Good Design Improves Lives

GOOD DESIGN
winner 2009

CHARLWOOD

Simavita SIM™box Design Story

THE PROJECT

Improving the patient experience through design

In 2008 Simavita healthcare approached Charlwood Design to help develop a continence monitoring system for residents of aged care facilities and other sufferers of incontinence. A SIM™pad sensor is worn by the patient and allows health practitioners to wirelessly monitor patient continence in real time assisting carers with the assessment and management of continence and the delivery of quality care to its sufferers.

Charlwood not only designed the detachable, reusable sensing monitor but also a charging dock, wireless gateway and a wireless repeater. The SIMsystem™ was engineered to meet CLASS 1 medical product standards.

The SIMsystem™ was recently launched in the Australian market. The emotional and financial results from users has seen it rapidly gain support from the residential aged care sector, the community and health professionals.

Photography: Rosie O'Beirne

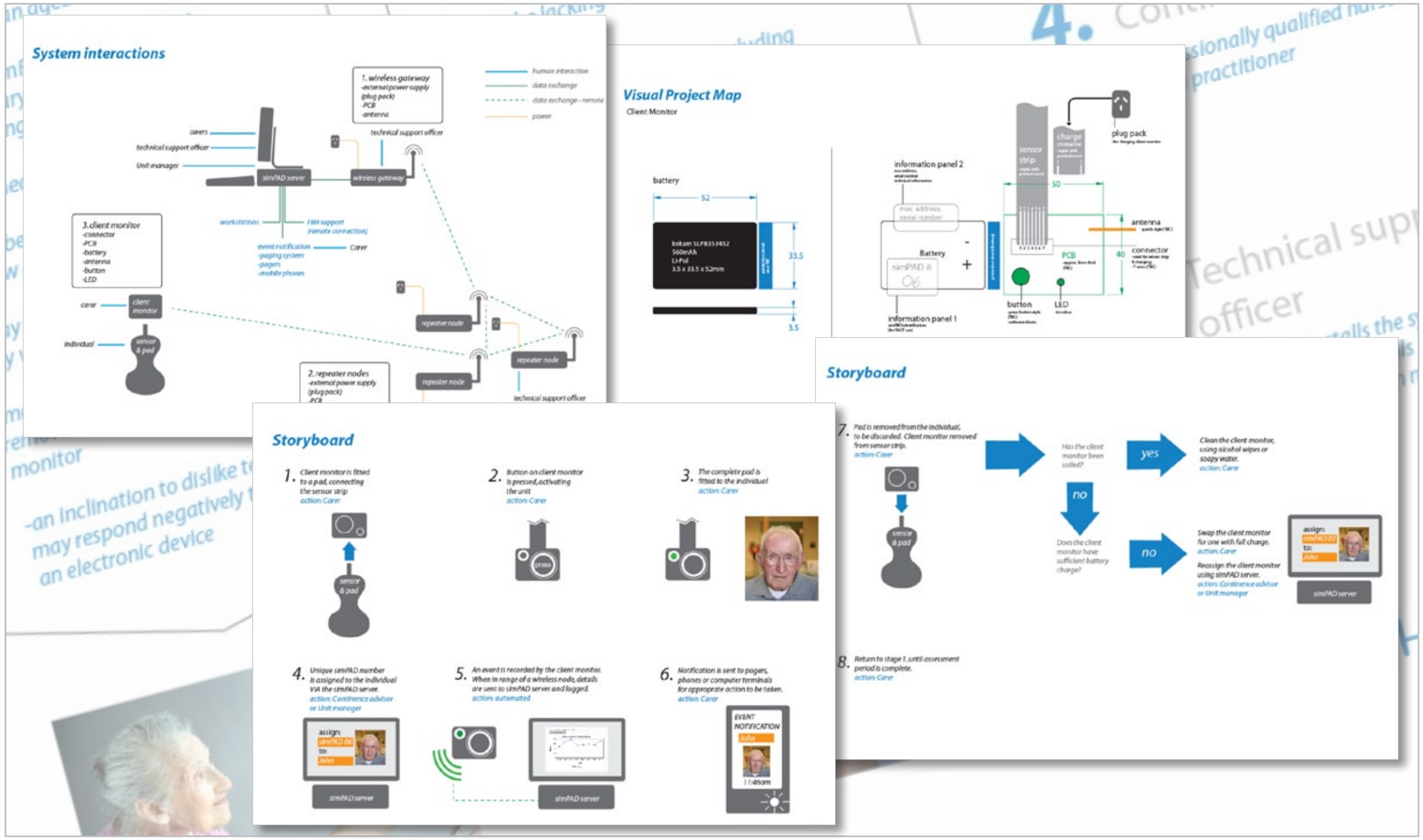
DETAILED RESEARCH

New insights, Fresh ideas

From the outset of the project Charlwood dived in to detailed research and analysis to help visualise and clarify not only the physical outcomes needed but also the system behind it. The complex interaction and technology behind the system was mapped in detail and refined.

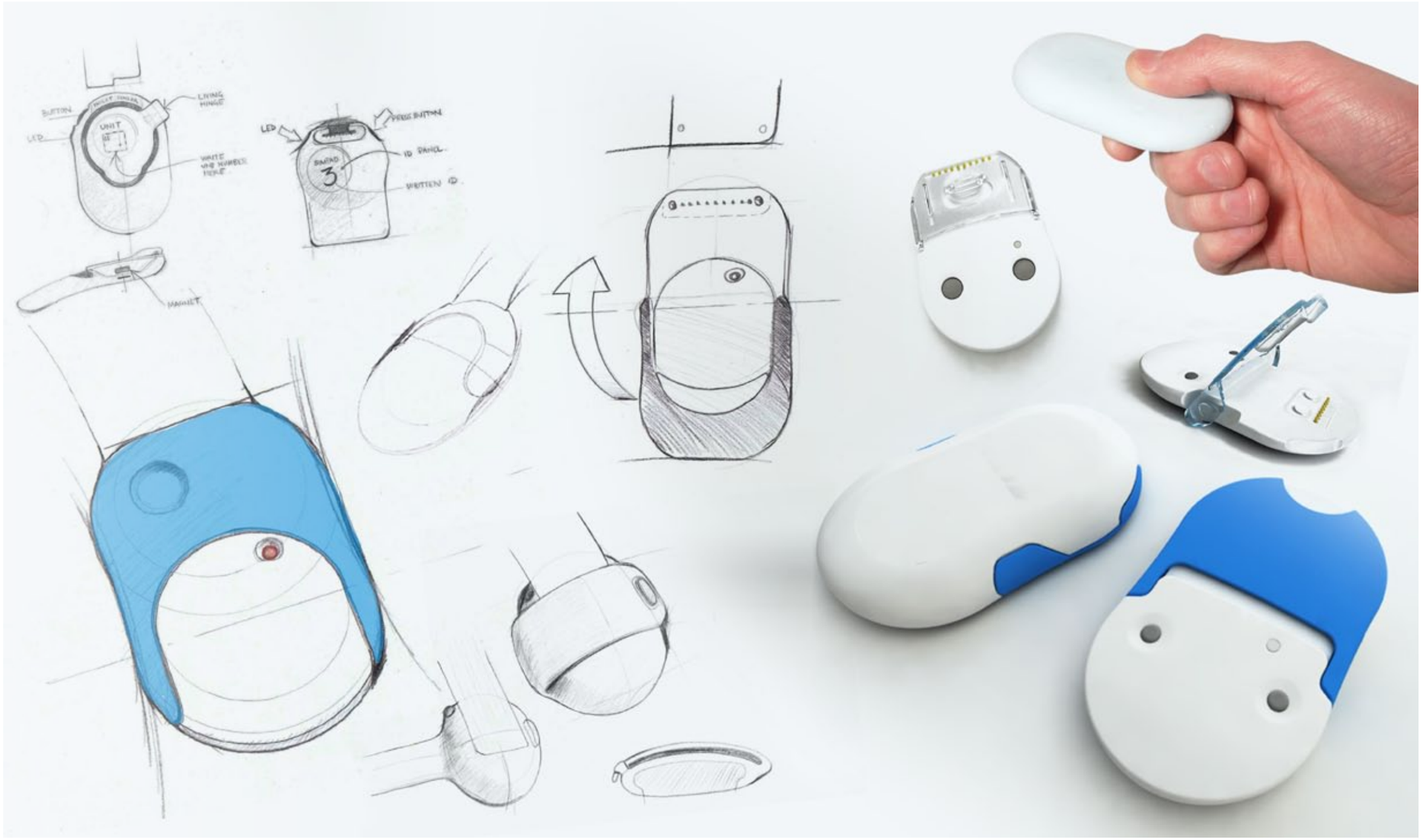
Actively drawing on the experience of carers, patients and other stakeholders led to considered, empathatic design insights.

Storyboards were created to visualise the end user experience. This highlighted early design decisions such as ensuring that the form of the sensor worn by the patient, which needed to smooth, curved and compact for their comfort.



CONCEPT DEVELOPMENT

From paper to reality



From rough thumbnails through to detailed diagrams, Charlwood Design kept a comprehensive sketchbook to refine and explore ideas. A range of options for the sensor case and attachment were developed and refined.

The curved, pebble shaped form was refined not only aesthetically but also ergonomically for the end user. Mechanisms for a new connector system were also comprehensively worked out on paper before more detailed CAD models were produced.

Simple foam mockups were also produced to explore the final size and form chosen.

PROTOTYPING AND TESTING

Available in-house, with instant results

A number of rapid prototypes were developed for the project using Charlwood Design's in-house instant prototype service. This allowed functional parts to be built and tested and helped speed up the design process.

Charlwood also managed the production of low run silicone moulded parts and machined polyurethane parts for testing.

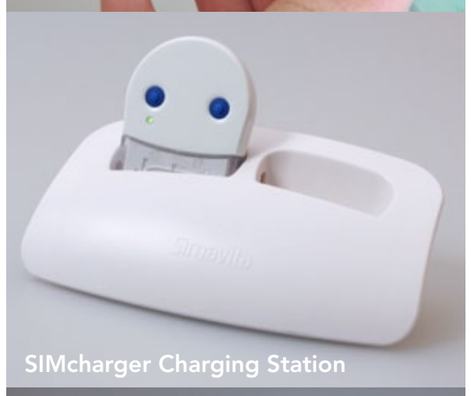
Charlwood was involved in the comprehensive testing of various components to ensure the highest quality outcome and assisted in an on-site trial of the design in a nursing home. This included failure mode and effects analysis (FMEA) to ensure reliable functionality. Charlwood worked closely with the electronic engineering and software through all stages of development to assist in getting the product to market as quickly as possible.

A COMPLETE SYSTEM

CHARLWOOD

designing the future today

SIMbox Patient Monitor



SIMcharger Charging Station

SIMnetwork Gateway and Repeaters

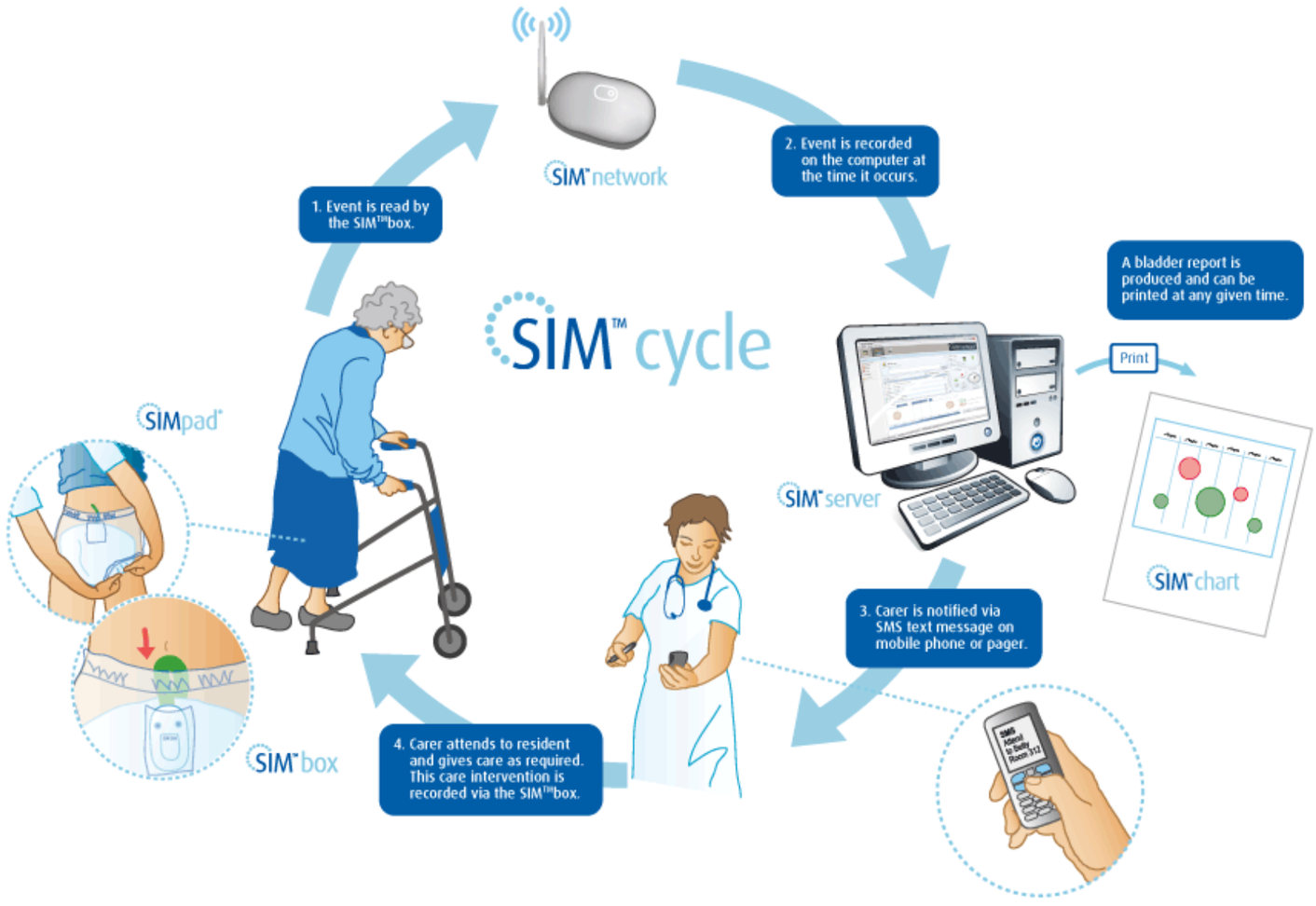


image courtesy of Simavita

Charlwood rapidly tooled and produced finished production parts in medical grade ABS and silicone as well as pressed metal components. Our design and management abilities saw the initial vision of the client come together successfully.

The SIMsystem™ is an internationally acclaimed product recently winning a 2009 Good Design Award from the Chicago Atheneum.