



# PBN Map tool

## - Definitions and calculation rules -

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## A. “RUNWAY ENDS” CHARACTERISTICS

### A0. Runway ends

In the PBN Map tool, runway ends with ‘CAT H = Y’ have been created for helicopter-specific procedures. If both helicopter-specific and aircraft fixed-wing procedures are published to the same runway end, then the runway is duplicated (e.g. “RWY 07 (CAT H =N)” and “RWY 07 (CAT H = Y)”).

RWY	Cat H	
07	N	
07	Y	
25	N	
HEL	Y	

“HEL” (HEL for Heliport) is not a runway end as such, and indicates the availability of procedures for Heliports.

### A1. Approach

#### A1.1. Individual Approach types

- **Conv IAP:** at least one conventional procedure, excluding ILS, based on ground nav aids is available to the runway (eg. VOR or NDB or LOC procedure)
  - o **Conv IAP (Circling only):** conventional procedure to circling minima only.  
Example:  
Conv IAP = Y + Conv IAP (Circling only) = N → Conventional procedure with straight-in minima.  
Conv IAP = Y + Conv IAP (Circling only) = Y → Conventional procedure with circling minima only.
- **LNAV:** RNP APCH to LNAV minima.
  - o **LNAV (Circling only):** RNP APCH (LNAV) to circling minima only.  
Example:



LNAV = IMPLEMENTED + LNAV (Circling only) = N → RNP APCH (LNAV) with straight-in minima.

LNAV = IMPLEMENTED + LNAV (Circling only) = Y → RNP APCH (LNAV) with circling minima only.

- **LP:** RNP APCH to LP minima
- **LNAV/VNAV:** RNP APCH to LNAV/VNAV minima
- **LPV APV 1:** RNP APCH to LPV minima, based on APV 1 procedure design criteria
- **LPV Cat 1:** RNP APCH to LPV minima, based on Cat 1 procedure design criteria
- **RNP AR APCH:** AR designated as RNP (AR) approach
- **ILS:** ILS approach
- **GLS Cat 1:** Cat 1 approach based on GBAS
- **GLS Cat 2/3:** Cat 2 or Cat 3 approach based on GBAS



## A1.2. Aggregated Approach types

The following aggregated types are “OR” or “AND” booleans of individual types (§A1.1) as follows:

	Any PBN	LPV	LNAV/VNAV and LPV	3D PBN	3D	PA	PA Cat 1	NPA or APV	GLS
<b>Conv IAP</b>								or	
<b>LNAV</b>	or							or	
<b>LP</b>	or							or	
<b>LNAV/VNAV</b>	or		and	or	or			or	
<b>LPV (APV1)</b>	or	or		or	or			or	
<b>LPV (Cat 1)</b>	or	or		or	or	or	or		
<b>RNP AR APCH</b>	or			or	or			or	
<b>ILS</b>					or	or	or (Cat 1 only)		
<b>GLS Cat 1</b>					or	or	or		or
<b>GLS Cat 2/3</b>					or	or			or
<b>LPV (aggregated)</b>			and						

The aggregated types of Approach are identified in the filter with an “\*” (eg. “Any PBN \*”)

## A1.3. Runway Implementation Status for a selected type of Approach

Detailed information on approach types at each runway end is available on the “Approach” page when clicking on an airport.

RWY	Cat H	Conv IAP	Conv IAP Circling only	LNAV	LNAV Circling only	LP	LNAV/ VNAV	LPV (APV1) ①	LPV (Cat1) ②	RNP AR	ILS	GLS Cat 1	GLS Cat 2/3
18	N	Y	N	Implemented 2012	N		Impossible	Impossible	Impossible	Planned 2024	Cat 1		
36	N	Y	N	Implemented 2012	N		Impossible	Impossible	Impossible	Planned 2024	Cat 1		

The status can be any of the following values<sup>1</sup>:

- **Implemented:** the approach type is published (the publication date can be provided; if no date is provided it is assumed that the approach type was implemented before 2012)
- **Planned:** the approach type is planned to be published (an implementation date can be provided)

<sup>1</sup> Source: AIP and PBN Transition plans



- **Not planned:** an assessment has been made by the local ANSP/Airport and it has been decided not to implement this approach type
- **Impossible:** this status is used instead of “Not planned” in case the approach type is not possible to implement due to technical limitations. For those IREs and approach types (LNAV, LNAV/VNAV and LPV) affected by the PBN IR (EU 1048/2018), the technical feasibility of implementation is only based on the exemptions listed in the regulation.
- **"empty"** status means that no information for the approach type is available to EUROCONTROL

Concerning the following specific approach types the map will only show published procedures:

- For **ILS Approach:** the runway ends without ILS approach will have an ‘empty’ Runway Implementation status. For runway ends with an ILS Approach, the status will either be "Cat 1" or "Cat 2" or "Cat 3" according to the highest category of the approach published to the runway end.
- **Conv IAP:** the runway ends with an approach procedure served by conventional procedures (other than ILS procedures) will have a “Y” (for “Yes”); others will have a “N” (for “No”).



## A2. SID

### A2.1. Individual SID types

- **OMNI DEP only**<sup>2</sup> for runway with Omnidirectional departure procedure only.
- **Conventional** for conventional SID based on ground nav aids (VOR, DME, NDB).
- **RNAV 1 GNSS** for RNAV 1 SID based on GNSS.
- **RNAV 1 DME/DME** for RNAV 1 SID based on DME/DME.
- **RNP 1** for RNP 1 SID.
- **RNP 0.3** for RNP 0.3 SID.
- **PinS (CAT H)** for PinS departures (Helicopter specific).

### A2.2. Aggregated SID types

The following aggregated types are “OR” or “AND” Booleans of individual types (§A2.1); some of them exclude (“No”) individual types as follows:

	PBN	Any SID (Conventional or PBN)	Conventional and PBN	PBN only	Conventional only	RNAV 1	RNAV 1 (GNSS & DME/DME)	GNSS only	RNAV1 or RNP1
<b>OMNI DEP only</b>									
<b>Conventional</b>		or	and	no	X				
<b>RNAV 1 GNSS</b>	or					or	and	or	or
<b>RNAV 1 DME/DME</b>	or					or	and	no	or
<b>RNP 1</b>	or							or	or
<b>RNP 0.3</b>	or							or	
<b>PinS (CAT H) (for HEL only)</b>	or							or	
<b>(aggregated) PBN</b>		or	and	X	no				

The aggregated types of SID are identified in the filter with an “\*” (eg. “PBN \*”)

<sup>2</sup> Omnidirectional departure (OMNI DEP) is not a Standard instrument departure (SID) as such, however it has been considered as “SID type” for simplicity of the tool.



### A2.3. Runway Implementation Status for a selected type of SID

Detailed information on all SID types at each runway end is available on the “SID” page when clicking on an airport.

RWY	Cat H	Omni DEP only	Conventional	Hybrid	Open/Closed	Overlay	RNAV 1 (GNSS)	RNAV 1 (DME/DME)	IRU required	CRITICAL DME CHART	RNP 1	RF	RNP 0.3	PinS (Cat H)
05	N	N	N	N	O		Implemented	Implemented	N	N	Not Planned	N	Not Planned	
23	N	N	N				Planned 2024	Not Planned			Not Planned		Not Planned	
30	N	Y												

The status can be any of the following values<sup>3</sup>:

- **Implemented:** the SID type is published (at least one) .The publication date can be provided; if no date is provided it is assumed that the SID was implemented before 2022.
- **Planned:** the SID type is planned to be published (at least one). An implementation date can be provided.
- **Impossible:** an assessment has been made by the local ANSP/Airport and the SID type is not possible to implement due to technical limitations.
- **Not planned:** the SID type is not implemented and no information for plans is available to EUROCONTROL

Concerning the following specific SID types the map will only show published procedures:

- For **OMNI DEP only:** runway ends served by Omnidirectional departures only will have a Runway Implementation status "Y", others will have a "N".
- For **Conventional:** runways served by conventional departure procedure will have a "Y", other will have a "N".

### A2.4. Additional SID information (Attributes)

The following information is also made available for runways where procedures are implemented. None of these elements have an impact on the calculation of aggregated types described in §A2.2 or on the runway implementation status described in §A2.3:

- **Hybrid** indicates with a “Y” (Yes) that there are PBN or Conventional hybrid procedures to the runway (PBN procedure with conventional segments or conventional procedure with PBN legs). A “N” (No) will indicate there are none.
- **Open:** indicates if there are Open only (“O”), Closed only (“C”) or both Open and Closed (“CO”) procedures published to the runway according to EUROCONTROL assessment.
  - o Open procedure: External assistance is required to continue the navigation (e.g ATC radar vectors)
  - o Closed procedure: By default, external assistance would not be required to continue the navigation, as the full flight procedure is coded in the FMS or available in the chart.

<sup>3</sup> Source: AIP and PBN Transition plans



- **Overlay:** indicates with a “Y” that all PBN procedures overlay conventional procedures to same runway according to EUROCONTROL assessment
- **with critical DME** indicates with a “Y” that at least one RNAV (DME/DME) procedure depends on “a critical DME” (if the critical DME is not available, the procedure won’t be available)
- **with RF** indicates with a “Y” that “Radius to Fix” path terminator is used for at least one PBN procedure to the runway
- **IRU required:** indicates with a “Y” than IRU<sup>4</sup> is required for PBN procedures to the runway

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<sup>4</sup> Inertial Reference Unit





## A3. STAR

### A3.1. Individual types of STAR

- **Conventional** for conventional STAR based on ground nav aids (VOR, DME, NDB).
- **RNAV 5 GNSS** for RNAV 5 STAR based on GNSS.
- **RNAV 5 DME/DME** for RNAV 5 STAR based on DME/DME.
- **RNAV 1 GNSS** for RNAV 1 STAR based on GNSS.
- **RNAV 1 DME/DME** for RNAV 1 STAR based on DME/DME.
- **RNP 1** for RNP 1 STAR.
- **RNP 0.3** for RNP 0.3 STAR.

### A3.2. Aggregated types of STAR

The following aggregated types are “OR” or “AND” Booleans of individual types (§A3.1); some of them exclude (“No”) individual types as follows:

	PBN	Any STAR (Conventional or PBN)	Conventional and PBN	PBN only	Conventional only	RNAV 5	RNAV 1	RNAV 1 (GNSS & DME/DME)	GNSS only	RNAV1 or RNP1
<b>Conventional</b>		or	and	no	X					
<b>RNAV 5 GNSS</b>	or					or			or	
<b>RNAV 5 DME/DME</b>	or					or			no	
<b>RNAV 1 GNSS</b>	or						or	and	or	or
<b>RNAV 1 DME/DME</b>	or						or	and	no	or
<b>RNP 1</b>	or								or	or
<b>RNP 0.3</b>	or								or	
<b>(aggregated) PBN</b>		or	and	X	no					

The aggregated types of STAR are identified in the filter with an “\*” (eg. “PBN \*”)



### **A3.3. Runway Implementation Status for a selected type of STAR**

Detailed information on all STAR types at each runway end is available on the “STAR” page when clicking on an airport.

The status can be any of the values defined in §A2.3: **Implemented, Planned, Impossible, Not planned** , or **Y/N** for the individual type ‘Conventional’.

### **A3.4. Additional STAR information (Attributes)**

STAR have the same Attributes as SID (see §A2.4).

## **A4. Transitions**

### **A4.1. Individual types of Transitions**

Transitions are not defined by ICAO. The map gathers information under Transitions only for those procedures charted as ‘Transitions’ and for monitoring purposes only.

The individual types of Transitions are the same as the ones for STAR (see §A3.1)

### **A4.2. Aggregated types of Transitions**

The aggregated types of Transitions are the same as the ones for STAR (see §A3.2), except for “Any STAR (Conventional or PBN)” which is replaced by “Any Transition (Conventional or PBN)”.

### **A4.3. Runway Implementation Status for a selected type of Transitions**

Detailed information on all Transition types (including both routes and runway transitions) at each runway end is available on the “Transition” page when clicking on an airport.

Runway Implementation Status for Transitions are the same as the ones for STAR (see §A3.3)

### **A4.4. Additional Transitions information (Attributes)**

Transitions have the same Attributes as SID and STAR (see §A2.4).



## B. “AIRPORT” CHARACTERISTICS

### B0. General

The airport implementation status (§B1) and airport attributes (§B2) described below depend on the status/attributes of each of the runway ends available at the airport. These are calculated twice:

1. excluding RWY (Cat H = Y) and HEL
2. accounting only for RWY (Cat H = Y) and HEL

### B1. Airport implementation status

Airports have the same individual types and aggregated types of procedures as described in section A above for runways (§A1.1, §A2.1, §A3.1 and §A4.1 for individual types and §A1.2, §A2.2, §A3.2 and §A4.2 for aggregated types).

The airport status for a selected procedure (Approach, SID, STAR or Transition) and a selected type (eg. RNAV1 or LNAV) can have one of the following values:

- **Not planned:** the procedure type is not implemented and planned not to be implemented at the airport. This accounts for the runway status <empty> (missing information about implementation plans) and the runway status “not planned”.
- **Impossible:** No procedure of this type is possible to implement at the airport.
- **Planned:** No procedure of this type is implemented, but there are plans for implementation at the airport.
- **Partially implemented:** At least one (but not all) runway ends on this airport has got such a type of procedure implemented.
- **Fully implemented:** All runway ends on this airport have got such a type of procedure implemented.

The same rules apply for the following types, where “Y”, “Cat 1”, “Cat 2” and “Cat 3” are considered as “implemented” :

- Approach: ILS Approach, Conv IAP (Circling only) and LNAV (Circling only)
- SID: OMNI DEP only and Conventional
- STAR and Transition: Conventional

No distinction between runway status “not planned” and “empty” is made because the objective is to have all “empty” cells disappearing from the database at some point in time.

Runways with an implementation status set to “impossible” are excluded from the calculation of the status of the airport. For example, for one airport with two runway ends, if LNAV is “implemented” on one end and “impossible” on the other end, then the airport status for LNAV is “fully implemented”. If the airports had three runway ends and LNAV was “implemented”, “impossible” and “planned”, the airports status would be “partially implemented”.

Warning: the list of runway ends might be different for each type of procedure (Approach, SID, STAR and Transition). For example, if one airport has two runway ends 01 and 19, both will be associated to ‘Approach’



if there are instrument approach procedures published to both runway ends, however only one runway end will be associated to 'STAR' if STAR procedures exist only for runway 01.

## B2. Airport Attributes

### B2.1. Approach

The **New naming convention** is information for PBN approaches at an airport. This is captured at airport level (rather than at runway level) because it is assumed that the same naming convention is applied consistently for all procedures at an airport.

This can have the following values:

- **Implemented** when the new naming (RNP as opposed to RNAV) is implemented. This value is possible only if the aggregated approach type 'Any PBN' for the airport is "fully implemented" or "partially implemented".
- **Planned** when the new naming is planned to be implemented. This value is possible only if the aggregated approach type 'Any PBN' for the airport is "fully implemented", "partially implemented" or "planned".
- **empty**, if not information on the naming convention is available

A date (year and AIRAC cycle) can be associated to status "Implemented" and "Planned".

### B2.2. SID/STAR/Transition

Airport attributes for SID, STAR and Transitions are the same as Runway attributes for SID, STAR and Transition (§A2.4, §A3.4 and §A4.4). These include: **Hybrid, Open, Overlay, with critical DME, with RF and IRU required.**

The airport attributes are calculated as follows:

- For **Hybrid, Overlay, with critical DME, with RF and IRU required**: the attribute will be "Y" if at least one of the runways at the airport is "Y". Otherwise this is set to "N"
- For **Open**: the attribute will be set to "O" if all the runway attributes equal "O", "C" if all the runway attributes equal "C" and "CO" otherwise.

## B3. Airport colour code on the map

The colour code of the airports in the map combines the Airport implementation status described (§B1) and Airports Attributes (§B2).

A colour is first associated to each Airport implementation status (§B2):

- **Black**: for **Not planned**
- **Grey**: for **Impossible**
- **Orange**: for **Planned**
- **Blue** for **Partially implemented**
- **Green** for **Fully implemented**



These colours are also applied when Attributes are “ignored’.

The Attributes are then accounted for as follows:

	<b>New naming</b>			
<b>Airport implementation STATUS</b>	<ignore>	IMPLEMENTED	PLANNED	empty
Not planned / empty	black	black	black	black
Impossible	grey	black	black	black
Planned	orange	black	orange	black
Partially implemented	blue	blue	orange	black
Fully implemented	green	green	orange	black
	<b>Hybrid, Overlay, with critical DME, with RF and IRU required</b>			
<b>Airport implementation STATUS</b>	<ignore>	Y	N	
Not planned	black	black	black	
Impossible	grey	black	black	
Planned	orange	black	black	
Partially implemented	blue	blue	black	
Fully implemented	green	green	black	
	<b>Open</b>			
<b>Airport implementation STATUS</b>	<ignore>	O	C	CO
Not planned	black	black	black	black
Impossible	grey	black	black	black
Planned	orange	black	black	black
Partially implemented	blue	blue	black	blue
Fully implemented	green	green	black	blue



## C. Status against PBN IR objectives

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- *are not necessarily comprehensive, complete, accurate or up to date;*
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*Our team is committed to addressing your inquiries and providing clarification or correction as necessary.*

### C0. Introduction and Scope

The criteria for the calculation of the compliance monitoring against the PBN IR (EU 1048/2018) has been defined by EASA. The assessment is only made at runway level.

The “PBN IR status” accounts only for runways within the PBN IR scope (airports that are within the airspace where the regulation applies):

The “Status against PBN IR objectives” assesment:

- Apply to SES States (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden = EU27).
- Apply to the following overseas territories:
  - o Spain: Canary Islands
  - o Portugal: the Azores and Madeira
  - o France (ultraperipheral regions airspace): Guadeloupe, French Guyana, Martinique, Mayotte, Réunion, Saint-Martin.
- Apply to Territories with other agreements: Iceland, Liechtenstein, Norway, Switzerland, Moldova, and the Western Balkans, (i.e., Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Serbia, and Kosovo -without prejudice to positions on status, which is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence).



The “PBN IR status” assessment excludes:

- Any airport within a country or territory not mentioned above;
- Any airport which according to an approved PBN Transition plan is excluded from the PBN IR scope (exclusion approved by the competent national authority);
- Any airport where the Military are responsible for putting in place the required flight procedures;
- Any Heliport (HEL), as the PBN Regulation applies to flight procedures designed for runways.

PBN Approach and PBN SID/STAR procedures required by the PBN IR (EU 1048/2018) can be summarized in the following table:

Procedure	Runway type <sup>5</sup>	PBN IR requirement	PBN IR Target date	PBN IR status (PBN Map tool)
<b>Approach</b>	Instrument (IRE)	RNP APCH with LNAV, LNAV/VNAV and LPV lines of minima <sup>6</sup> at IREs <sup>7</sup> without PA <sup>8</sup> .	03-12-2020	Objectives met, or Objectives not met
		RNP APCH with LNAV, LNAV/VNAV and LPV lines of minima <sup>9</sup> at all IREs	25-01-2024	
	Non - Instrument (Non-IRE)	Not targeted <sup>10</sup>	Not targeted	Not required
<b>SID/STAR</b>	Instrument (IRE)	<b>At least one</b> RNAV 1 or RNP 1 or RNP 0.3 <sup>11</sup> SID/STAR where a SID/STAR is established	25-01-2024	Implemented, or Not Implemented
		RNAV 1 or RNP 1 or RNP 0.3 <sup>12</sup> for <b>all</b> SIDs/STARs	06-06-2030	-
	Non-instrument (Non-IRE)	<b>At least one</b> RNAV 1 or RNP 1 or RNP 0.3 <sup>13</sup> SID/STAR where a SID/STAR is established	Implementation can start at any time, provided that it finishes by 06-06-2030	Implemented, or Planned, or Planned after the deadline, or Not Planned
		RNAV 1 or RNP 1 or RNP 0.3 <sup>14</sup> for <b>all</b> SIDs/STARs	06-06-2030	-

<sup>5</sup> EU 2018/401 and EU 139/2014

<sup>6</sup> Derogations may apply as stated in AUR.PBN.2005 (2) (3)

<sup>7</sup> Except the IREs located at PCP airports

<sup>8</sup> Precision Approach

<sup>9</sup> Derogations may apply as stated in AUR.PBN.2005 (2) (3)

<sup>10</sup> If the runway becomes instrument, AUR.PBN.2005 (1) (2) (3) apply.

<sup>11</sup> CAT H

<sup>12</sup> CAT H

<sup>13</sup> CAT H

<sup>14</sup> CAT H



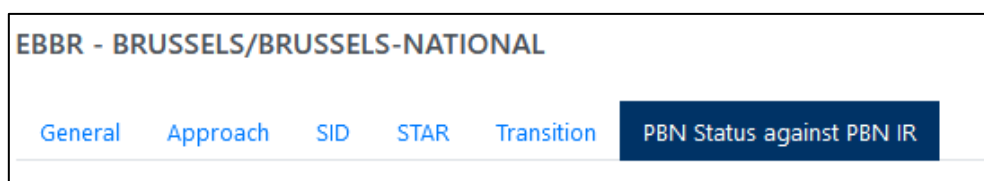
If the PBN IR requirements for Approach are adhered to for a specific IRE, the PBN IR Status can be designated as "*Objectives met*". Conversely, if these requirements are not implemented, the PBN IR status is classified as "*Objectives not met*", assuming that full PBN approach implementation should have been accomplished by 25-01-2024.

Concerning the PBN IR requirements for SID/STAR, the evaluation of PBN IR compliance is solely based on whether the implementation of PBN SID/STAR has commenced at IREs (25-01-2024). The full PBN compliance assessment (06-06-2030) is currently unavailable, as it necessitates the estimated number of PBN SID/STAR routes that ATM/ANS providers consider as a complete PBN implementation. ATM/ANS providers are encouraged to incorporate this information in the upcoming edition of the draft PBN Transition plans. The PBN Map tool is presently under development to incorporate these data, when made available.

Consequently, for those IREs where the PBN SID/STAR implementation should have commenced by 25-01-2024, the PBN IR status will be "*Implemented*" if at least one RNAV 1 or RNP 1 or RNP 0.3<sup>15</sup> SID/STAR is already implemented. If the required procedure is not implemented, the PBN IR status will be "*Not Implemented*".

For those Non-IREs where the PBN SID/STAR implementation can initiate at any time, provided that it finishes by 06-06-2030, the PBN IR status will be "*Implemented*" if at least one RNAV 1 or RNP 1 or RNP 0.3<sup>16</sup> SID/STAR is already implemented. If there are plans to commence PBN SID/STAR implementation before 2030, the PBN IR status will be "*Planned*". In case the implementation is scheduled after 2030, the PBN IR status will be "*Planned after the deadline*". If the required procedure is not implemented, and no plans are outlined in the PBN Transition Plan, the PBN IR status will be "*Not Planned*".

The 'PBN IR Status' for each runway can be found in the "PBN Status against PBN IR" page when clicking on an airport (Only available if the airport is within the PBN IR Scope):



The criteria and calculations are further explained in the following chapters.

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<sup>15</sup> CAT H  
<sup>16</sup> CAT H





## C1. Approach

	Approach (with 3 minima)	
RWY	Target date	PBN IR Status/Year
01	2020	Objectives met / 2022
19	2024	Objectives not met

### Target dates

Target dates for Approach can be any of the following values:

- **Not targeted:**
  - o Runways within airports outside the PBN IR Scope, or
  - o Runways within the PBN IR Scope but considered as Non-IRE<sup>17</sup>
- **2020 (03-12-2020):** IREs within the PBN IR Scope
  - o Non-precision approach (NPA) runways<sup>18</sup> except those at PCP airports, or
  - o Precision approach (PA) runways<sup>19</sup> without ILS/GLS but with LPV CAT I implemented after 2018 (NPA runway in 2018, when the rule entered into force)
- **2024 (25-01-2024):** IREs within the PBN IR Scope
  - o NPA runways at PCP airports, or
  - o PA runways with ILS/GLS implemented or LPV CAT I implemented by 2018

### PBN IR status

The ‘**PBN IR status**’ for each runway depends on the ‘**Target date**’ and the implementation status of **LNAV**, **LNAV (circling only)**, **LNAV/VNAV** and **LPV** lines of minima.

- **Not required:** for those runways which have no target date (**Target date = Not targeted**)
- **Objectives met:**
  - o Straight-in RNP APCH implementation is not possible<sup>20</sup> (LNAV - Circling minima only = Y):
    - **LNAV status is IMPLEMENTED**
  - o Straight-in RNP APCH implementation is possible (LNAV - Circling minima only = N) and intended to Helicopter operations (CAT H = Y):
    - **LNAV and LPV<sup>21</sup> status are either IMPLEMENTED or IMPOSSIBLE**
  - o Straight-in RNP APCH implementation is possible (LNAV - Circling minima only = N):
    - **LNAV, LNAV/VNAV and LPV are either IMPLEMENTED or IMPOSSIBLE**

<sup>17</sup> EU 139/2014

<sup>18</sup> EU 2018/401

<sup>19</sup> EU 2018/401

<sup>20</sup> According to the information provided in the PBN Transition plan.

<sup>21</sup> APV 1 or CAT 1



- **Objectives not met:** All other cases not covered above

## PBN IR Year

'**PBN IR Year**' indicates the date (if available) when the implementation of the required minima (considering any applicable derogations) is over.

The '**PBN IR Year**' for each runway depends on the '**PBN IR Status**' and the implementation dates of LNAV, LNAV/VNAV and LPV lines of minima.

If the '**PBN IR Status**' = "Not required", then '**PBN IR Year**' = "Not required"

If the '**PBN IR Status**' = "Objectives met", then

- If no Year of implementation is available for all LNAV, LNAV/VNAV and LPV lines of minima, then '**PBN IR Year**' = No date
- If the Year of implementation is available, then '**PBN IR Year**' is the MAX value of LNAVyear, LNAV/VNAVyear and LPVyear.
  - o Example: LNAV implemented in 2017, LNAV/VNAV implemented in 2020 and LPV implemented in 2023 → '**PBN IR Year**' = 2023

If the '**PBN IR Status**' = "Objectives not met", then '**PBN IR Year**' = "Objectives not met"



## C2. SID

	PBN SID	
RWY	Target date	PBN IR Status/Year
01	2024	Not Implemented
19	2030	Planned / 2024

### Target dates

Target dates for SID can be any of the following values:

- **Not targeted**
  - Runways within airports outside the PBN IR Scope, or
  - Runways within the PBN IR Scope but with no SID implemented
- **2024 (25-01-2024):**
  - IREs<sup>22</sup> within the PBN IR Scope where a SID is implemented
- **2030 (06-06-2030):**
  - Non-IREs<sup>23</sup> within the PBN IR Scope where a SID is implemented

### PBN IR Status

The ‘**PBN IR status**’ for each runway depends on the ‘**Target date**’ and the implementation status of ‘**RNAV 1 or RNP 1**’<sup>24</sup> and ‘**RNP 0.3**’<sup>25</sup> SID types.

- **Not required:** for those runways which have no target date (**Target date = Not targeted**)

#### RWYs with Target date = 2024

- **Implemented:**
  - IREs with CAT H =Y (Helicopter operations)
    - **RNAV 1 or RNP 1 or RNP 0.3** status is **IMPLEMENTED**
  - IREs with CAT H = N
    - **RNAV 1 or RNP 1** status is **IMPLEMENTED**
- **Not Implemented:** All other cases not covered above

<sup>22</sup> EU 2018/401

<sup>23</sup> EU 139/2014

<sup>24</sup> Aggregated type

<sup>25</sup> CAT H



## RWYs with Target date = 2030

- **Implemented:**
  - Non-IREs with CAT H =Y (Helicopter operations)
    - **RNAV 1 or RNP 1 or RNP 0.3** status is **IMPLEMENTED**
  - Non-IREs with CAT H = N
    - **RNAV 1 or RNP 1** status is **IMPLEMENTED**
- **Planned:**
  - Non-IREs with CAT H =Y (Helicopter operations)
    - **RNAV 1 or RNP 1 or RNP 0.3** status is **PLANNED (Implementation date ≤ 2030)**
  - Non-IREs with CAT H = N
    - **RNAV 1 or RNP 1** status is **PLANNED (Implementation date ≤ 2030)**
- **Planned after the deadline:**
  - Non-IREs with CAT H =Y (Helicopter operations)
    - **RNAV 1 or RNP 1 or RNP 0.3** status is **PLANNED (Implementation date > 2030)**
  - Non-IREs with CAT H = N
    - **RNAV 1 or RNP 1** status is **PLANNED (Implementation date > 2030)**
- **Not Planned:** All other cases not covered above

## PBN IR Year

‘PBN IR Year’ indicates the date (if available) when the PBN SID implementation started or it is planned to start (Non-IREs).

The ‘PBN IR Year’ for each runway depends on the ‘PBN IR Status’ and the implementation dates of **RNAV 1, RNP 1 and RNP 0.3**<sup>26</sup> SID types.

If the ‘PBN IR Status’ = “Not required”, then ‘PBN IR Year’ = “Not required”

## RWYs with Target date = 2024

- If the ‘PBN IR Status’ = “Implemented”, then
  - CAT H=Y
    - If no Year of implementation is available for RNAV 1, RNP 1 and RNP 0.3, then ‘PBN IR Year’ = No date
    - If the Year of implementation is available, then ‘PBN IR Year’ is the MIN value of RNAV 1year, RNP 1year and RNP 0.3year.
      - Example: RNAV 1 implemented in 2018 and RNP 0.3 implemented in 2022  
→ ‘PBN IR Year’ = 2018

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<sup>26</sup> CAT H



- CAT H= N
  - If no Year of implementation is available for RNAV 1 and RNP 1, then '**PBN IR Year**' = No date
  - If the Year of implementation is available, then '**PBN IR Year**' is the MIN value of RNAV 1year and RNP 1year.
    - Example: RNAV 1 implemented in 2018 and RNP 1 implemented in 2022 → '**PBN IR Year**' = 2018
- If the '**PBN IR Status**' = "Not Implemented", then '**PBN IR Year**' = "Not Implemented"

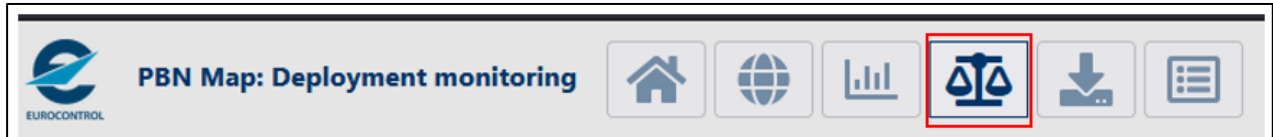
### RWYs with Target date = 2030

- CAT H= Y
  - If no Year of implementation is available for RNAV 1, RNP 1 and RNP 0.3, then '**PBN IR Year**' = No date
  - If the Year of implementation is available, then '**PBN IR Year**' is the MIN value of RNAV 1year, RNP 1year and RNP 0.3year.
    - Example: RNAV 1 implemented in 2018 and RNP 0.3 implemented in 2022 → '**PBN IR Year**' = 2018
    - Example: RNP 1 is planned by 2026 and RNP 0.3 is planned by 2030 → '**PBN IR Year**' = 2026
- CAT H= N
  - If no Year of implementation is available for RNAV 1 and RNP 1, then '**PBN IR Year**' = No date
  - If the Year of implementation is available, then '**PBN IR Year**' is the MIN value of RNAV 1year and RNP 1year.
    - Example: RNAV 1 implemented in 2018 and RNP 1 implemented in 2022 → '**PBN IR Year**' = 2018
    - Example: RNAV 1 is planned by 2024 and RNP 1 is planned by 2026 → '**PBN IR Year**' = 2024

## C3. STAR

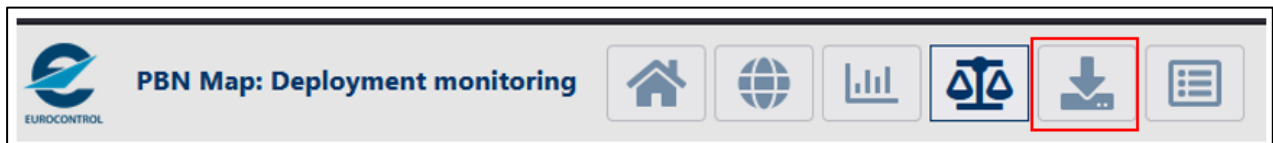
Same criteria as SID (§C.2).

## C4. Graphical illustration of the PBN IR status (PBN IR dashboard)



The dashboard offers the user the possibility to select the data to be displayed by Country, Airport and ATM/ANS provider.

It is essential to note that the PBN IR assessment is done at Runway level, hence **the information to be displayed is only based on the 'Target date' and 'PBN IR Status' of each runway** that is included in the selection made by the user. It is recommended that the user download the data in advance ('Export' page) to better understand the data displayed in the PBN IR dashboard.



In order to see a graphical illustration of the PBN IR status, there should be at least one targeted runway within the data selected by the user.

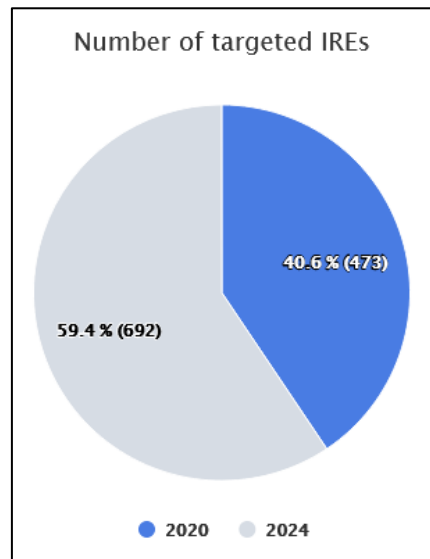


## C4.1 Targeted RWYs

### APPROACH

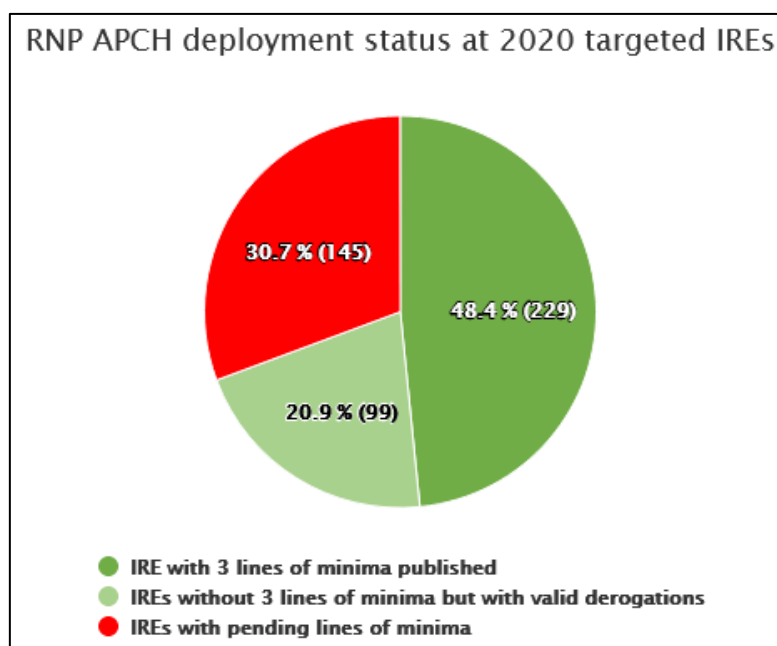
The deployment status against PBN IR objectives is illustrated with 3 pie-charts:

GRAPH 1: “Number of targeted IREs”

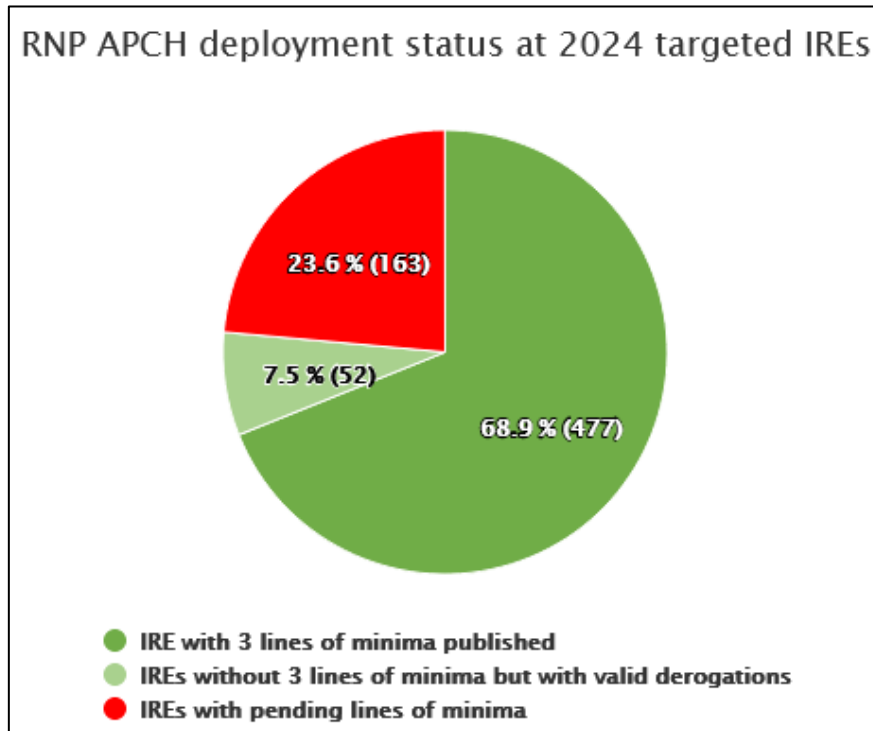


In Blue: the number of “IREs that have Target date = 2020” and  
In Grey: the number of “IREs that have Target date= 2024”

GRAPH 2: “RNP APCH deployment status at 2020 targeted IREs”.



GRAPH 3: “RNP APCH deployment status at 2024 targeted IREs “.



For GRAPH 2 (2020) and GRAPH 3 (2024), the instrument runway ends (IREs) are organized in the following categories:

- “IREs with 3 lines of minima published”:
  - o All targeted IREs with **PBN IR Status = “Objectives met”** and with **LNAV, LNAV/VNAV** and **LPV** status as **IMPLEMENTED**.
  
- “IREs without 3 lines of minima but with valid derogations<sup>27</sup>”:
  - o All targeted IREs with **PBN IR Status = “Objectives met”** and with **LNAV, LNAV/VNAV** and **LPV** status either as **IMPLEMENTED** or **IMPOSSIBLE**.
  
- “IREs with pending lines of minima”:
  - o All targeted IREs with **PBN IR Status = “Objectives not met”**

<sup>27</sup> As per Annex AUR.PBN.2005 (2) of the PBN IR (EU 2018/1048)

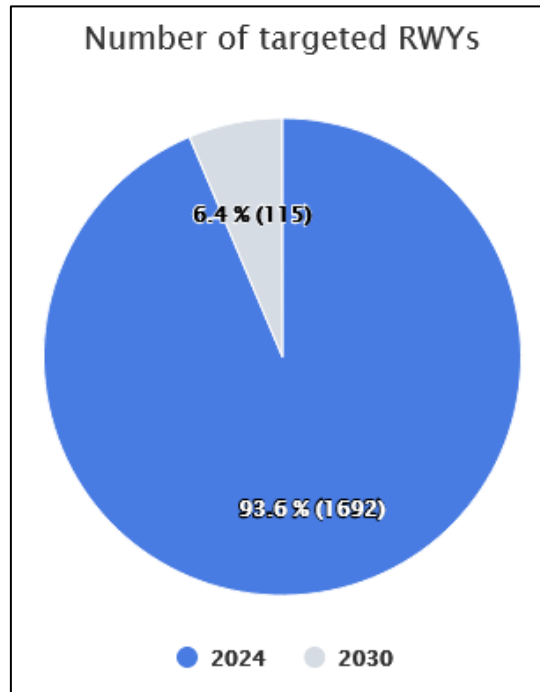




### SID/STAR

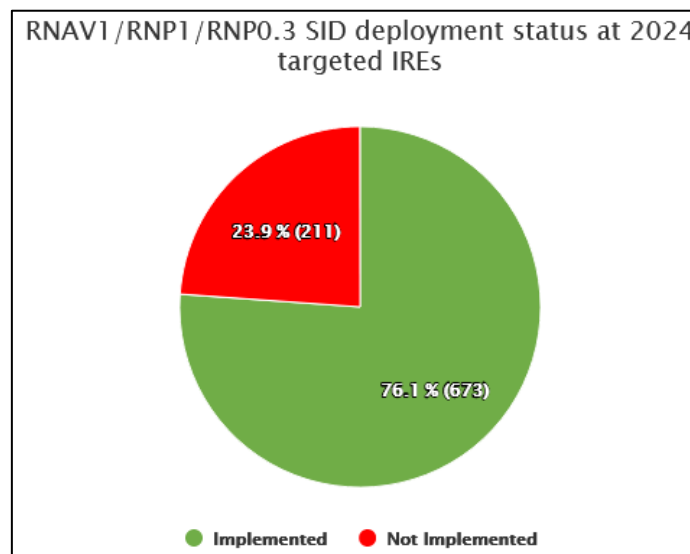
The deployment status against PBN IR objectives is illustrated with 3 pie-charts:

GRAPH 1: “Number of targeted RWYs”



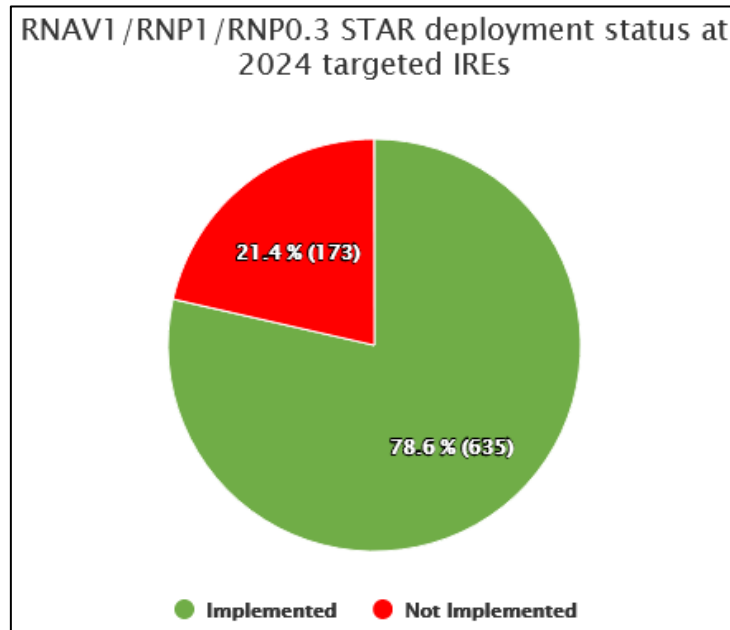
In Blue: the number of “IREs that have Target date = 2024” for SID and STAR procedures  
In Grey: the number of “Non-IREs that have Target date= 2030” for SID and STAR procedures.

GRAPH 2: “RNAV 1/RNP 1/RNP 0.3 SID deployment status at 2024 targeted IREs”.





GRAPH 3: “RNAV 1/RNP 1/RNP 0.3 STAR deployment status at 2024 targeted IREs”.



For GRAPH 2 (SID) and GRAPH 3 (STAR), the instrument runway ends (IREs) are organized in the following categories:

- **“Implemented”**
  - o All 2024 targeted IREs with **PBN IR Status** = “Implemented”
- **“Not implemented”**:
  - o All 2024 targeted IREs with **PBN IR Status** = “Not Implemented”



## C4.2 Not targeted RWYs

If only Not targeted runways are included in the selection made by the user, no information will be displayed.

