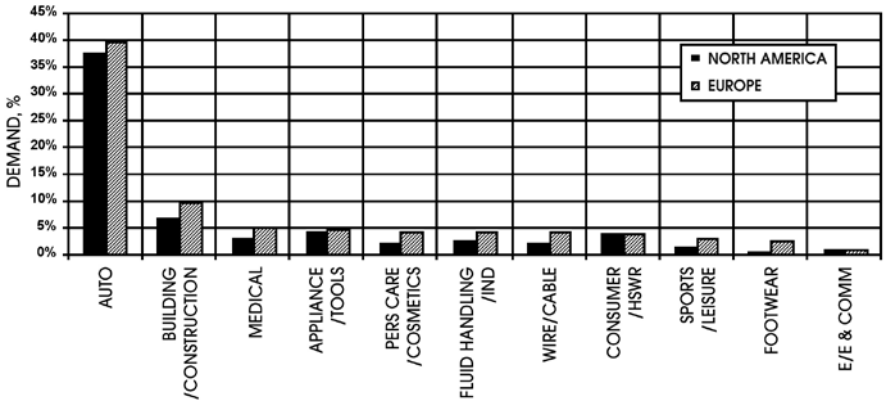
Asia plays key role in the global thermoplastic elastomer sector

Thermoplastic elastomer demand shift, the evolution of new quality tiers, and rapid growth of automotive manufacturing in China are changing the global demand footprint and encouraging Asian domestic and Western transplant compounders to reconsider their grade offering and market strategy

Thermoplastic elastomer (TPE) demand, especially in consumer markets, has shifted toward Asia, especially China. Regional differences in the rate of global economic recovery and the rapid growth of automotive manufacturing in China are changing the market dynamics of the TPE industry. In China, the TPE market is evolving at several different quality/performance levels as a broader range of the population increases consumption. Domestic and transplant multinational compounders and TPE raw material suppliers developing new domestic and nearby Asian capacity to serve the Chinese multi-tier demand require rethinking of product and marketing strategy. New thermoplastic elastomer applications are emerging based on new regulations (e.g., HFFR in wire/cable), higher performance requirements (e.g., for automotives), and new markets (e.g., solar and advanced battery).



Source: Robert Eller Associates LLC, 2010

Figure 1: Demand shares for TPE compounds by sector for specialty TPEs

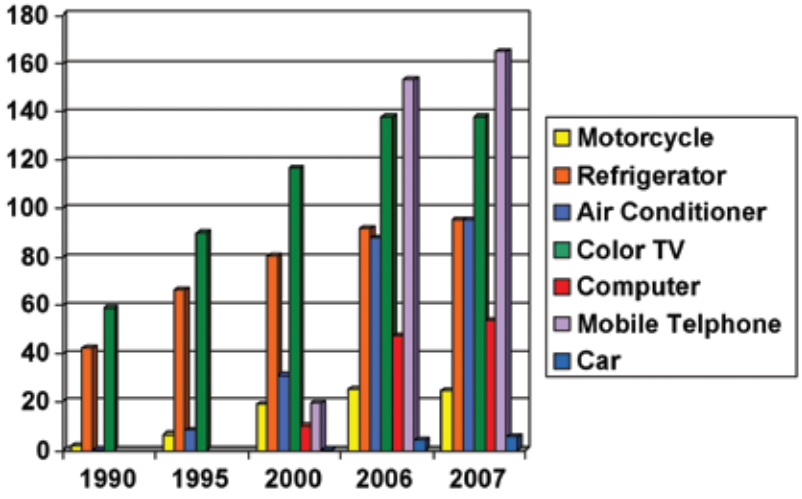
Market Sectors and the Global Economy

In Europe and North America, TPEs serve a broad range of markets (Figure 1). A significant portion of these Western markets shifted to Asia, especially China, during the pre-recession high growth period. Although Europe and North America are recovering, China's economy has picked up since April 2009 as a result of interest rate cuts, government lending, and the avoidance of the complex financial instruments that caused some Western financial institutions to collapse. These factors provide stimuli for strong TPE demand growth in China and strong GDP growth is expected in 2010.

China's TPE Market

The Chinese TPE market has unique characteristics, for example:

- It is currently the largest regional market and will retain its number 1 volume position through 2014.



Source: China National Bureau of Statistics; Robert Eller Associates LLC, 2010

Figure 2: Durable goods owned per 100 urban households in China

- The rapid shift of mobile electronics manufacturing (Figure 2) from other regions to China has created opportunity for TPEs in the wire and cable and other sectors associated with these markets, such as the requirement for halogen-free flame retardant (HFFR) compounds.
- Western transplant compounders must compete with domestic suppliers that have a significant cost and market access advantage.
- It has been highly export-oriented and is therefore affected by Western economic conditions.
- Domestic Chinese TPE markets are growing rapidly (Figure 2) and until recently have not been a marketing focus of the transplant compounders targeting the region.
- Robert Eller Associates' (REA) China multi-client study revealed that Chinese TPE markets have a quality/performance tiering to accommodate different market segments (see Figures 3 and 4). Two of the domestic quality tiers (glocal and local) have been under-served by Western TPE suppliers.

In contrast to the traditional view of China as a low cost manufacturing source, in REA's analyses of the China TPE market we see a competition between globalisation and localisation. To compete in the glocal and local markets (Figures 3 and 4), Chinese compounders have a number of advantages over their transplant competitors, including:

- ability to utilise local raw materials and a broader range of raw material types and sources,
- lower labour costs than Western transplant compounders,
- lower capital depreciation costs,
- lower packaging costs,
- lower shipping costs, and
- government subsidies and the support of government funded R&D institutes.

Role of Import Duties

The recent and anticipated lifting of duties on imports from Singapore and other Asia locations into China suggests that these Asian locations are likely to continue to see investment by Western, and to a large extent Japanese, TPE suppliers.

The Global Automotive Market

The automotive industry has undergone changes on both the demand and supply side during the recent recession that have turned out to be favourable to TPE growth. The evolution of a new middle class in high population-growth developing countries, macroeconomic shifts, and the evolution of electric-drive (ED) and hybrid vehicles with advanced battery technology will:

- drive up the value of weight saving (10% weight reduction yields 7% fuel economy improvement),
- further restructure the automotive supply chain,
- encourage parts consolidation, and
- encourage the use of PP compounds (especially long fiber reinforced PP, LGF-PP), which will, in turn, stimulate the use of thermoplastic elastomers (both olefinic and styrenic types).

Growth Applications

As in other regions, automotives in China consume a large share of styrenic and olefinic TPEs and these have high growth potential from the current levels due to vehicle production growth but also due to low current utilisation, for example, for fully crosslinked o-TPVs. The global average usage of o-TPV is 2.6 kg/vehicle, compared to just 2.0 in China and 1.5 in India.

In addition to the growth in established markets, some of which are reaching maturity, eg soft touch consumer applications, there are a number of new applications categories.

Market Segment	Quality	Performance	Service	Price
Global	High	High	High	High
Glocal	Near Global	Near Global	Moderate	Near Global
Local	Local standards	Local requirements	Low	Local
Low End	Low	Low	None	Low

Source: Robert Eller Associates LLC, 2010

Figure 3: Quality/Performance tiering in China TPE markets

Market Segment	Product/Quality Definition
Global	Products produced for global market, meeting global quality and performance standards at global pricing
Glocal	Products produced for domestic and export markets, with near global quality and performance standards with near global pricing
Local	Products produced for the local market, meeting local performance, quality, and price requirements
Low End	Products marketed based solely on price, with low concern for quality and performance

Source: Robert Eller Associates LLC, 2010

Figure 4: Quality tiering of China TPE markets

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Thermoplastic elastomers are one of the consulting specialties of REA. The firm has completed a global technical, economic, and market multiclient analysis of the thermoplastic elastomer sector in North America/ Europe and China as well as studies of automotive interiors, plastics in advanced battery technologies, and wire/cable.