



Semtech Case Study

Ambient Assisted Living: Delivering predictive and preventive care with IoT sensors

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Background

Archangel® has entered into a technology collaboration with Semtech's AirVantage® Managed Solutions and Smart Sensing to offer ingenious sensing for the aged.

Traditional methods of monitoring, such as bracelets or lanyards with emergency buttons, are often rejected by the elderly and perceived as symbols of frailty and vulnerability.

What if technology could provide a solution that preserves dignity while offering peace of mind?



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Our Solution

Archangel utilises AirVantage Smart Sensing to non-invasively track the daily routines of telehealth users and proactively issues preventive alerts on potential health risks.

Archangel's platform minimizes the occurrence of real emergencies. It's an unobtrusive yet vigilant technological guardian angel.

Faced with the challenge of transitioning from traditional, reactive alarm systems to a more predictive, passive monitoring model, Archangel embraced Semtech's Smart Sensing service that is built on the robust AirVantage Management Platform.

This enables Archangel to deploy a proof-of-concept that intelligently learns and monitors daily patterns of residents, foreseeing potential health risks.

For a concerned individual such as a loved one or carer, this means deploying a small number of smart sensors in the home that require no action on the end user's part. They become silent observers, collecting data on daily activities and patterns without any intrusion on independence.

This successful collaboration could revolutionise elderly care in the UK, with a mass rollout planned with housing associations and local authorities in the near future.

Implementation and impact:

By using Archangel's user-friendly dashboard, the individual can monitor their loved one's activity. This isn't about surveillance; it's about subtle patterns that paint a picture of normality or signal a need for intervention.

The data might show, for example, the frequency of bathroom visits during the night, providing insights into health that were previously only available through direct observation or self-reporting.

What's normal for one person may be a cause for concern for another. By establishing a baseline pattern, the smart sensor can detect deviations that might indicate a medical emergency.

Perhaps the most powerful aspect of this technology is its ability to detect the absence of activity. A lack of movement during a time when the end user is usually active could trigger an alert, prompting the individual to check in. It's a system that respects the desire for independence whilst providing the individual with a tool to ensure his or her well-being.

The beauty of Semtech and Archangel's combined solution lies in its ability to bridge the gap between the need for care and the desire for autonomy. It's a testament to how technology can enhance human lives when applied intelligently.

The results

Ambient monitoring of health indicators, including:

-  **Sleep Pattern**
-  **Room Occupancy**
-  **Activity Level**
-  **Step Count**
-  **Bathroom usage**

“What’s normal for one person may be a cause for concern for another. By establishing a baseline pattern, Archangel and Semtech’s smart sensor can detect deviations that might indicate a medical emergency. This isn’t just data; it’s a lifeline that can alert the individual to potential issues before they become emergencies”

Rich Lansdowne, Senior Director - IoT Services
Semtech

Conclusion

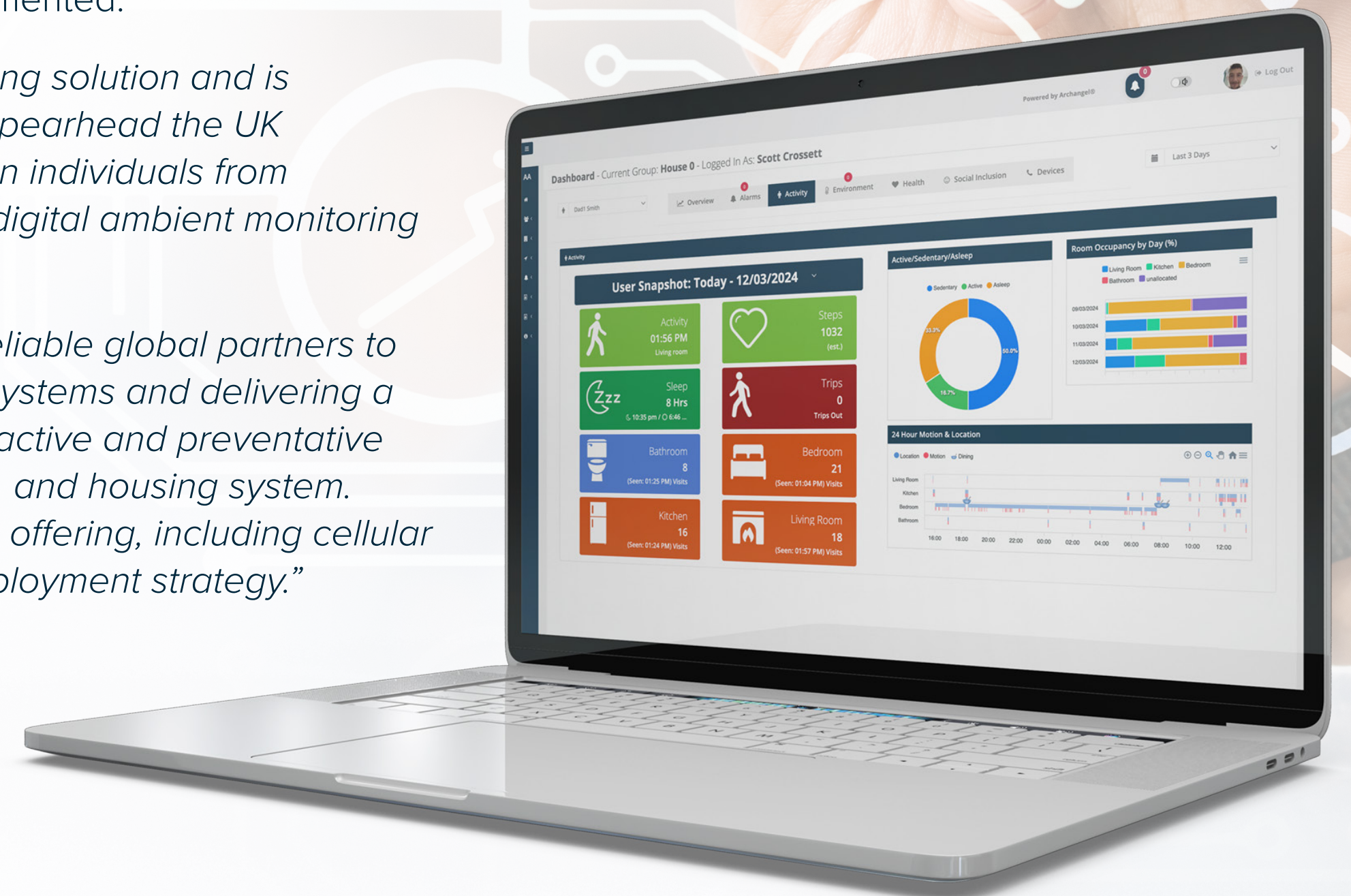
There is incredible potential for IoT (Internet of Things) within elderly care. From detecting falls to monitoring sleep patterns and even predicting potential health issues, the data collected can be a powerful ally.

Semtech’s AirVantage Smart Sensing Managed Service in conjunction with Archangel’s platform is more than a product—it’s a promise; a promise of security, of swift response, and allows our elderly to age with grace in the comfort of their own homes.

Tom Morton, CEO of Archangel Ltd. commented:

“I am thrilled with Semtech’s Smart Sensing solution and is precisely what Archangel needs as we spearhead the UK challenge to switch in excess of 1.8 million individuals from analogue reactive pendant solutions to digital ambient monitoring systems.

“Archangel collaborates with scalable, reliable global partners to implement our vision of connecting silo systems and delivering a better way to provide services using proactive and preventative models within an integrated health, care, and housing system. Semtech’s pedigree and comprehensive offering, including cellular connectivity, aligns perfectly with our deployment strategy.”





If you want to find out more about the case study or how our platform could benefit your organisation then get in touch

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