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Iterative use of modeling and simulation (M&S) and test and evaluation (T&E) in engineering and manufacturing environments

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As computers and processors have become more powerful, faster, and smaller, their applications in engineering, manufacturing, and industrial environments have proliferated dramatically in recent years. These characteristics allow many complex processes to be controlled via embedded digital code. Cleverly-designed interfaces allow multiple processors to be used, and these capabilities also provide output that can be monitored and adaptively modified in real-time to produce desired system performance. As the computational capabilities of computers and processors have increased dramatically, the capabilities of modeling, simulation, analysis, and design software applications have also increased in like manner. Many large-scale design and development programs now rely more and more on Modeling and Simulation (M&S) efforts, and less and less on Test and Evaluation (T&E) efforts due to the prohibitive time and cost factors associated with T&E efforts. This treatise discusses the important aspects of this trending change in many industries.

Biography

Jim Sellers is a Mechatronics Systems Engineering Consultant who is presently on retainer with Lone Star Aerospace in the Dallas, TX area. He has over thirty years of international experience in the aerospace, defense, SatCom, and power systems/electrical machinery sectors of industry. He earned BS and MS degrees from Auburn University, Auburn, Alabama. He is a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), a Member of the American Institute of Aeronautics and Astronautics (AIAA), and a Member of the Association for Unmanned Vehicle Systems International (AUUVSI). In his spare time, he enjoys sports, outdoor activities, and volunteer work.

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