

REIMAGINING SIMULATION IN DISCRETE-EVENT LOGISTICS SYSTEMS

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ABSTRACT

Over fifty years ago, when McGinnis was coding simulation models in Fortran, he imagined that would be how he would always do it. Thankfully, smarter people imagined a different and better way of creating simulation models. Today, the challenge of applying simulation in large-scale, highly automated discrete-event logistics systems to create usable and effective digital twins is more than making the coding process faster and cheaper. It requires re-imagining the relationship between the real system and the simulation of it and re-imagining the relationship between the system stakeholders and the simulationists.

AUTHOR BIOGRAPHY

LEON MCGINNIS is Professor Emeritus in the Stewart School of Industrial and Systems Engineering at Georgia Tech where he remains active in teaching and research. He is internationally known for his leadership in the material handling research community and his research on discrete event logistics systems. He has received several awards from professional societies for his innovative research, including the David F. Baker Award from IIE, the Reed-Apple Award from the Material Handling Education Foundation, and the Material Handling Innovation Pioneer award from Material Handling Management Magazine. He is author or editor of eight books, one journal special issue, and more than 110 technical publications. At Georgia Tech, Professor McGinnis has held leadership positions in industry-focused centers and multi-disciplinary programs, including the Material Handling Research Center, the Computer Integrated Manufacturing Systems Program, the Manufacturing Research Center, the Sustainable Design and Manufacturing Program, the Tennenbaum Institute for Enterprise Transformation, the Model-Based Systems Engineering Center and the Physical Internet Center. His current research explores the adaptation of Model Based Systems Engineering principles and methods to the design and control of discrete event logistics systems (DELS). With support from multiple corporations and the National Institute for Science and Technology, his team is investigating novel approaches for both system design and operational control through material handling. Professor McGinnis is a Fellow of the Institute of Industrial and Systems Engineering.