



# Newsletter 1-2023



*Enhancing the business effectiveness of the capital facility life cycle through research and development and driving business value for your capital projects*

## CII Annual Conference Report Back – San Antonio, Texas

*Partners in progress for 40 years.*

This year the CII Annual Conference was held at the Marriott Rivercenter Hotel, San Antonio, Texas, 31 July to 3 August 2023. Delegates were welcomed by Interim Senior Director Jamie Gerbrecht, and Chairperson Tricia Thibodeaux from Fluor Corporation. The main topics of the conference were advanced work packaging (AWP), capital efficiency, modularization, decarbonization, and safety.



## San Antonio – a beacon of modular construction



San Antonio is home to one of the most successful modular projects ever. The 485-room, 21-story, hacienda style Hilton Palacio del Rio was constructed for the 1968 World Fair and took only 202 working days to complete. The construction was done by H.B Zachry (a founding member of CII) utilizing traditional construction methods to build the first 4 floors and slip form construction methods for the elevator core. All the hotel rooms were constructed as modular units at a location 7 miles away from the construction site. Each modular room were built and fitted out with plumbing, electricals, furnishings, artwork, even ash trays and Gideon’s Bibles before lifted into place. All the rooms were transported to site and placed within days. (Wikipedia, Sept 2023).

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## 1. Advanced Work Packaging implementation (RT-390)

Two AWP related topics were presented at this year's conference. The first topic involved the development of an AWP Execution Planning Guide for projects.

Some projects struggle to adopt AWP as requirements can vary across owner organizations. Projects involve a variety of participants, and their varying maturity of AWP implementation can also cause problems. RT-390 developed a seven-module guide for contractors to overcome the constraints preventing them to gain the full benefits of AWP, even at enterprise level. The seven modules are:

Module 1: AWP Review and Owner's Guide

Module 2: Handbook A – Preliminary Planning Design

Module 3: Handbook B – Detailed Engineering

Module 4: Handbook C – Construction Execution

Module 5: Handbook D – Commissioning and Startup

Module 6: Handbook E – Procurement

Module 7: Enterprise Guide

## 2. iAWP (RT-391)

The second AWP topic involved the leveraging of artificial intelligence (AI), machine learning (ML), and data analytics applications for AWP.

With inspiration from the Design Thinking process, RT-391 embarked on a project to identify, characterize, and rank opportunities for the application of AI, ML, and data analytics to the AWP workflow. In this work, the team took a broad and inclusive view of these technologies, accepting many forms of advanced automation as potentially representative of AI. It referred to the application of these technologies in AWP as intelligent AWP, or iAWP. The team surveyed 169 respondents in 26 countries and through careful analysis of the survey data, the team identified the seven criteria for evaluating iAWP opportunities. The opportunities are:

- a. AI for project process management
- b. AI for materials management
- c. AI assisted generation of the path of construction
- d. AI for workforce planning
- e. AI for predicting constraints
- f. AI for data collection and pre-processing
- g. AI for evaluating the ROI of using AWP

## 3. Pursuing Capital Efficiency (RT-394)

The Research Team focused on the reason why corporations struggle to meet anticipated portfolio benefits. The research indicated that the performance can be improved by better integrating, and strategically aligning the business, portfolio and project delivery functions. The Research Team “focused on interactions between the corporate and project teams during portfolio and project management that improve portfolio capital effectiveness (i.e., the organization's ability to select and deploy capital projects that lead to the achievement of the strategic business outcomes and benefits considering the existing constraints) and project capital efficiency (i.e., the organization's ability to define, develop, execute, and manage the delivery of a competitive project that optimizes strategic returns considering its safety, financial, schedule, social, quality, and/or environmental goals over its lifecycle)”.



The Research Team identified 49 information inputs and outputs at the corporate, portfolio, and project levels, and mapped their relationships. Additionally, the team identified and defined 31 functions necessary to identify, select, and manage projects. The team assigned the functions across the 34 activities for portfolio management it had established to create an integrated approach to portfolio management.

#### 4. Understanding the Mental Health Crisis in the Construction Industry (RT-401)

The 5<sup>th</sup> industrial revolution centres not only around sustainability and the environment, but also around people at their well-being. It is therefore appropriate for CII to pay attention to this, in many aspects long overdue, topic of mental health in the industry.

The study distinguished between work-related stressors and wellness outcomes. The top three work-related stressors were financial uncertainty, work demands and factors outside work. The top three wellness outcomes were found to be job satisfaction, financial security, and sense of community.

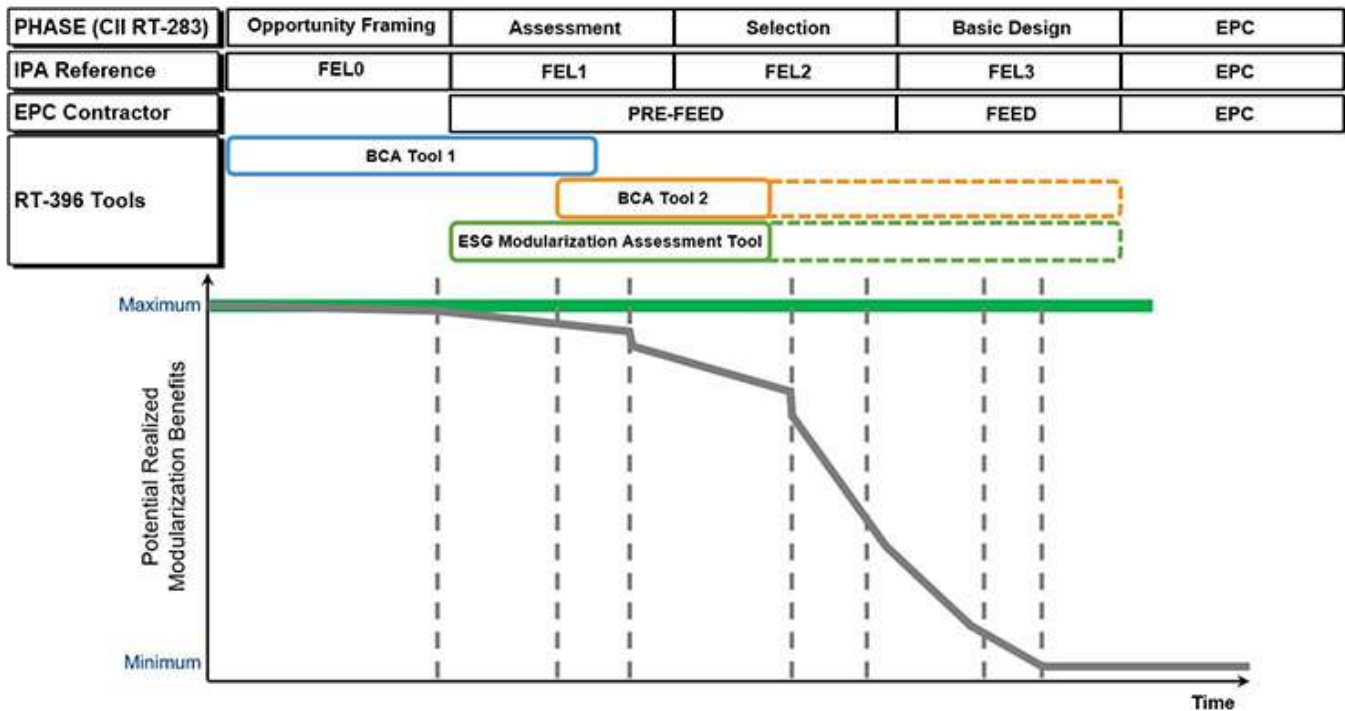
There is no doubt that human related factors will become more prominent in all sectors in years to come.

#### 5. Modularization - Business Case Analysis Guide for Industrial Modularization (RT-396)

During the past few years' modularization has been well researched and documented by CII. Even though the benefits have been well published, the full use of modularity has not been that evident in practice.

RT-396 addressed an essential research question: "When is the appropriate time for modularization planning, and how should a company develop a business case to support the modularization decision?" Through their research the team identified the barriers preventing industry leaders from utilizing the full benefits of modularization. In the process they developed three tools namely Modularization Business Case Tool 1 & 2 \*BCA Tool 1 & 2) as well as ESG Modularization Assessment Tool.

A roadmap with modularization timing points was also developed to guide practitioners to apply the right tools at the right time across the project life-cycle.



Further information on the RT presentations, results and tools are available on the CII website under the RT numbers.



## General

San Antonio was a great host for the 40<sup>th</sup> Anniversary conference and the hotel facilities were excellent. An evening visit the Alamo was relaxing, informative and a good opportunity to network in a relaxed environment.

To the next 40 years!

Next CII – Africa Chapter Event  
23 November 2023 – Lunch Hour Webinar on Constructability

For more information on any of the above topics or about the benefits of joining the CII-Africa Chapter, please contact: CII-Africa Chapter – [cii africa.chapter@gmail.com](mailto:cii africa.chapter@gmail.com)

Regards,

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Director

