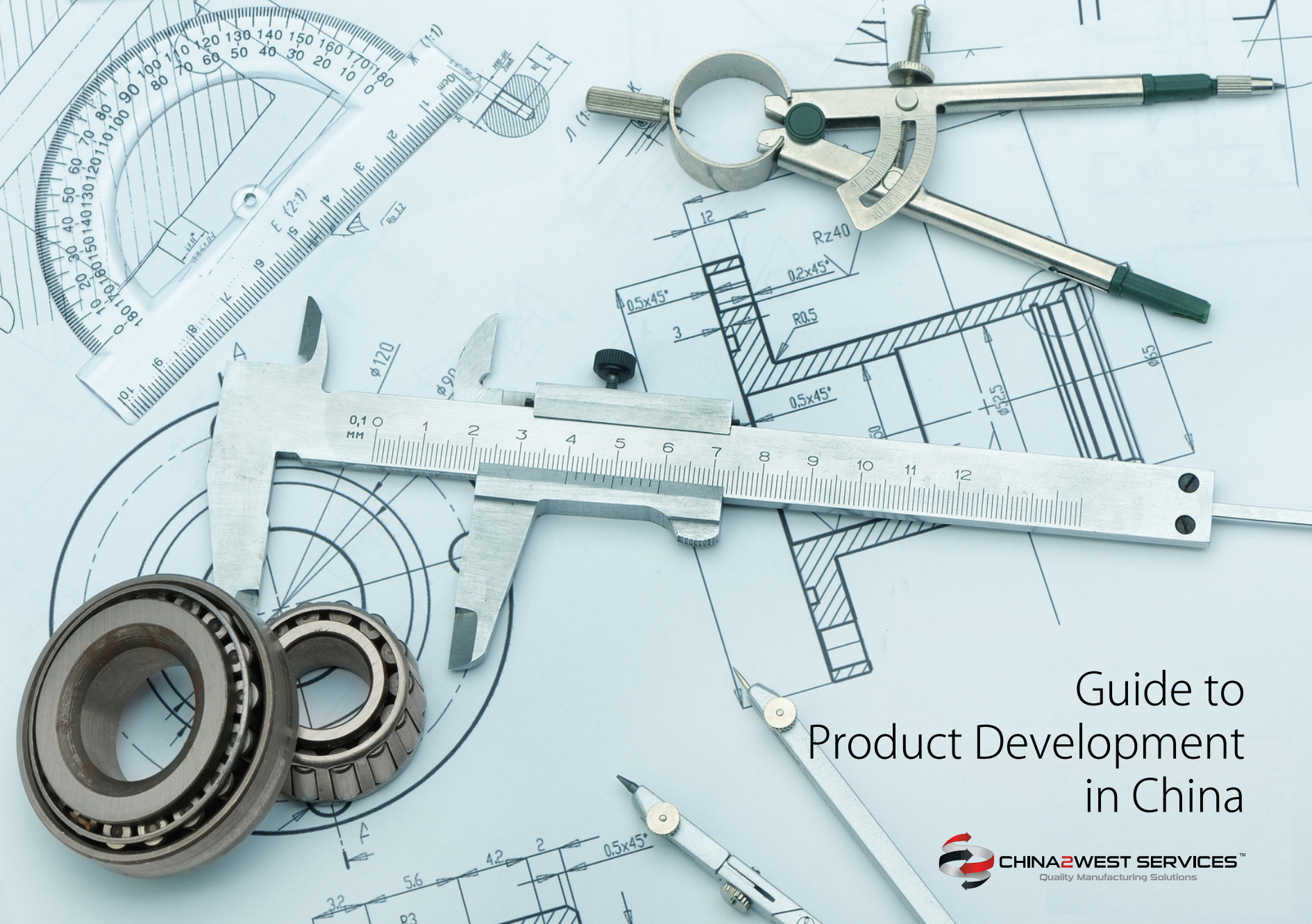

Guide to Product Development in China

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Guide to Product Development in China

Asia specially China is more often associated with inexpensive production than with Product Development. It however makes more sense to not only manufacture in Asia but also design and develop new products here; as a result, you benefit from cost effective China Manufacture that can be utilized in your device to help lower your unit cost. But to do that, you need engineers adept at designing, refining and testing the new products.

Going from concept to production and then successfully marketing a new product involves taking a number of critical steps. In China 2 West we pride ourselves on the ability to take virtually any idea at any stage in its development, from concept to technical evaluation and providing the client a fully developed design regardless of its purpose while doing so at a fraction of the cost our western based rivals can offer.

In the next pages we share, tips and review the steps required when Developing and Manufacturing a new product in China.

Concept Development

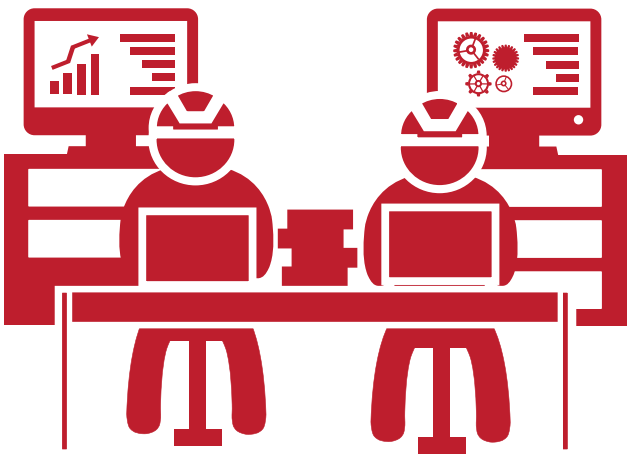
You might have an concept idea of a new product to be launched in the market, before proceeding with the mass manufacture several steps are needed in order to ensure that the product will be made not only according to your specifications, but also will be functional and will have an successful impact in the market.

Normally at this stage you'd contact a design and engineering agency to help you, here project managers and engineers will work closely with you to define the scope, usability, and functional requirements of your product. Concurrently, an analysis and risk assessment of the solutions will be performed to ensure that they are in line with your business plan from the standpoint of features and price and give your product a competitive edge.

A proof of concept may be necessary at this stage for certain projects to determine if the solution decided upon is feasible from a technical standpoint.

Development

An industrial designer will take input from the initial stage and begin conceptual renderings and studies. The designer will also collaborate with the engineers from the start to define design boundaries and guidelines for manufacturing functional design; this leads to reduced risks and a shorter time-to-market later.



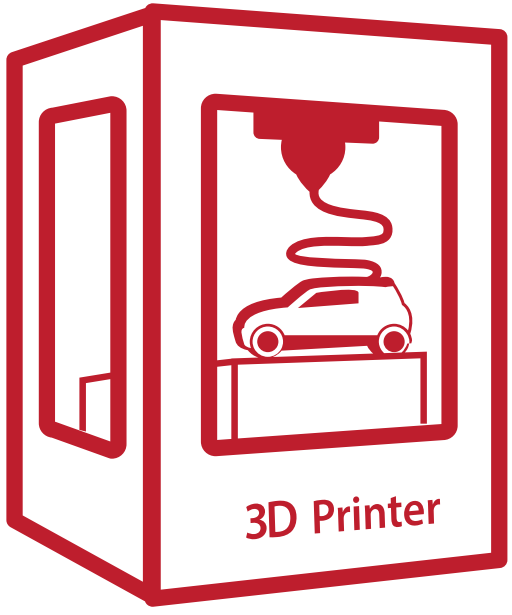
Engineers will develop mechanical design, electronic design, PCB layout and firmware coding where needed, in order to start creating product prototypes. Prototypes are essential for usability, reliability, and functional validation.

The product must be engineered, prototyped and tested to insure that it performs as needed. The engineering process involves creating computer-generated drawings (prints), that a manufacturing company will use to create the production parts.

The prototyping process can also save you money by flushing out ideas on how the product might be made at a lower cost. This is a great as a tool to aid engineers in general design work, DFM (design for manufacture) and fault finding.

Techniques and possibilities when prototyping in these days are endless: SLA and SLS Rapid Prototyping, Injection Molding, CNC Machining, Aluminium Tooling, Silicone and Rubber Molding, Clay Molding and even 3D Scanning/Printing. Depending on the product and needs you can pick the technique that suits the best to your needs.

Not prototyping your product is a costly mistake that can result in a shipment of defective parts.



DFM

Design for Manufacturing (DFM) is the method of design for ease of manufacturing of the assortment of parts that will form the product after assembly. DFM is primarily concerned with reducing overall part production cost and minimizing the complexity of manufacturing operations.

In simple words DFM is the process of designing or engineering a product so that it is easy to manufacture at the lowest possible price.

The process should include review of the raw material selection, secondary processes (finishing, plating), dimensional requirements and even final packaging. It's the technical version of the "What if" and "Why did you choose…" game!

Two great DFM questions: What needs to be added? What needs to be removed?

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Design for Manufacturing Aims to:

- Reduce material, overhead and labor cost
- Shorten the product development cycle
- Focus on standards to reduce cost

Key Principles in the DFM Process:

- Minimize part count
- Standardize parts and materials
- Create modular assemblies
- Design for efficient joining
- Minimize re-orientation of parts during assembly and/or machining
- Simplify and reduce the number of manufacturing operations
- Specify 'acceptable' surface finishes for functionality

DFM should help you to:

- Boost cost reduction.
- Remove complexity in the manufacturing process.
- Make sure that the product you will manufacture will match the quality levels you expect.
- Make sure that you're manufacturing with a trusted facility.

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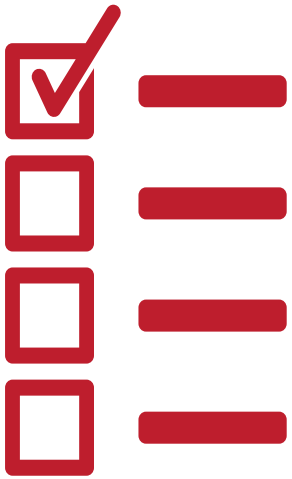
TESTING & REFINEMENT

In this stage prototypes must be subjected to fit, functionality, stability, and accelerated stress tests (if required). You should be receiving a prototype for your own testing and validation.

Normally the engineers will bring the prototype to a third-party lab and oversee testing and engineering scan for compliance.



Depending on the outcome of the test, refinements will be made to the hardware or firmware. In order to ensure that the prototype will be accurate and up to date with all the modifications needed to ensure its functionality and safety.

If there are any changes that need to be made to the product, the prints must be updated. You might consider having a final prototype or two made if your customers want to see an updated version.

CERTIFICATIONS

Depending on the features and the region where the product will be sold, the device will need to comply with different standards such as CE, FCC, UL, RoHS markings, just to name a few.

You must to be sure that the product will comply with each and every rule established for the given product in the potential market, in this stage the tweaked and perfected prototypes should be tested in specialised centres in order to obtain all the Certifications needed.

Remember that by having all the certificates and laboratory test results prior the arrival of the merchandises to the final destination will ease the import procedure and will ensure that your products wont have any distribution and consumption problems.

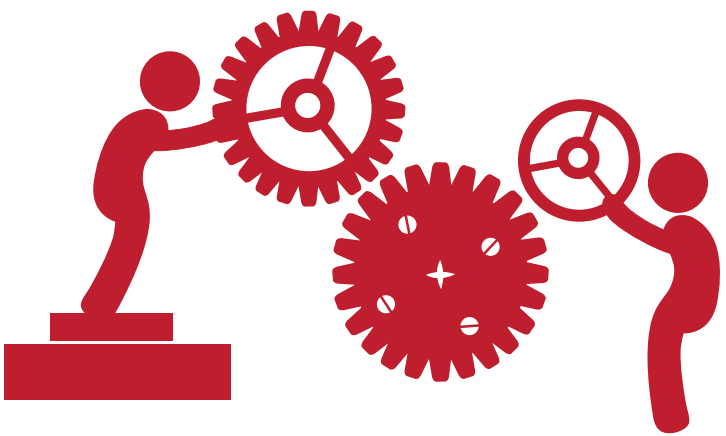
TOOLING & MOLDS

After the prototypes had passed all the tests, then you're ready to start preparing the mass production, but as you're planning to manufacture a new product, making a new mold and setting all the machinery is key part in this stage.

Since molds and tools are generally labour intensive products, manufacturing them in China makes very good financial sense. You can sometimes expect savings of up to 100-300% over western manufactured tools of an equivalent quality when placing your orders.

According to your requirements and budget, you can manufacture lower quality short run molds all the way to high quality auto-grade EU/US certified molds.

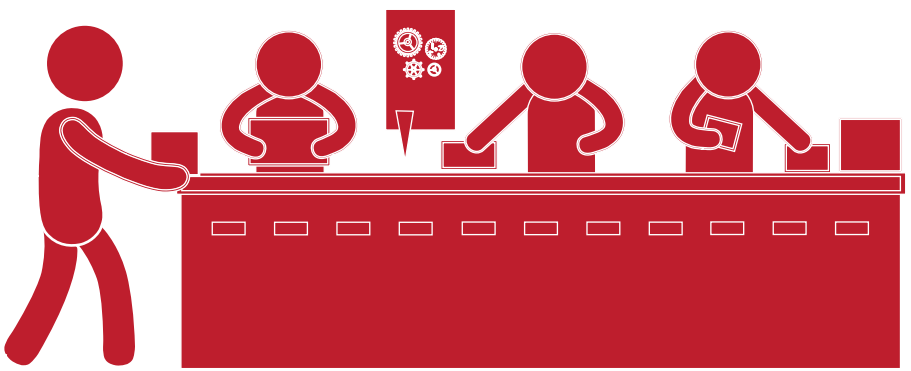
Once your tool or mold has been built and approved then is time to start with the mass production.



MASS PRODUCTION

Before starting the production you've had searched and found the most suitable manufacturer for your new product, when manufacturing in China your need to be aware that there exist two types of factories or suppliers: "OEM and ODM", meanwhile an OEM manufacturer will be able to produce a brand new item tailored to your needs and specifications, an ODM manufacturer will normally just re brand their off the shelf products to suit with your brand image. Please make sure your new manufacturing partner is capable of OEM manufacture.

Once you've set the production order, it is advisable to do a pilot run of 50 – 100 units before mass manufacturing to guarantee stability of production and for further field testing. Aside from material procurement, manufacturing fixtures (jigs) will be made and procedures will be prepared for assembly, testing, and quality control.



PACKING & PACKAGING

Your product cannot be completed without the packaging, no matter in these days China has drastically improved its proficiency in English and westernised its design skills, sometimes when walking around the streets of China you can still find some English typos and design fails, for which we recommend to hire a professional design agency for doing the package of your product for you.

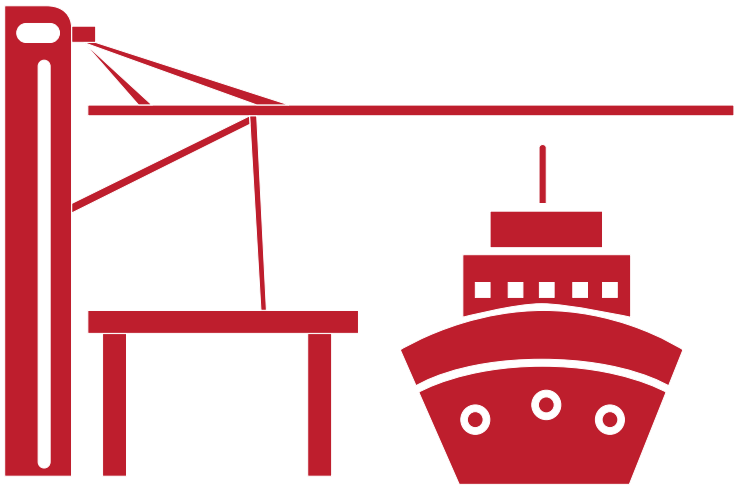
Remember the package gives your potential clients a first glimpse of your product and your company, so better to have a good first impression.

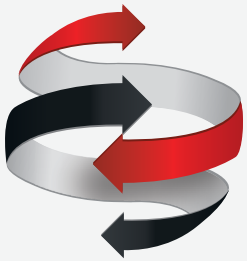
You're almost ready to ship your products from China to the world, but first need to ensure that the cartons will be packed in the right conditions and that will contain all the appropriate handling marks to avoid any kind of damage during the transport to the selling point.

SHIPPING YOUR PRODUCT TO THE WORLD

Congratulations, you've successfully passed through all the stages of the development of a new product, now you're ready to deliver your product to your customers all over the world.

Shipping from China is not a problem, with a first world logistics system and some of the world busiest ports, sending your goods from the far east will be easy, just make sure like we mentioned before that your product complies with all the needed certification and transport measures needed to ensure the easy entry to the market.





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