



“PRODUCTIVITY TOOLBOX: TOP TEN TARGETS FOR IMPROVING CONSTRUCTION PRODUCTIVITY”

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Construction performance and productivity improvement are key focus areas in any nation’s construction industry, as the construction industry’s contribution to the national economy is substantial. The decline in construction productivity across the world has been reported by many researchers and organizations. Finding innovative solutions to improve construction productivity, in terms of labour and management issues, will save billions of dollars and make construction a professional and attractive business. With the rising cost of building materials and a shortage of skilled labour, construction companies are looking for ways to increase efficiencies throughout their operations. This concern has

prompted the Calgary Construction Association, six association members (PCL, CANA, Graham, EllisDon, Ledcor, Stuart Olson), Revay and Associates and the Canadian Construction Research Board to partner with the Project Management Specialization of the Schulich School of Engineering at the University of Calgary to study construction productivity. This project is also funded by the Natural Sciences Engineering Research Council through its Collaborative Research and Development Grants Program.

The project, titled “Top Ten Targets for Construction Productivity Improvement”, follows a preliminary 2004 study, in which Dr. Ruwanpura’s research team identified and quantified the most critical areas of productivity, through hands-on assessments at partner contractors’ construction sites. The “Top Ten Targets for Improving Construction Productivity” project investigates ten strategic areas, including both soft and hard issues of productivity, to develop innovative and sustainable solutions for the construction industry.



The ten strategic areas include motivation, supervision, integration, material management, tool time optimization, work practices, communication, schedule optimization, change prediction, and weather impact. During the last two years, Dr. Ruwanpura’s research team has developed many tools and practices that have been successfully tested and implemented in the industry. The ultimate goal is to develop a “Productivity TOOL BOX” from the ten strategic areas to benefit the construction industry. The outcome of these tools and best practices have impacted improved tool time (as high as 12%), productivity (as high as 30%), worker satisfaction (as high as 80%), motivation and proactive





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planning. The presentation will highlight the tools developed and successfully implemented in the industry that had improved tool time, productivity, worker satisfaction, motivation and proactive planning.

SPEAKER: Dr. Janaka Ruwanpura, PQS, a former US Fulbright Scholar, is the Canada Research Chair, Director and an Associate Professor in the Project Management Specialization in the Schulich School of Engineering at the University of Calgary. He earned his BSc. (Honours) from the University of Moratuwa, Sri Lanka and his M.S. in Construction Management from Arizona State University, and Ph.D. in Construction Engineering and Management from University of Alberta. He has developed many planning and simulation tools that have been successfully implemented in the construction industry for project planning, risk management, productivity improvement and decision analysis. As team leader, Dr. Ruwanpura commenced a major Canadian Construction Productivity Improvement research project at the University of Calgary. He has also been a project risk management consultant and a facilitator using his Ris Q© framework and a project management training consultant in Canada and many overseas countries including USA, Mexico, Middle East, Portugal, India, Iran, and Sri Lanka. He has published over 110 technical papers in refereed journals and conference proceedings. Dr. Ruwanpura was awarded University of Calgary’s teaching excellent award, Schulich School of Engineering’s Graduate Educator Award, Service Excellence Award and the University of Calgary’s Presidential Internationalization Achievement Award for his contribution international activities in teaching, graduate education, research and project management leadership. Dr. Ruwanpura as the Director also led the project management specialization to win the “Distinguished Contribution by an Organization” award at the Project Management Institute’s Southern Alberta Bi-annual awards night in 2007.

