DISRUPTIVE TECHNOLOGIES UPDATE

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. **Recycled Tire Rubber composites in recycled black pigmented battery case polypropylene copolymers and recycled polyamide carpet waste that have zero subjective odor!**
2. **Recycled Tire Rubber composites up to 40% by weight with physical properties comparable to Santoprene Rubber.**

3. **Recycled Tire Rubber composites that have optional colors other than Black. Introduction of OMPF colorants for recycled Tire Rubber. OMPF (Organo-mineral pigment fillers) adjust coloration of recycled tire rubber composites in polyolefins and recycled carpet waste nylon from White, Shades of Gray, Blue, Lavender, Red, Yellow, Green and Champagne or Flesh at significantly lower cost performance than conventional colorants. OMPF also provides for adjustment of flexural modulus.**
4. **Low cost activation protocols for natural zeolitic structures and conversion to appropriate catalyst and ethylene scavengers and anti-algacidal and anti-fungal agents for Agricultural Film Market in Latin America and S.E.Asia. Non-Fugititve technologies for copper, palladium, platinum, silver, gold, zinc, indium, and many other elements.**

5. **Denucleator Technology off-set induced nucleation by third and fourth generation polypropylene catalyst. New generation polypropylene using select catalyst technologies show a predisposition for nucleation without addition of nucleating additives known in the art. Not all grades of polypropylene require or need nucleating agents and can cause problems in down stream fabrication in fibers and slit tapes and in film applications. Denucleators harmonize the recrystallization by one or more mechanisms allowing for post polymerized resin to have normal recrystallization. Cheap fix for a serious problem.**
6. **Non-Warping Blue and Green Colorants for polyolefins. Transparent colors in thick section at lower cost than phthalocyanine colorants.**

7. **Rotational molding of polypropylene! New developments in high temperature processing of polypropylene homopolymers for rotational molding to stop embrittlement and yellowing during production. Over 90% of Rotational molding globally has been directed towards linear low density and high density polyethylenes. Very limited use of styrenics, polyamides or polypropylene due to the stabilizer systems in use and sold by the vendor of these resins. Now that changes. Toll convertors using these methods will allow Roto molding of Nylon 6 without yellowing and have incredible outdoor light stability without yellowing or fading. Polypropylene homopolymers can now be rotomolded into very small medical centrifuge tubes to large containers without yellowing or embrittlement.**
8. **New amphoteric acid acceptors for polyolefins with broad applicability and performance. Tailored for aggressive catalysts and corrosive conditions without acting as dehydration catalyst or interacting with antioxidants.**
9. **Inhibitors that stop discoloration by primary antioxidants in storage. Inhibition of yellowing and pinking.**

10. **Inhibitor for hydrolytically unstable aliphatic and aromatic phosphites. Current technology uses 1% amine to control rates of hydrolysis and formation of corrosive acid that corrodes molds and equipment and increases plate out. The new technology is a post polymerization additive that is added at very low concentrations and stops hydrolysis in-situ allowing the phosphite and antioxidant combination to perform well after storage in hot humid warehouses.**

New updates to follow.