The ultimate supply chain postponement system

By Gwynne Richards

Could we be seeing the beginning of a revolution in warehousing with the continued development of additive manufacturing?

A recent programme on BBC Radio Four - In Business[1] - discussed the development of 3D printing. The programme visited Loughborough University where they are developing systems to enable companies to produce building components and ultimately to build large building structures, EADS an aerospace company and Renishaw a manufacturer which has begun to utilise this technology to produce dental frameworks.

The process is better known as "rapid prototyping" where one-off items are produced from fused plastic or metal powder, using computer-controlled lasers.

According to Neil Hopkinson, senior lecturer in the Rapid Manufacturing Research Group at Loughborough University, speaking on the programme, this system "could make off-shore manufacturing half way round the world far less cost effective than doing it at home, if users can get the part they need printed off just round the corner at a 3D print shop on the high street.

Rather than stockpile spare parts and components in locations all over the world," he argues, "the designs could be costlessly stored in virtual computer warehouses waiting to be printed locally when required".

This is true Just in Time technology with very little storage required unlike in today's JIT supply chain where at least one party in the supply chain has to hold stock.

There will need to be a requirement to store raw materials to produce the parts however this will require far fewer locations in the warehouse and much less capital tied up in storage.

Those costly items stored in spare parts warehouses all over the country, for months, even years at a time, just waiting for a breakdown to occur, could become a thing of the past. This will of course depend on how quickly these parts can be produced. Currently it can be a two day process however as the technology advances, this time will reduce significantly.

The coming age could be that of mass customisation and individualisation as opposed to mass production according to Will Sillar from Legerwood speaking on the same programme.

Companies will be able to release capital to spend in other areas and will become far more environmentally friendly as the products will be made in a single material which makes disposal far easier.

Warehousing could be revolutionised with 3D printers replacing some but not all of the stock stored.

[1] BBC Radio Four "In Business" Broadcast at 8:30PM Thu, 28 Jul 2011

Gwynne Richards is a Director of Apprise Consulting Ltd, a supply chain and logistics consultancy and training company. www.appriseconsultancy.co.uk