

**REAL WORLD COMPLEXITY TO MODEL SIMPLICITY – MANUFACTURING PROCESS
INTEGRATION SIMULATION**

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ABSTRACT

This case study appraises the manufacturing operations of 3M's High Capacity Conductor product (Power Line Transmission Cable). For this product, achieving specified continuous product lengths, not overall throughput, is the measure of success. Target length is only achieved when the process runs without a failure and without interruption of a key material input that is also manufactured to length but on a separate production line. What are the optimum length targets for both processes when "almost" isn't good enough? Could integrating these processes be a valuable shift? We know that modeling provides value added decision support for complex problems, but can a problem be too complex to model? How do we, as simulation practitioners, navigate real world complexity and find our way to model simplicity that provides meaningful direction and solid return on invested time? These questions and more are presented and discussed in this manufacturing case study.