



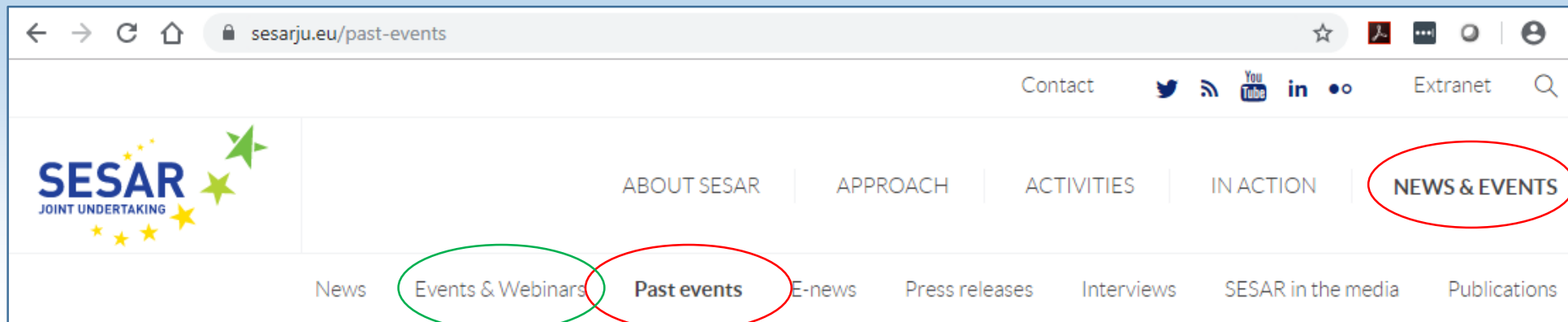
Towards higher levels of automation Artificial Intelligence (part 2 of 2)

Moderated by Ruben Flohr, ATM expert, SESAR JU



SESAR reaching out through webinars

- U-space & drones
- Exploratory research
- Nurturing young talent
- Digital sky vodcasts (Covid-19 impact, recovery, resilience)
- **Digital academy webinars**



Digital academy webinars

- The European ATM masterplan (in a nutshell) – 30 June
- **Towards higher levels of automation – 22 & 24 July**
- Consolidation of U-space results
- Communication, Navigation and surveillance
- Virtualisation
- Trajectory Based Operations
- SESAR and the environment

Levels of automation

From the European ATM masterplan

		Definition of level of automation per task				Automation level targets per MP phase [A,B,C,D]		
Definition		Information acquisition and exchange	Information analysis	Decision and action selection	Action implementation	Autonomy	Air traffic control	U-space services
Action can only be initiated by human	LEVEL 0 LOW AUTOMATION	Automation supports the human operator in information acquisition and exchange and information analysis						
	LEVEL 1 DECISION SUPPORT	Automation supports the human operator in information acquisition and exchange and information analysis and action selection for some tasks/functions						
	LEVEL 2 TASK EXECUTION SUPPORT	Automation supports the human operator in information acquisition and exchange, information analysis, action selection and action implementation for some tasks/functions . Actions are always initiated by Human Operator. Adaptable/adaptive automation concepts support optimal socio-technical system performance.						
Action can be initiated by automation	LEVEL 3 CONDITIONAL AUTOMATION	Automation supports the human operator in information acquisition and exchange, information analysis, action selection and action implementation for most tasks/functions . Automation can initiate actions for some tasks . Adaptable/adaptive automation concepts support optimal socio-technical system performance.						
	LEVEL 4 HIGH AUTOMATION	Automation supports the human operator in information acquisition and exchange, information analysis, action selection and action implementation for all tasks/functions. Automation can initiate actions for most tasks . Adaptable/adaptive automation concepts support optimal socio-technical system performance.						
	LEVEL 5 FULL AUTOMATION	Automation performs all tasks/functions in all conditions. There is no human operator.						

Degree of automation support for each type of task



Towards higher levels of automation - Artificial Intelligence (part 1/2)

Higher levels of automation in Time Based Separation during approach

- Andy Shand, Head of Queue & Capacity Management Solutions, NATS
- Claire Pugh, Wake Optimisation concepts and Analysis Lead, NATS

An overview of Artificial Intelligence methods

- Jesus Garcia, Professor Computer Science, Universidad Carlos III de Madrid

The human machine hybrid approach

- Marc Baumgartner, Air Traffic Controller, IFATCA

Perspective on Trustworthiness of Artificial Intelligence

- Guillaume Soudain, Software Senior Expert, EASA

Towards higher levels of automation - Artificial Intelligence (part 2/2)

Big data analytics to study intermodal passenger behaviour

- Ricardo Herranz, Project lead BigData4ATM, Nommon

Machine learning in speech recognition

- Hartmut Helmke, Project Leader, DLR
- Aneta Cerna, Project leader, ANS of the Czech Republic

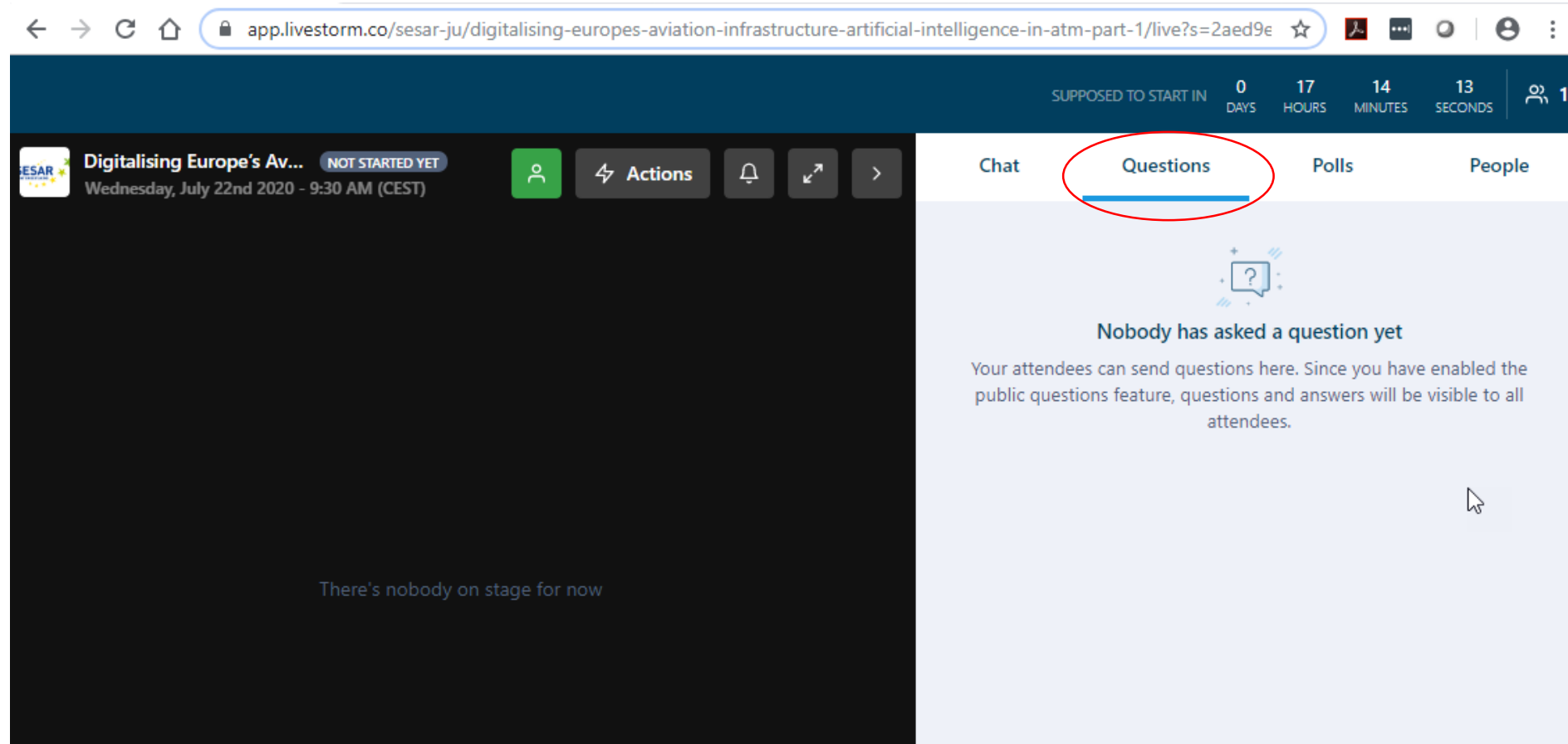
Deep neural networks in complexity management

- Seddik Belkoura, Data Science Specialist, MUAC, EUROCONTROL

Machine learning to improve the take-off time prediction

- Ramon Dalmau Codina, Data Scientist, EUROCONTROL

Questions and answers



The screenshot shows a web browser window with the URL `app.livestorm.co/sesar-ju/digitalising-europes-aviation-infrastructure-artificial-intelligence-in-atm-part-1/live?s=2aed9e`. The interface is for a Livestorm event titled "Digitalising Europe's Av..." which is marked as "NOT STARTED YET" and scheduled for Wednesday, July 22nd 2020 - 9:30 AM (CEST). The event status bar at the top right indicates it is "SUPPOSED TO START IN 0 DAYS 17 HOURS 14 MINUTES 13 SECONDS" with 1 attendee. The main navigation bar includes "Chat", "Questions" (highlighted with a red circle), "Polls", and "People". The "Questions" section displays a message: "Nobody has asked a question yet" and explains that attendees can send questions here, which will be visible to all attendees. The left sidebar shows a dark stage area with the text "There's nobody on stage for now".