

# **DISRUPTIVE TECHNOLOGIES**

A disruptive technology is one that displaces an established technology and shakes up the industry or a ground-breaking product that creates a completely new industry. Such technology can also complement existing technologies.

Disruptive technology also refers to any enhanced or completely new technology that replaces and disrupts an **existing technology**, rendering it obsolete. It is designed to succeed similar technology that is already in use. However, I would argue that ignoring the effects on the status quo reduces the potential of integration of such technologies unless they expand and build on existing technologies.

The following such technologies currently exist in the market and have become more successful in other countries than the United States in the last five years.

- 1. Permanent Broad Ultraviolet Absorbers called “Spectral Enhancers”, with Synergistic properties with both expensive Hindered Amines and Conventional Ultraviolet Absorbers while providing Hyperchromic Synergies and Altering the In-Situ rates of consumption of conventional organic ultraviolet absorbers due to their fugitive nature.**

2. Optically enhanced Polyolefin Homopolymers and Copolymers without the need to nucleating agents or expensive clarifiers/sorbitol chemistries. Control of both see-through and contact-clarity *without the need* for additives using new methods of producing injection molded parts or cast films with glass like clarity. The same process increases surface hardness and resistance to staining.
3. Glass filled Nylon with superior long term light stability in hot hostile environments while maintaining coloration and no surface chalking over time. Twenty year guarantees and more!
4. Glass filled Nylon injection molding without long term damage to insert molds by the abrasive nature of glass fibers on the mold surface. Molded parts show no surface glass and high gloss.
5. Reduction of Expensive Colorant levels in Nylon by up to 40% while maintaining color match.
6. Reduction in cycle times of both mineral filled and non-mineral filled Nylon parts while reducing scrap rates in the process.

- 7. Acid acceptor for polyethylene terephthalate recycled resins that eliminates the adverse effects of polyvinyl chloride cross over contamination that adversely affects processing and intrinsic viscosity of the PET during the high temperature pelletization process. Acid Acceptor is compatible in PET and scavenges the acid formed from the PVC during high temperature processing.**
- 8. Carbon Black replacement for polyolefins that enhances long term thermo-oxidative stability at 150C and OIT at 190C beyond the current limitations of all commercial antioxidant systems in the market globally. Potential for altering the existing chemistry further to expand on the technology by another 50%. The technology has greater jetness than traditional carbon blacks and higher gloss to the molded parts. The technology also expands the infrared window of black pigment polyolefins in the mid-Infrared and far infrared.**

- 9. New inexpensive pigment technology that replaces warping colorants while expanding the color pallet and physical properties of polyolefins and condensation polymers. Coloration provides both greater transparent colors in masstones at a fraction of the cost of conventional colorants. Standard levels of colorant range from 0.01 to 0.1% final in the fabricated part.**
- 10. Spoilage indicator sensor film that can be applied to containers to indicate when a substance is spoiled or on the verge of spoiling as part of a visual indication which is indicative of the changes in acidity and basicity of the food.**
- 11. Fluoride Scavenger for Fluorinated polymers and catalyst in both the plastics and coating industry to mediate or scavenger fluoride and HF.**

12. [Blue light absorber technologies](#) that provide for protection in the range of 390 to 500 nm. Applicable to polyolefin films and injection molded containers. Ability to achieve zero transmission of film or molded parts.
13. Post Harvest protection of barley and rice from rice weevil and barley weevil during storage without the need for fumigation and irradiation of rice or barley.
14. Control and Elimination of toxic black molds in gypsum board. The most evasive pathogens in the *Stachybotrys chartarum* family are now controllable with this technology and its inexpensive. Addition to gypsum boards or other filled industrial boards are applicable.
15. Control and inhibition of Black Rosa (Botrylis Cinera) in greenhouse rose production and control of post harvest infestation of berries and fruits from spoiling. Technology applicable to spices and control of other fungi.

