



DESIGNING A REMOTE MONITORING GATEWAY FOR INDEPENDENT LIVING

CASE STUDY



DESIGNING A REMOTE MONITORING GATEWAY FOR INDEPENDENT LIVING

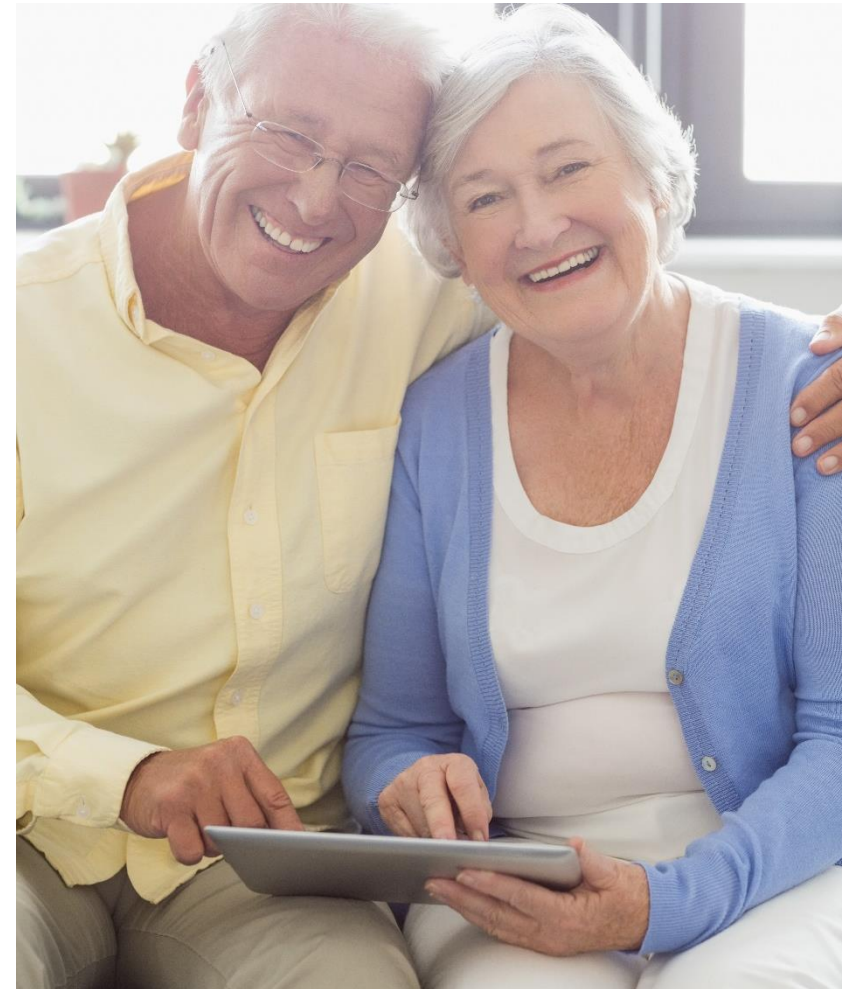
Customer Challenges

Our client, a leading provider of technology-enabled care solutions for independent and assisted living, operates in more than 50 countries and supports over 3.5 million people worldwide in managing their health conditions.

The customer intended to develop a scalable independent living gateway solution that facilitates constant monitoring of the user's home and surrounding environment by linking with 50+ environmental sensors to capture and transmit sensor data for predictive and proactive care. The intended solution needed to be highly reliable, easy to use, and operated remotely with cloud-based management.

Scope

- Mechanical design and development ensuring affordability
 - The new enclosure is to match the new hardware while maintaining the previous form and style with minimum impact on existing parts
 - Ensuring the use of common parts across different SKUs
- Hardware design and development facilitating battery mode operation of up to 40 hours
- Software design, development, and testing to ensure a highly reliable system with no sensor event missed
 - Support for VoIP audio calls over Ethernet and 3G
 - RF module supporting a range of sensors up to 400 meters
- Industrial design ensures the simple and user-friendly device
- Prototype development
- Compliance and certification as per various country-specific standards.



DESIGNING A REMOTE MONITORING GATEWAY FOR INDEPENDENT LIVING

Approach

Tata Elxsi updated the design to match the new electrical hardware while retaining the existing design language. The team also improved the mechanical design to fulfill ingress protection IP32 and drop tests without fasteners. Further, Tata Elxsi employed a "wake up when required" design philosophy to achieve efficient power management, ensuring battery life of up to 40 hours.

The team developed a more adaptable monitoring gateway with greater data handling capabilities and an alarm system for the home. Over 50 sensors are monitored continuously via the gateway and provide connectivity with GSM/3G, POTS, Ethernet, and VoIP support.

Tata Elxsi also developed an enterprise-grade platform to manage data from subscribers and triage the information for relevant actions.

Impact

- Delivered a complete 'Connected Care' monitoring and alarm system with intelligent sensors around the home, linked directly to monitoring centers through the home hub
- Commercialized in the European countries and Australia empowering over 1 million to maintain independent living
- Improved efficiency for care in the community service and reduced A&E and ambulance requirements

