

KIGEM

Lean Construction Laboratory at the University of Washington - The Project Production Systems Laboratory at University of Washington (UW-P²SL)

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1. Organizations for Lean Construction

There are an increasing number of organizations promoting lean in construction. Here three of the primary and longest lasting are described, in the order in which they emerged: the International Group for Lean Construction (IGLC), the Lean Construction Institute (LCI), and Constructing Excellence. Associated with the first two, organizations active in lean construction appeared in Chile in 1994 (led by Luis Alarcon at the Catholic University of Santiago), in Brazil in 1997 (led by Sergio Antonio Itri Conte in Sao Paulo and by Professor Carlos Formoso of the University of Rio Grande do Azul), and in Denmark in 1999 (an LCI affiliate based at the Danish Technological Institute). Recently, academic research labs are being established in US to support academic research to develop knowledge in lean construction. Most research labs have partnership with local lean construction institute chapter to support lean construction implementation.

2. Lean Construction Laboratory at the University of Washington

Lean Construction Laboratory at the University of Washington is also called UW-P²SL. The Project Production Systems Laboratory at the University of

Washington (UW-P²SL) is a research lab dedicated to developing and deploying knowledge and tools for the management of project production systems and the management of organizations using lean principles and tools.

We are the research and educational lab for the northwestern construction industry. UW-P²SL is a part of PACIFIC NORTHWEST CENTER FOR CONSTRUCTION RESEARCH AND EDUCATION at the University of Washington. Professor Yong-Woo Kim is a research director of UW-P²SL and Professor Carrie Dossik is a director of the Pacific Northwest Construction Research and Education Center.

We invite companies involved in the Northwestern construction industry to use UW-P²SL to support implementation of the lean construction principles and tools into the industry, its companies, and its projects. UW-P²SL provides education, research, and consulting service to construction professional community as well as local community.

1) Education Service

UW-P²SL is a partnership with Lean Construction Institute (LCI)-Cascade Chapter. UW-P²SL provides a short course of lean construction for local community. Besides, UW-P²SL and LCI-Cascade Chapter provides local and national seminars on lean construction. More than 170 construction professionals participated in a

two-day seminar on lean design was held at the University of Washington in 2008. Currently we are developing several short courses on lean construction to better serve community and meet a variety of requirements.

2) Research Service

UW-P²SL develops knowledge regarding the management of construction projects. Our sponsors include local and international construction companies, national research centers (such as Construction Industry Institute), and national trade organizations such as NECA (national electrical contractors association). We have conducted many academic but industry-oriented lean construction research projects including:

- * Innovative Project Delivery System (jointly performed with U.C.Berkeley-P²SL), Construction Industry Institute Grants RT-271 (29 months); awarded Aug, 2010.
- * Lean Design Process, Granted from a private construction company (12 months), awarded Aug, 2009.
- * Lean Implementation Strategy for Electrical Contractors, Electrical International Early Career Award (12 months) from ELECTRI International (EI) research programs and National Electrical Contractors Association (NECA) contractors; awarded Aug, 2008.
- * Process-based Sustainable Impact Analysis, Research Royalty Fund (12 months) from the University of Washington Research Office; awarded June, 2008.
- * General Lean Construction Research to launch and develop lean construction research lab from Lean Construction Institute; awarded Sept, 2008.
- * Lean Construction Implementation Software, from Tokmo Inc (36 months), awarded Oct, 2008.
- * Contractors' Procurement for Green, 2009 Dean's Development Award from the Dean's Office, the

University of Washington; awarded June, 2009.

- * Lean Implementation at the Project Level, Construction Industry Institute (CII) Research Grants (24 months) with the UC, Berkeley-P²SL; awarded Aug, 2005.
- * Performance Measurements for Lean Construction, a Grant from a private company (36 months) , awarded Jun, 2005.

Besides funded research projects mentioned above, UW-P²SL has conducted many research projects to meet local construction industry needs. Research results have been disseminated through regular LCI-Cascade chapter meetings.

3) Consulting Service

UW-P²SL provides a tailored consulting service to local construction and design companies that launched their lean journey. Consulting areas include:

- * Developing lean construction implementation roadmap taking into account the company's culture
- * Lean assessment to identify which area to improve to advance
- * Validate the effects of lean implementation using project data

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