



RP&M Industry Weathers Economic Storm

With gas prices soaring to record heights, the rising costs of commodities and the weak dollar, it appears our economic dilemma is here to stay. Do these economic crises have an impact on the RP&M industry and, if so, what is that impact? Do American RP&M communities need to make changes to soften the impact of our uncertain economy?

3D Systems, Stratasys, Zcorp and EOS are leaders in the development and sale of additive fabrication (AF) equipment and materials. The first quarter results published by each company showed growth and, in some cases, record numbers, which is good news for the RP&M industry. However, don't celebrate just yet. Much of the sales revenue growth is attributed, in part, to European based RP&M developers and suppliers and the growth of the RP&M industry abroad.

First quarter revenue reports showed a 14% decrease from 2007 for 3D Systems, the inventor of Stereolithography (SL) and leading manufacturer of SL and Selective Laser Sintering (SLS[®]) equipment. This decrease was attributed to a dip in demand for large frame equipment and the failure of Tangible Express. Stratasys, on the other hand, reported a 16% revenue increase in their first quarter over last year, which also happened to be the strongest quarter in their history in terms of FDM[™] system sales and revenue. Stratasys shipped a record 577 FDM[™] units in the first quarter of 2008, another record breaker for total quarterly shipments in their history. Zcorp experienced steady growth from last year and EOS, a European provider of Laser Sintering (LS) systems, also reported a record year, increasing revenue by 14%.

Research and Development continues to remain strong with new equipment and materials launched by every major RP&M supplier. 3D Systems launched two new 3D printers and two new direct to metal SLS[®] units and also unveiled DuraForm[®] XR300, a new polypropylene-based SLS[®] material at the DMS expo in Japan. Stratasys introduced the FDM[™] 360mc, an inexpensive addition to their high performance line of FDM[™] equipment and ABS M30i, a new FDA approved, biocompatible, high strength material. At RAPID this year, EOS debuted two new materials; PrimePart DC, an impact resistant Polyamide for LS systems, and StainlessSteel PH 1 for their direct to metal LS systems.

Another positive aspect of the RP&M industry is the solid growth in 3D CAD software. Jon Peddie Research reported a 20% increase in revenue from 2006 to 2007 and is estimating a 15% increase through 2008. This statistic is important and relevant to the RP&M community because 3D CAD is the driving force for all RP&M technologies.

While U.S.-based service bureaus and OEMs continue to purchase new equipment and materials, it's worth mentioning the entire growth cannot be attributed to domestic purchases and sales alone. International sales of RP&M equipment and materials have grown considerably over the last few years. In their first quarter, Stratasys reported international revenue growth of 23% versus a mere 10% in domestic growth and 3D Systems has introduced and expanded its Accura[®] materials line in

Japan. EOS, a Germany-based LS supplier, has reported a 70% export rate of its equipment (mostly to other European countries) and has surpassed its sales forecasts by 30% in Central Europe alone.

Industries not so affected by the current economic condition are the medical and dental industries. The latest 3D printers developed by 3D Systems were designed specifically for cutting-edge medical and dental applications. This past February, EOS announced an agreement with BEGO group regarding patent licenses for the development of dental applications specifically for direct to metal LS systems. Conferences and expositions are being developed specifically for these industries, and applications such as hearing aides, medical implants and maxillofacial models are just a few applications that continue to benefit from RP&M technologies.

With new materials that are FDA approved, materials that simulate production metals and other production grade plastics, the future of RP&M lies beyond the prototyping phase. In this economic climate, customers are demanding more value from their parts by requiring that they function like production parts. The new materials and equipment that have been and are continuing to be developed will keep the industry profitable by providing parts that are not just for testing and proving designs, but for production use.

While the economic forecast is uncertain in the U.S., it shouldn't hinder the growth of the RP&M industry. Service bureaus and OEMs will certainly feel the pain of higher energy costs but this same dilemma will also create new opportunities in the form of new automotive and aerospace projects for more fuel-efficient engines and alternative power generation systems. Medical and dental industries are now more visible, and are being specifically targeted by the RP&M industry while typical industry customers (automotive, aerospace and consumer products) regain their former pace.

In my opinion, the current economic situation is not dire enough to slow down the latest industrial revolution created by rapid manufacturing. The future looks bright and I am extremely grateful to be a part of this industry.