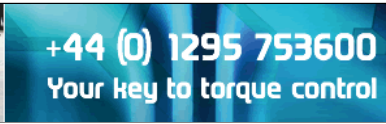


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Product category: **Rapid Prototyping**

News Release from: **Protomold UK** | Subject: **ProtoQuote**

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Design firm offers product development expertise

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Protomold stocks a robust selection of resins, so designsunlimited not only gets real parts, but can get them in a matter of days

Designsunlimited's product-development clients come from many fields, including medical products, communications equipment, data-processing products, outdoor machinery, aftermarket automotive equipment and toys. The firm is typically engaged when a client lacks specific mechanical-engineering expertise or when development work overloads existing resources.

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"In product development, time is your enemy", says business owner Jim Ventress.

"Cost may or may not be an issue, but time always is".

"That's especially true now with product life getting shorter and shorter".

"Mobile phones are a perfect example".

"People often replace them yearly - not because they no longer work, but because new phones offer new functions".

"In that kind of environment, innovation isn't enough".

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Rapid prototypes use third generation resins

AME Product Development Solutions has created the first rapid prototypes using new third generation resins on its Viper stereolithography (SLA) machines.

"You have to be early to market just to maintain market share, let alone increase it".

"Designsunlimited provides a continuum of service, from industrial design through product engineering to liaison with manufacturing sources".

"Once it's in production, we're usually done", says co-owner Tim Humphrey.

"But until then we're part of the client's team".

"One critical discipline at designsunlimited is speeding up development in every way possible".

The company seeks out and embraces any new technology that will help projects move forward faster and more effectively.

The group's work with plastic typifies the company's development process.

"Top-of-the-line programs like Pro/Engineer or SolidWorks let us begin testing a part before it even exists in solid form", says Ventress.

"The software lets us do motion studies and preliminary stress analysis, and even allows us to generate photo-realistic images the customer can use for preliminary marketing of the product".

"The software is fast, flexible, and inexpensive, and it lets us do as many preliminary iterations as we need to, as quickly as the computer can render them".

The next step is a solid model, typically using stereolithography (SLA), which produces a model in between an hour and a day".

"These models, made directly from 3D CAD designs using a specialised laser-cured resin, accurately reflect the shape and size of a part but are rarely suitable for functional testing".

"We need to know exactly how a finished part will perform", Ventress says.

"We have to understand how it will handle stresses, shocks, and vibration".

"We have to predict its response to heat and cold, electromagnetism and other aspects of its environment".

"For example, we recently developed a plastic clamshell enclosure for a wireless access device that contained a lot of tightly packed equipment and had to be as small as possible".

"It presented a significant thermal challenge, since there was no room for a fan or other heat-dissipating device".

"To make matters more complicated, the device was designed for use in environments like warehouses, where there could be significant heat and humidity, so we had to make sure that the material we specified could handle both external and internally generated heat".

"As we often do in situations like that, we turned to Protomold for prototypes that don't just look like the real thing, but function like it as well".

Designsunlimited uses Protomold regularly for the production of functional prototypes.

"The resin in SLA prototypes isn't suitable for thermal, electrical or mechanical analysis", Ventress says.

"Protomold, on the other hand, makes real injection-moulded parts and can usually mould them in the same resin we specify for production".

"The resulting prototypes are functional duplicates of production parts, making them ideal for testing".

"Protomold stocks a robust selection of resins, so we not only get real parts, but we can get them in a matter of days".

"The only other way to produce real injection-moulded parts would be traditional injection moulding, but that would take weeks or months and cost many times what Protomold charges".

Ventress considers speedy prototyping critical for several reasons.

The most obvious is speed to market of the finished product.

But, at the same time, early availability of functional prototypes lets developers get a sample product out to users and suppliers and begin collecting feedback that can be incorporated into the development process.

"We can begin addressing issues without waiting until the end of the process", he says.

"At that point it would either be too late to incorporate the information or it would significantly delay product introduction".

"With Protomold's rapid-injection moulding, we get not only a faster product, but a better product".

"You need real parts for that, not carved-up models".

"Typical rapid prototypes may be pretty pictures, but they don't work like real parts".

In addition to fast turnaround on the prototypes themselves, Ventress likes the speedy turnaround of Protomold's ProtoQuote automated online quoting system.

"When you're going out for multiple proposals, waiting for pricing can slow you down as much as waiting for parts can".

"But ProtoQuotes are typically back in a day with all the information we need".

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"They'll even let you know if there are any design or mouldability issues with the design you submit, so you can correct it before proceeding".

With an approved design, ProtoQuote allows real-time user-interaction, with immediate updates in pricing.

Adjusting factors like resin, finish, and delivery time, the designer can see the impact on pricing, approve the quote, and confirm the order with a purchase order.

Information from ProtoQuote can be fed directly to Protomold's automated milling equipment to begin mould-making.

In keeping with his "fast to market" philosophy, Ventress often uses Protomold for bridge tooling while final hard tooling is being developed".

"You can get tooling from China fairly quickly, but not nearly as quickly as from Protomold".

"We often work with Chinese production companies, but it's not a simple process".

"There are language barriers and distance barriers".

"It's not for everybody".

"Experience makes a difference in working with overseas producers, but having your design fully proven here makes it a lot easier to get exactly what you need", Ventress said.

"It's a lot easier to adjust a design at the prototyping stage than during production".

"That's another reason we believe so strongly in Protomold's process".

"Quick turnaround on real injection-moulded parts lets us reiterate the design and tweak it as many times as necessary without over-running our deadlines".

"When we send a design to production, we know it works, we know it's mouldable, and we know that the kinks have been worked out".

"Teaming up with Protomold has helped make designs unlimited successful".

"Lots of people can get you what you need when time is not an issue; Protomold does it when every minute counts", according to Ventress.

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