

ETABLISSEMENT NATIONAL DE LA NAVIGATION AÉRIENNE



AIR NAVIGATION PROGRAMS

**Second ICAO Meeting on the sustainable development
of Air Transport in Africa**

28-31 March 2017 Accra

EN ROUTE AIR TRAFFIC Algiers FIR

Years	Total
2015	240 070
2016	254 439
2017	270 522
2018	282 000
2019	298 000
2020	314 000
2021	332 000
2022	350 000
2023	369 000
2024	389 000
2025	411 000
Average annual growth rate	5 ,5%



Airports AIR TRAFFIC

Years	Total
2015	216 101
2016	237 040
2017	255 510
2018	265 730
2019	276 360
2020	287 410
2021	301 780
2022	316 870
2023	332 710
2024	349 350
2025	366 820
Average annual growth rate	5,0%



CURRENT TECHNICAL MEANS

NAVAIDS

- 40 VOR
- 47 DME
- 34 NDB
- 14 ILS

TELECOMS

- 23 VHF Stations
- 02 HF stations
- Radiolinks
- PTT links
- VSAT links

SURVEILLANCE

- 01 co mounted PSR/MSSR radar station at Algiers
- 04 MSSR radar stations at Oran (West), Annaba (East), El Oued (South East), El Bayadh (South West)
- ADS-C and CPDLC



Algiers ACC



MAJOR PROJECTS

Projects financed by the Algerian State for a total amount of

- 1. Plan de Développement de la Gestion de l'Espace Aérien (PDGEA)**
- 2. Control Towers for Algiers, Oran, Constantine, Ghardaïa and Tamanrasset Airports**
- 3. 20 ILS/DME equipments**

Projects financed by the Algerian State for a total amount of :



1. CONSISTENCY OF THE PDGEA **Project**

- 1. Realization of an ACC in Tamanrasset fully equipped**
- 2. Radar coverage strengthening (North of the FIR)**
- 3. Extension of radar coverage to the South of the FIR**
- 4. Introduction of ADS-B means for surveillance**
- 5. Reinforcement and extension of VHF coverage (total FIR)**
- 6. Telecommunications Support (VSAT, radiolinks)**
- 7. Integration and harmonization of the 02 ACCs (Algiers and Tamanrasset)**
- 8. Training of operational and technical staff**



MAJOR PROJECTS

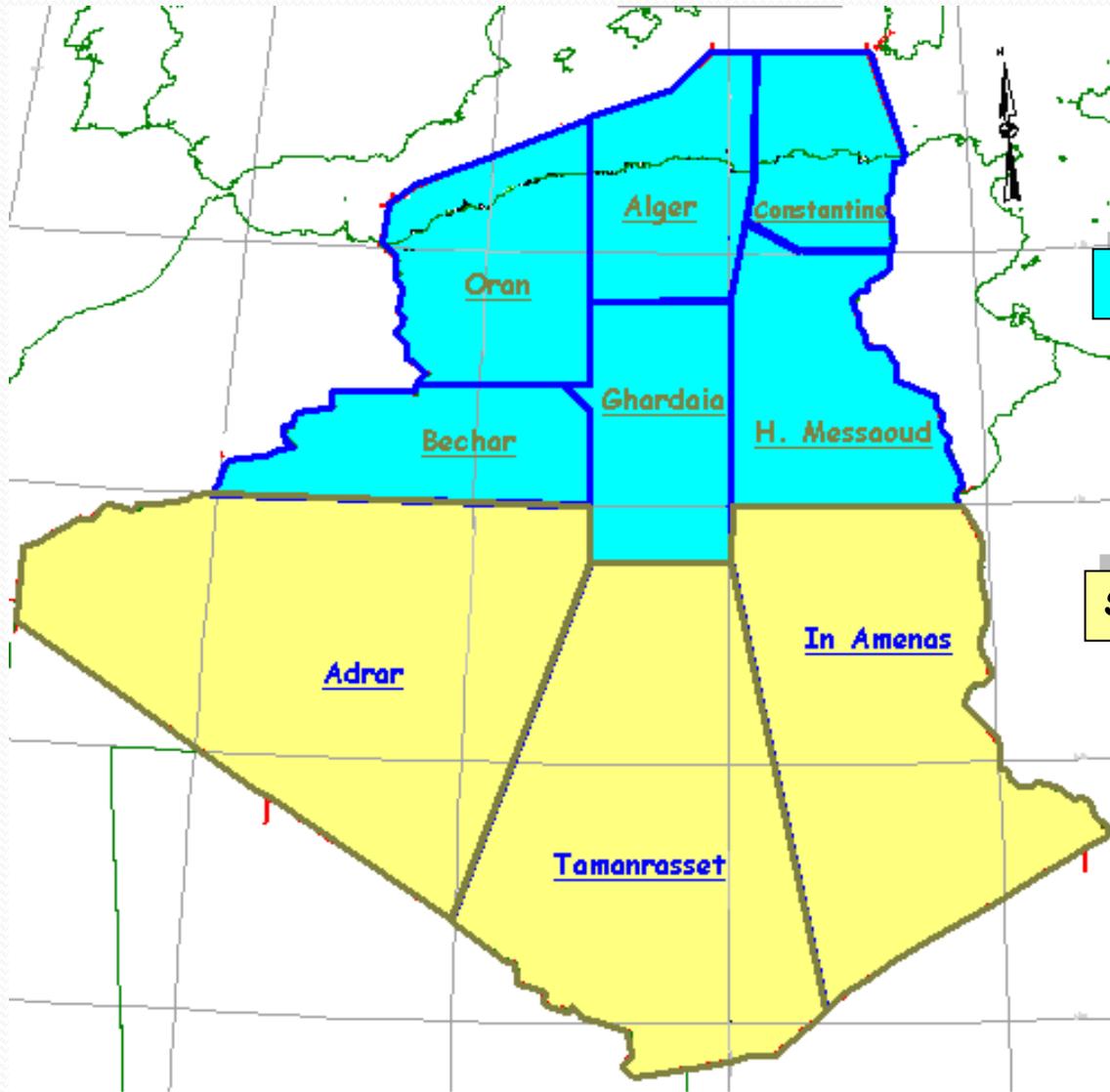
- New international terminal (west terminal) with capacity of 10 million passengers at Algiers Airport

This project is financed by the airport management company (EGSA) for an amount of 50 000 000 Euros

An other project ongoing as well is the

- **Intermodality of transport (train, metro) to and from the Algiers Airport**



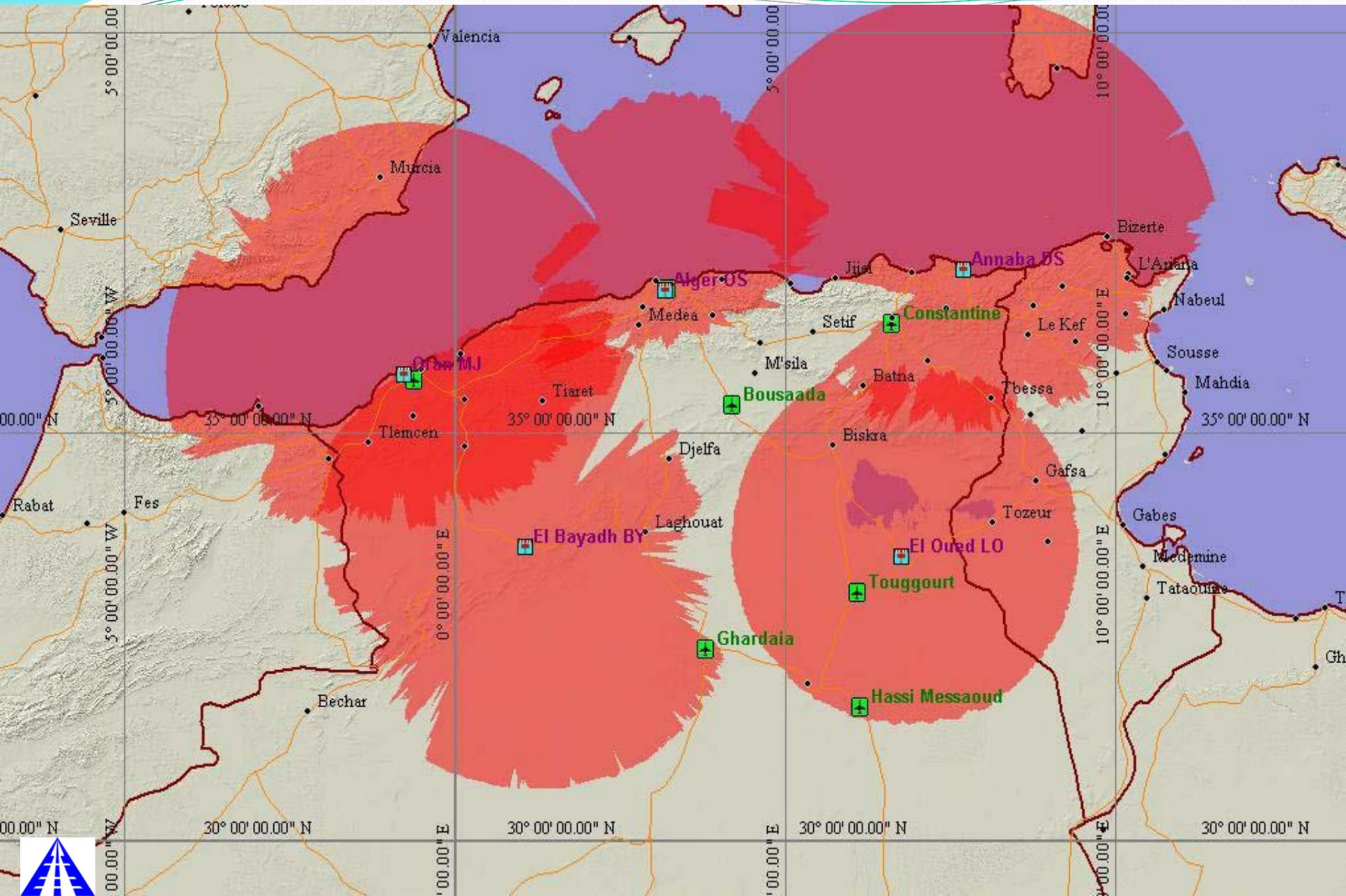


Northern FIR

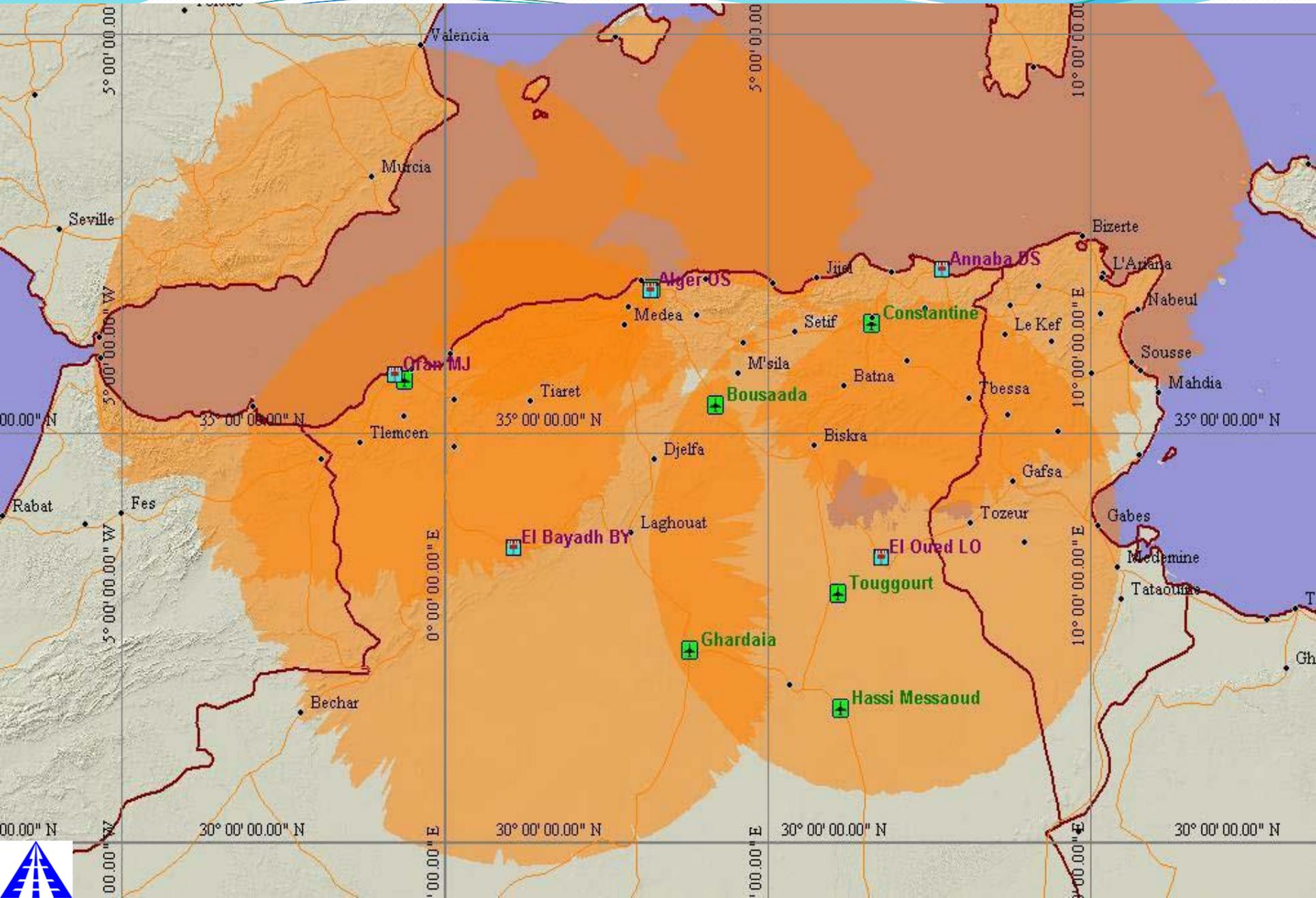
Southern FIR



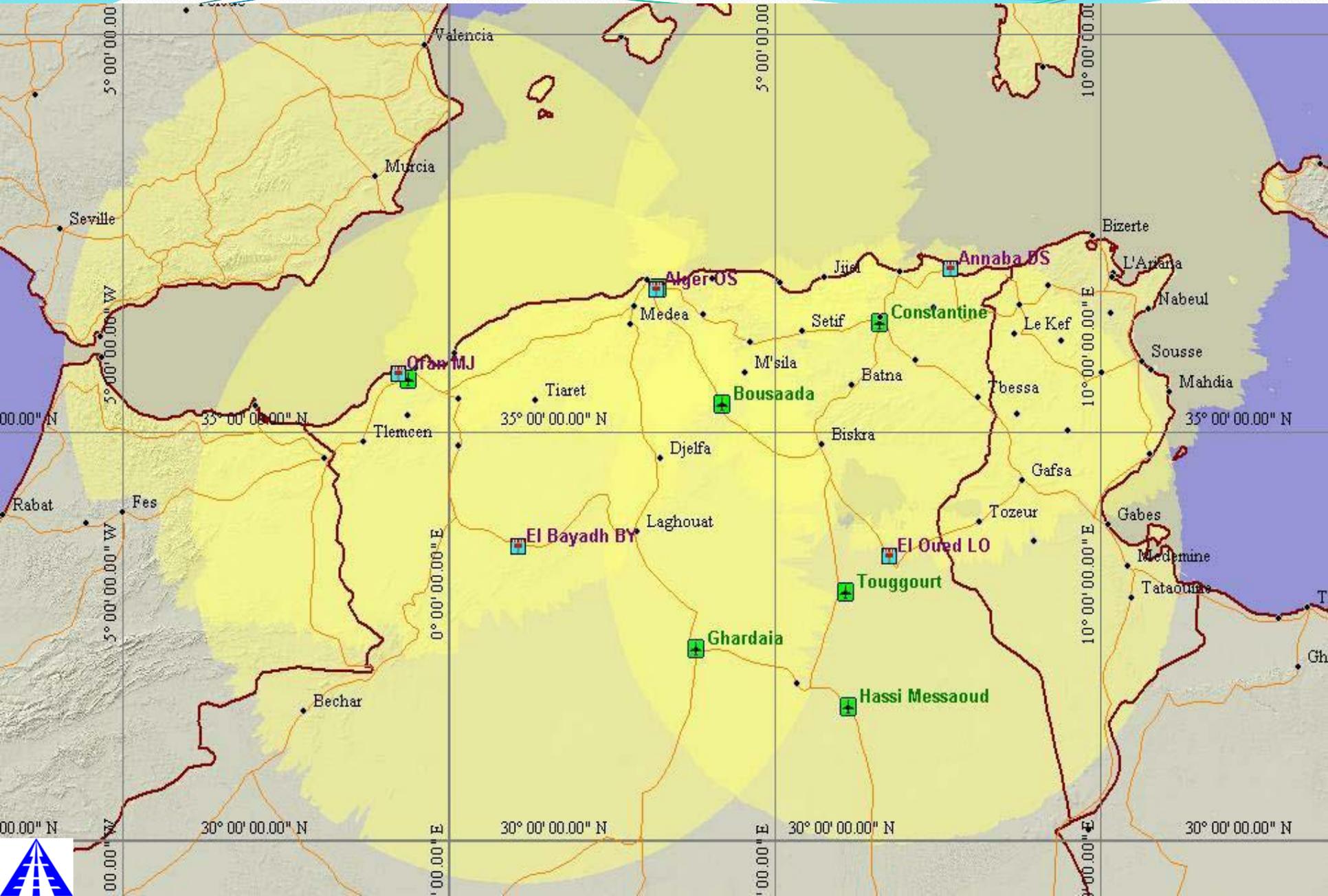
Current RADAR coverage - FL100



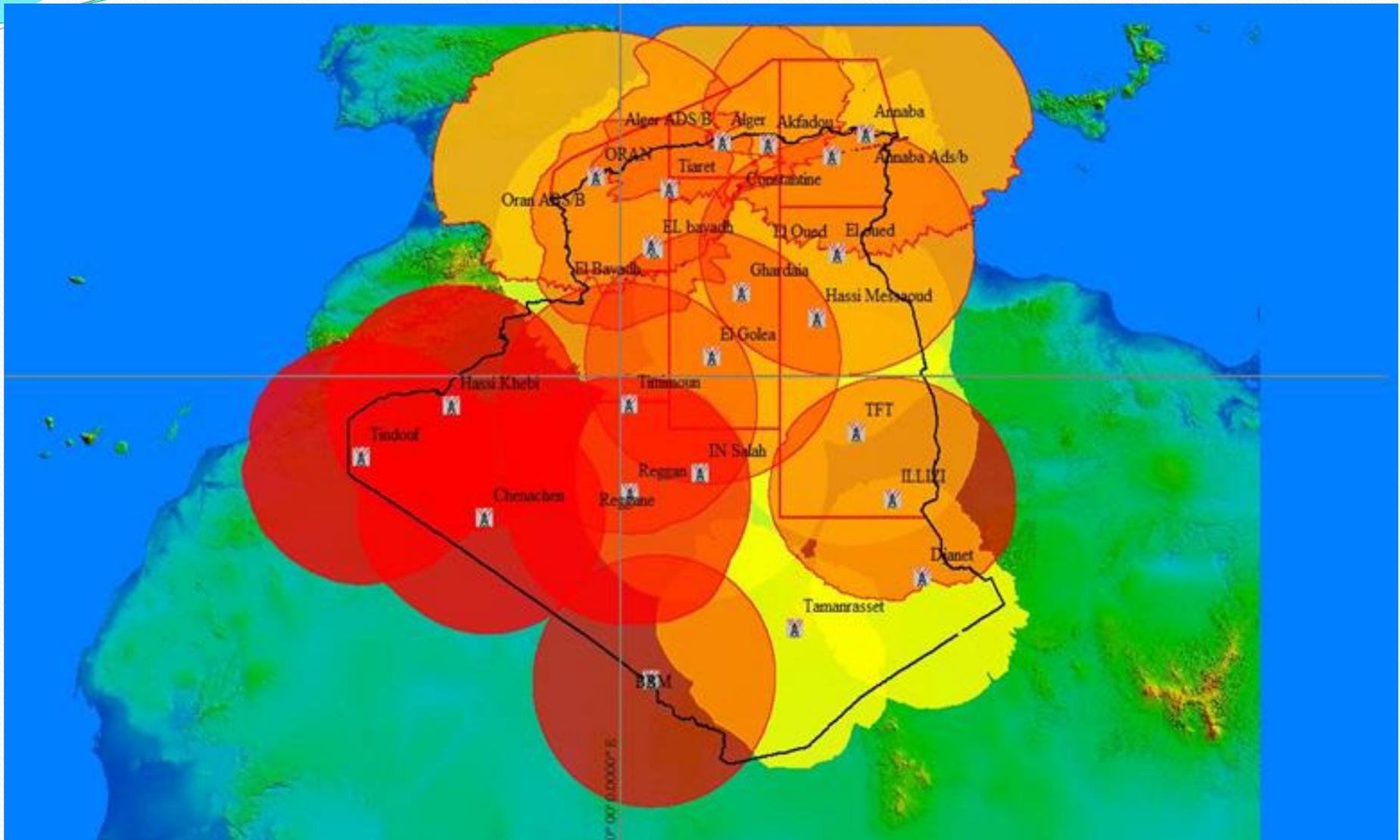
Current RADAR coverage- FL200



Current RADAR coverage- FL300



FUTUR RADAR AND ADS-B COVERAGE



 ADS/B

 RADAR

INFRASTRUCTURE PART :

1 - Study and follow-up of the futur ACC of Tamanrasset

- Contrat signed in December 2012 for an amount of :
534 000 Euros
- Completion time of 24 mois. To be finalised in december 2017

2 - Realization of civil engineering :

- Contrat signed in July 2015 for an amount of :
25 450 000 Euros
- Completion time of 28 mois. To be finalised in december 2017



FUTUR COMPLEXE DE LA NAVIGATION AERIENNE DE TAMANRASSET



Works of the futur ACC at Tamanrasset



Works of the futur ACC at Tamanrasset



Air navigation equipments:

This part deals with the supply, installation and commissioning of air navigation equipments as well as training of ENNA controllers and technical engineers.

- ATC systems including VCS for the actual ACC (Algiers), the futur ACC (Tamanrasset) and the 05 APPs (Algiers, Oran, Constantine, Annaba, Hassi Messaoud)
- Surveillance :
 - 02 co mounted PSR/SSR-S S Radar stations,
 - 02 PSR Radar stations,
 - 07 SSR-S Radars stations,
 - 13 ADS-B stations :
- Telecoms :
 - 30 radio VHF,
 - 02 VSAT HUB,
 - 25 VSAT
 - 24 Radiolinks Stations,



- This part of the project is ongoing

The call for tenders has been done in september 2016. 03 submissions have been received.

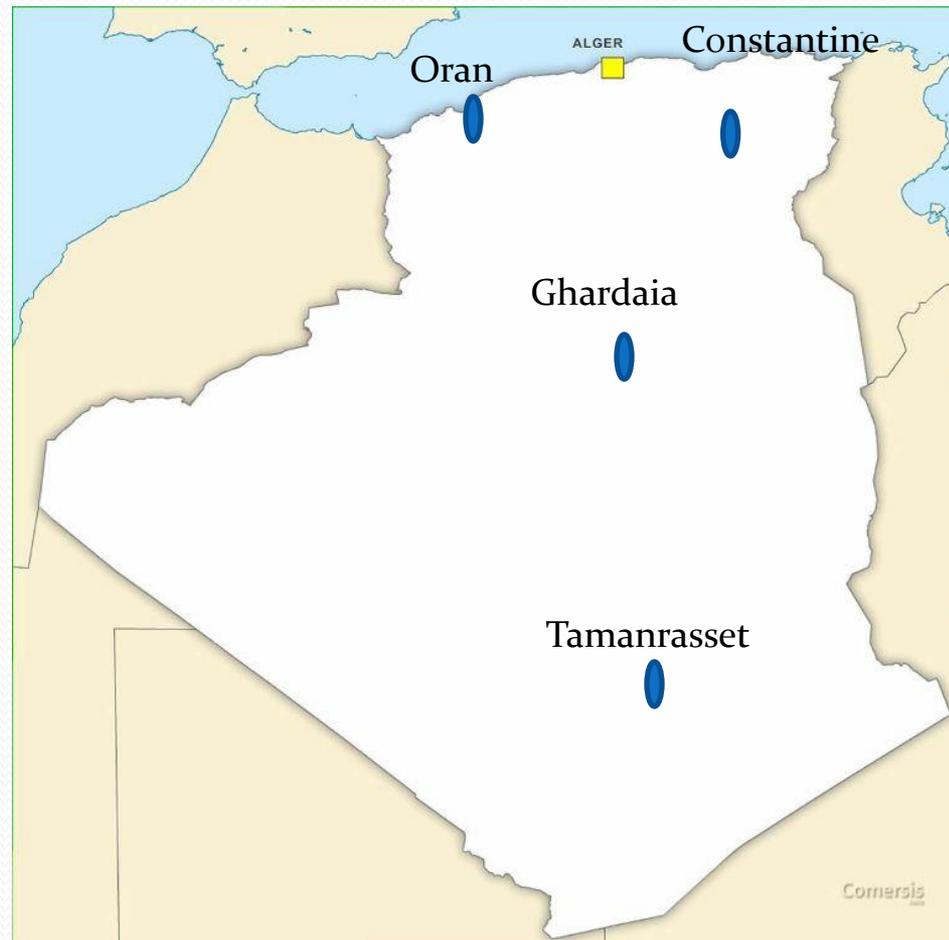
The Counterparty will be known in the next days.



2. CONTROL TOWERS

for

Algiers, Oran, Constantine, Ghardaïa and Tamanrasset Airports



ALGIERS CONTROL TOWER

- Contract amount: 22 016 000 Euros
- End of works planned for December 2017



ALGIERS CONTROL TOWER



CONSTANTINE CONTROL TOWER

- Contract amount: 18 851 000 Euros
- End of works planned for December 2017



CONSTANTINE CONTROL TOWER



ORAN CONTROL TOWER

- Contract amount: 18 225 000 Euros
- End of works planned for December 2017

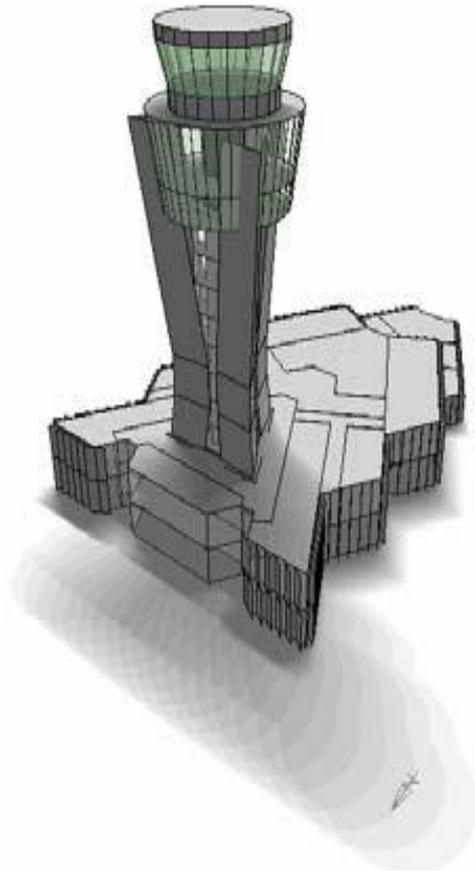


ORAN CONTROL TOWER

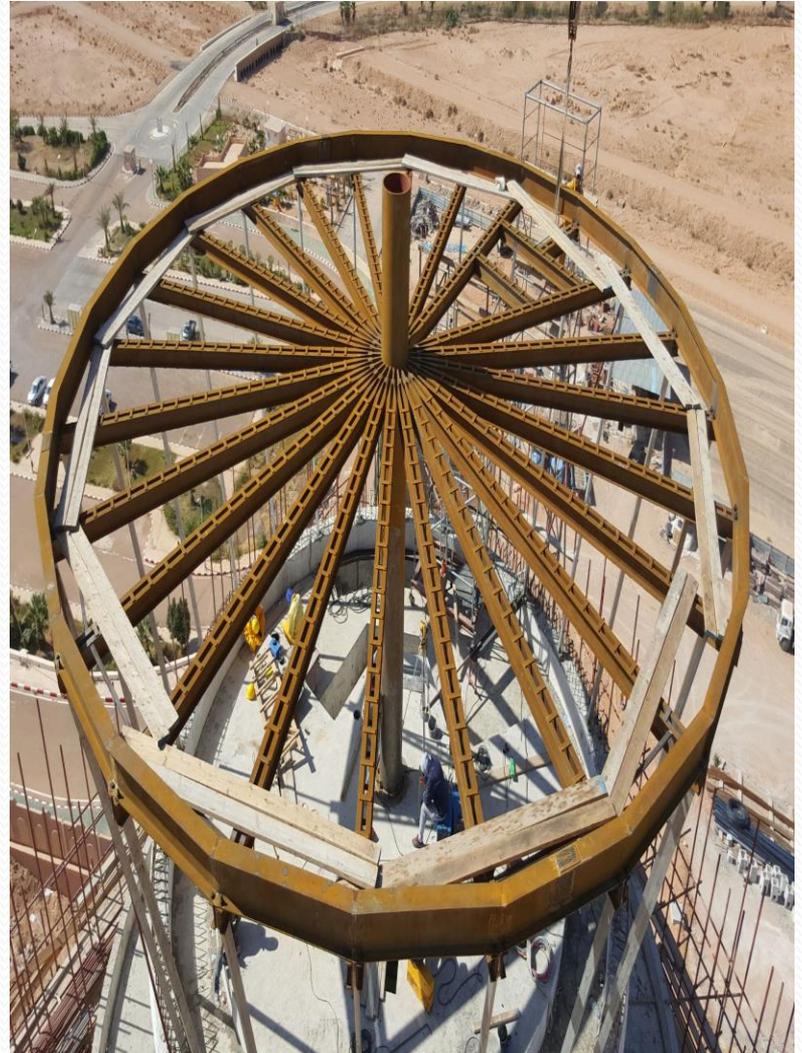


GHARDAIA CONTROL TOWER

- Contract amount: 27 750 000 Euros
- End of works planned for December 2017



GHARDAIA CONTROL TOWER

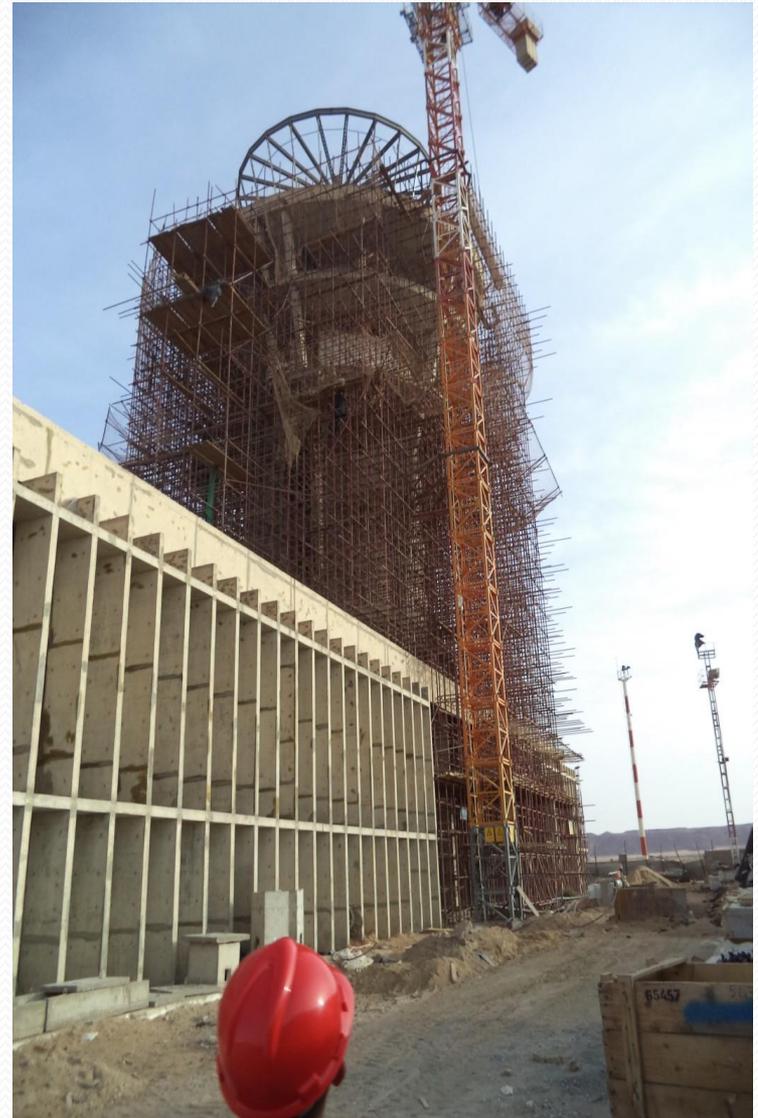


TAMANRASSET CONTROL TOWER

- Contract amount: 21 770 000 Euros
- End of works planned for December 2017



TAMANRASSET CONTROL TOWER



3. 20 ILS/DME equipments

- **Contract amount : 6 100 000 Euros**
- **These 20 nav aids equipments are installed in phase in **Alger, Oran, Bejaïa, Jijel, Batna, Tlemcen, Ghardaïa, Constantine, Annaba, Tébessa, Adrar, Djanet, In-Salah, Bordj-Badj-Mokhtar, Chlef, In-Aménas, Touggourt, Sétif, Tamanrasset, El-Goléa.****
- **Are currently being installed by ENNA .**



Prospects for 2019

The concretization of the two major PDGEA and the 5 Control Towers projects registered -- will allow the National Air Navigation Authority to put in place a long-term development strategy, namely:

PDGEA Project :

- Creation of a second ACC at Tamanrasset;
- Enhanced radar coverage (North);
- Extension of radar coverage to the South;
- Introduction of ADS-B surveillance for the entire FIR;
- Reinforcement and extension of VHF coverage (FIR);
- Increase in the availability of telecommunications media by diversifying resources (VSAT, radiolinks, optical fiber);
- Non-stop traffic growth;
- Integration and harmonization of the two ACCs (Algiers and Tamanrasset);
- Training (controllers and technicians);
- Creation of jobs.



Projet Tours de contrôle et Blocs Technique :

- Strengthening security through the provision of new control equipment at the airports of Algiers, Oran, Constantine, Ghardaïa and Tamanrasset;
- Growth in traffic with stopovers;
- Creation of jobs ;



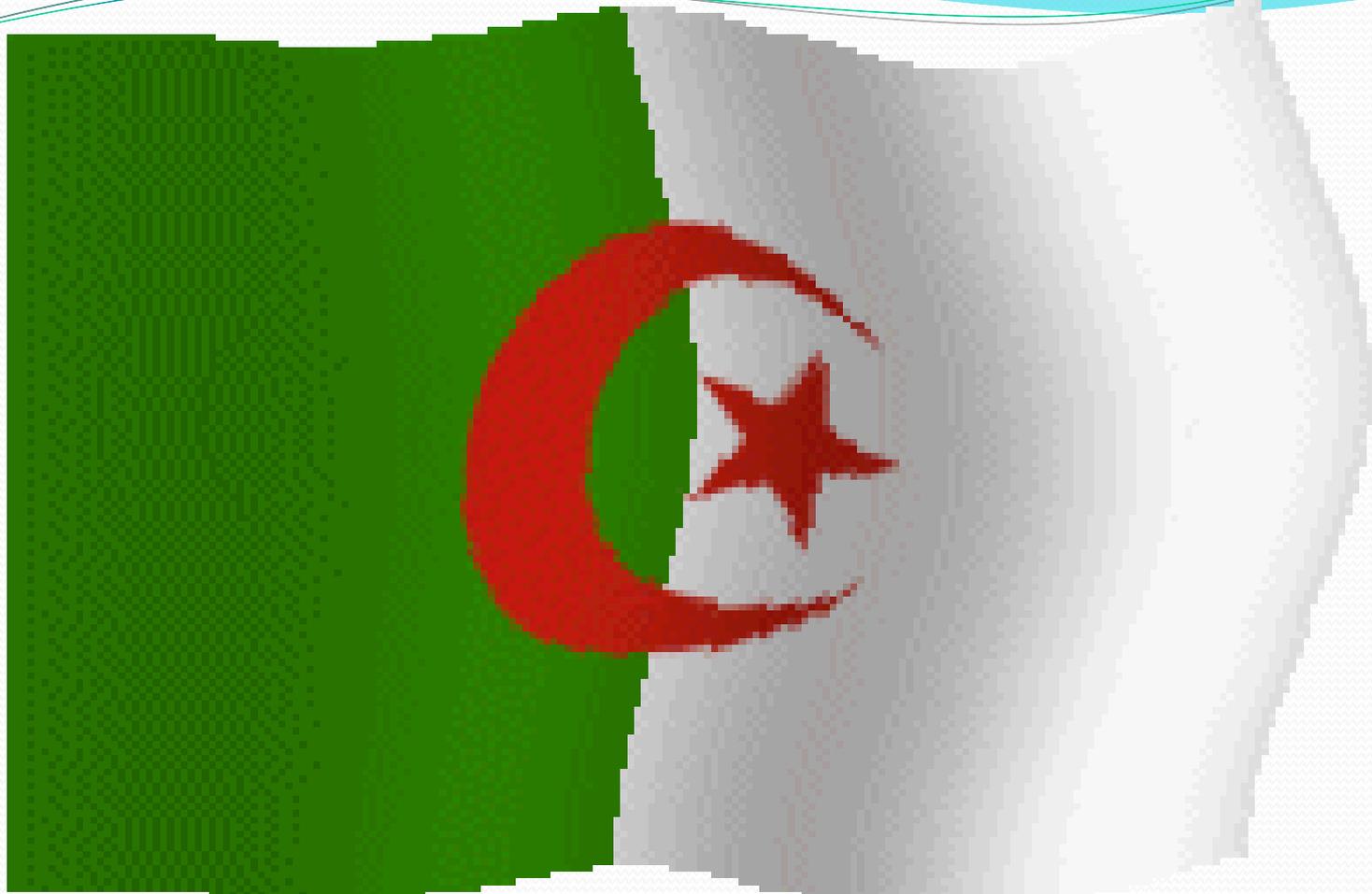
OTHER ACTIONS TAKEN BY ENNA during the last 5 years :

- Acquisition and installation of 25 PAPIs : finalized : 310 000 Euros
- Acquisition of an aircraft for inspection and calibration in flight : finalized : 10 630 000 USD
- Acquisition of 09 medium-power fire-fighting vehicles for In amenas - Illizi - Constantine - Batna - Hassi Messaoud - Chlef - El Golea - Tebéssa and Djanet airports : finalised : 4 401 000 Euros



- Acquisition of 02 VOR / DMEs for Tebéssa and Ghardaïa airports and 05 DMEs for Hassi Messaoud, Boussaâda, Constantine, Djanet and Oran airports : finalised : 1 040 000 Euros
- Acquisition of 11 sets of working position towers fully equipped for various airport towers : finalised : 1 700 000 GBP
- Acquisition of 08 remote VHF sets of 50 W (Advanced Antennas) for various sites : finalised : 326 000 GBP





**THANK YOU FOR YOUR
KIND ATTENTION**