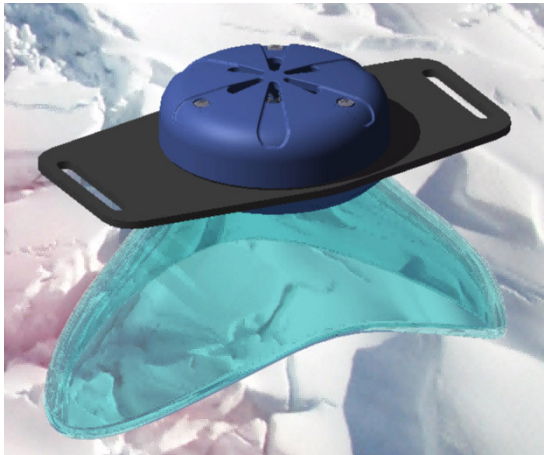


# Rapid and inexpensive prototyping

Project report	Product	Methodologies	Benefits
May 2005	Oral Leak Prevention Device	Austool Technology Development Process Thinking together (Concurrent and Collaborative Engineering) Rapid Prototyping	Reduced risk to capital Reduced prototyping cost Reduced prototyping lead time



The Austool Digital Factory Project has helped a product inventor save around \$50,000 in developing their idea to prototype stage.

The adopted process has allowed the inventor to commence consumer trials much faster and at significantly lower cost than traditional methods, and at much less risk.

Austool used its Technology Development Templates and Industry Search Engine to guide the inventor, *SleepZone CPAP Products* through the development process. This technique made sure the idea was efficiently developed and prepared for low cost prototyping.

Through Austool's expansive network, *SleepZone* was connected to various specialists to provide business and technical expertise on research & development funding, CAD design, materials choices, manufacturing methods, and prototyping. The *Oral Leak Prevention Device* is now being trialled with patients for a possible market launch in the near future.

## Where we started

*SleepZone CPAP Products* developed an innovative solution to a problem experienced by many sleep apnoea patients who use nasal cannulas and masks. The *Oral Leak Prevention Device* replaces the need for patients to tape or strap their mouth closed to ensure the effectiveness of the CPAP equipment.

*SleepZone* approached Austool to assist in manufacturing tooling for their newly developed Oral Leak Prevention Device. They had previously prepared 2D drawings of the product, researched alternate materials, and secured their Intellectual Property.

## What we did

Using Austool's Technology Development Templates, we assessed the product's development maturity and risk profile. This provided *SleepZone* with an insight into the development options available to them.

As part of the risk management plan, Austool introduced the inventor to a range of experts who provided specific advice on innovation funding, material selection, design processes, manufacturing processes, and prototyping options.

As a Digital Factory Project, Austool assisted *SleepZone* in their product development by identifying technological alternatives, connecting with appropriate stakeholders to the development process, and facilitating collaborative product development meetings.

The Digital Factory Project is an initiative of the Department of Transport and Regional Services, under the Sustainable Regions Program

## What we achieved

Using the expert input from local industry, the *SleepZone Oral Leak Prevention Device* was developed into an ergonomically, and functionally optimised 3D CAD design. This design has allowed the use of deposition prototyping technologies to reduce the cost of prototype manufacture by around \$50,000.

The significant reduction in product design and prototyping has allowed for more effective investment of the project funding to design optimization and marketing. It has also permitted the manufacture of additional prototype units for patient evaluation.

## What's next

Upon completion of patient trials *SleepZone* will confirm the market readiness of the *Oral Leak Prevention Device* and proceed to commercialisation. Austool will continue to assist this process, ensuring that the product's development process is optimised.

By continuing along Austool's Technology Development Process, and using Austool Industry Network, *SleepZone* will ensure that all waste and risk is removed from the process. It will leverage the benefits of advanced technologies and techniques, including:

- ❖ Virtual Design
- ❖ Virtual Simulation
- ❖ Concurrent Engineering
- ❖ Collaborative Development
- ❖ Right-First-Time production
- ❖ Goal Oriented Scheduling
- ❖ Expert Advisors
- ❖ CAD / CAM

For more information on the *Oral Leak Prevention Device*, contact *SleepZone CPAP Products* at [www.sleepzone.com.au](http://www.sleepzone.com.au)

## The client says ....

"*SleepZone* have been very satisfied by the services offered by Austool and it's members and we think that the Austool Concept and support has been of great benefit to us. It made us think more logically and precisely about our options and it has all been done in a structured, standardised manner that virtually forced us to consider all points.

Access to the Austool Members is of great value to people from outside that technology field who are looking for guidance and expertise. Without that information we would have been searching in the dark for assistance and wasting time, money and effort.

Our basic design has been improved and now tested using prototypes thanks to the assistance of Impact Design and 3H Engineering, both of whom have been involved with Austool.

Our aim is to provide a device that will benefit existing patients that are having problems with their current prescribed devices and Austool is our guiding light for manufacture, production issues and other discussions."

## To get involved

The Austool Technology Development Process is available to all product developers, no matter where they are in the Technology Development Cycle.

The first step is to contact Austool:

Phone: (02) 9605 2633

email: [info@austool.com.au](mailto:info@austool.com.au)

web: [www.austool.com.au](http://www.austool.com.au)

You will be asked to complete a Technology Information Submission. The submission asks a number of questions about the inventor's idea so that Austool can understand the current stage of development. From this point on, an Austool representative will guide you through the Technology Development Process, using our various templates and extensive network.