

THE ENGINEERING OF SPEED AND DELIVERY

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ABSTRACT

It has been my good fortune and great privilege to lead major projects in the semiconductor industry to automate production planning, delivery quotation and factory execution. Looking back, successful development and implementation of systems for managing on-time delivery and efficient factory operation always entailed empathy for the professionals in terms of understanding and appreciating the challenges they face, garnering thorough domain knowledge, designing an excellent manufacturing systems architecture, reaching consensus on more structured business rules for factory operation and operations planning, careful and complete data maintenance – automated as much as possible – and practical algorithms and logic fully addressing the challenges. It also required equipping professionals with new skills, information and perspective plus changes in job descriptions and performance evaluations to better align professional efforts with company value and with new manufacturing systems. Analytical approaches will be described for the entire production cycle: capacity planning, production planning and delivery quotation, and factory floor execution.

AUTHOR BIOGRAPHY

ROBERT C. LEACHMAN is Professor of Industrial Engineering and Operations Research at the University of California at Berkeley. He has authored over 50 scientific articles with focus in the semiconductor industry, and has worked extensively with semiconductor companies. He won the 1995 Franz Edelman Award Competition sponsored INFORMS, for work to design and implement automated production planning systems. He was runner-up in 2001 Franz Edelman Award Competition, for work on automated floor scheduling and cycle time management.