# Introduction

Two different working groups discussed interface aspects of SELF-MADE-ATC.

- Working group 1 consists of 7 people. All attendees were in Braunschweig
- Working group 2 consists of 7 people; four attendees were in Braunschweig

## Objective

Discussion of requirements for interfaces supporting the adaptation and maintenance of Automatic Speech Recognition and Understanding (ASRU) systems within the SELF-MADE-ATC project. The group focused on identifying, which system modifications may be performed by end-user organizations and which activities should remain the responsibility of system suppliers.

# Results of the Working Groups

## Working Group 1

Discussion points of this working group were:

- How is the compatibility of the SELF-MADE ATC software with base models that were trained with other software? Answer: It should be compatible with any open-source model.
- Especially potential military end users have the restriction, that data may not be shared with any external and it must be possible to update a model at remote places (i.e. where operations take place).
- Context data should be easy to add to the training software, i.e. involving automatic conversion of data. The input data might need limited to specific predefined standard formats though.
- The use of no-audio input data at all should be possible, i.e. training is performed only with synthetic and augmented voice recordings. The “magic” of the SELF-MADE-ATC software could include a text-to-speech software that adds enough variations so that a training based on these data brings sufficient benefits for the model
- Certain requirements were discussed involving possibilities…
    - to run a full rollback if a rolled-out model is having any flaws
    - to verify the rolled-out new model
    - for a traceability of changes and
    - for the possibility to restrict access rights

The following agreements were achieved:

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| The end-user is defining/telling the data format (hopefully standardized/with documentation) to the ATM supplier.<br>The ATM system supplier should enable the digestion of this data format.<br>The concrete data to be fed into the system should be possible locally on your own (expecially military) AND<br>– if preferred – by the ATM supplier („full service“: „who takes care if something ailed?“). |
| Interface should be „as simple as possible“, e.g., drag-and-drop my local airport maps as PDF into the system.<br>If I need more recognition performance, I can also define more details „what are stands and how are they usually pronounced…stand 7.3“ |
| Rollback and full logging and full tracibility needed. |

## Working Group 2

The second group agreed on the following interfaces required along with their sources:

- **Recording Interface:** With a shared Storage and Continuous Recording of live data
- **Input Interface:** With Asterix radar information feed
- **Output Interface:** With Asterix customized fields
- **ATM System Interface**
- **VCS Interface:** With ED-137 live traffic feed
- **AIP Interface:** Provide data from PDF, AIXM format
- **Flight Plan Interface:** With the flight plan
- **Training Interface**

## Open Challenges

- Applications should be adaptable to different Sectors and Controllers.
- There should be a global storage to filter for different CWPs – intermediate outputs of each CWP should not be visible to everyone.
- The Flight Plan is not always guaranteed from Asterix data.
- There should be a Continuous Training with status information regarding the performance of the trained model.