

# Wireless sensors for monitoring elderly and their environment

## Description

Reliable alarming and monitoring of patients is fundamental in today's healthcare system. Televic Healthcare (THC) offers professional communication systems within the care sector for nurse call and recently launched a wireless call and localization system. THC wants to extend this system by developing new devices and applications.

In its next generation nurse call system, THC wants to develop room controllers/workflow panels that act as a gateway for other devices/sensors in the room. Those devices are proprietary nurse call units as well as commercially available sensors that will connect on a wired or wireless fashion to this room controller.

In this thesis you will implement a gateway based on Bluetooth Smart (low energy) which can added as extension board to the existing wireless room controllers/workflow panels. Secondly you will prototype a sensor node that can communicate with this gateway and look to convert the selected BLE GATT profile so the data can be picked up by the nurse call system at the room controller. Finally, you will integrate the new BLE based EnOcean sensors (presence, switch) and validate if you can successfully provision them and receive their commands.

If you are interested in this topic, please also register this on the Televic website at:

<https://www.televic.com/en/careers/internships-and-students> so we can confirm the topic is still available.

## Televic Company/Department:

Televic develops, manufactures and installs top end high-tech communication systems for specific niche markets. A financially independent and stable group, Televic is divided into divisions that each focus on their specific market:

- [Televic Rail](#): passenger information systems and on-board control systems for trains
- [Televic Healthcare](#): communication systems for healthcare
- [Televic Conference](#): conference systems for large venues
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Televic creates added value for its customers by developing custom-made solutions and by continuously innovating at the cutting edge of technology.

With headquarters in Belgium and offices and plants across Europe, Asia and the US, Televic employs nearly 700 people worldwide.

## About Televic Healthcare

Televic Healthcare develops and manufactures high end solutions for nurse call, intercom, access control, patient entertainment and care registration for healthcare environments.

Our state-of-the-art systems are adapted to the ever higher demands of an evolving market, and have been implemented in newly built and refurbished healthcare institutions across the world.

## Contact

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<https://www.televic.com/en/careers/internships-and-students>

<b>Nature of the work</b>					
Level	Specialty	Type of work.	Location	Type of activities	Num of students
Academic Master, Bachelor, Master	Embedded Software	Research: 20% Implem.: 60% Experim.: 20%	Televic	Implementation, Programming	1 or 2