

Technology Trends for Low-Density Polyethylene (LDPE)

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LDPE is a polymer derived from the polymerization of ethylene. It was first produced in 1933 by Imperial Chemical Industries (ICI). LDPE remains widely used with a world production in 2013 at 19 million metric tonne at an estimated value of USD28 billion despite the emergence of newer grades.

PETRONAS Chemicals Group (PCG) venture in LDPE began in 1995 with the inception of a 255,000 metric tonne per annum production facility. The industry has been more challenging and competitive ever since mainly driven by new supplies from feedstock advantaged players with lower production cost and customer demand for solutions. Tech-mining tools has been adapted to assist PCG in better understanding the technology space and trends to support decision making.

Patent databases were interrogated for this study. The first step taken was to identify the broader space of technologies on LDPE. Clusters of technologies within the space were further investigated and analysed to ascertain new and emerging fields, participations and other interactions. Thomson Innovation (TI) suites and Thomson Data Analyzer (TDA) were the analytics software we used to perform these activities.

These activities has enabled us to identify strategic options for new product applications and improvements and networks to explore for collaboration. More importantly, team participations in the study has succeeded in shaping quality discussions which lead to better comprehension of the strategic options for sound decision making. All these will better position PCG towards sustainable growth.