



SJU expectations on ASR research

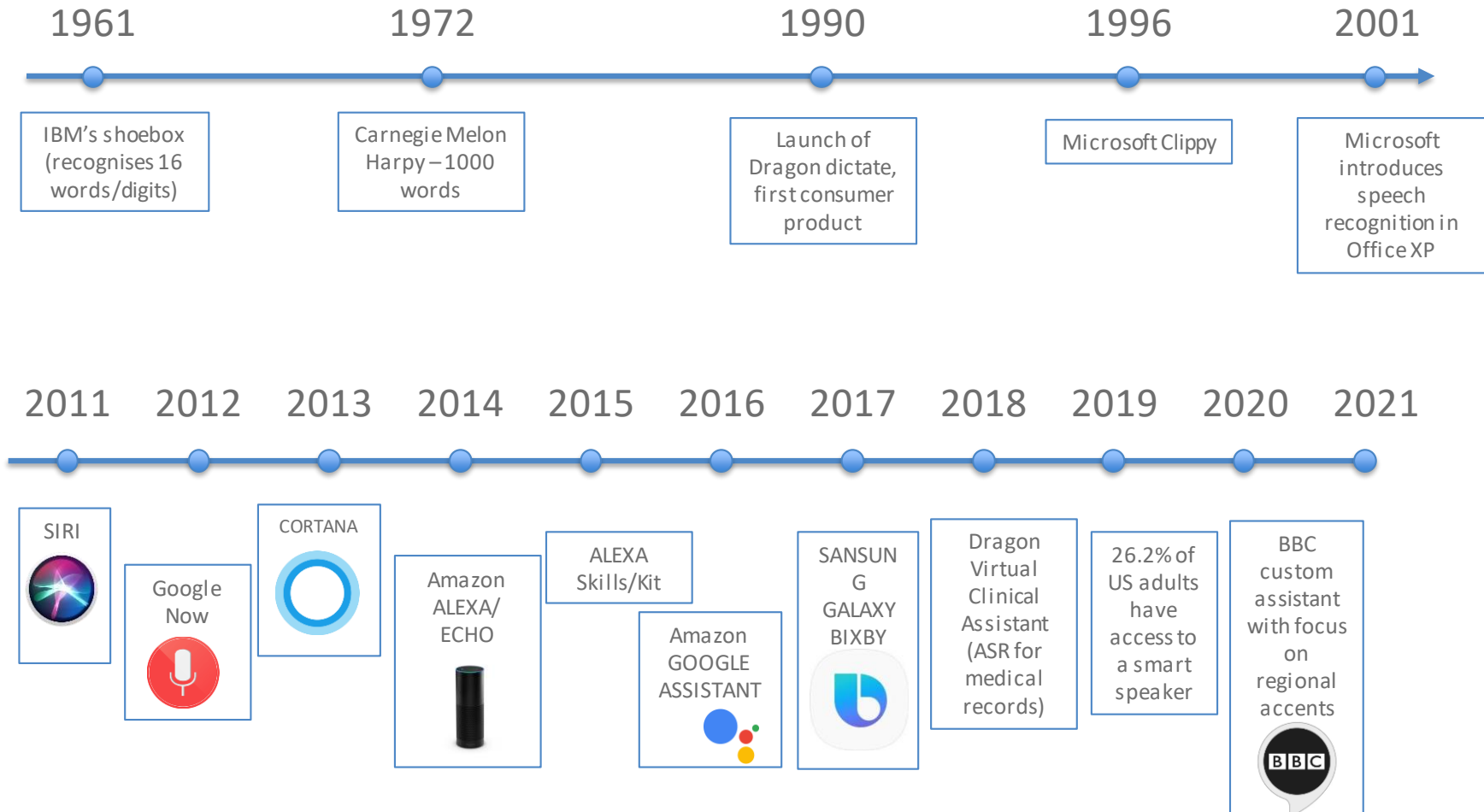
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Founding Members



VOICE RECOGNITION TIMELINE



<https://46ba123xc93a357lc11tqhds-wpengine.netdna-ssl.com/wp-content/uploads/2021/03/voice-assistant-timeline-jan-2021-updated2.pdf.pdf>

Unleashing the potential

This is not just one more “HMI” feature:

- It has the potential of revolutionising ATM...

... like it is revolutionising the rest of our lives

- **Airlines**
50 to 65 litres savings of kerosene per flight in medium traffic situations (TMA)
- **Environmental impact**
Saving of about 130 kg of CO₂ per flight (TMA)
- **ANSPs**
Significant reduction of ATCO Workload in high density traffic situations (NASA TLX ↓ 15-20%)
Increases possible working lifetime and capacity of ATCOs
Significant increase of Sector Capacity
- **Airports**
Increase of 1 to 2 landings per hour

DATA from AUSTROCONTROL (sol 96)

What we expect from SESAR 2020 projects

[SESAR 2020 Solution XX
SPR-INTEROP/OSD
Template for Vx - Part IV -
Human Performance
Assessment Report]

Information:	Information:
Information Level:	Information:
Product/Version:	Information:
Client:	Information:
CA:	Information:
CA:	Information:
Classification (optional):	Information:
Year:	Information:

Results that are implementable



Quantification of benefits



This is just the beginning!

ASR vs. CPDLC

In future ATCO-pilot communications
CONOPS: Data link ↑ Voice ↓

- But ASR and CPDLC are not competing, but complementary!

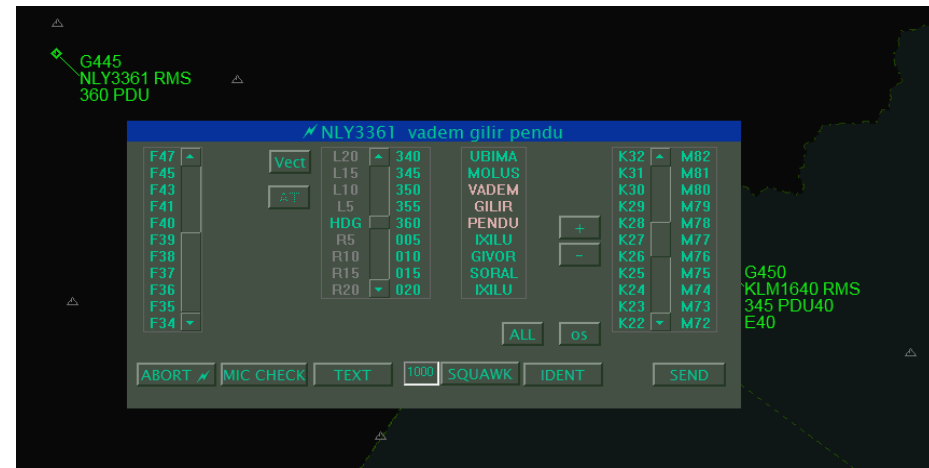
Beyond current CPDLC applications

Datalink with lower latency (LDACS)

Use ASR to reduce mouse clicks

Complex clearances (solution 56 use cases)

- But not everybody sees it that way
- The misconception that ASR is linked to voice communications as they exist today can hinder the development of ASR



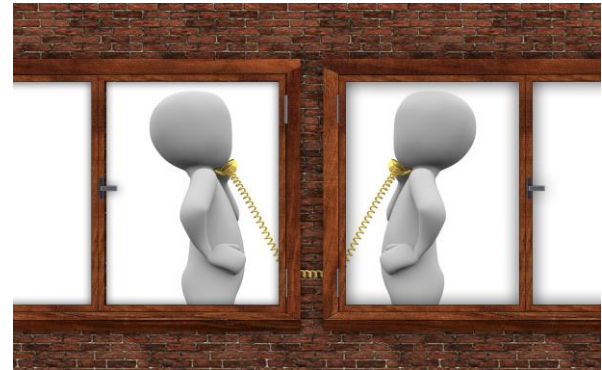
Picture: 18-02a, SKYGUIDE platform (CPDLC composition window)

Dissemination needed!!!

ATM is not just ATC...

On the ground:

- ATFM and NM operations are becoming increasingly tactical (STAMs, vSTAMs...), and, like ATC, rely heavily on voice communications
- New tools and increased need for remote collaboration for ATSEPs, in particular related to VC



And in the air:

- ASR could be the key for CPDLC in the TMA (↑ head-down is blocking point)
- Implementation of Complex CPDLC clearances (cockpit is the slower segment, improved HMI is key)



Addressing the legal challenges

Need to find a balance (**restricting access/lower openness WILL slow down progress**)

Look beyond your project:

- Share your project's experience in securing access to data (or failing to do so!)
- And think beyond, make recommendations for future projects and for implementation

Holistic view needed:

- Understanding the legal framework for access to all ATC data
- Including differences between European states
- And, if needed, make recommendations for its potential evolution





Thank you for your attention!



Founding Members



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