



INTERNATIONAL CIVIL AVIATION ORGANIZATION
A United Nations Specialized Agency

Point in Space Procedure Design Course

APAC FPP – Beijing, China

(11-15 May 2026)



Tentative Schedule



Date	09:00-10:00	Coffee Break	10:20-11:50	Lunch Break	13:20-14:30	Coffee Break	14:50-16:40
11/05/2026 Mon.	IFR Procedure Introduction M		Cat H IFP Specific Criteria (Departure and Approach) L		PinS Approach Concept M		Criteria for IFR PinS Approach Segments L
12/05/2026 Tue.	PinS Approach Visual Segment (Direct-VS) L		PinS Approach Visual Segment (Manoeuvring-VS) M		PinS Approach Proceed VFR L		Exercise for PinS Approach(Direct-VS) M
13/05/2026 Wed.	Criteria for IFR PinS Departure Segments M		PinS Departure Visual Segment (Direct-VS) L		PinS Departure Visual Segment (Manoeuvring-VS) M		Exercise for CATH Departure L
14/05/2026 Thur.	Exercise for PinS Departure(Manoeuvring-VS) L		PinS RNP APCH for LPV Minima M		Charting and Practice Sharing L		Progress Test



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(APAC) Office
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ICAO Asia Pacific Flight Procedure
Programme (APAC FPP)

Co-located with ICAO APAC Regional
Sub Office (RSO) in Beijing China

Let's **F**ocus/**P**ropose/**P**lan
Together



INTERNATIONAL CIVIL AVIATION ORGANIZATION
A United Nations Specialized Agency

PinS Approach Concept

ICAO APAC FPP Beijing



CONTENTS



- **01.** The PinS concept
- **02.** En route phase
- **03.** PinS Approach segments
- **04. Visual segment**
 - Proceed visually (Direct VS / Manoeuvring VS)
 - Proceed VFR

PinS concept : Approach to a “Point-In-Space”

The PinS approach procedure consists of an instrument segment followed by a visual segment. The point-in-space approach is based on a basic GNSS non-precision approach procedure. The final approach segment ends at a reference point located to allow landing using visual manoeuvres.

✓ Aircraft Equipment Requirement

Procedures are flown by aircraft equipped with Basic GNSS receivers that have been approved by the national authority for the operator for RNP APCH operations.

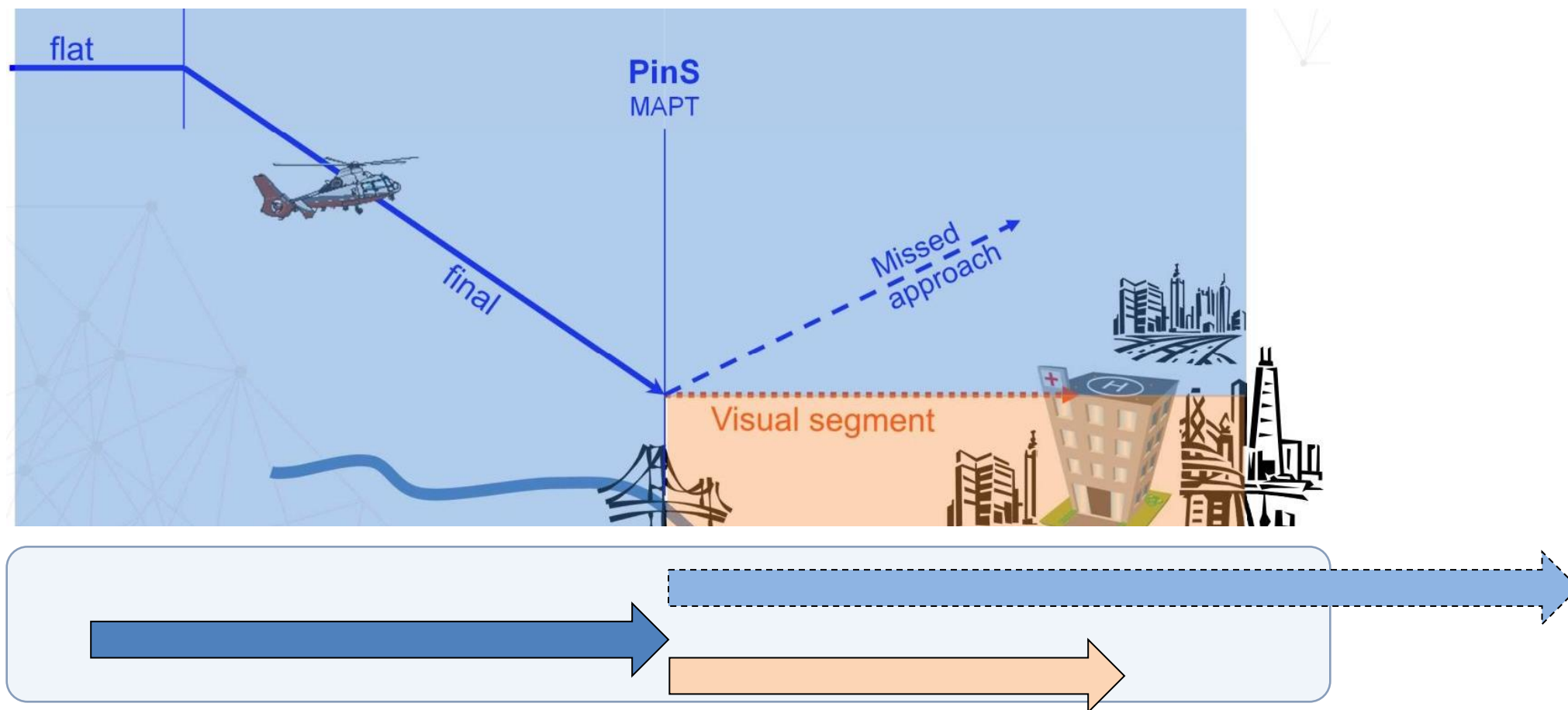
✓ Visual Segment & Obstacle Clearance

The reference point is called PinS. To fly beyond it, visibility must be satisfactory to see and avoid obstacles. This visual segment connects the PinS to the landing location.

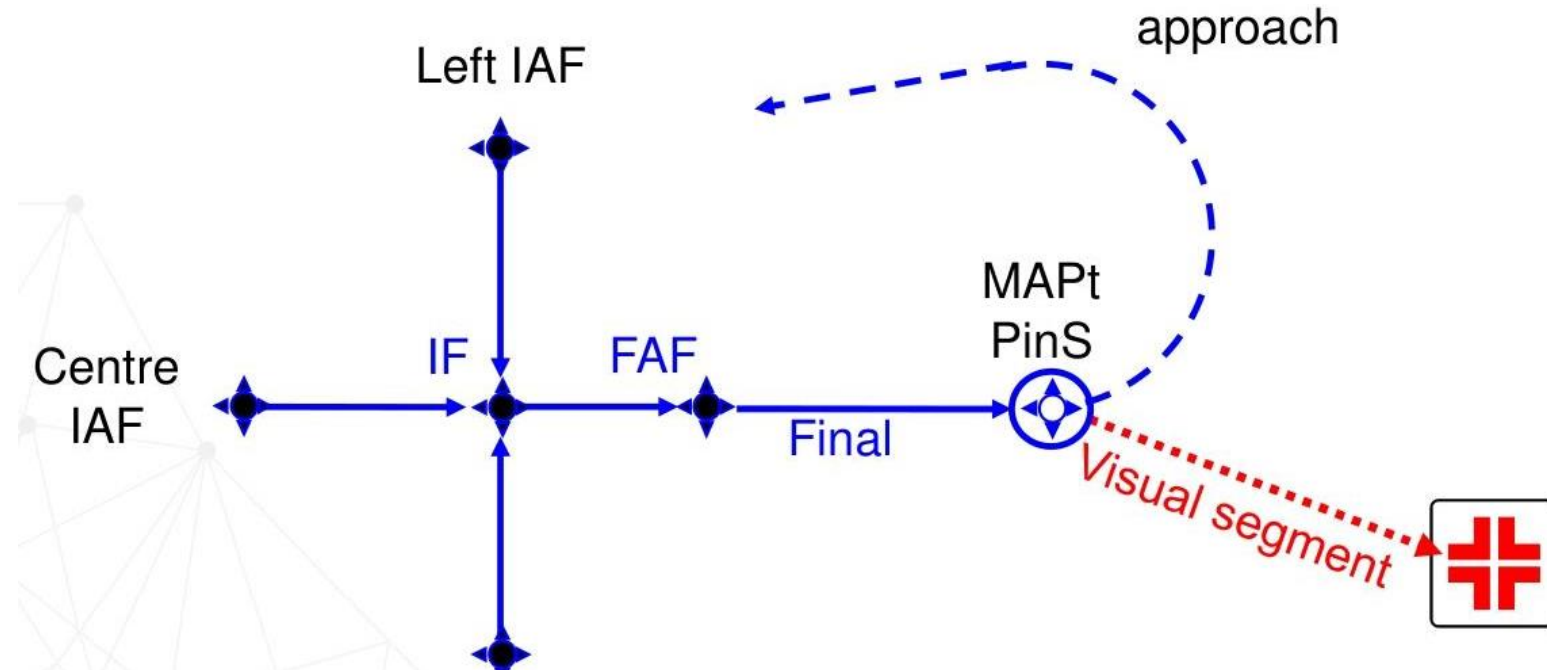
✓ Key Advantage: Flexibility

The flexibility that offers the free positioning of the MAPT (Missed Approach Point) is the main advantage of this concept.

PinS approach

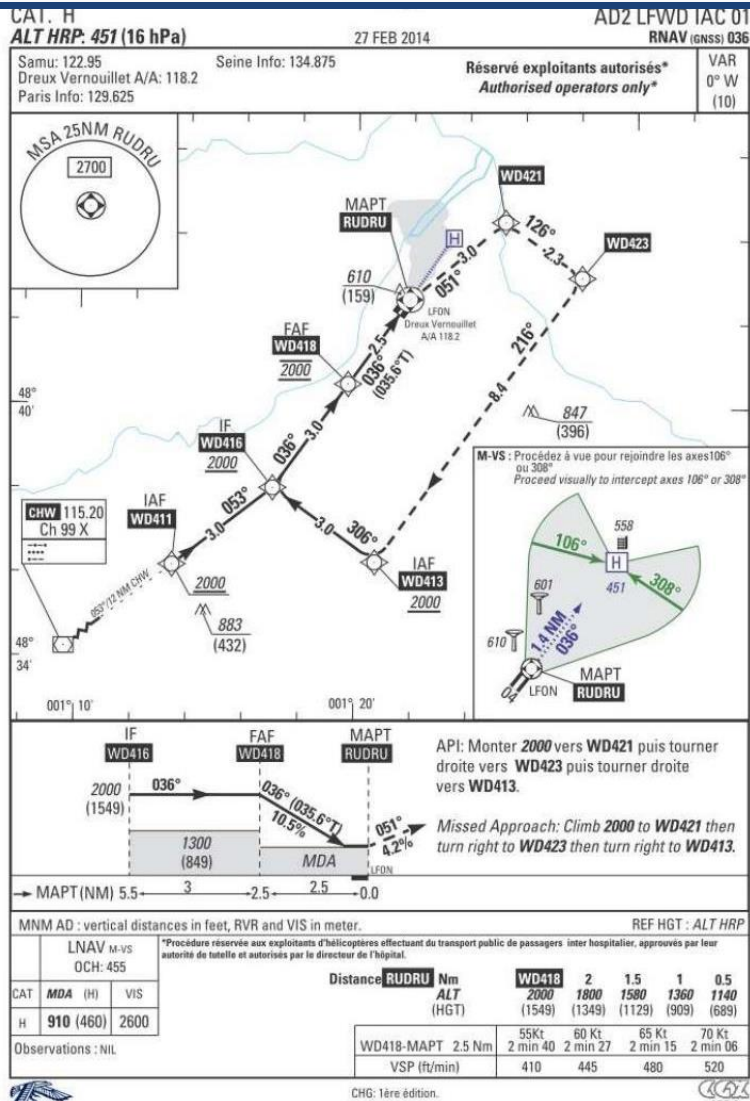


General geometry of PinS approach



T or Y bar

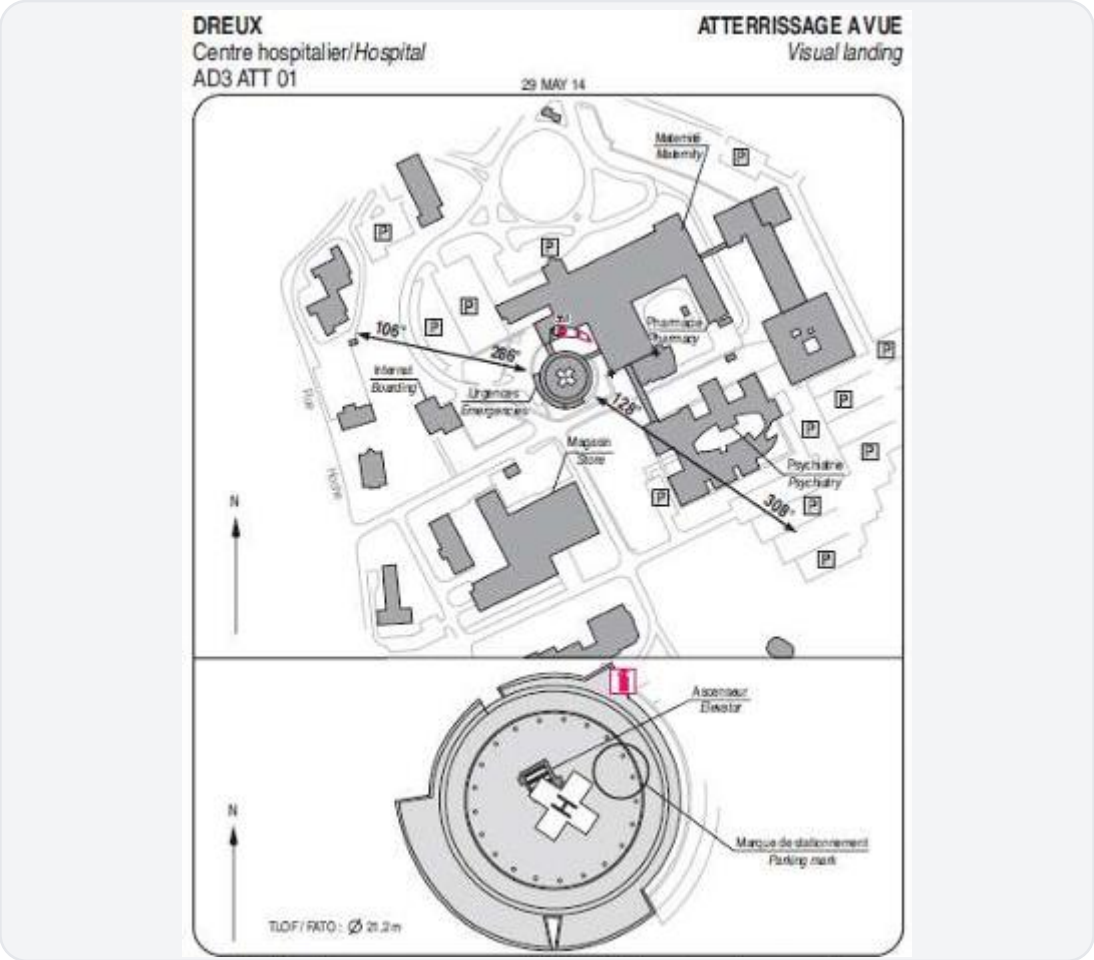
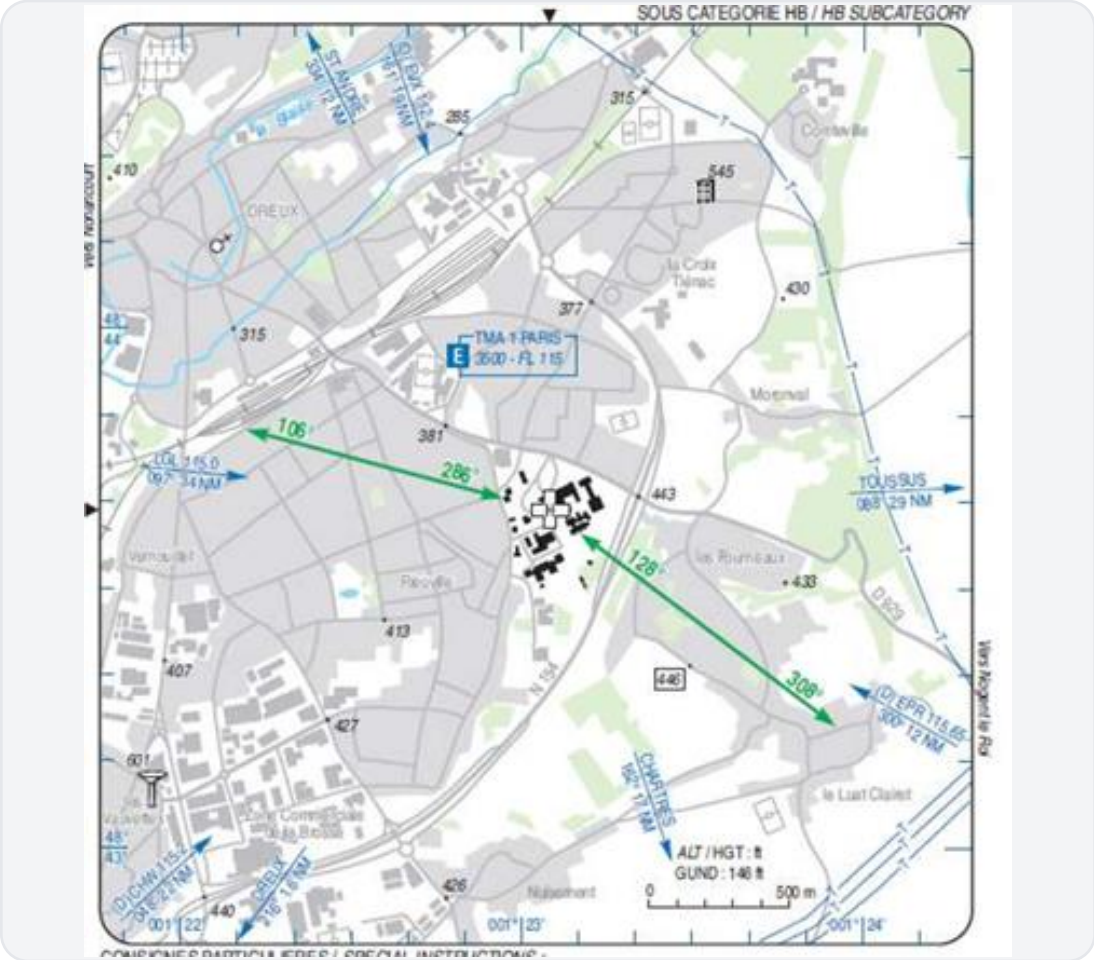
DREUX procedures Hospital Heliport Case Study



INSTRUMENT APPROACH DREUX Centre hospitalier Approach chart Dreux | AD2 LFWD IAC 01

- This chart details the RNAV (GNSS) approach procedure for LFWD, including all key waypoints, flight paths, and altitude restrictions.
- Key information: Minimum Descent Altitude (MDA), missed approach points, and visual maneuvering area from MAPT (PinS).
- Critical for safe instrument flight operations into Dreux Hospital Heliport.

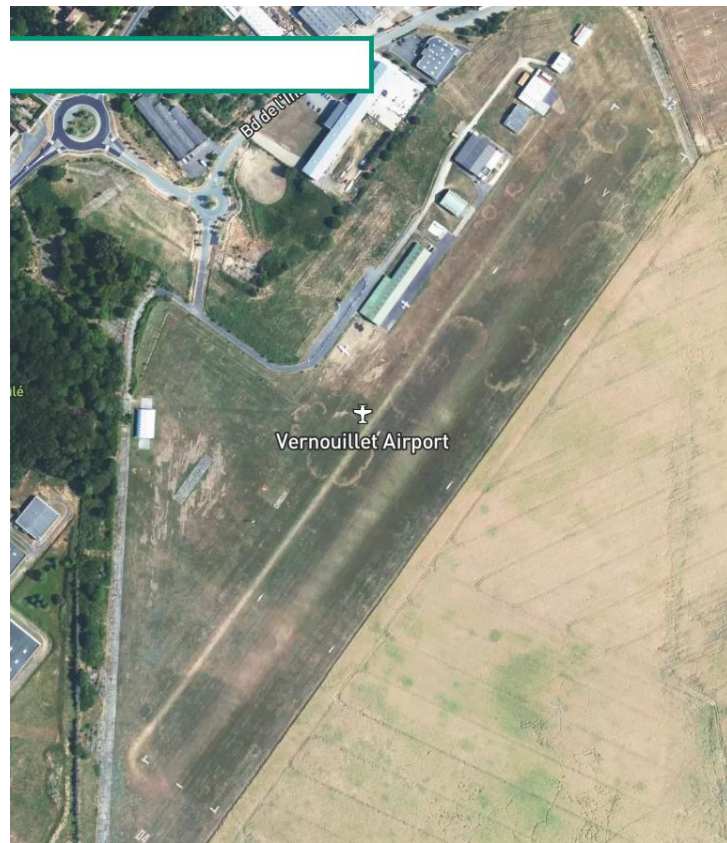
APPROCHE A VUE | Visual approach



ss or City Name

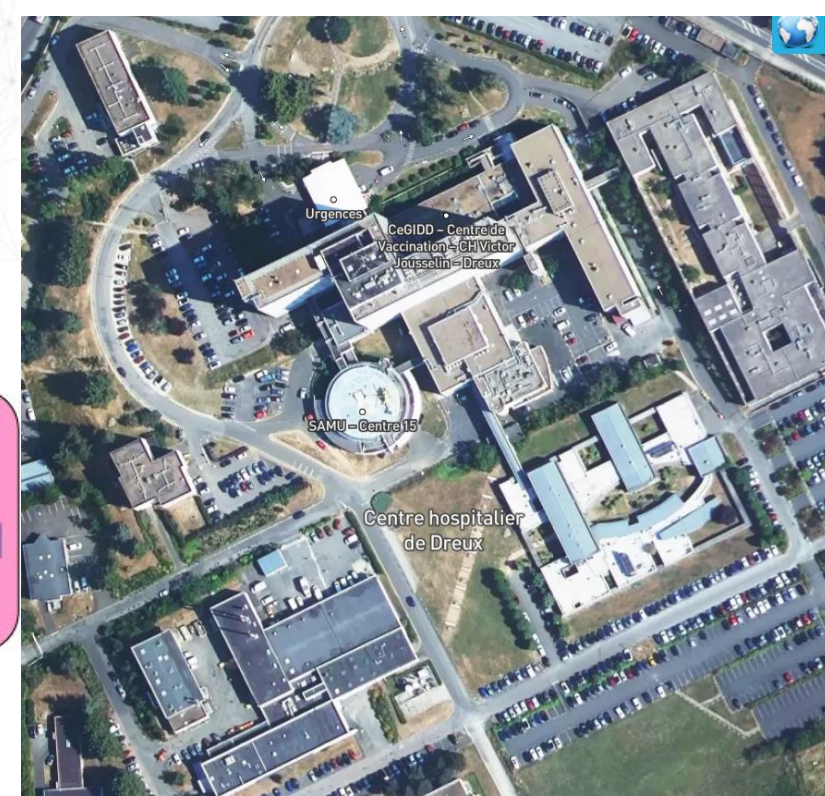


PinS Dreux (France)



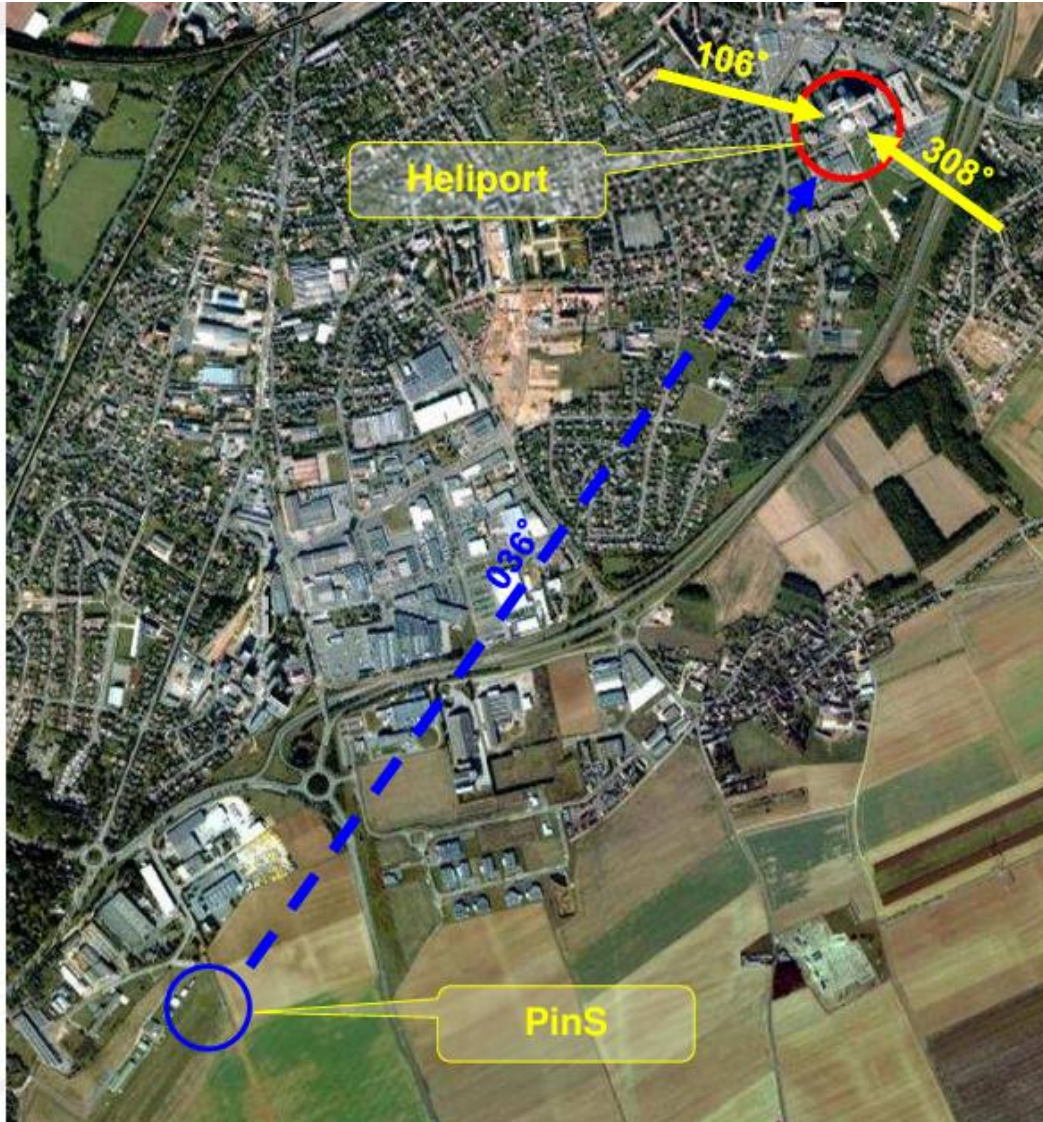
Heliport
Dreux
Hospital

PinS
Rwy THR 22
of the VFR
aerodrome of
Dreux



Key Points: PinS @ RWY 22 Threshold → Manoeuvre to Dreux Hospital Heliport

Visual Segment Dreux



Key Flight Information

✈ **Flight Path:** PinS Point → Hospital Heliport

📍 **Visual Segment References:**

- 106°
- 308°

Note: Maintain visual contact with terrain at all times.

Approach chart Dreux Visual phase

INSTRUMENT APPROACH
CAT. H
ALT HRP: 451 (16 hPa)



27 FEB 2014

DREUX Centre hospitalier
AD2 LFWD IAC 02
MANOEUVRING VISUAL

Samu: 122.95 (TPH: 02 37 46 15 15)
Dreux Vernouillet A/A: 118.2

VAR
0° W
(10)

Axes d'Approche

FATO



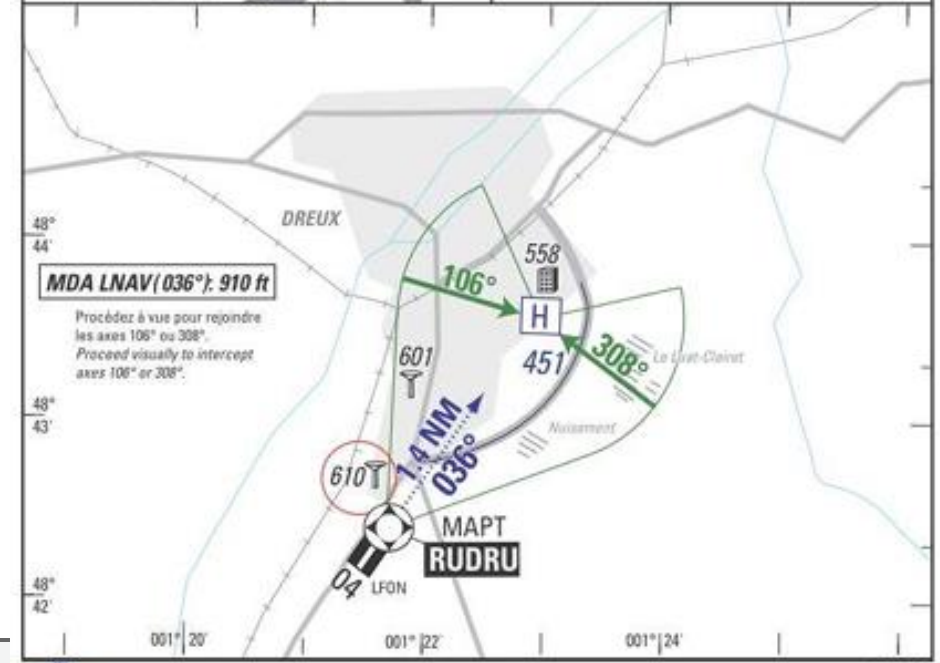
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Axes d'Approche

FATO



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CHG: 1ère édition

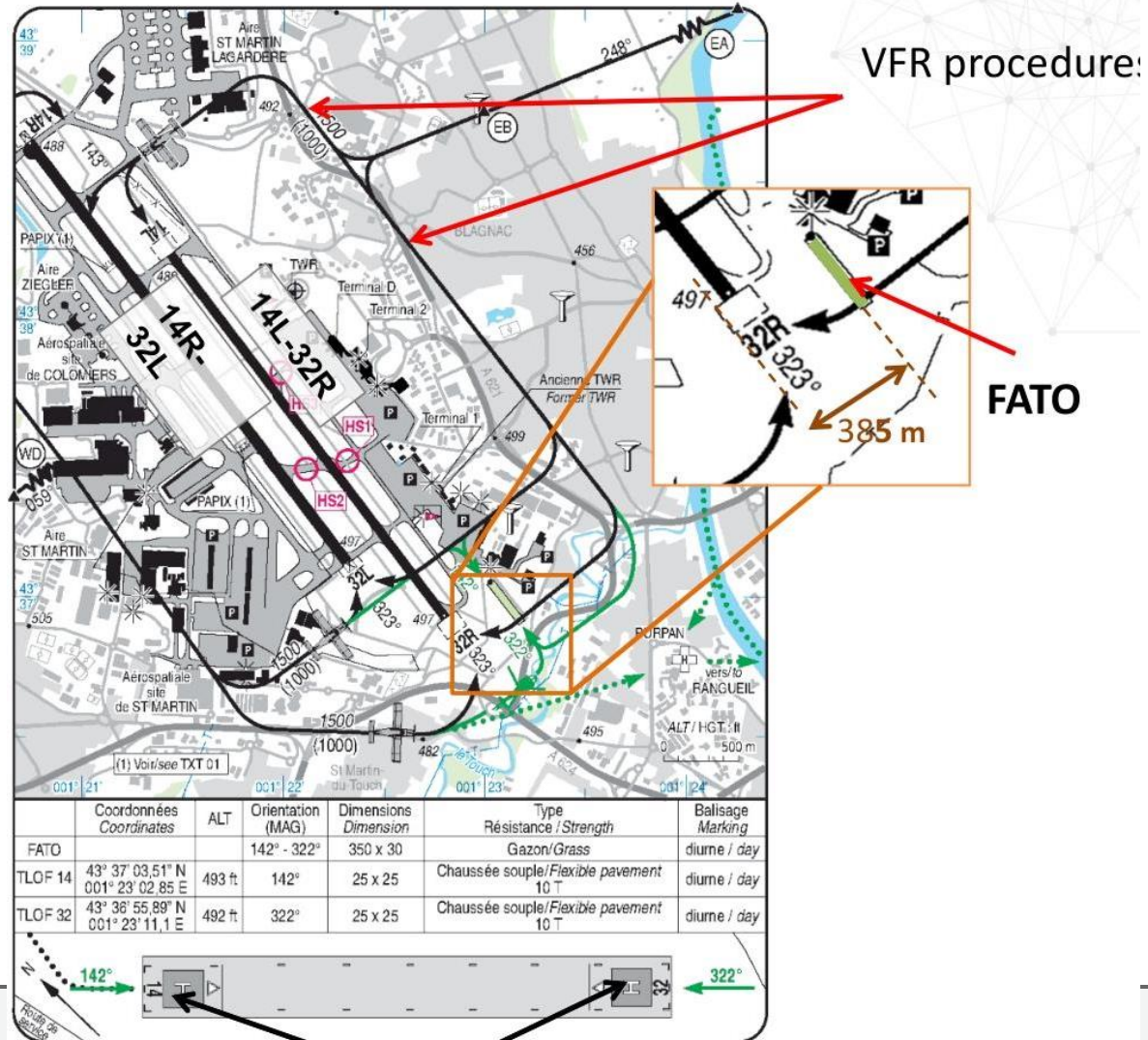


Procedures in TOULOUSE



Simultaneous Non Interfering procedures

V.A.C. TOULOUSE



	Coordonnées Coordinates	ALT	Orientation (MAG)	Dimensions Dimension	Type Résistance / Strength	Balísage Marking
FATO			142° - 322°	350 x 30	Gazon / Grass	diurne / day
TLOF 14	43° 37' 03,51" N 001° 23' 02,85" E	493 ft	142°	25 x 25	Chaussée souple / Flexible pavement 10 T	diurne / day
TLOF 32	43° 38' 55,89" N 001° 23' 11,1" E	492 ft	322°	25 x 25	Chaussée souple / Flexible pavement 10 T	diurne / day



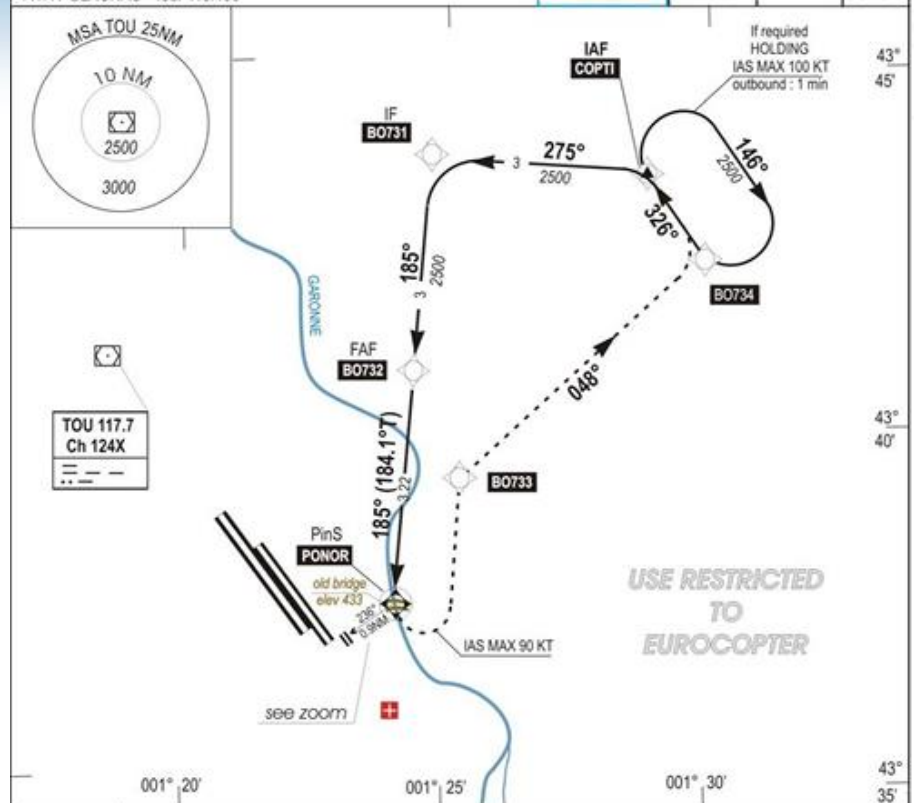
TLOF

ATIS : BLAGNAC 118.025
APP : TOULOUSE Approche 129.300 (1) 125.175 (2) 124.975 (S)
BLAGNAC Approche 121.100
TWR : BLAGNAC Tour 118.100

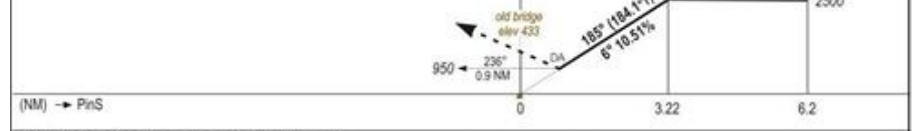
GBAS 114.05 CH 22708 E-18D	EGNOS CH 41234 E18D	APP CRS 185°	VAR 0.9° W (06)
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TOULOUSE



TA : 5000
Missed APCH : Climbing left turn to 2500 to BO733, then BO734, then left turn via 326° to COPTI.



AD MMN : vertical distances in ft, RVR and VIS in meters

CAT	LPV		LNAV		DIST PONOR			
	OCH : (1)	RVR	OCH : (1)	RVR	NM	ALT		
H	(1)	(1)	(1)	(1)	1	1080	2 1720	3 2360

Observations : (1) Experimental, evaluation only

	60 kt	65 kt	70 kt	75 kt	80 kt	85 kt	90 kt
FAF - PONOR	3.22 NM	3 min 13	2 min 58	2 min 46	2 min 35	2 min 25	2 min 16
VSP (ft/min)		639	692	745	798	851	905

Toulouse Blagnac

RNAV GNS 185

PinS = Bridge = MAPt (Missed Approach Point)

2007 : 1st Project LNAV / LPV

Toulouse Blagnac PinS 185



Geographic Relationship
Visual reference point setting
utilizing existing landmarks.

Views from PinS (Bridge)

View of the final 185° from PinS



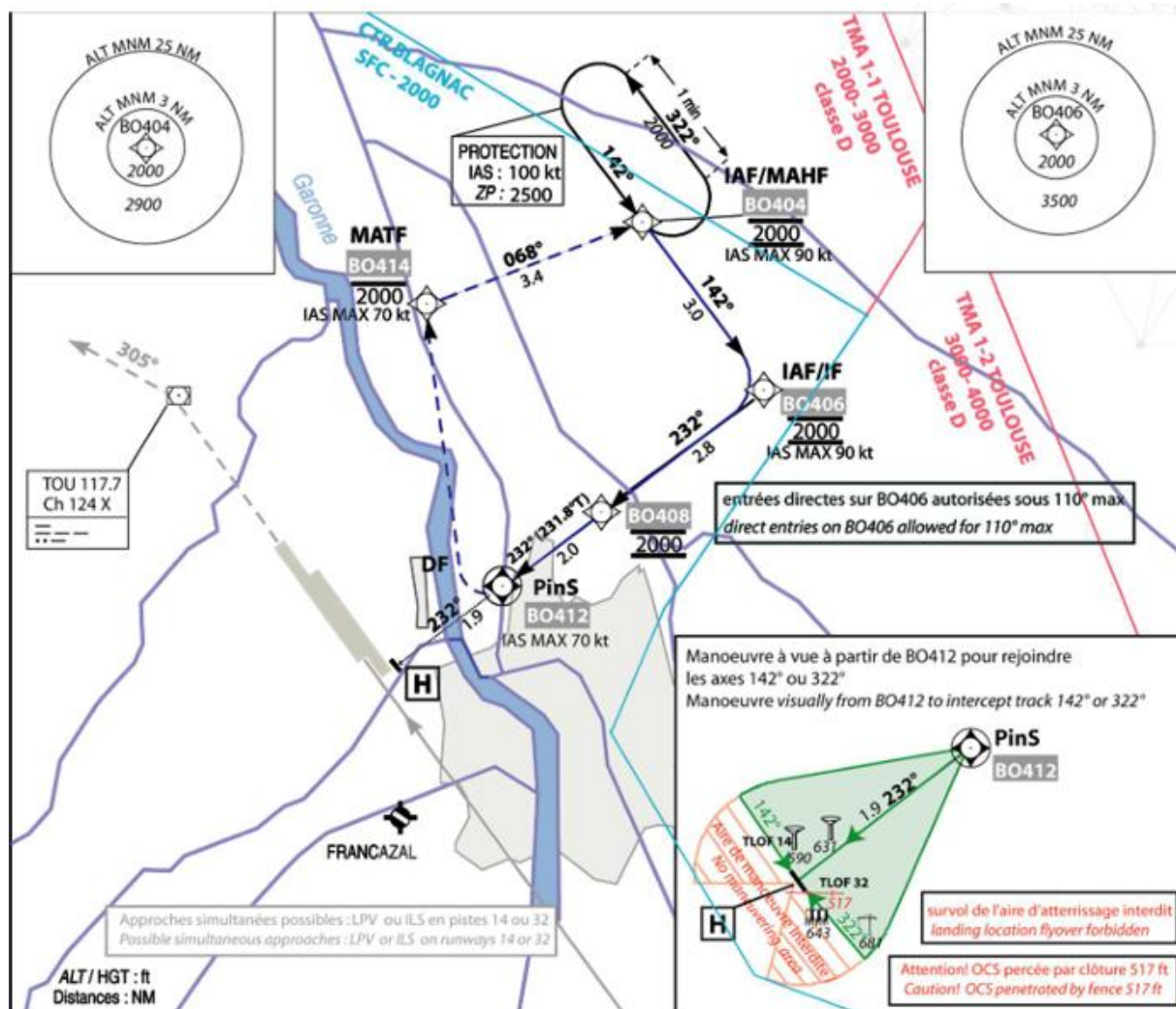
View of the FATO from PinS



View of the PinS from FATO



Toulouse Blagnac | RNAV GNSS 232



2015
2nd PinS Project

LPV ONLY
Localizer Performance with Vertical guidance

Low-Level IFR Routes



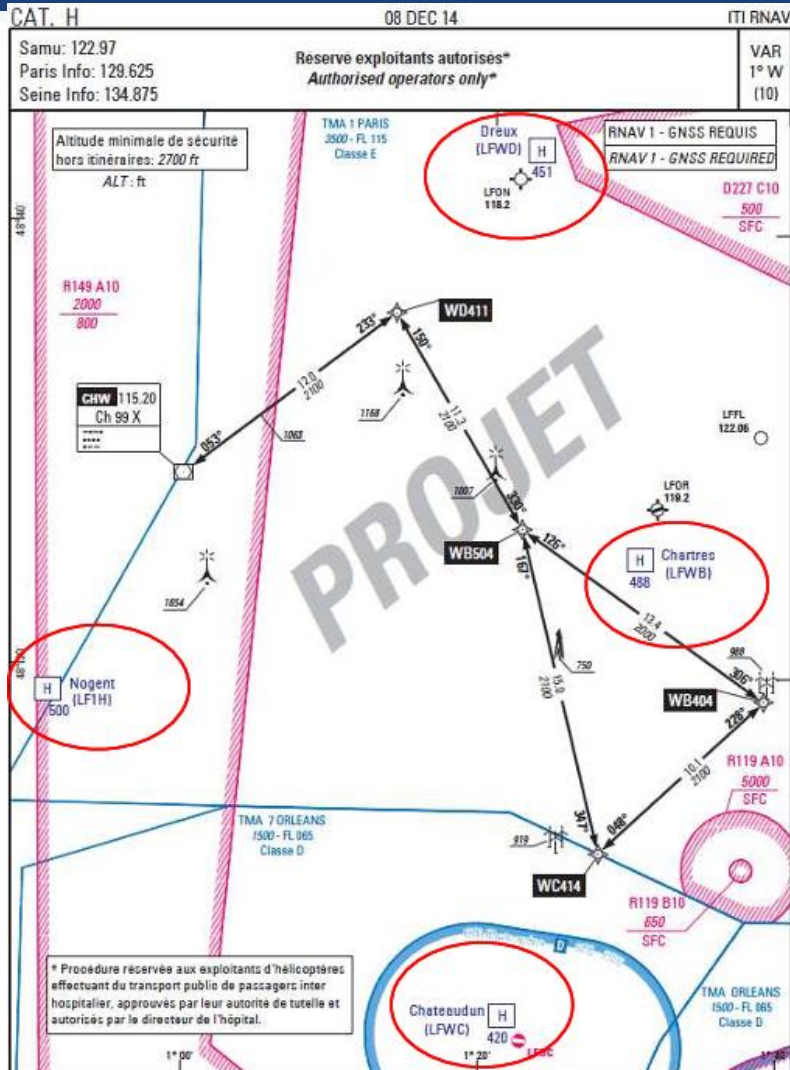
Optimized for Helicopter Operations

Low-level IFR routes are specifically designed to optimize helicopter operations, providing a structured and safe framework for navigation in low-altitude environments where visual flight rules (VFR) may not be feasible due to weather or terrain constraints.

Strategic Airspace Integration

These routes are fully integrated into the regional airspace system, utilizing flight levels where icing conditions are not typically experienced. This design eliminates the need for a pressurized cabin or supplemental oxygen, effectively lowering operational costs and reducing the required aircraft performance capabilities.

En-Route Phase, HEMS connection



Key Connection Points:

- Dreux • Chartres • Châteaudun • Nogent



TMA class E — Temporary Creation

A dedicated Class E Terminal Maneuvering Area is temporarily established to ensure separation and safe, structured operations for HEMS flights.

GNSS Low Flight Network

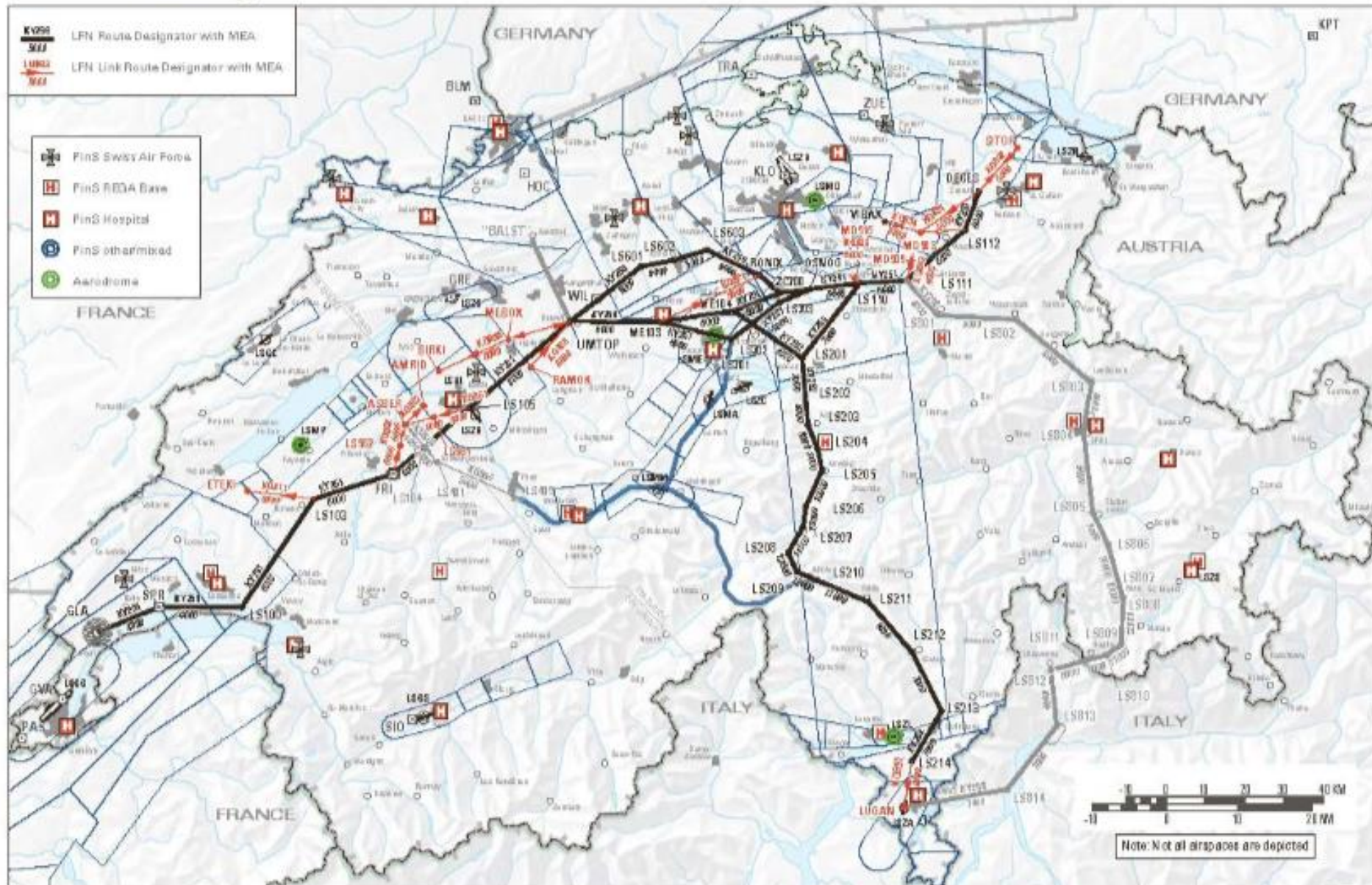
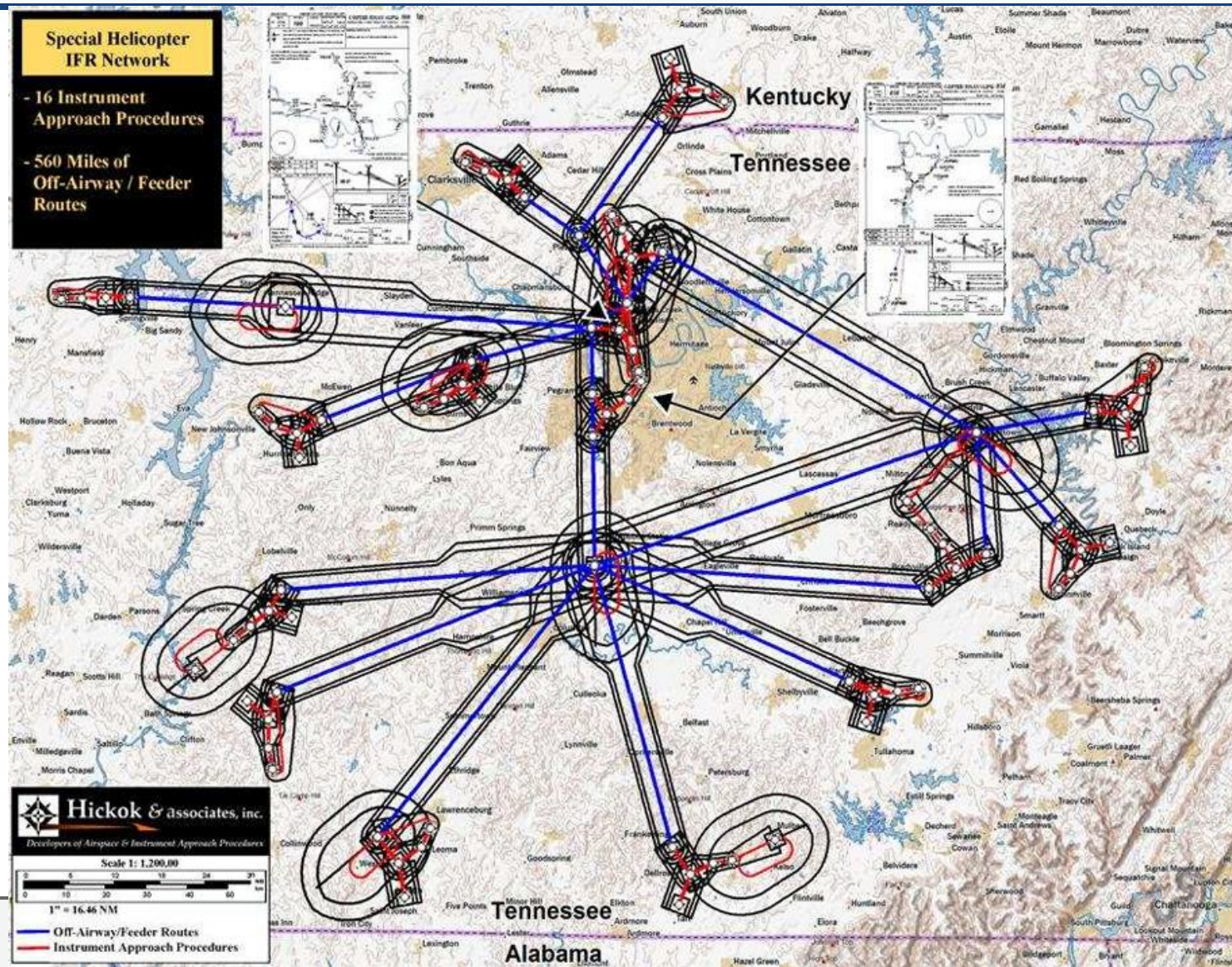


Chart provided by AIM Charting/ONDK

2020-11-18

En-Route Phase, connection in U.S.



PinS Approach

What is PinS Approach?

- It is an **IFR approach** and an **RNP APCH procedure** designed for **helicopter only**.
- Published with either **LNAV** or **LPV** minima.
- Flown to a **Point-in-Space (PinS)** where pilots must acquire sufficient visual reference to continue to landing or go missed.
- A visual segment connects the **MAPt (PinS)** to the final heliport/landing location.

Two Types of Visual Segment

- 1. Mentioned as « proceed visually » on chart:**
 - Direct Visual Segment (Direct-VS)
 - Manoeuvring Visual Segment (Manoeuvring-VS)
 - Route Visual Segment (prescribed track)
- 2. Mentioned as « proceed VFR » on chart:**
 - Pilot follows VFR rules to navigate to the landing site.

Core Concept: The Visual Segment is the critical link between the IFR MAPt and the final landing.



End