

# PLASTICOS TA-TAY ACCELERATES PRODUCT DEVELOPMENT WITH AN HP DESIGNJET 3D PRINTER



**TATAY**

Plásticos Ta-Tay, SA, of Barcelona, Spain, is an international producer of high-volume consumer products for the home, bathroom and garden, mostly made from thermoplastics. Established in the 1930s as a metallic jewellery manufacturer, the company moved into the production of pressed thermoplastics, and in the 1950s into extrusion and injection moulding.

The company has facilities in Portugal, France, Italy, Romania and China that also work in other materials including wood, glass, stainless steel, tin and porcelain.

The number of products developed by Plásticos Ta-Tay means that they have a continuing need for prototype models. Before the move to rapid prototyping, the process was completely manual:

“The process began at the drawing boards of the designers who then passed the plans to those producing the models,” said Alex Miravalles, design director, Plásticos Ta-Tay. “The models were usually made of wood which was carved and the different pieces assembled to form the final prototype.”

In the 1980s, companies began using CAD tools that replaced the large drawing boards, and since then the computerisation of product development has continued, extending into all areas of the process.

“During that time, model development and fabrication methods improved, and a real breakthrough came with the introduction of 3D visualisation software,” explained Miravalles. “Then there was the natural evolution from 3D virtual visualisations to the automated and unattended prototype fabrication based on data from the design software.”

From the 1990s, Plásticos Ta-Tay outsourced its prototyping to specialised companies with rapid prototyping equipment. Investing in its own prototyping equipment was something the company never considered because the high cost of the necessary investment was difficult to justify.

That was before Plásticos Ta-Tay began beta testing the HP Designjet 3D Printer in January 2010. The company ran tests until May and subsequently bought the solution. The HP Designjet 3D printer comprises the printer and a support material removal system. Each unit can be placed on a desk or tabletop in an office environment. By eliminating the need for special disposal methods, the Designjet 3D Printer requires only standard electricity, plumbing and drainage. The ABS plastic material comes in easily stored reels and is recyclable through the HP take-back programme.<sup>(1)</sup>

## At a glance

### Industry sector:

Architects, Engineers & Construction

### Business name:

Plásticos Ta-Tay SA

### Address:

C/ Besòs, 2  
Pol. Ind. Can Buscarons  
08170 Montornès del Vallès  
Barcelona  
Spain

**Tel:** +34 935 444 222

**Fax:** +34 935 444 344

**Email:** [tatay@tatay.es](mailto:tatay@tatay.es)

**Web:** [www.tatay.com](http://www.tatay.com)



## CHALLENGE

- Improve efficiency and accelerate the new product development process
- Reduce costs of prototyping
- Gain greater control over production

## SOLUTION

- HP Designjet 3D Printer for in-house prototype production

## RESULTS

- 40 percent reduction of prototype development times
- Improved control over the end-to-end process

Using an STL file from any 3D software program, the Designjet 3D Printer's software decomposes the model design into layers that are then laid down by the printer. A printhead melts the media (part and support material) and, in a scanning motion, puts down a 0.254mm thick layer in each pass, ensuring optimal results with the highest level of dimensional accuracy, ensuring fit, form and function and an effective time-to-model/cost ratio. Model part production costs may be as low as €0.25 per cubic centimetre.

Parts can be handled immediately after printing without the need for gloves and require no post-curing or treatment. Printed parts are placed in the support material removal system for cleaning. This is done automatically and may be left unattended (for example, over night). Parts whose geometry does not require the use of support material need no cleaning and may be used direct from the printer, and parts may be assembled to form larger and more complex objects.

"We had a clear need for more prototypes in our development stages, but before having the HP Designjet 3D Printer, we only did prototypes at the final design stage due to the high costs," Miravalles said. "The industrialisation process has a lot of trial and error in the design stage. The more times you can evolve the product in prototypes, models and simulations, the closer the result will be to its initial concept."

Plásticos Ta-Tay easily integrated its design programmes, Alias Studio Tools and Unigrafix NX, into the HP Designjet, and during the beta testing used the machine almost continuously, with only some breaks at night when production finished.

"Bigger jobs can be organised into the job queue so they are printed overnight," said Miravalles. "The printer provides an estimate of the processing time and amount of media to be used and will warn you when there is not enough material to complete a prototype."

The addition of the HP Designjet 3D Printer has changed the way Plásticos Ta-Tay develops its products by enabling the production of many more prototypes and reducing the time from concept to production.

"There are huge savings in internal process and development time," Miravalles concluded. "At the moment, in terms of number of prototypes made and operational performance, having the HP Designjet 3D Printer is giving us very favourable results. The significant reduction in all cycles of product development leads to a sharp improvement in competitiveness."

<sup>(1)</sup> Programme availability varies. Please check [www.hp.com/recycle](http://www.hp.com/recycle) for details.

*"The HP Designjet 3D Printer enables us to make more prototypes at different and earlier stages of development. We can see the effects on our overall develop time with a reduced time frame from concept to mould of up to 40 percent."*

— Alex Miravalles, design director, Plásticos Ta-Tay, SA

To learn more, visit [www.hp.com/go/graphicarts](http://www.hp.com/go/graphicarts)

© 2010 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

4AA3-2098EEW November 2010

HIT PRINT

