


Frederick ('Fred') De Cock

EUROCONTROL MUAC
Simulator Coordinator


 **Started as an ATCO trainee at EUROCONTROL**

→ Discovered I was *terribly bad* at it. Moved to working in the simulator... Everyone agrees this was for the best (mainly aviation safety).

 **Originally studied Surveying/Topography** – mainly interested in geographical information systems.


 Later added a LL.B, LL.M., and PhD in **Law** (because... why focus on one field?).

 Completed doctoral school in **Behavioural Sciences** for good measure.

 **Licensed PPL pilot** for both fixed-wing and helicopters.

→ Can legally fly you around while discussing international law and cartographic projections.



 Passionate about **aviation** and **technology**.

 For the last **19 years**, EUROCONTROL has generously let me play (in what I call a **giant sandbox**) — working on **innovative projects** to boost **training quality**. Immensely grateful for that!

Innovation to optimise training

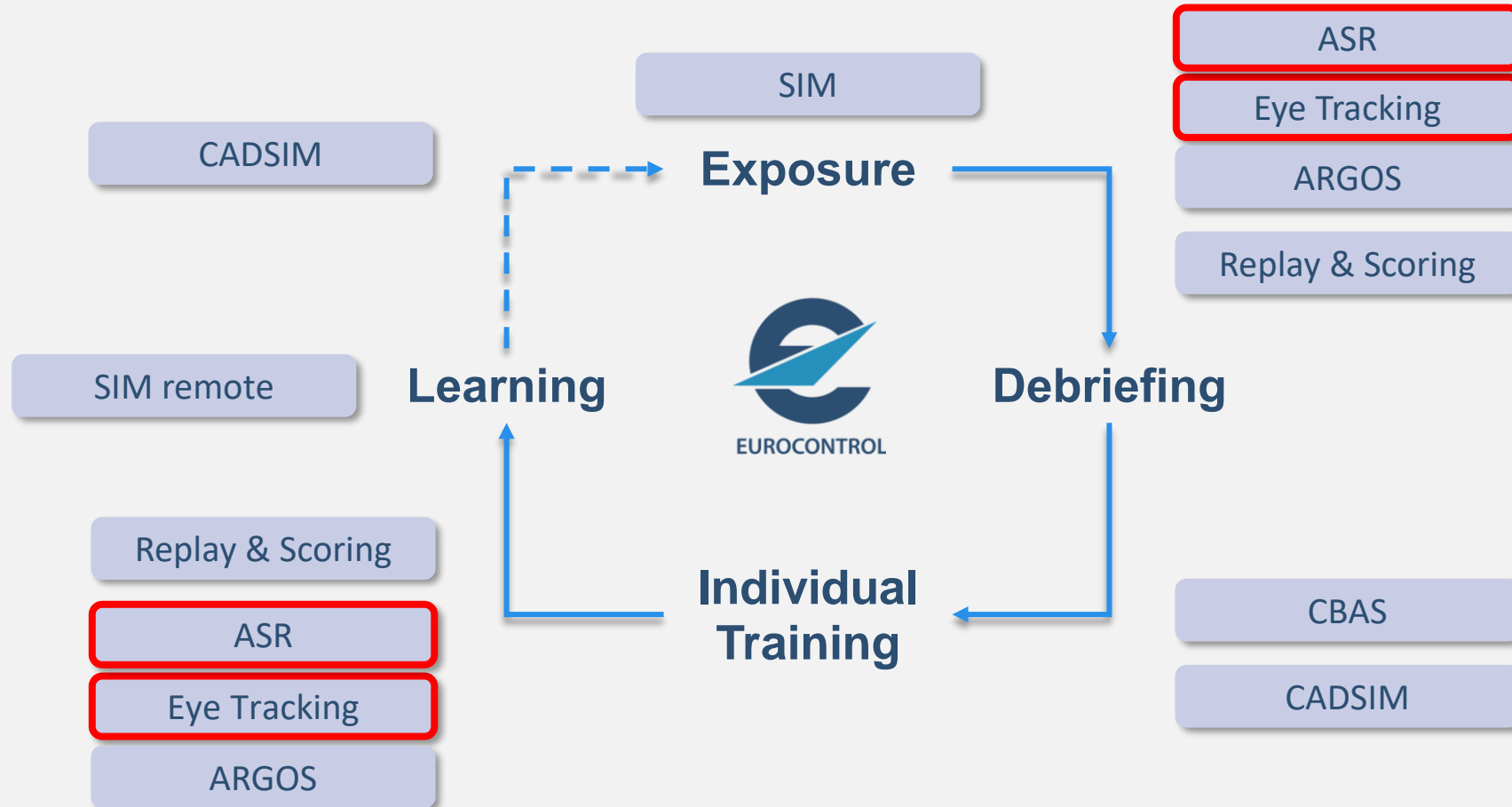
Increase exposure to ATC simulations

...while capturing metrics 😊

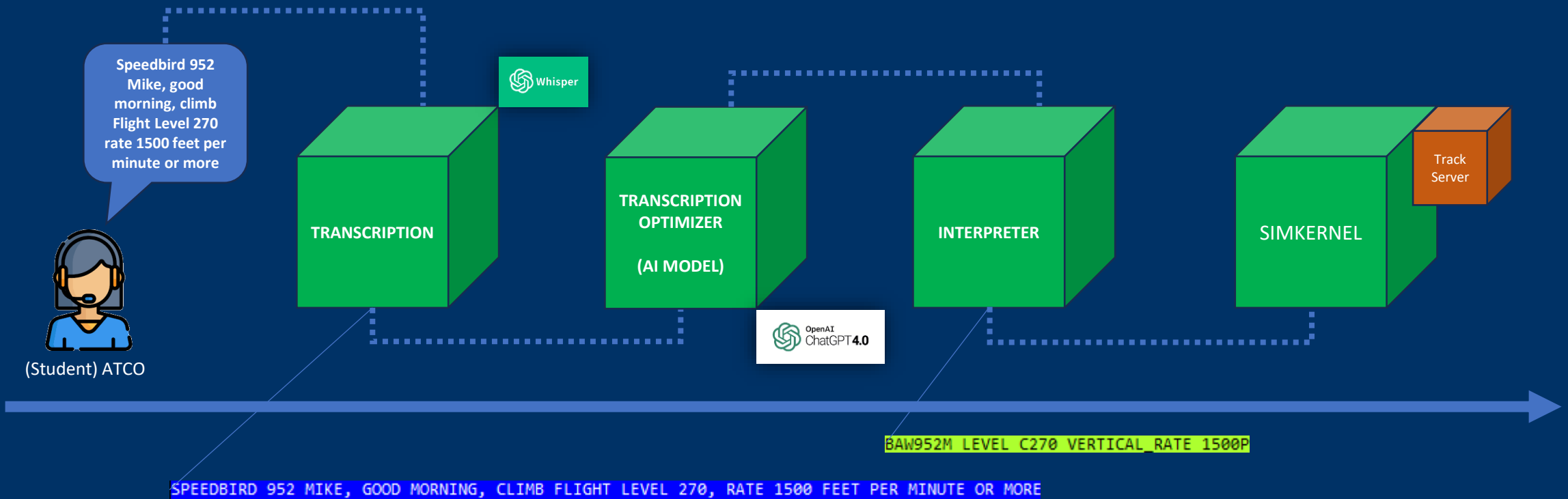
-  **ASR (Automatic Speech Recognition)**
 - Increase realism
 - Bring down pace
 - Improve prioritising of tasks
-  **EyeTracking**
 - Get insights in scanning pattern (velocity/fixation clusters)
 - Pupil dilation → metrics on cognitive workload / stress

Assessing ATCO Trainee Performance

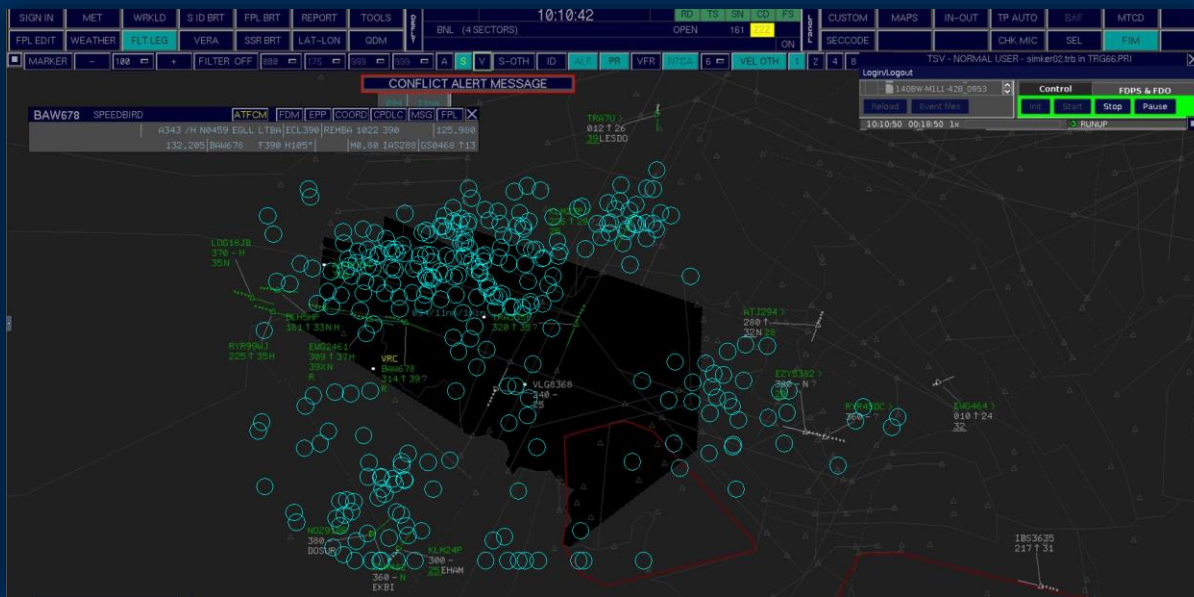
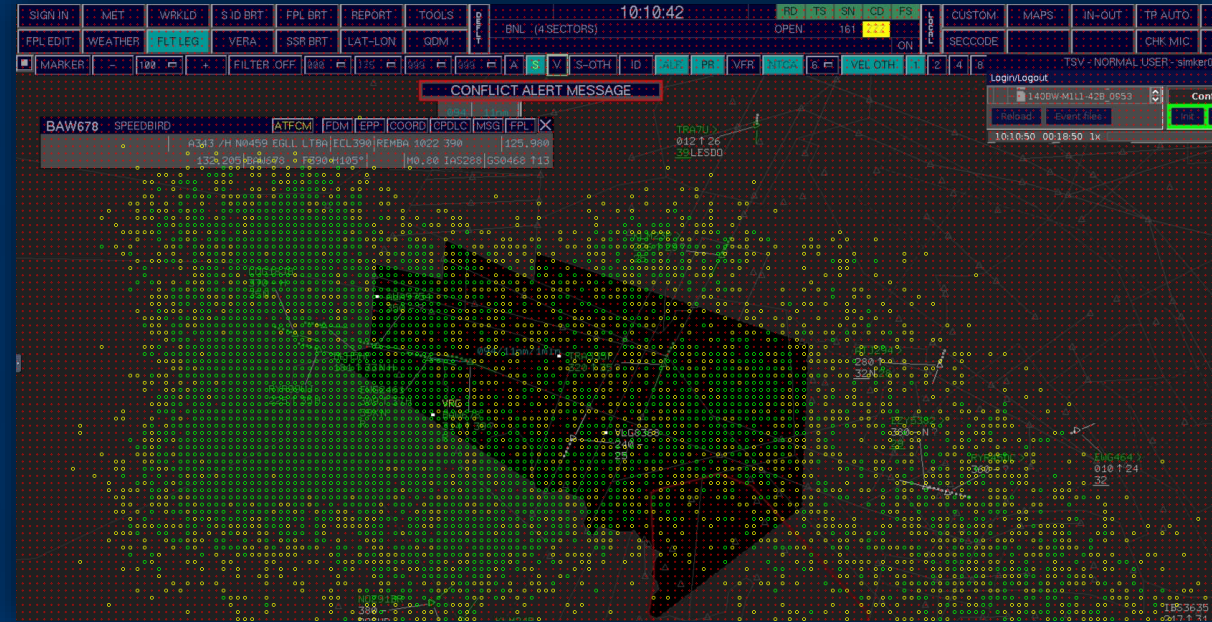
Training



ASR (Automatic Speech Recognition)



EyeTracking



Participant	Mean Dilation	Std. Deviation	Max Dilation	Min Dilation	Samples
Cs	5.238 mm	0.455 mm	7.420 mm	2.099 mm	131,395
L	5.767 mm	0.347 mm	7.265 mm	2.760 mm	130,707
Co	5.285 mm	0.347 mm	6.122 mm	2.672 mm	131,218

Participant	Mean X	Mean Y	X Std Dev	Y Std Dev	X Range	Y Range	Total Fixations
Cs	970	1094	418	362	2722	3125	131,395
L	1015	1127	443	363	2568	2484	130,707
Co	963	1091	402	352	2477	2918	131,218