

Master-IT: Project work WS2010/2011

Area: Industrial Communication

Automated test environment for wireless automation systems

start: Immediately
partner: Industrial Project

Description

Due to their advantages, in terms of cost and mobility, wireless technologies such as IEEE 802.11 have emerged in certain industrial application areas and an increasing amount of wireless devices are used. However, before a wireless device is ready to be deployed, a vendor has to conduct comprehensive tests to comply with all necessary requirements. Since manual execution of tests always leads to a higher error rate as well as less repeatability, etc., it is desired to have an automatic execution of test cases. Especially standardized testing languages, such as [TTCN-3](#), are of interest in this context and shall be considered and investigated regarding their suitability.

Goals

Development and evaluation of a first concept of an automated test environment for wireless industrial devices. The system should at least provide the following functionalities and capabilities:

- Usage of a standardized testing language
- Flexible test case and scenario generation
- Test of functional and non-functional properties
- Automated execution of various test cases and scenarios
- Assessment of the results
- Setup should be based on an existing system (Azimuth W-Series), but also open to other deployments