

Some R&D Results and New Research Methodologies in Concurrent / Simultaneous

Product & Process Design Engineering with 3P and Other Methods

Paul G. Ranky, PhD

Full Tenured Professor

Department of Mechanical and Industrial Engineering

NJIT, Newark, NJ 07102

Web: <http://www.cimwareukandusa.com/aboutpgr.htm>

Email: ranky@njit.edu

Wednesday, February 27, 2013

221 MEC

1:00 to 2:25pm

Abstract:

The purpose of concurrent / simultaneous engineering and green PLM (Product Lifecycle Management) methods is to cut product and/or manufacturing, assembly, service process development lead time, to reduce waste, to reduce the number of [costly product design changes](#), to improve quality, and to create a lean workflow based on 3P (Product Preparation Process), and other methods. This should be applied from concept to integrated product/process design, manufacture, assembly, maintenance and after-sales support, based on analytically established customer requirements, risk analysis, process models, simulation and analysis. By following the above principles and methods, the design team should be able to answer the following questions: How to identify opportunities early, measure their impact and pursue the best possible alternatives? How to deliver against focused objectives? How to advance in new product development? How to start a product development process / team? How to achieve competitive edge? How to re-engineer the organization for digital factory and networked enterprise design management? How to manage change? How to develop metrics, that can capture the potential for long-term growth? How to maintain innovation and cost control? How to take advantage of digital design & digital manufacturing methods and technologies? How to front-load the entire product development process and gain over competitors? How to decide whether it makes sense to outsource or not? How to collaborate on a design issue with local and global teams? How to develop design reviews and discuss issues over the web in a global team? How to create ethical and pleasant professional work environments in which positive and creative thoughts and energies dominate, and others. This seminar will be illustrated by advanced interactive multimedia as well as real-examples. (For more information on the content, please review: http://www.cimwareukandusa.com/All_IE655/IE655Spring2013.html)

Biographical:

Paul G. Ranky, BS / MS (Hons) Mech. and Ind. Eng., MS (Eng. Edu.), PhD (Automation Eng. with IT) is a Full Tenured Professor of Engineering Design, Manufacturing, Industrial and Management Systems at the Department of Mechanical and Industrial Engineering (MIE) at NJIT (New Jersey Institute of Technology), with an additional faculty appointment with NJIT's IT (Information Technology Program), as Professor of IS & IT. NJIT. Member, or former member of SAE(USA), IEE(UK), IET (UK), IEEE(USA), PMI(USA), SME(USA), ASME(USA), ISPE (USA), International Soc. of Pharmaceutical Engineers, ASQ(USA), member of the International RFID Business Association, the Lean Manufacturing and the Quality Auditing Divisions, educated by ASQ (USA) in lean six-sigma, quality leadership, and others. He is a Registered and Chartered Professional Engineer, specializing in [iSEE:Green](#), intelligent Sustainable Enterprise Engineering with a Green focus, green integrated product and process design, design reviews, quality, sustainable green PLM (Product Lifecycle Management), using digital product, process, manufacturing, and factory design methods and tools, concurrent / simultaneous engineering, in design for manufacturing / assembly / disassembly / quality, in quality system design and auditing, advanced lean and flexible cellular manufacturing systems and industrial engineering. (For more on the presenter, please review: <http://www.cimwareukandusa.com/aboutpgr.htm>).