



Hungary: PBN implementation status and plans

Dr. Rita Somogyi

Head of Strategy and Project Management

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EGNOS Working Agreement Signature (LHBP) - 2016



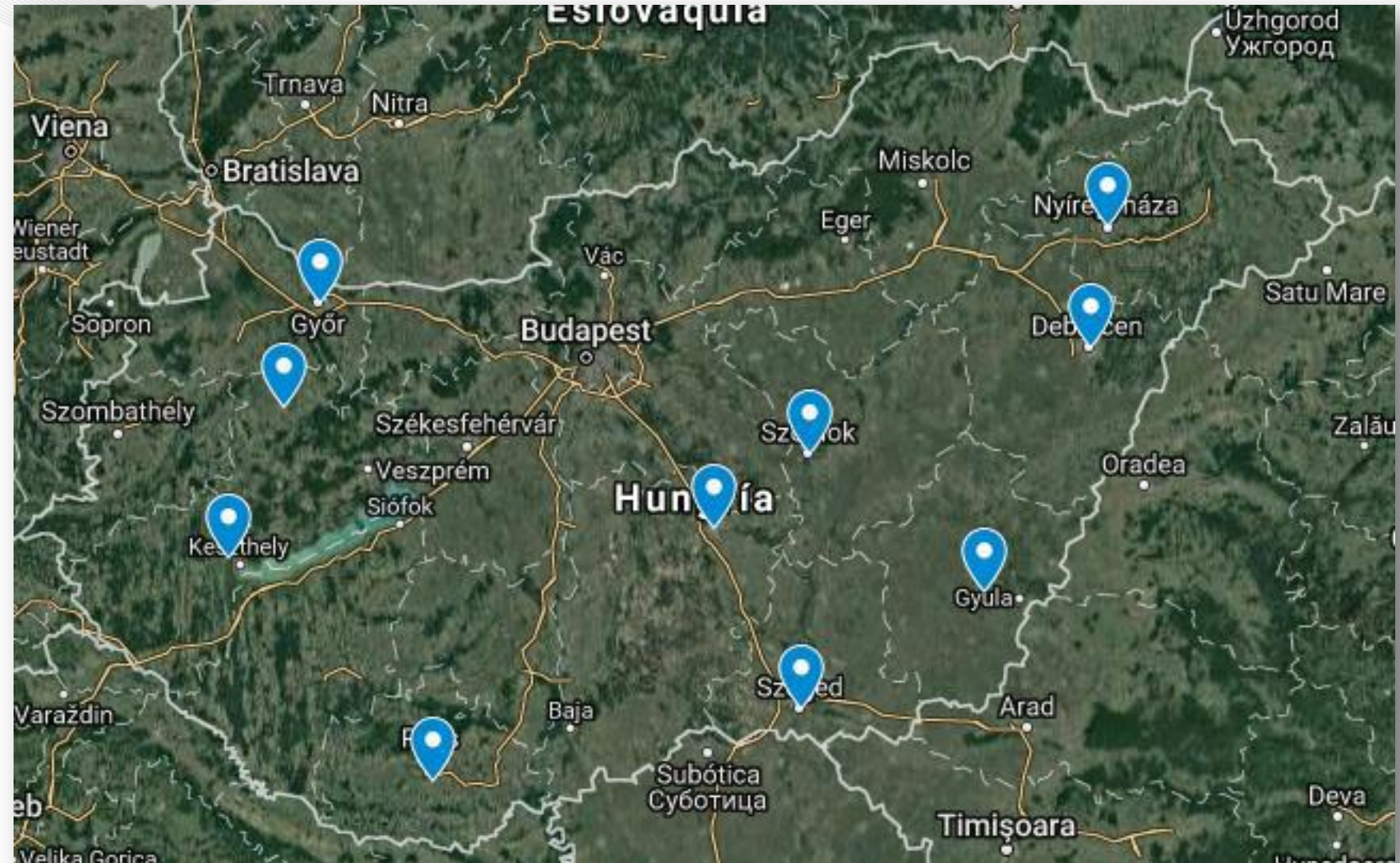
But regarding the countryside, PBN roll-out was still a dream



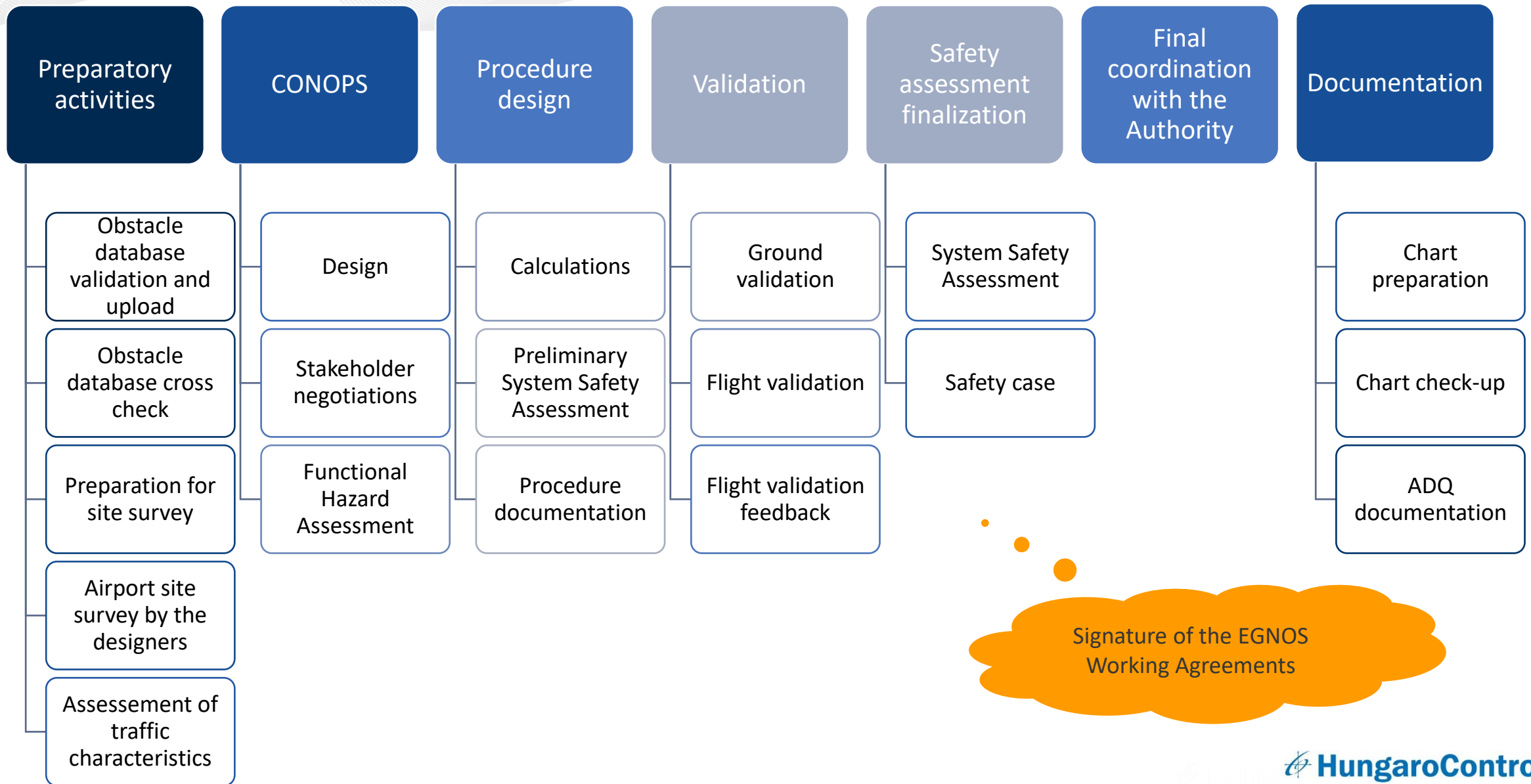


PBN4HU implementation sites

- Szolnok
- Kecskemét
- Pápa
- Debrecen
- Békéscsaba
- Győr
- Pécs
- Sármellék
- Nyíregyháza
- Szeged



Work breakdown structure



Procedure design and validation



Piper Seneca



Installation of PILDO data recording equipment components



Data seen on the screen of Pildo technician

Procedure design and validation

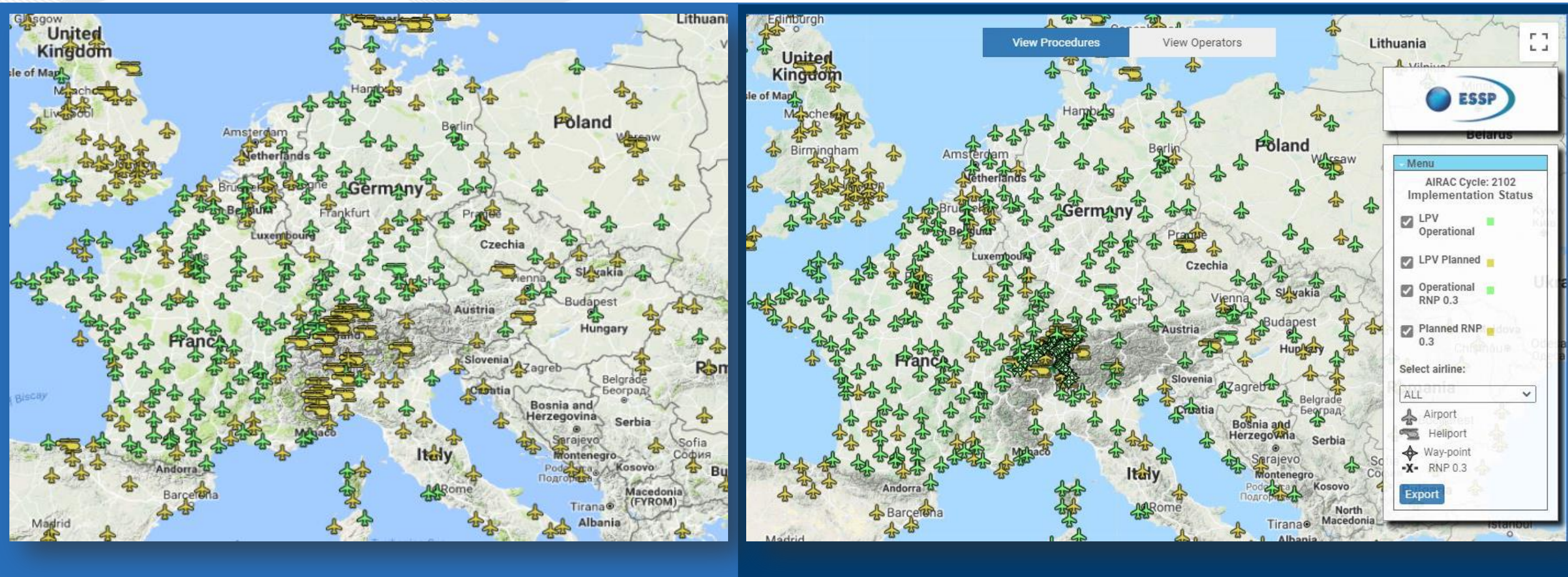


Visualization of procedure on PILD0's instrument available to pilots during flight



One of the validation approaches - final

PBN procedures BEFORE AND AFTER facilitated by EGNOS



2017 -> 2021

Transport Innovation Award 2020

<https://kepmas.hu/en/not-idea-out-air-interview-dr-rita-somogyi-winner-transport-innovation-award>



KÉPMÁS
MAGAZINE | For women and men

CUI

Not an idea out of the air – Interview with Dr Rita Somogyi, winner of the Transport Innovation Award

Csaba Németh
23/06/2021



A young Hungarian engineer, *Dr. Rita Somogyi*, and her team have now brought a new and precise solution to the field of GPS-based support for aviation security. Aviation has changed enormously from *Icarus* in Greek mythology to the present day! The progress is unstoppable, and now a Hungarian woman has contributed to it.



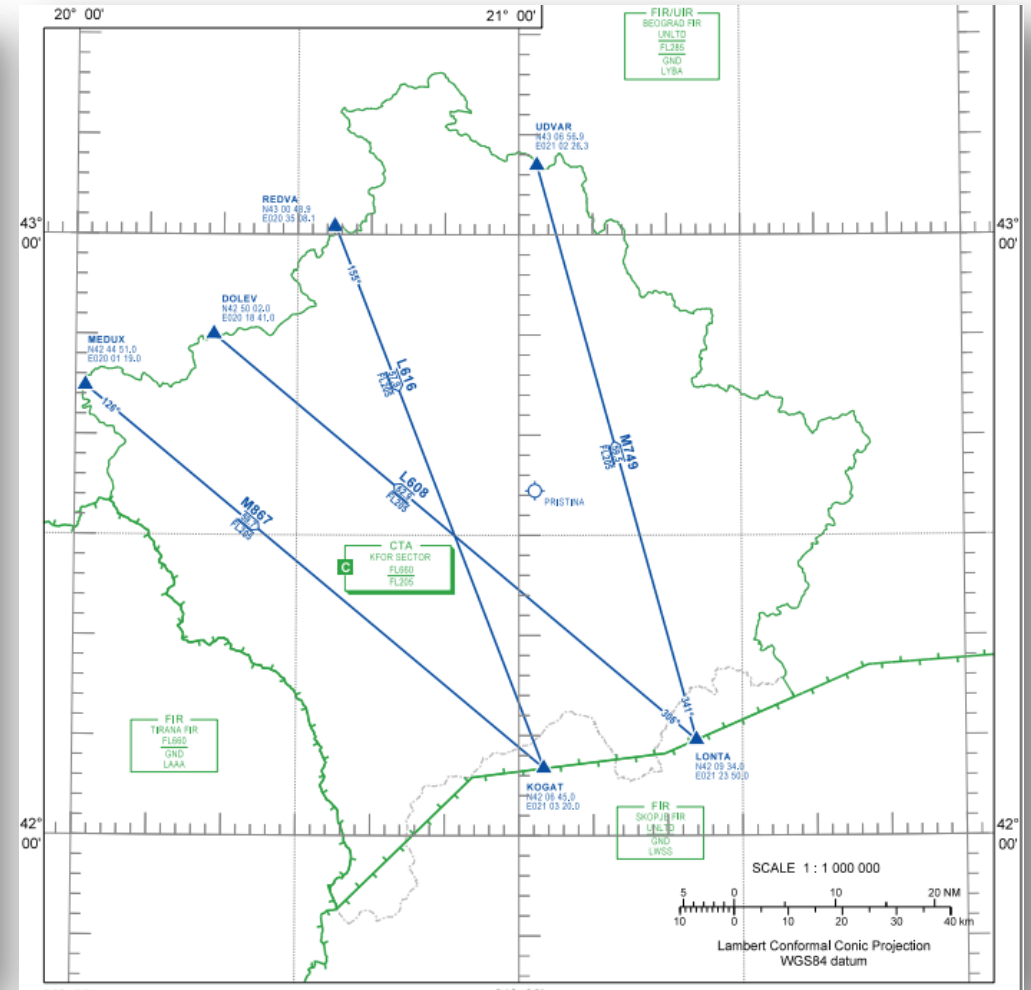
Dr Rita Somogyi

PBN Implementation Status 2021 Q4

Airport	ICAO	RWY end	LNAV	LNAV/VNAV	LPV	RNP AR (RF)
Békéscsaba	LHBC	17L	+	-	+	<i>Not required</i>
		35R	+	-	+	<i>Not required</i>
Budapest Liszt Ferenc	LHBP	13R	+	+	+	<i>Not required</i>
		31L	+	+	+	<i>Not required</i>
		13L	+	+	+	<i>Not required</i>
		31R	+	+	+	<i>Not required</i>
Debrecen	LHDC	04R	+	Planned (from 2023 onwards)	Planned (from 2023 onwards)	<i>Not required</i>
		22L	+	-	+	<i>Not required</i>
Nyíregyháza	LHNY	18	-	-	Publication in progress	<i>Not required</i>
		36	-	-	Publication in progress	<i>Not required</i>
Pécs-Pogány	LHPP	16	-	-	+	<i>Not required</i>
		34	-	-	+	<i>Not required</i>
Győr-Pér	LHPR	12	+	+	+	<i>Not required</i>
		30	+	+	+	<i>Not required</i>
Hévíz-Balaton	LHSM	16	+	-	+	<i>Not required</i>
		34	+	-	+	<i>Not required</i>
Szeged	LHUD	16R	-	-	Planned (airspace modification is needed)	<i>Not required</i>
		34R	Planned (airspace modification is needed)	Not possible due to state border	Not possible due to state border	<i>Not required</i>



ATS routes for en-route operations



Summary and some further details



- By February 2022, where technically feasible, all instrument runway ends in Hungary will be covered by RNP approach procedures with LPV minimas. In some cases, airspace modification was needed. At Szeged, LPV approaches are not possible for 34R due to the vicinity of the state border.
- Additional LNAV/VNAV minimas are not yet planned.
- RNP AR approaches are not planned to Hungarian airports.



- Within LHCC FIR, only the 4 busiest civilian airports have established SID routes, 2 of those are conventional.
- RNAV 1 SIDs and STARs are only implemented at Budapest and Debrecen.



- Since 2015, Free Route Airspace is implemented within the LHCC FIR. The compulsory and plannable links are RNAV 5 routes.
- Within the KFOR sector, the available ATS routes are all RNAV 5 routes.
- The establishment of ATS, SID or STAR routes for rotorcraft operations are being considered in Hungary.

THANK YOU FOR YOUR ATTENTION



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