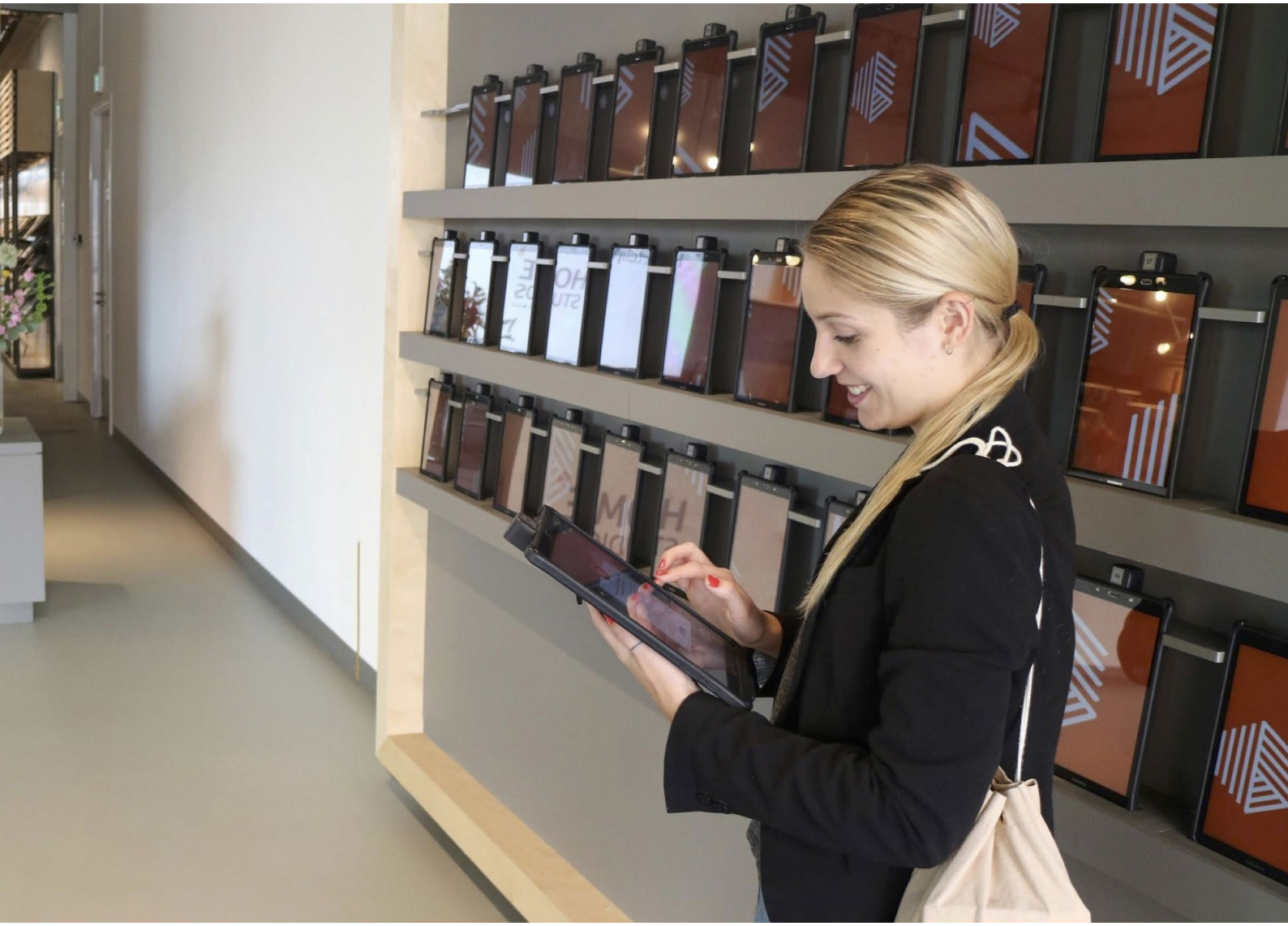


BAM Homestudios
delivered by Locatify

RETAIL/ENTERTAINMENT

The project has resulted in uninterrupted and increased visitor engagement that has boosted both the visitors' abilities to make informed purchasing decisions, while at the same time leveraging cross-selling and up-selling opportunities.

Increased Visitor Engagement

Background

Bringing Cutting-Edge Technology to European Home Buyers

Royal BAM Group is a large Dutch construction company, listed on Euronext Amsterdam, with **20,000 employees** and ten operating companies in five European home markets and in niche markets worldwide. BAM's operating companies are active in the business lines of construction and property, civil engineering, as well as in public-private partnerships. BAM's European home markets are the Netherlands, Belgium, the United Kingdom, Ireland and Germany, and the group delivers projects in Denmark, Luxembourg and Switzerland. The group has a widespread network of offices, close to its clients.

BAM mission is to build sustainable environments that enhance people's lives by enabling the right people to capitalise on state-of-the-art knowledge, resources and digital technologies, providing solutions across the total construction life cycle for the group's clients, plus generating maximum value for its stakeholders. When launching its 2016-2020 strategic programme, **'Building the present, creating the future'**, the Group defined its vision for 2020: By 2020, BAM will be recognised as one of Europe's leading sustainable and innovative construction businesses, with healthy profits and a strong balance sheet, active across the total construction life cycle in European home markets and in selected growing economies worldwide. BAM's vision and unique culture are underpinned by four values that guide the people of BAM. These values are: predictable performance, scalable learning, proactive ownership and open collaboration.

BAM Homestudios.

Goals

Pin-point Precision of Visitors' Positions to Provide Fluency to Their Visitor Experience

With technology penetrating almost every aspect of homeowners' lives, it seemed a natural decision for BAM to bring a similar approach to those people actively looking to buy a new home as well as those that are first-time home buyers. So, the decision was made to revolutionise the home purchasing process by creating **an immersive home design experience centre**. This meant that the 4,800 m^2 warehouse needed **an indoor positioning system (IPS)** with 30 cm positioning accuracy with the user's position communicated to a mobile app and nearby touch screen TVs. This way, a fluid experience should be delivered to the visitor as they move through the centre and provide a smooth transition from point to point, thus creating the immersive effect. By allowing the visitor the luxury of feeling themselves part of the homes they are viewing, it should make the purchasing-decision process appear a more natural and informed decision.

- Tags needed to be small enough to be easily attached to the tablets.

- Indoor positioning accuracy and update frequency are vital to ensure the correct information is shown.

- Simple APIs for communicating tag positions with the Android app and third-party systems.

- UWB signals have to be able to penetrate signal-blocking elements that other IPSs could not pass through.

Challenges

Overcoming Signal Blockage to Deliver a Unified Visitor Experience

In order to deliver **the true experience for visitors** of living in a newly purchased home, BAM had constructed many variants of show home within their 4,800 m^2 warehouse. This meant the large warehouse featured many signal-blocking obstacles: from full-scale houses, apartments and a multitude of signal blocking elements such as brick walls, steel beams, elevator shafts, sheetrock and air-conditioning units. So, it was necessary for Locatify using Sewio RTLS to overcome these signal interferences and yet still provide the required **30 cm accuracy** to deliver the desired experience to visitors as they move from home to home.

Due to the nature of the buildings, many of them were deemed unsuitable as anchor points for the positioning system as they interfered with the visitor experience, so a more suitable solution was needed.

RTLS installation in BAM Homestudios.

Solution

An Unobtrusive Tablet-and-Touch-screen-based Visitor Experience

Locatify worked closely with Software Developers and AV Integrators to design the layout of access points and anchor positions, and to integrate the Ultra Wide-band (UWB) RTLS with an Android app and the touch-screen TVs.

At the core of the experience is **a Samsung tablet with a piccolino UWB locator tag** embedded in the tablet's casing. Customers use the app on the tablet to create a profile and for guidance throughout the warehouse with their position shown as a red dot on the map.

As customers move through the warehouse, location-based information is displayed, such as information about home construction materials and home appliances. Customers can then use the app to **make decisions about the design of their home**, which is then saved to their profile.

The customer's profile then syncs with nearby touch screens. When the customer enters the room to view their design, they can then discuss their decisions with a sales consultant.

Locatify spent a month onsite installing the UWB anchors alongside the AV team who installed the
Ethernet infrastructure and touch screen TVs. The warehouse was thoroughly surveyed with measurements taken to ensure that the original floor map accurately represented the current warehouse environment. Once the warehouse had been measured and anchor placement adjusted for discrepancies in layout, Locatify set out to test each individual area using tripods, battery-powered anchors and RTLS Studio running on a laptop.

After the testing of each individual area, Ethernet cables were laid in overhead cable trays, master
anchors were selected and the entire UWB network was turned on and tested once more. Locatify worked closely with the Sewio team during this process to remotely monitor performance and provide suggestions on anchor placement and master anchor selection.

As the installation progressed, additional materials were installed that had not previously been planned and the addition of 40 more anchors was required to ensure coverage throughout the entire complex to avoid signal interference. As many walls and ceilings were deemed "anchor free zones" as not to detract away from the model homes' design, Locatify had to get creative with anchor placement, using ceiling space, cupboards, structural poles and wire trays to conceal the additional anchors and Ethernet cabling.

Solution Numbers:

4,800 m²	121	50
area covered	receivers	tracked objects

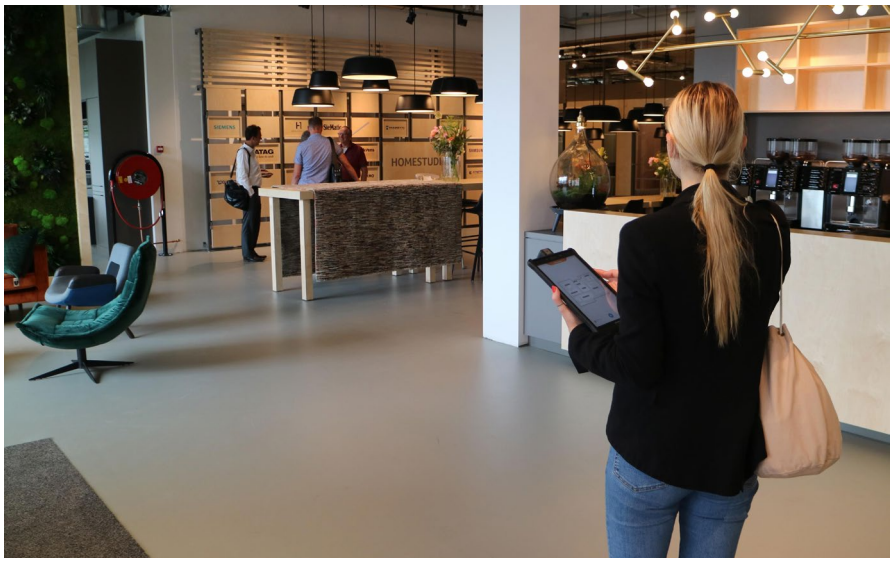
Sewio Piccolino tag with custom casings attached to Samsung Tablet.

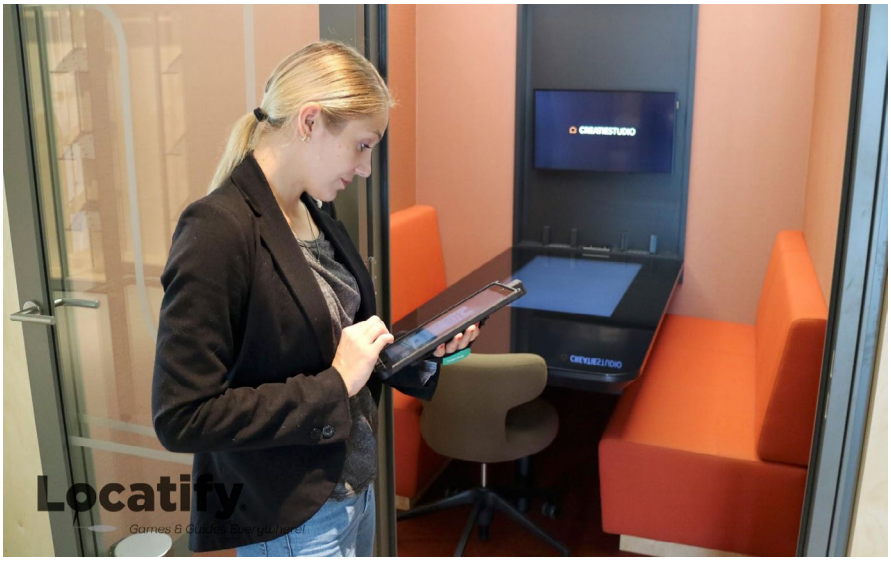
Results

Immersive Experience Increasing Visitor Engagement

The main aim of introducing UWB RTLS was to provide a cutting-edge visitor experience but at the same time bear in mind the need to place anchors carefully above people's head but still with a "line of sight" from slave anchors to their master anchor. This has resulted in a totally **new immersive experience for visitors**. They now stay connected and synchronised with their "personal" experience as they move from show home to show home with all of their options – choices and visualisations very much at their fingertips via the Samsung tablet and its bespoke app.

This has resulted in uninterrupted and increased visitor engagement that has boosted both the visitors' abilities to make **informed purchasing decisions** while at the same time leveraging cross-selling and up-selling opportunities through seeing fixtures and fittings, in real-time, visualised before their very eyes. The significant upturn in visitor delight has drastically reduced the prospective customers time to purchase and has helped to present the home catalogue in a more meaningful and unobtrusive way.





Homestudios visitor walking with the tablet.

"We were very grateful to have the SEWIO team on hand to provide assistance with configuration and solving anchor placement challenges in this highly unusual environment. In the end, the installation was a great success and the RTLS precision met the needs of the client."

Leifur B. Bjornsson
CTO and Co-founder at Locatify

Reasons for Sewio

Key Factors for Choosing Sewio RTLS

- Continuous visitor experience uptime – unlike other IPS that cannot overcome the problems of signal interference and blockage caused by the warehouse's environment

- A fluid user experience by mapping visitor position with UWB-locator-tagged Samsung tablets and touch-screen TVs

- The ability to add additional anchors to extend the coverage to new areas

- Support by a Sewio expert at the facility

- A 24/7 up-and-running service

- Discrete placement of anchors and master anchors to maintain both the visitor experience and the reliability of the experience's delivery

Partner

Locatify
Games & Guides Everywhere!

Locatify provides location-based delivery of digital content to mobile apps. It specializes in native app development with a focus on games & guides for museums, tourism, events and education.

Locatify has a deep understanding of indoor positioning technologies, with over 90 apps delivered and multiple UWB installations in; the UK, the Netherlands, Sweden and Iceland.

By developing a user-friendly CMS platform which is integrated with GPS, Beacons and UWB, and features proximity-based content delivery, indoor way-finding and dynamic app templates, Locatify provides unique solutions and accurate information for users.

Whatever your wishes, Locatify will help bring them to life.

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310 Borgarnes
Iceland
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Manufacturer

Sewio Networks s.r.o.

Sewio Networks is a manufacturer of a **real-time location system (RTLS)** for indoor tracking that drives business results for companies in the intralogistics, retail, sport, entertainment and livestock industries. Sewio system is built on **ultra-wide band technology (UWB)** and delivered with RTLS Studio, remote management and visualization software.

It gives partners and customers a precise, easy-to-integrate, reliable and fully scalable IoT solution for indoor tracking that allows process visibility, boosts production efficiency, simplifies the inventory process and increases safety. Founded in 2014, Sewio is headquartered in the Czech Republic with offices in Germany and France. Sewio has 70+ system integration partners and powers customers in 37 countries. Customers include: Volkswagen, Budvar, Pirelli, Matador, TPCA, Škoda.

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