



## Protomold® Technology does the Talking on Bluetooth Project

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**Despite significant advances in prototyping techniques, laborious testing cycles and rigorous evaluations are often still needed before a new product can be brought to market. Rapid injection moulding can help to minimize delays by dramatically reducing time spent on this development phase.**

Fast-moving competitive markets mean that new products often require frequent design changes. In addition, short lead-times and ever-tighter product development budgets mean that prototyping must be faster, better and less expensive than ever before.

Many companies are already using rapid injection moulding in place of other processes, producing accurate and durable prototypes at a fraction of previous costs. Those that are doing so are enjoying first-mover advantages in a wide range of industries.

When Clement Clarke Communications (C3), an established designer and manufacturing of telecommunications headsets, recently made its first foray into the high-volume consumer sector, it established a new operation, called Qstik Plc, to design, manufacture and market its products.

Shortly afterwards, the company contacted Ian Deacon, Managing Director of Real World Concepts who specialises in helping companies with specialist manufacturing projects. C3 asked Deacon to help with a project to develop and recommend a manufacturing solution for the Qstik Bluetooth mobile telephone headset.

“My brief was to work with the company to progress from the initial design stage to full production in the shortest time possible,” says Deacon. “Time-to-market is of the essence in the consumer communications arena and there was no time to waste.”

One of his first jobs was to source a precision manufacturer that could produce the tooling required to assemble and test the prototypes. Deacon recommended Protomold® and was struck with how quickly the company claimed

parts suitable for testing and product evaluation. The process also gives manufacturers the flexibility to create parts that can be used for marketing studies or for low-volume production needs.

Whilst conventional injection moulding technology can take anything up to 4 or even 6 weeks from receipt of a 3D CAD model to shipment of parts, Telford, UK, based Protomold has been routinely achieving the same result in as little as 5 days since it began its European operations just a few short months ago.

finished parts in our hands. It was fantastic! We had 25 of each part in the production intent resin,” says Deacon.



C3 used the parts to build three fully-functioning prototype headsets for testing and evaluation, during which modifications were made to the original design. When testing was complete, Protomold redesigned and re-machined the tooling and set about moulding a batch of the revised parts – this time to make 100 units.

Rapid injection moulding can deliver from 25 to 10,000 precision moulded prototypes. The CNC machined aluminium mould produces the same geometry as subsequent steel production tooling, so designers can easily replicate the intended shape and functionality of the finished product.

“Silicon moulds are less expensive, but not as hard-wearing. If we’d wanted to, we could have used the Protomold tooling to make thousands or even tens of thousands of parts before we would have needed to replace them,” he concludes. “Protomold produced eight tools in one week, for a set price. I don’t think we could have done that anywhere else.”

“Almost as soon as you press return, Protomold starts cutting metal. I was very impressed,”

it could produce the tooling and the part moulds.

“Initially I was looking for a moulding company that could turn prototype moulds around quickly – typically four weeks,” he says. “Protomold could make a mould and produce a short run of parts in a production intent resin in as little as five days. This is exactly what we needed to get the Qstik headset project into the prototype phase.”



Rapid injection moulding offers companies the ability to make fully functioning prototypes with high-quality materials. Designers can create inexpensive first-run

The original QstikG5 headset was made up of eight different components, excluding the electronics. Deacon submitted a 3D model of one of the parts to Protomold. Within an hour he had received a quote and detailed feedback on how the design could be improved for manufacture.

“All the information was contained in what the company refers to as a ProtoQuote®,” explains Deacon. “This was an entirely new and very fast way of moving to the prototype phase. Almost as soon as you press return, Protomold starts cutting metal. I was very impressed.”

Protomold gives customers a choice of delivery times, with the fastest being as little as three days from the time the part is submitted. The price of the service varies accordingly.

“Just one week after submitting the designs we had