



TraMICS – Traffic Management Intrusion and Compliance System

Meilin Schaper (DLR)

Acoustics and Speech Processing 2020 Workshop 2020-12-16, remote



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 832969.



Current Situation

- Pilots are instructed by Air Traffic Controllers, how and when to taxi/fly.
 - If one deviates, is it by accident or intent?
- Mostly radio frequency is used for pilot/controller communication.
 - What if an intruder speaks?

What is TraMICS' role in the context of SATIE?

- Serves as sensor for potential security incidents in the responsibility of the ANSP
- All security related findings will be reported to the Correlation Engine to
 - broaden the spectrum of awareness (not only airport but ANSP)
 - establish a fast and automatic communication.

Which indications are found and monitored?

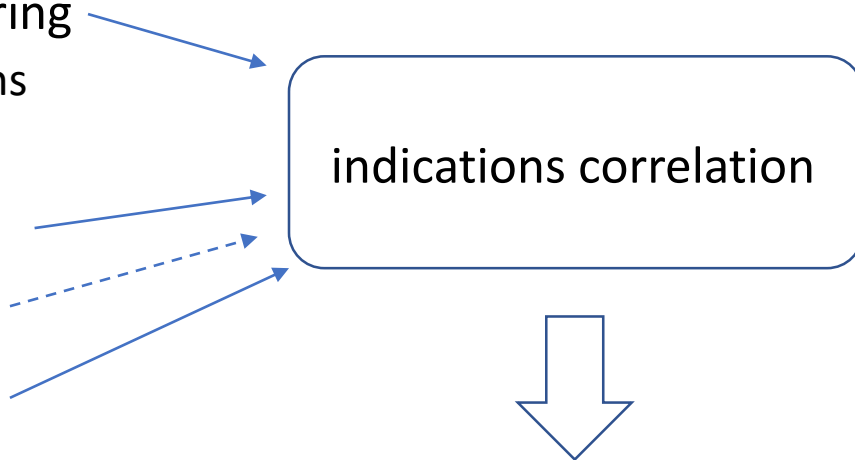
- Conformance monitoring

- Clearance deviations
- Route deviations

- Conflict detection

- Stress detection

- Speaker verification



Which indications are found and monitored?

- Conformance monitoring

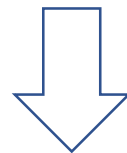
- Clearance deviations
- Route deviations

- Conflict detection

- Stress detection

- Speaker verification

indications correlation



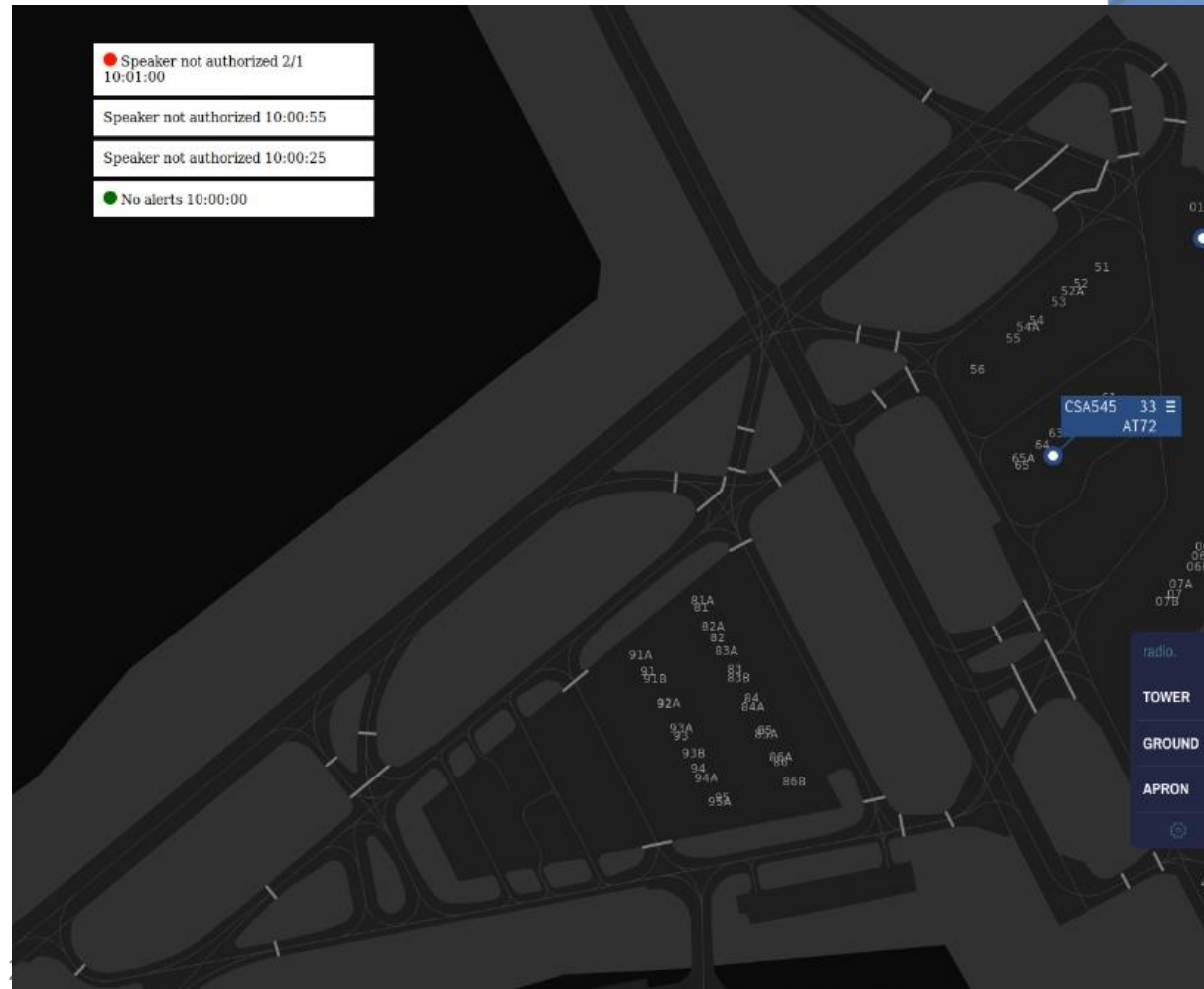
security-situation rating

Achivements in SATIE

- DLR's and SAV's modules are integrated to TraMICS.
- TraMICS is integrated into DLR's simulation environment.
- Technical tests have been passed successfully.
- Human-in-the-loop experiments had not been performed due to COVID-19.

Screenshot

Unauthorized speaker is detected twice. This leads to „red“ security situation rating.





Further information and results can be found at <http://satie-h2020.eu/>

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 832969. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.