



▶▶ Stormy Weather in Manufacturing

Using digital manufacturing to tackle turbulent changes in manufacturing

The global manufacturing market is in the midst of being hit by a major tidal wave. Japanese industry, regarded as a world leader in manufacturing, is no exception: With daily news of mergers and acquisitions in the digital home appliance sector, kaleidoscopic changes taking place in the next generation DVD industry, transitions in vertical and horizontal integration strategies of companies involved in the manufacturing of large-screen TVs, and several billion dollars worth of investments in new mega-plants at stake, Japanese electronics manufacturers are betting their fortunes to survive in the global competition. Even the Japanese automobile industry which had been enjoying solid growth is now finding itself in troubled waters: In 2008, the intense fluctuation of the exchange rate led to mounting problems in the ongoing development projects of eco-friendly cars - being carried out in response to historically up and down crude-oil prices and global warming - alongside the release of low-priced cars for emerging markets such as China and India. In 2009, the situation got even worse for car manufacturers as they started to struggle while a world economy sunk deeper and deeper into recession.

Japan has long been called the world leader in manufacturing. Even though the Japanese government has been pushing for the country to become a financial hub, Japan remains driven by its manufacturing industry led by the automobile sector. But manufacturing is facing countless problems in this rapidly-changing economic environment; declining quality due to global-scale division of labor, rapid price cuts as seen in digital home appliances, an increasing flow of pirated products from Asia, problems in the preservation and communication of manufacturing knowhow and traditions due to aging engineers, etc. The list goes on. Japan must resolve these issues one by one in order to win in the global competition. And from their efforts, other manufacturers facing the global challenge can learn to do the same.

▶▶ The Position of Japanese Manufacturing in the Global Economy

Since the start of the 21st century, China has increasingly been called the “world’s factory”. It is widely accepted that this “factory” is capable of mass production, but is as yet unable to meet strict quality and delivery demands. For many products Japan and other countries are no match for China’s incomparably cheap labor force.

So to survive, what should Japan manufacture? The answer; products that suit small, divers lot production requiring very high quality and strict delivery deadlines. This would allow Japanese manufacturers to thrive in response to the ever changing discerning needs of Japanese (and indeed, global) consumers.