Technology Landscape: Fire Resistant Composite Materials

Case Study

Technology Landscape

Client	Global composite material manufacturer
Industry	Automotive, Aerospace, Manufacturing, etc.
Products	Composite materials, Fire retardant fiber reinforced composites, etc.

Engagement Scope

Solutions Landscape Provided a landscape of solutions covering the following aspects Resin Systems Fire resistant resin systems High temperature resins Others Fillers/Additive based resin systems Low weight/low toxic emissions Non halogenated resin systems

Context

- Huge demand for improved fire and high temperature resistant composite has pushed suppliers to innovate non-halogen, lightweight and filler free fire retardant resin systems
- The Client wanted an assessment of alternate technologies (not matrix-based) for improving fire resistance of composite materials for example surfacing films, coatings, etc.

Key Business Questions

- What are the various non-halogen or halogen free flame retardant resins?
- What are the various liquid additives that can improve fire retardancy?
- What are the key advanced and alternative fire retardancy solutions commercialized in the industry?

2 Technology Assessment

- Provided an assessment of key material technologies
- Alternative Solutions
 - Multilayer laminates
 - Graphene foams
 - Advantages & Disadvantages
 - Key Performance Indicators (KPI)
 - Others

Player Landscape

- Provided intelligence of competitors who are involved in in the formulation and manufacturing activities
 - Material Suppliers
 - Customers/OEMs



Technology Landscape

Research Methodology

Secondary Research

Secondary research was one of the core approaches that included web based news, products and associated materials

Patent Research

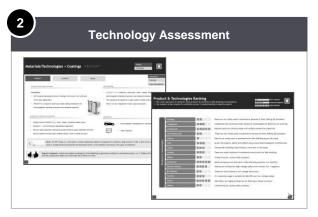
Patents relating to halogen free resin systems with flame retardant property was conducted on commercial as well as country specific national patent databases

Scientific Literature Research

Identified new material solutions from research, review papers and journals

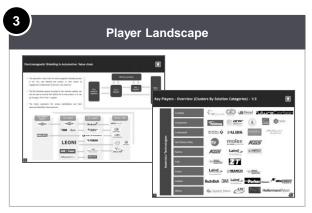
Sample Analysis





Benefits to Client

- Client got an understanding of various fire retardant solutions commercialized in the industry
- The intelligence assisted the Client in identifying alternate technologies (not matrixbased) for improving fire resistance of composite materials for example surfacing films, coatings, etc.



FutureBridge

Thank you

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