

Day 1: 13:00 to 17:00

13:00 to 13:10	HHe	Welcome
13:10 to 13:40	HHe	MALORCA brings together Automatic Speech Recognition and Machine Learning
The presentation gives an overview of MALORCA project and its partners. The different roadmaps of Automatic Speech Recognition on the one hand and Machine Learning on the other hand are presented. Furthermore the agenda of the two days including logistic information is presented.		
13:40 to 14:10	PM	Components of Machine Learning for Assistant Based Speech Recognition
The presentation presents the different components, which are needed to train an Assistant Based Speech Recognition System by Machine Learning. This includes e.g. acoustic, language and command prediction models, but also radar data and tool-supported controller utterance transcription.		
14:10 to 14:45	HHe	Proof-of-Concept Trials
<p>Proof-of-concept of MALORCA project is split into two technical (T1, T2) and two operational (O1, O2) activities.</p> <ul style="list-style-type: none"> • T1 is a workshop with technical experts to evaluate the ABSR prototype implementation against the technical requirements. • T2 is an offline evaluation to quantify the improvements of the ABSR system with respect to the amount of available training data. • O1 involves controllers who concentrate only on the different outputs of a baseline ABSR system and on an ABSR system trained with all the available MALORCA training data. • O2 puts the trained ABSR system in a simulation environment with a replay of historic radar data and controller voice recordings from real Prague and Vienna in- and out-bound traffic. ABSR is used here to support the controllers in maintaining radar labels. <p>Quantitative and qualitative results and feedback are presented.</p>		
14:45 to 15:30	DLR	Coffee break including prototype demonstrations
The speech recognition prototypes which were used for technical and operation proof-of-concept trials are demonstrated on real life traffic from Vienna and Prague (from 2016) and a microphone is available for workshop participants to evaluate performance and limits of Assistance Based Speech Recognition.		
15:30 to 16:30	MALORCA	Working Groups Part 1
<p>Three parallel working groups are planned. Possible subjects of working groups could be</p> <ul style="list-style-type: none"> • Which recognition rates are operationally sufficient and affordable for operational needs? How to integrate even more context information? • How to exploit MALORCA results • Challenges and drawbacks of (local) phraseology deviations • Active Online-Learning, learning from feedback, using available mouse inputs of the controller or mode-S output or ... • Detailed evaluation of prototypes 		
16:30 to 17:00	MALORCA	Working group presentation to workshop participants
Each working group will select a speaker and a keeper of the minutes. The speaker will present the output of his/her working group to plenum to encourage discussion for come together in Vienna downtown.		

Day 2: 9:00 to 13:00

9:00 – 09:15	HHe	Introduction, Summary of Day 1, MALORCA video
During proof-of-concept trials MALORCA team has created a video, which will be presented to audience. Furthermore logistic information are provided.		
09:15 – 09:45	DK	Gap Analysis and Next Challenges
Although MALORCA has shown that machine learning techniques enable the cost-efficient transfer of Assistant Based Speech Recognition to new approach areas, many challenges remain. The presentation focuses on these challenges to encourage brainstorming for solutions in the following working groups. The presentation of problems includes a more detailed presentation of MALORCA results which were not covered by Proof-of-Concept trials.		
09:45 – 10:15	PM	Transfer of Assistant Based Speech Recognition to New Approach Areas
AcListant® project has shown that command error rates below 2% are possible with Assistant Based Speech Recognition (ABSR) for Dusseldorf Area. MALORCA develops Machine Learning techniques to enable transfer of Assistant Based Speech Recognition to new Approach Areas. The presentation outlines which steps are needed to adapt ABSR to a new airport with the support of machine learning and without.		
10:15 to 10:45	DLR	Coffee break including prototype demonstrations
The speech recognition prototypes which were used for technical and operation proof-of-concept trials are demonstrated on real life traffic from Vienna and Prague (from 2016) and a microphone is available for workshop participants to evaluate performance and limits of Assistance Based Speech Recognition.		
10:45 to 11:15	DLR	Cooperation of MALORCA and PJ 16-04
Both the MALORCA project and the SESAR solution PJ16-04 are lead by DLR. The presentation focuses on speech recognition activities of PJ16-04 and outlines how MALORCA results have already influenced the speech recognition activity in PJ16-04. This includes the development of an ontology for controller command transcription and also focussing on safety aspect which were neither considered in MALORCA nor in AcListant®.		
11:15 to 12:15	MALORCA	Working Groups Part 2
Three parallel working groups are planned. Possible subjects of working groups could be <ul style="list-style-type: none"> • Which recognition rates are operationally sufficient and affordable for operational needs? How to integrate even more context information? • How to exploit MALORCA results • Challenges and drawbacks of (local) phraseology deviations • Active Online-Learning, learning from feedback, using available mouse inputs of the controller or mode-S output or ... • How can 16-04 benefit from MALORCA results • What should "IBIZA" address? 		
12:15 to 12:45	MALORCA	Working group presentation to workshop participants
Each working group will select a speaker and a keeper of the minutes. The speaker will present the output of his/her working group to plenum to encourage discussion for come together in Vienna downtown.		
12:45 to 13:00	HHe + Plenum speaker	Summary
Critical review of MALORCA objectives and MALORCA achievements with respect to limited SJU resources and lessons learned from perspective of MALORCA, SJU and selected workshop speaker.		