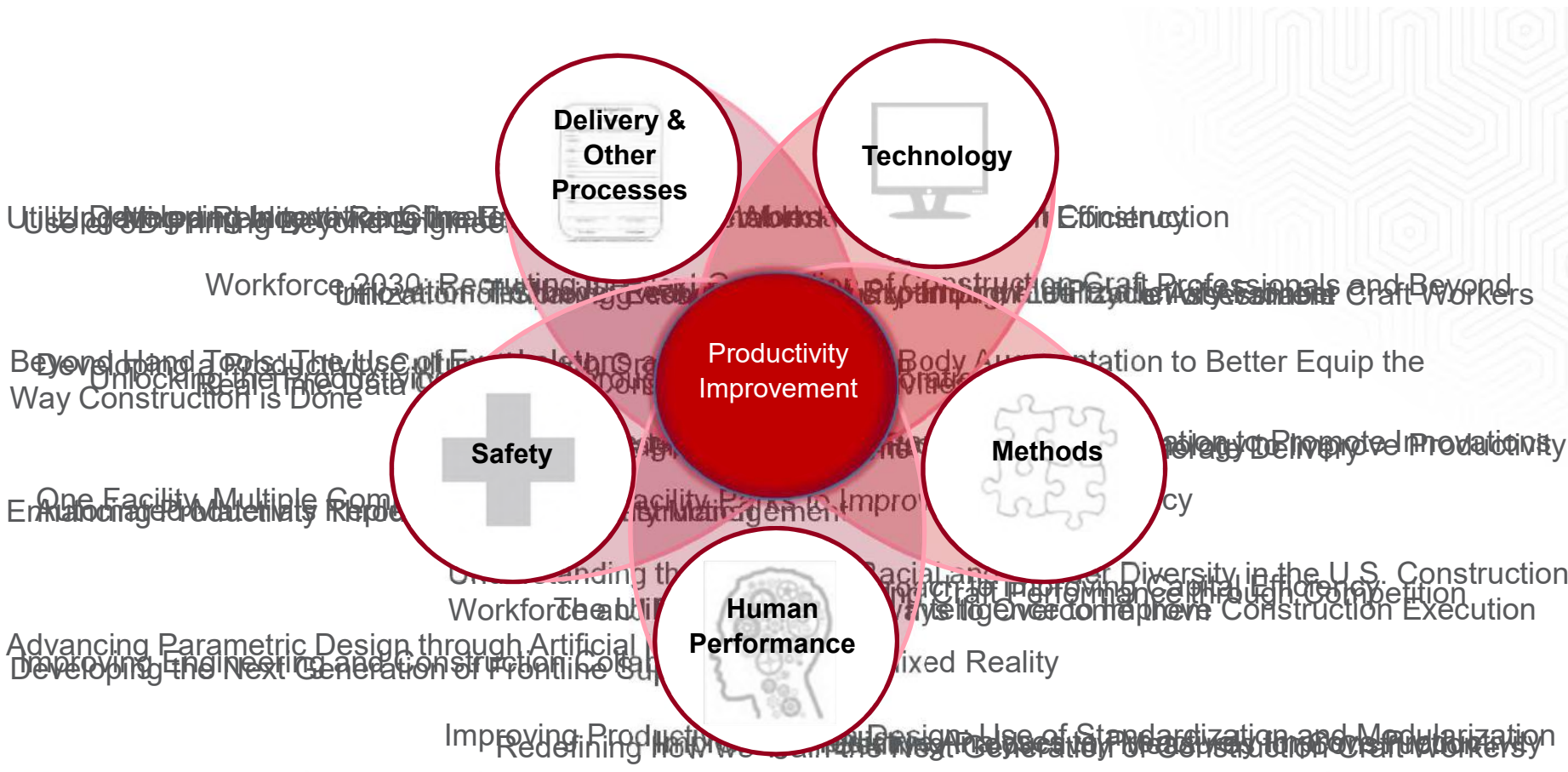
- New Practices and Tools for the Development of Flexible Facility
- Business Case and Practices for Increased Standardization of Capital Projects
- Practices for Anticipating and Responding to Ever-evolving Regulatory Requirements
- Life-Cycle Cost Estimation
- **Analysis of Productivity Improvement Opportunities**
- **Virtual Reality in Design, Construction, and Maintenance**



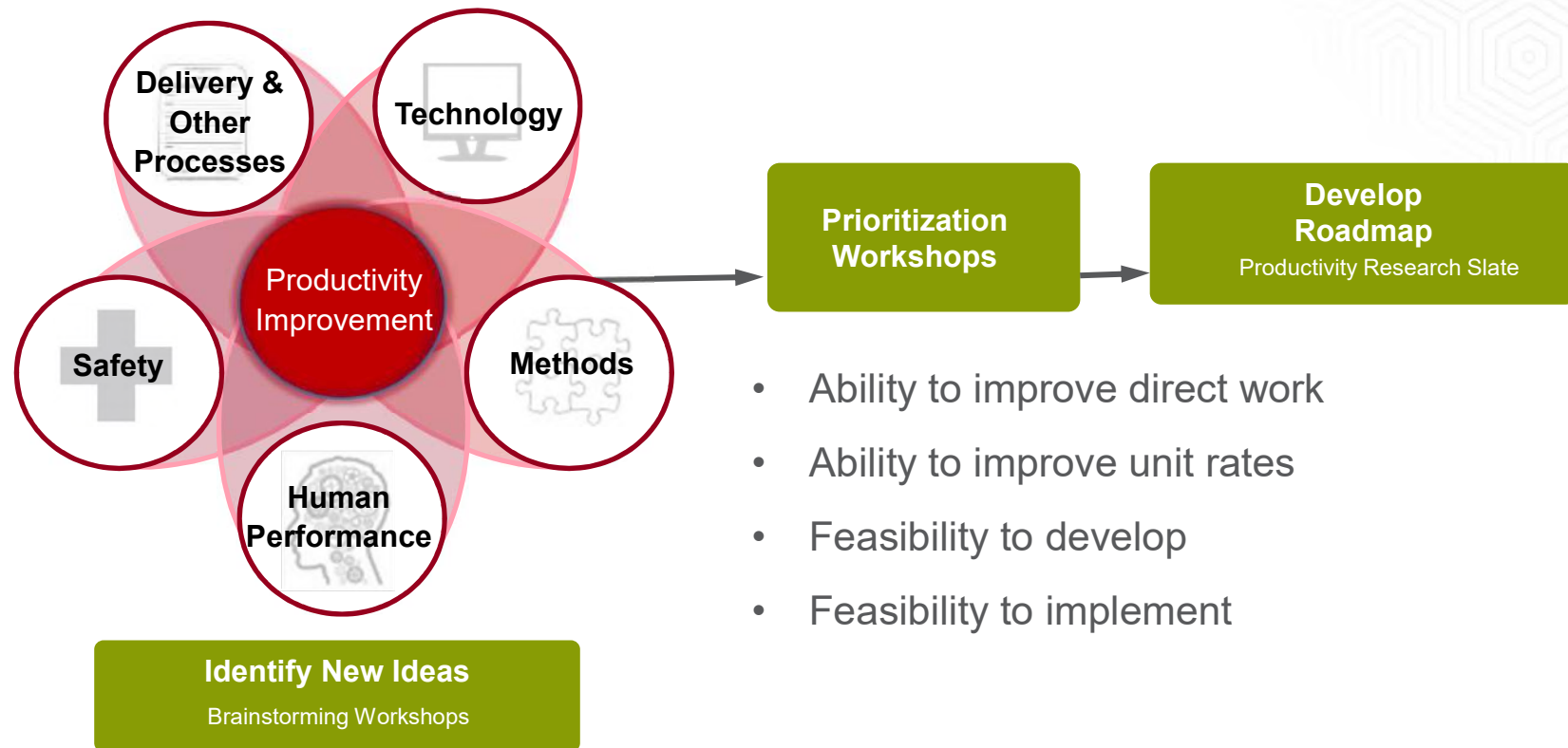
# Analysis of Productivity Improvement Opportunities

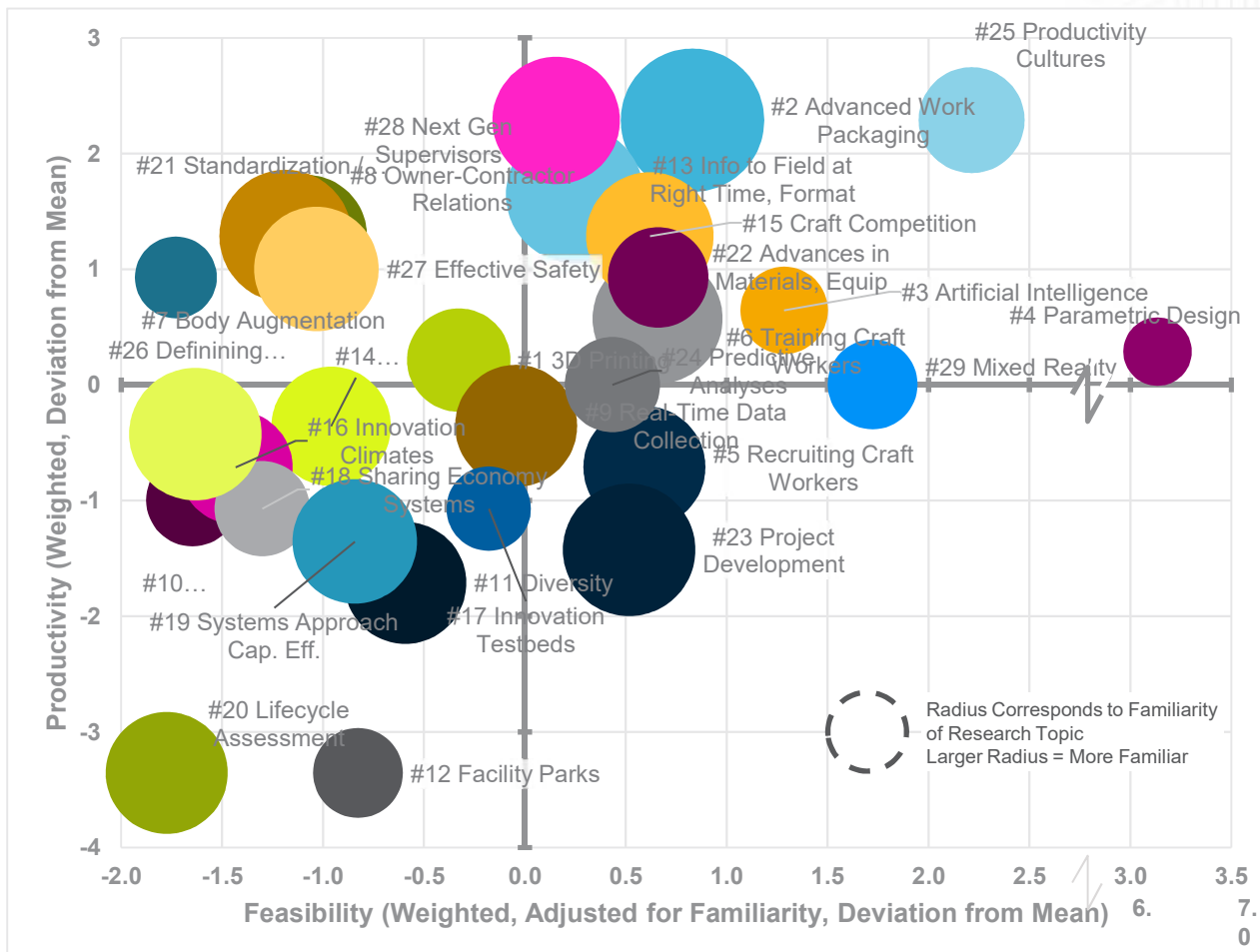


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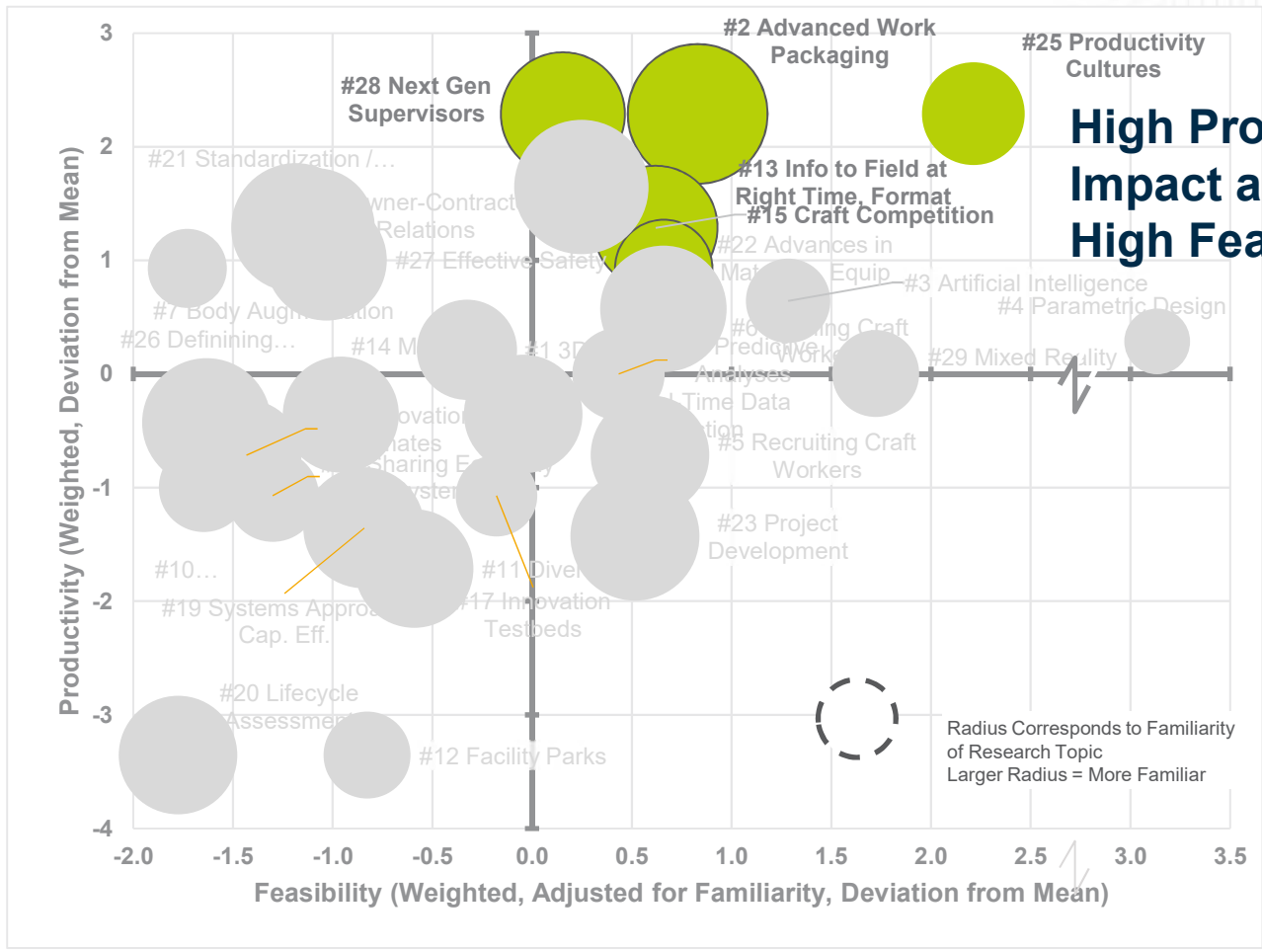


# Research Framework









# The Top 10

Research Topic	Final Score
Increasing the Use of Advanced Work Packaging	7.935
Fostering Productivity Cultures	7.387
Developing the Next Generation of Frontline Supervisors	7.387
Improving Craft Productivity by Providing Engineering Data to the Field at the Right Time and in the Right Format	7.161
Improving Craft Productivity through Competition	6.774
Redefining how we Train the Next Generation of Construction Craft Workers	6.677
Advancing Parametric Design through Artificial Intelligence	6.387
Improving Productivity through Design: Use of Standardization and Modularization	6.387
Redefining the Owner and Contractor Relation to Promote Innovation	6.226
Leveraging Advancements in Materials and Equipment Technology to Improve Productivity	6.226



# Virtual Reality in Design, Construction, and Maintenance



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# What is the future of VR in our industry?

Collaborative Communication / Design & Issue Resolution

Modify and Manipulate Model Data in VR

Safety Planning & Site Logistics

Schedule Optimization & Progress Monitoring



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# Immersive Virtual Reality (IVR)

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## DEFINITION

A computer-generated virtual simulation that is experienced through Head Mounted Displays (HMD) and other input/output devices.



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# Immersive Virtual Reality (IVR)



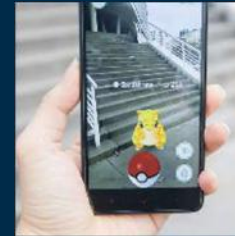
## KEY FEATURES

Block the real world,  
provides immersive  
experience in virtual world



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# Augmented Reality (AR)



## KEY FEATURE

Overlay virtual world on the real world based on software settings, e.g., location information



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