

TOPIC FOR A BACHELOR OR MASTER'S THESIS

5G4INDUSTRY: SIMULATION OF INDUSTRY

4.0 USE-CASES

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MOTIVATION

Today, data communication and processing in industrial plants usually assume well-known applications and carefully planned resources (processing, storage, network). This ensures quality of service, but limits flexibility. In the future, rapidly changing application scenarios can also be expected in the industrial environment, for example through the introduction of data analytics applications and the integration of sophisticated human-machine interfaces (such as augmented reality glasses for technicians).

Management of different resources (processing, storage, network) that integrates them and makes them usable for the special requirements of industrial scenarios is missing so far. There is also no tool to support long-term resource planning and investment decisions (e.g., to invest in own spectrum or to purchase it from a public provider).

GOALS OF THIS THESIS

Building on OMNeT++ (an extensible, modular, component-based C++ simulation library and framework, primarily for building network simulators) this work will investigate the deployment of dynamic, load- and application-dependent radio resource acquisition in simulation. More importantly, this thesis will evaluate the impact of planning recommendations that result from the given management approach (considering costs, priorities, ...) and an application mix (VR tasks, offloading tasks, backups, ...).

REFERENCES

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