

STARTING WITH A SPARK



From the largest companies to the smallest, a successful product begins with a spark of innovation — that one idea so big, so exciting that it seizes customers' imaginations.

Dyson. Apple. Tesla. These market leaders all began as small startup companies with a unique product vision that defied the conventional wisdom. This vision began with a spark of creativity, with engineers asking the question, “How can we do it better?”

At one point, their product ideas were most likely considered crazy, unrealistic or a bad financial risk for investors. Their success hinged on both technology and engineering breakthroughs. Yet the entrepreneurs who founded these companies stuck by their vision and ultimately achieved incredible success. Today, customers line up for their products because they represent a design revolution — offering features and performance benefits unmatched by competitors, effectively disrupting the pre-existing market and redefining product performance.

These and other successful startups have proven that a single spark of creativity has the potential to rewrite historic design rules and even change lives. But first, entrepreneurs must confidently and thoroughly answer the question, “How can we do it better?” — usually without significant human or financial resources. While they might believe passionately in their product ideas, entrepreneurs need to prove their concepts from an engineering standpoint to attract investors, navigate regulatory approvals and ultimately win customers' confidence.



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In the past, inventors like James Dyson had to rely on building and testing thousands of physical prototypes, which often required years of effort. Today, entrepreneurs have access to an array of advanced tools and processes, including engineering simulation, that can help them take design risks and test their innovative ideas at a minimal investment of time and money.

Profiled on the following pages are seven companies at various stages of maturity, and representing a wide range of industries, that are somewhere on the road to startup success. Some of these businesses have not yet launched a product, while others have shipped to thousands of customers. What their founders have in common is an unwavering belief in their product ideas, as well as a commitment to applying the best available technology to verify and commercialize those ideas.

From new energy solutions and medical products to sports equipment, these companies are taking that spark of innovation and turning it into viable commercial products. They are creating new product categories, taking on established market leaders and otherwise turning their industry on its head. Their stories are inspiring and informative, because they are conquering engineering and product development challenges that are common to many companies, large and small.

Starting a company has never been simple or straightforward, but today's fast-changing, crowded marketplace makes it even more challenging. Product life cycles are growing shorter and shorter, groundbreaking ideas are quickly copied, customers are constantly demanding new features and functionality, and engineering teams are leaner than ever. In this complex environment, dramatic and ongoing innovation is not just an option, but an imperative. Read on to learn how innovation has become a way of life at seven unique businesses. 