**DESIGNING A PRODUCT**

Before carrying out a product design or improvement/cost reduction exercise it is important to start from a known base, where you understand the market in which you intend to sell your product, you know your potential customers, you know that your product will satisfy their requirements, you understand where the threats lie, be it competition, changing markets/technology and importantly you can satisfy all the above along with fulfilling the requirements of your own business be it growth/market share/profit.

In order to achieve this you need to:-

**Understand Your Market**

* What are the markets for your product and who are potential customers and how do you plan to access them.
* What product does the market need and what are the key drivers (performance/cost/size etc)
* How big is the market for the product
* Do you have access to all those markets
* Do you have competition in those markets
* How much of that business can you win and what does that equate to in monetary terms
* Is that market requirements known in the short, medium and long term
* What is the market willing to pay for your products
* What are the delivery expectations from receipt of order and can you deliver

Understanding the market and your customers enables you to focus the product design to fulfil the market requirements and also influence the level of investment to make vs return on that investment and importantly position yourselves as best you can to any potential changes in the market.

**Understand Your Competition**

* Who are your competition and are they industry leaders or market incumbents
* Does your competition have commercial agreements in place that could close a market or customers for you
* Do you understand their products and their total offerings to the market
* How much are the competition charging for their products/offerings
* Is your competition able to influence the current market with a product/technology/pricing change and how are you positioned to react

Understanding your competition and their products enable you to design your product to compete or exploit weaknesses that could provide your product with a differentiator and win business.

**Understand Your Product**

* Does your product fulfil the market and your customers requirements
* How does your product compare to the competition
* Does your product have a Unique Selling Point (USP) and is it sufficiently strong to win business from the competition
* How flexible is the product to adapt to changes from the customers/markets/competition
* What is the life span of your product (can you recoup investment - do you need to continually innovate)
* What are your full costs and lead-times
* Are you tied into third party components that dictates the design and your flexibility to change

Understanding your products weaknesses as well as their strengths compared to the competition will enable you to hopefully design out the issues, and market the product on it strengths.

**Understand Your Business**

* Has your business got the capability and capacity to build the projected quantity of products in the potential delivery schedule
* Can your supply chain deliver into your business on schedule especially on long lead-time items
* Can your business react quickly to request for custom products be it design or performance related.
* Has your business got the capability to implement a continuous improvement and cost reduction programme to increase product margin or reduce product pricing which in turn improves the products market attractiveness.
* Is your business able to develop the next generation of products or identify alternative markets for your product or derivatives of the products, and could it design those derivatives quickly and cost effectively.
* Are you tied into third-party technology which affects your business flexibility and autonomy.

It is important your business is able to deliver the product on time to the customers, but also be able to react quickly to changes in the market, or to customer’s request. This ability to be flexible and quickly customise your offering will enable you to add value and win business from your competition.