

## Third Laureate Research & Development

**Project Title:** Design and manufacturing of Bulked Continuous Filament (BCF) yarn machine  
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### Abstract:

Polypropylene (PP) is the third largest textile material consumed in the world, after polyester and cotton. PP yarns are used in carpet, BCF rug, upholstery and others. These yarns are made in a continuous process (dosing, spinning, texturizing and winding). However, the majority of BCF yarns are produced today in a vertical operation in which nylon or polypropylene granules are melted and spun and then both drawn and textured, all in one continuous sequence. This is partly a result of the development of the original stuffer-box texturing process to become what is now a jet-driven process. This research developed a new pilot structure such as dosing (application of servo motor) and integrated hot fluid jet that made uniform and stable high bulk yarns with highest color matching ability. This machine was sold in several domestic and foreign companies and they are working right now.

