

BouWatch

Localization, asset management and access control

BouWatch develops systems for securing construction sites and facilitating asset management. To secure a construction site, mobile masts are installed which are equipped with cameras. When the cameras are activated and see motion, they send an alarm signal to a control room where security personnel validate the alarm and act accordingly. To ensure that the construction sites are only accessed by the authorized personnel, the BouWatch company also provides access control infrastructure for the construction sites. In addition to securing the area using cameras and access control gates, solutions for asset management are required. Many valuable manual tools are used in the construction sites. Tracking of the tools should be enabled for security reasons and project management support.

The Bluetooth Low Energy (BLE) is one of the technologies used for localization and proximity sensing. The BLE has been enriched with promising options related to localization. Combining these new features of Bluetooth Low Energy (BLE) with the existing BL based localization can improve the accuracy of asset tracking. Moreover, this new feature of BLE tags (or the BLE in the smartphones of the personnel) could be used to increase accuracy of site access control solutions.

As a part of a collaboration between Radio Systems group and the research and development department of the BouWatch company, several MSc. and BSc. assignments are available. The goal of these assignments is to investigate the potential of new BL features to improve accuracy of existing solutions for positioning, personnel and assets tracking/localization and access control management on construction sites.

These assignments cover all, or part, of the following steps which are necessary to achieve a feasible solution:

- Investigate the basic accuracy of BL technology and possibilities to improve its accuracy for the target application/s
- Investigate the possibility to use new technologies in combination with existing solutions
- Design a solution that achieves higher accuracy in positioning, tracking and personnel authorization
- Build a proof of concept and evaluate its performance

The exact description of the project will be discussed/tuned based on the educational level (BSc./MSc.) and the preferences of the candidates.

Company

BouWatch is a young and successful international company providing construction site security and safety solutions. BouWatch is market leader in this segment, and strongly growing. The company is also unique in having in house control rooms, services people, production and research and development. The R&D is done by BouWatch Technology, which is mainly located in Enschede.

The BouWatch systems provide the safety and security on many very scattered locations throughout western Europe, and blend video, IoT and information of users into a single system of relevant alarms and access control.