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## Organic modification and functionalization of biobased aromatics and their use in industrial polymer formulations

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Aromatic organic materials are often recovered as byproduct or waste stream of agricultural and industrial processes. Some of the collected materials are not edible and may not be reused in agricultural processes and are used as an energy source or disposed of. The present contribution shows the potential for chemical purification and functionalization of aromatic molecules and their use in the polymer industry. Biobased resins are in fact an emerging alternative for performance materials and the new generation biopolymers are required to improve both sustainability and technical aspects. AEP has been working with RTOs and industrial partners to create brand new substances and materials starting from renewable resources and combining different chemical structures, from fatty acids to bio aromatics. In particular, Cashew Nut Shell Liquid (CNSL) is a naturally occurring source of phenols. AEP developed a portfolio of industrial polymers from CNSL with hydroxyl, aminoalcohol, epoxy and amino functionalities to deliver performing materials for demanding industrial applications in composites, polyurethanes and adhesives.

### Biography

Elena Benedetti graduated in 1999 from the University of Trieste and worked in the Molecular Pathology field at the International Center for Genetic Engineering and Biotechnology in Trieste. She then moved to the materials science focusing on polymer formulations for coatings and composite materials, managing specific product lines, publicly funded R&D projects and consultancy activities. She was appointed as Technical Director and Business Unit Manager for the biobased materials business in companies in Europe and US. Since September 2013, she is Director of Product Application at AEP Polymers.

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