# From low cost rubbers to high value materials : an alternative to standard processes

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Over the past decades, the scientific community paid much attention to the influence of chemical processes on the environment. Thus, new methodologies were develop to reduce chemical pollution and the evaluation of the impact of low concentration of chemicals on human life is still of great importance nowadays. Even if organic chemistry was the first domain investigated, polymers were also source of questions. Are their degradation safe ? Are they obtained with low environmental impact ? And what can we do with end-life polymers ? Are we able to modify our processes or the polymers structure but without any change of properties ? In the same time, the growing world population needs more and more energy, facilities, transportation which seems highly challenging on an environmental point of view. In this respect Rubber chemistry domain has not escape to this rule.

Indeed the consumption of synthetic or natural rubber has dramatically increase during the past 20 years since rubber has found application in almost all life domains (transportation, goods, energy, life science, etc…). The rubber industry has well understood the neccessity to modify their processes and our scientific community is still exploring different alternative to prevent or limitate the environmental impact of chemical industry. Among all axis investigated, scientifics were particularly involved in thermal, mechanical or chemical treatments leading either to new processes development or new chemical structures synthesis. The purpose of the presentation is to tentatively suggest an alternative procedure which could be able to target high value materials from low cost rubbers, which could be respectfull to the environment.