P1 Technology™

Improve your profit margins
Accelerate Development process
Penetrate new markets
Bring your ideas to life

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Industrial Design : Design Engineering : Reverse Engineering : Rapid Prototyping : Project Management

www.p1technology.com

Concept/Industrial Design

It takes imagination to come up with an original idea.

We encourage new product development starting with your ideas. Our designers nurture and develop a relationship with our customers to encourage imaginative and creative thought. We have knowledge of many industries and have developed many successful products for our customers; product development is a constant learning process. With industries changing and adapting to new markets; we also have to change and develop as new technologies and manufacturing techniques are created.

With that in mind, our approach is to build an understanding of your company; encouraging a base knowledge of your industry and gather information of your existing products. This helps us understand what you require from the Product development process.

With our creative approach to concepts, we can bring your thoughts and ideas to life, with a close eye on costings and manufacturing details to ensure the most appropriate solution is found.

Well resolved products outsell their competitors

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Engineering Design

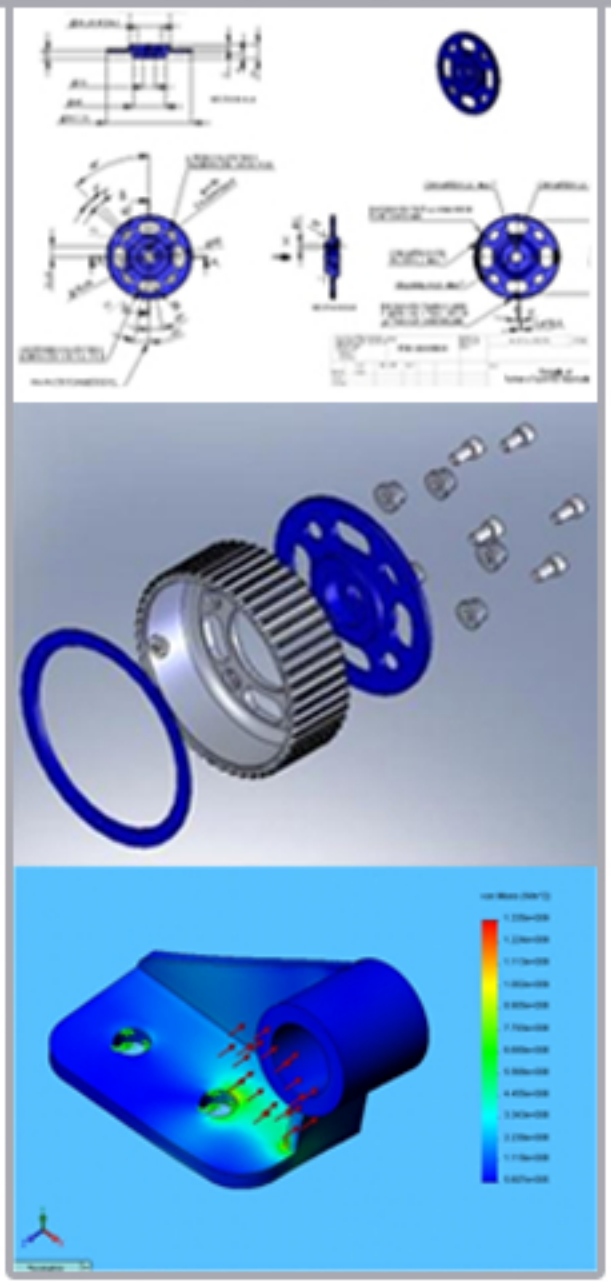
Engineering Solutions can be provided utilising Computer-Aided Design, Engineering and Manufacturing techniques.

Designing products within a computer environment can help develop products simultaneously, checking and verifying that each component is fit for purpose, and that they can be manufactured with the ability to check tolerances and fit. Once all checks are complete, the final test is to make the product.

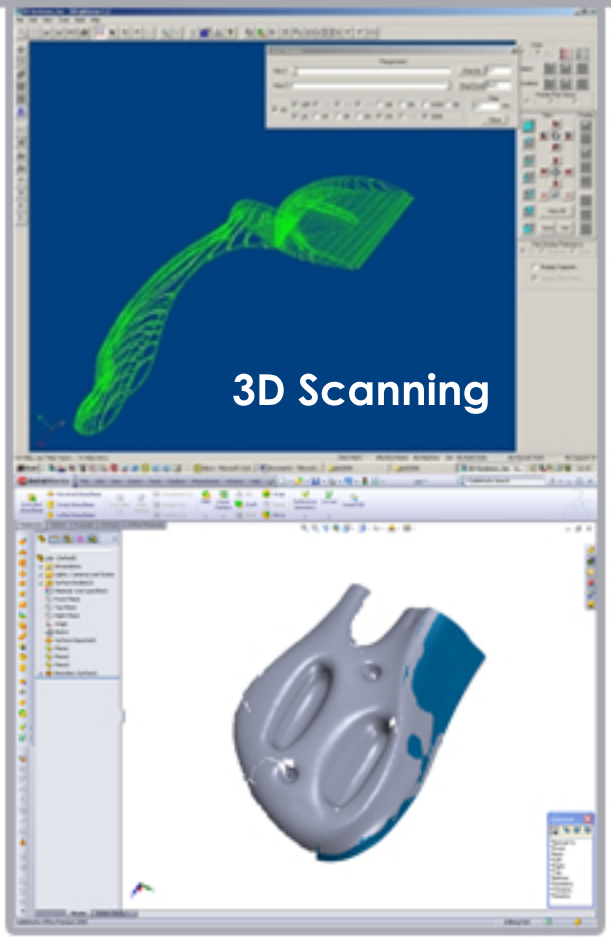
With 3D data, Rapid Prototyping techniques can be employed to verify the product before expensive tooling or production set-up is commissioned. P1 has access to revolutionary rapid prototyping techniques which can build bespoke metal components to your requirements.

Other advantages of 3D CAD data would be the use of Analysis techniques for verifying component structure and material. Once all the checks are complete 2D production or tooling drawings can be created for shop floor or supplier reference.

2D and 3D CAD to create, analyse, and verify components in complex assemblies



Reverse Engineering/2D to 3D



Replace lost data,
Accelerate Development &
Manufacturing Process,
Create 3D data from 2D drawings

There are many reasons for using Reverse Engineering techniques to create new products. Sometimes the original data is lost, or exists in a form that can't be used with new ways of manufacturing products.

It is useful to be able to create product information quickly and efficiently. Sometimes this may need an Engineer to hand measure a component to get an understanding of the information required to translate to a CAD system.

For complex or organic shaped components there are more high-tech ways of creating the data required. Co-ordinate Measuring Machines (CMM) and Non Contact Scanning, Laser Scanning or Imaging systems are available.

2D drawing data can also be transformed into 3D models, which in turn can be used for the RP process and component manufacture.

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Product Development

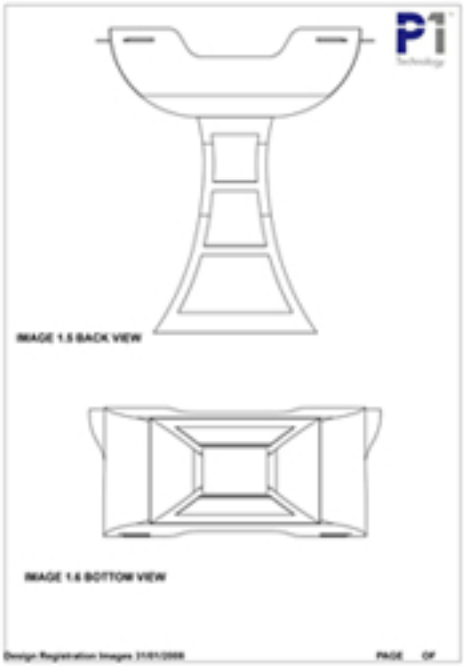
You've got a great idea....but not sure what to do next?

We have a range of design service options to suit every customer, and aim to form relationships with invetors/manufacturers/importers wanting to develop their own ideas.

We can provide various services in order to bring your idea to the marketplace:

Concept and Idea Generation
CAD design and Development
Component sourcing and specification
Liase with Manufacturing contacts
Visual presentations for marketing
Project Management

We have the facilities and experience to deal with patent, trademark and design registration. If you would like more information and advise, please give us a call.



Office for Harmonization in the Internal Market
Trade Marks and Designs

UK Intellectual Property Office
For Creativity and Innovation

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Project Management

New products can give you potential for substantial rewards in your industry. We understand it is difficult to focus on new product ideas with the pressures of day to day business. With our many years of experience P1 will help with the planning and delivery of a strategy.

P1 will help control the time and resource at the same time as helping nurture creative ideas that fit with your brand values and meet your customer needs. Giving a fully designed product ready for manufacture.

P1 can control your projects from start, to fruition, efficiently and effeciviely.

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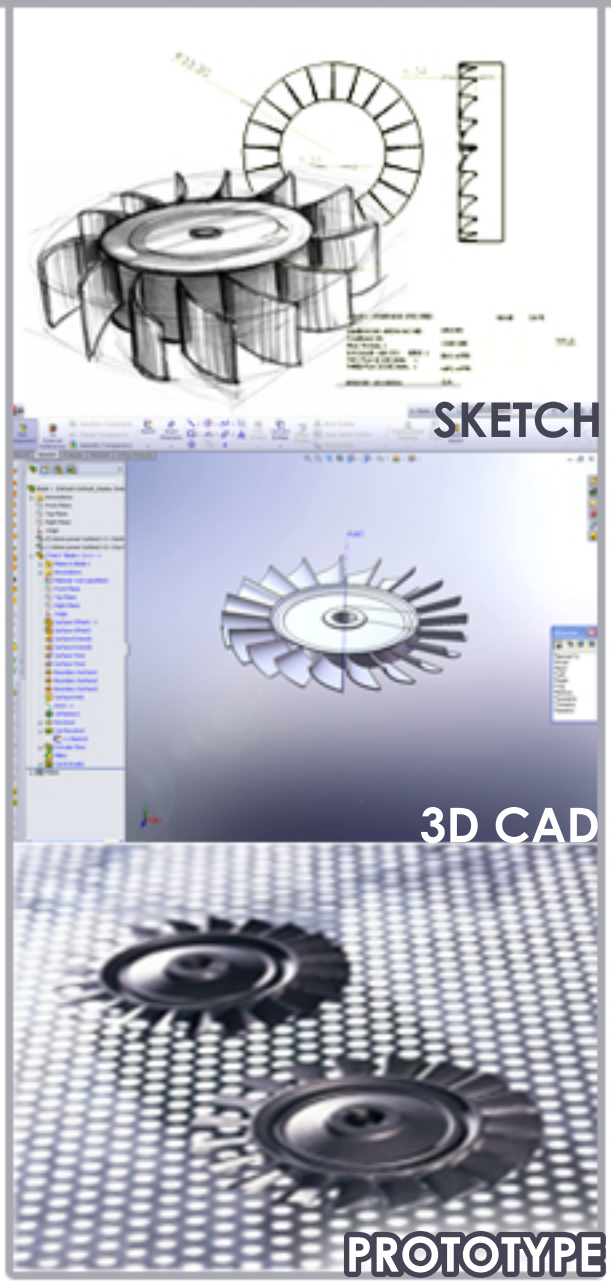
Rapid Prototyping Services

Transform your designs and ideas into physical models.

RP processes help reduce the time it takes to bring products to market as the complete product development process is reduced, improving quality and reducing costs. It can enable users to develop and maintain a critical competitive edge, in some cases giving extra time for design flare to flourish.

A sketch or 2D drawing can be modelled using 3D computer software, which then transfers information to the RP machines, and produces an accurate model within a matter of hours.

It can sometimes be a little confusing, not knowing if a particular process is the right one for your company. P1's experts, who have many years of experience in the industry and knowledge of many RP processes, can help your company specify the type of processes available and which are suitable for your needs.



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Rapid Prototyping Technologies

SLA - Stereolithography

SLA is not exactly a precise acronym, but it has come to be widely used. It's generally considered the most accurate process, producing models in an increasingly wide selection of plastics. Ideal for Presentation Models.

SLS - Selective Laser Sintering

This technology produces accurate parts and models in engineering polymers, metals and polymer-coated sand for casting applications. Speed is similar to stereolithography, but parts are stronger, with more heat resistance. SLS is a good process for parts with bosses and snaps that need to fix together.

FDM - Fused Deposition Modelling

This thermopolymer extrusion-based technology is provided by Stratasys. Accuracy and finish are middle of the road and speed is somewhat slow, but the method uses a widening range of durable engineering polymers such as ABS.

3DP - 3D Printing

Machines made by Z Corp. are used for quick concept modeling. This method has the highest throughput of any RP technology. Materials are limited to starches, and plaster, but novel secondary treatments improve durability and can provide flexibility. Finishes are a little on the rough side and accuracy is lower than laser-based technologies, but colour is available. Arguably the least expensive way to turn data into a model.

MJM - Multi-Jet Modelling

This is the inkjet RP method produced by 3D Systems, Inc. It uses a wide area head and is most often used for generating quick concept models. The materials available are wax-like plastics and accuracy is lower than that available from stereolithography.

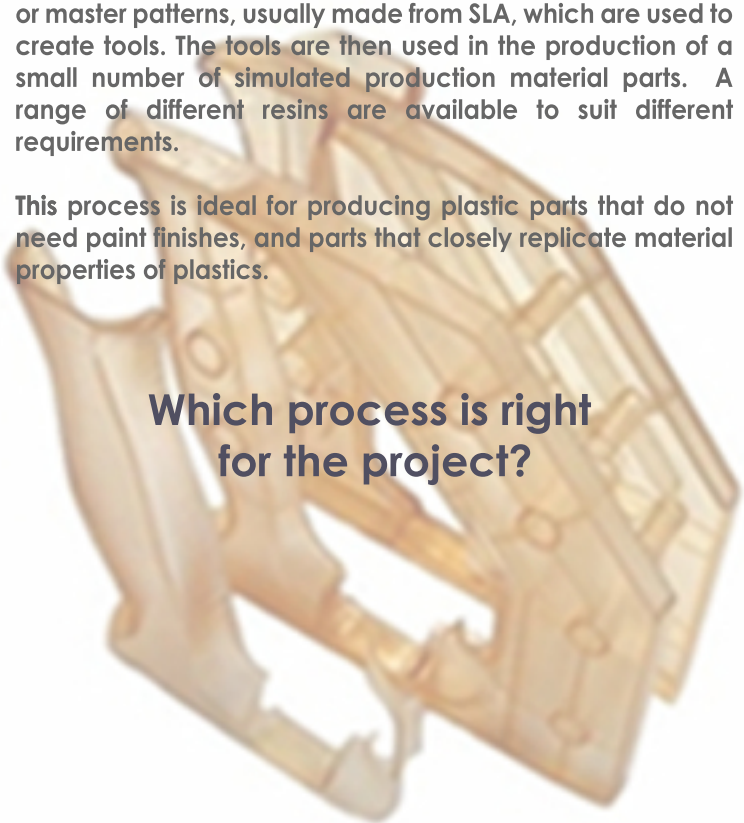
MM - Modelmaker

This is the inkjet RP method produced by Solidscape (formerly Sanders Prototypes), and the related company, Sanders International. It produces the highest accuracy and resolution of all RP methods, but materials are limited to a few fairly soft thermopolymers and it's quite slow since only a single jet is used. It's an outstanding choice for small, detailed models and patterns for casting and other secondary processes.

Silicon Tooling/Vacuum Casting

RP technology is used to produce injection mould tool inserts or master patterns, usually made from SLA, which are used to create tools. The tools are then used in the production of a small number of simulated production material parts. A range of different resins are available to suit different requirements.

This process is ideal for producing plastic parts that do not need paint finishes, and parts that closely replicate material properties of plastics.



Which process is right for the project?

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Technology

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