

Meeting: 1003, Atlanta, Georgia, MAA CP T1, MAA Session on Mathematics Experiences in Business, Industry, and Government

1003-T1-1390 **Charlie E Stevens*** (charles.stevens@gepex.ge.com), 9930 Kinsey Ave, Huntersville, NC 28078. *Summary of Mathematics Used In Planning Processes For Supply Chain Activities*. Preliminary report.

Today's Supply Chain groups are daily trying to answer questions such "How much should we make to inventory?" or "Which stocking locations should be closed?" or "What happens to manufacturing capacity if sales exceeds the plan?" or "How much do we expect to sell next month of product x to customer y?". All of these types of questions seem reasonable and simple on the surface to most businesses, and they beg for quick answers on a daily basis. Fortunately the mathematics that is available and needed and used to answer some of these questions are now embedded in a variety of systems running on laptops, desktops and servers. This presentation will walk the participant through some of the specific mathematical tools used daily within the GE Plastics Materials Management group and show how these tools are used in an on-going optimization process to minimize distribution costs. The tools range from simple Excel Add-Ins to Minitab to large-scale forecasting systems to stand-alone optimization models that can analyze the distribution costs of product flows in networks. The intent is to give the session participant an appreciation for the variety and power of mathematics used everyday in today's business world to help answer critical supply chain questions. (Received October 05, 2004)