

Airport Master Planning Regional Seminar

13-15 September 2022
Hurghada, Egypt

Airport Master Planning - Hurghda Int. Airport



Egyptian Airports



Hurghada International Airport



Historical Background

- In May 1966 Hurghada Airport was prepared to receive jet planes carrying tourism coming from Europe directly instead of landing at Cairo International Airport.
- in November 1977 Hurghada Airport was prepared and operated for civil aviation flights.

The Airport planning Process

➤ Airport Planning Objectives


- Maintaining the ability for aircraft to operate safely
- Facilitating the ability for the airport to grow
- Providing for the airport to increase revenue
- Safeguarding of the airport's long term plans

Stage 1: Situation Analysis

➤ In this stage the following matters should be considered and documented:

- ✓ Importance of the airport to the region
- ✓ Socio-economic context
- ✓ Current site conditions
- ✓ weather
- ✓ Surrounding land — topography
- ✓ Existing aviation and non-aviation activities on the site
- ✓ Assessment of existing facilities
- ✓ Environment
- ✓ Key stakeholders
- ✓ Ground transport access to the site
- ✓ Utility services

Socio-Economic Context in Hurghada City

Area	Population
<ul style="list-style-type: none">➤ Total area about 460.5 km.➤ beaches cover an area of 40 km from the coastal strip of the Red Sea.	<p>The population of Hurghada city has doubled due to investments from 20,000 to 90,000, and more than that about 40,000 workers coming from outside the city to work in tourism.</p>
<ul style="list-style-type: none">➤ Hurghada city is located in a coastal plain whose width ranges from 8 to 35 km.	

Main Industries

Petroleum Extraction / Fishing / Tourism

Hurghada City



Hurghada International Airport 2005 – 2007

Hurghada Airport situated at 10 nautical miles away south of the city

Terminal BLDG

4 million passenger /year

Apron1

19 Aircraft

Apron2

7 Aircraft

Main R/W Parallel T/W



Stage 2: Future Direction

In this stage the airport operator would ask questions such as:

- Where do we want to be in the future?
- What do we want to achieve?
- What do key stakeholders want to achieve?
- What does government policy say?
- What are the airport forecasts?
- What “un-forecast” change might occur in the future?
- What kind of chances in future ?
- Are there any threats to the future development of the airport?

Site Observation and Analysis

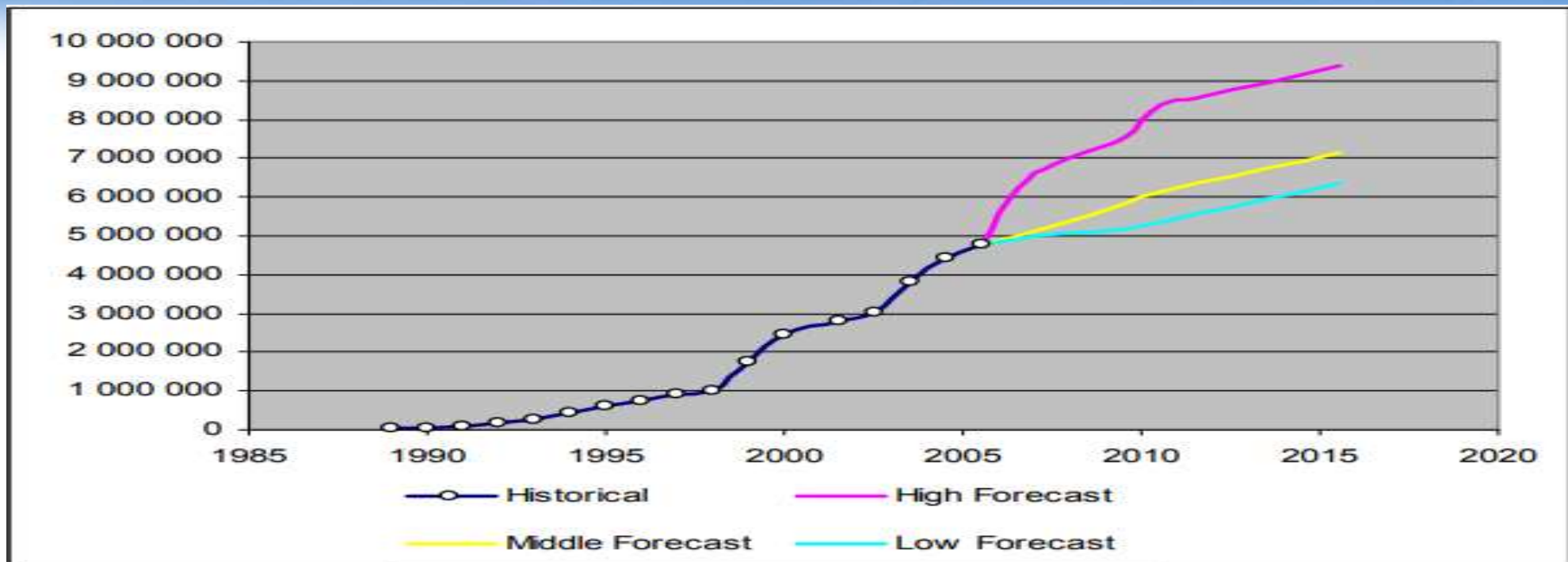
- Airport Survey Process
- Forecast
- Follow up Traffic

Airport survey process

ADP made a survey for existing terminal at Hurghada airport which concluded main point such as :

- **Traffic Movement**
- **Nationalities**
- **Utility (water supply – etc...)**
- **land use**
- **Safety and Security**

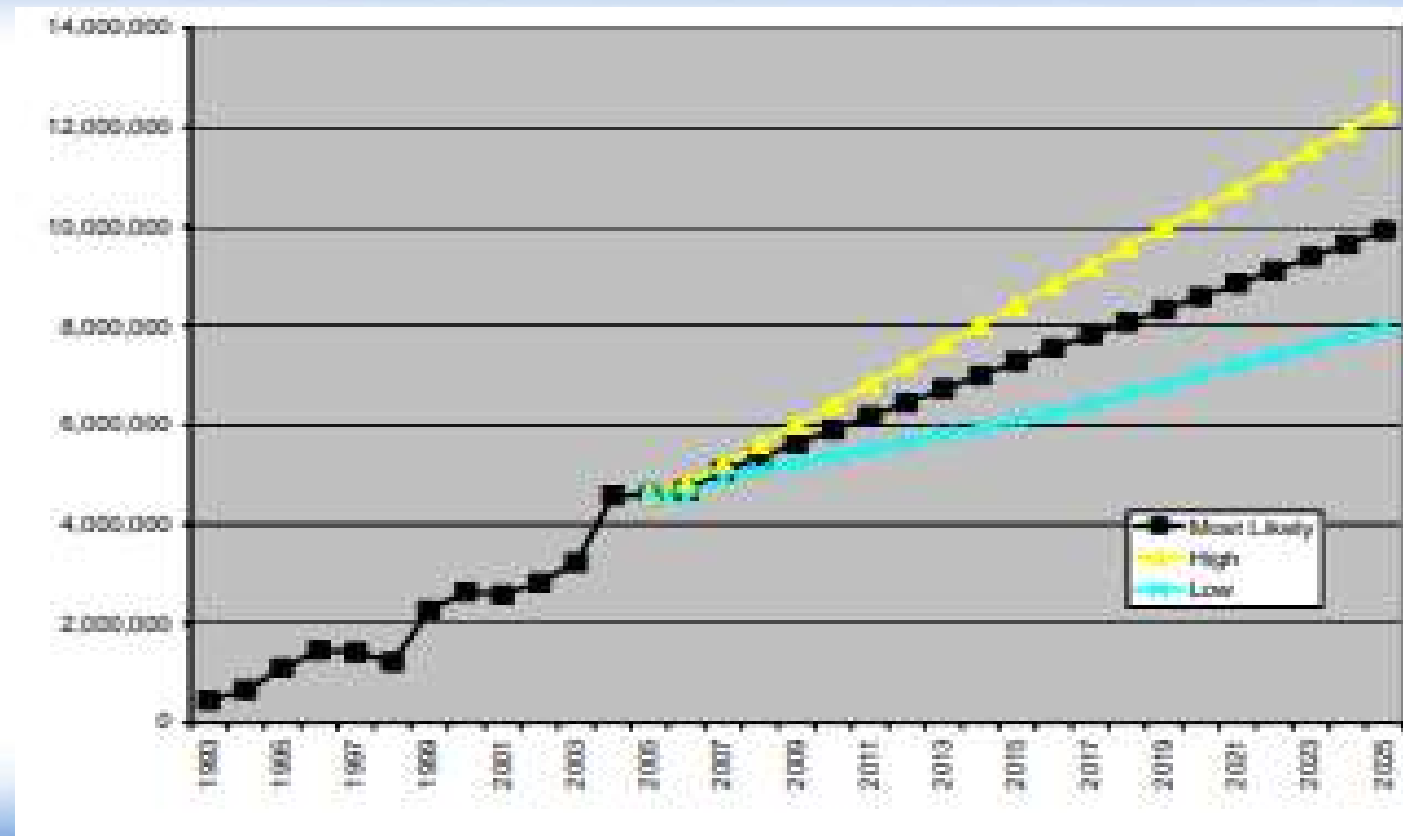
ADP airport service Forecast (2005- 2020)



HRG	2005	2010	2015	2020
High Forecast	4 610 000	7 957 000	9 265 000	9 866 000
Middle Forecast	4 610 000	5 998 000	7 043 000	7 940 000
Low Forecast	4 610 000	5 277 000	6 262 000	7 581 000

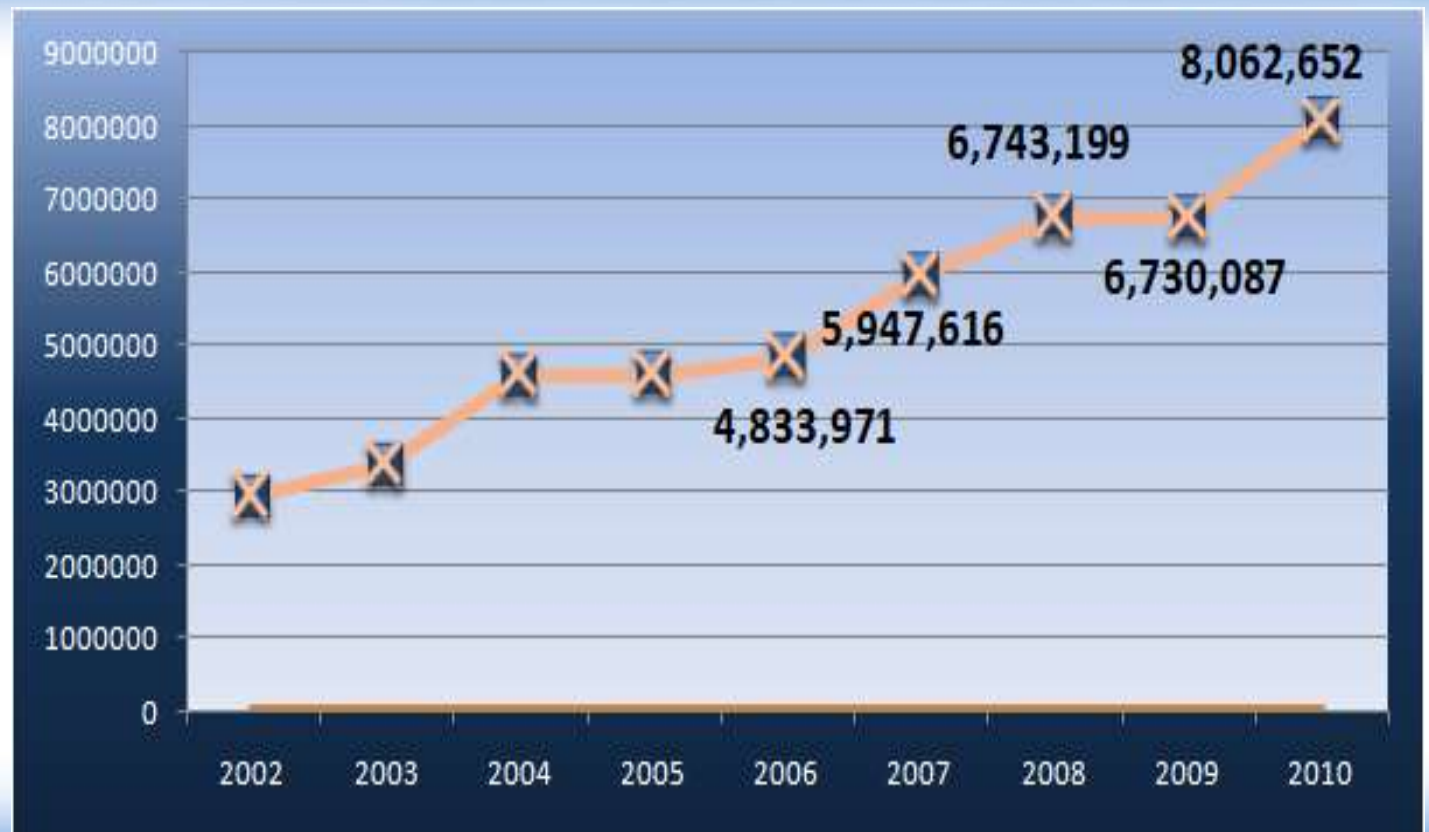
The Louis Berger Group Forecast (2000- 2025)

year	Total
2000	2,730,319
2001	2,683,579
2002	2,961,029
2003	3,363,579
2004	4,584,067
2005	4,601,203
2006	4,685,574
2007	5,076,814
2008	5,362,090
2009	5,628,990
2010	5,907,619
2011	6,180,703
2012	6,454,921
2013	6,730,326
2014	7,006,975
2015	7,284,928
2016	7,561,411
2017	7,819,144
2018	8,078,100
2019	8,338,334
2020	8,599,900
2021	8,862,856
2022	9,127,263
2023	9,393,183
2024	9,660,683
2025	9,929,830



Follow Up Actual Traffic 2002-2010

Years	Traffic
2002	2,951,029
2003	3,363,575
2004	4,579,779
2005	4,601,203
2006	4,833,971
2007	5,947,616
2008	6,743,199
2009	6,730,087
2010	8,062,652



Stage 3: Strategy Development

EAC DECIDE TO:

- ☐ Rehabilitation the existing RWY
- ☐ Construct an extension
- ☐ Construct a NEW TB
- ☐ Construct a NEW APRON
- ☐ Construct a New RWY



Rehabilitation the existing RWY

2007



Construct an Extension 2009



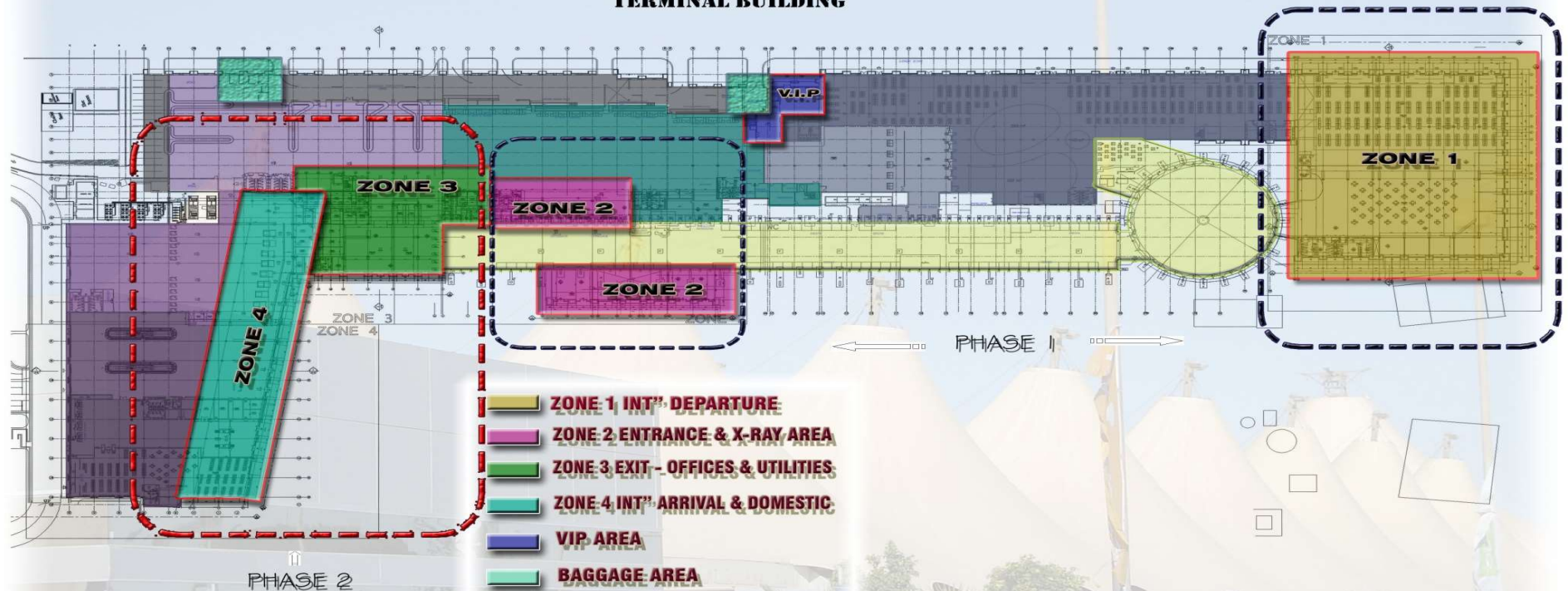
Scope of Extension

- Increase the area of Arrival International Hall.
- Increase the area of Check In Hall and No. of Counters
- Main Entrance wideness and increase No. of XRAY
- Increase the area of Departure International Hall
- Increase the area of Departure Domestic Hall
- Increase the area of Arrival Domestic Hall

Scope of Extension

HURGHADA AIRPORT EXTENSION

TERMINAL BUILDING



Terminal Building 2





Hurghada Airport



Runway
4000M 45M



Check in
Counters **38**



Departure
Gates **15**

CAT 1



Terminal
Capacity
Passengers / H **3000**

Aprons Stand **26**

Passenger Services:

- Medical Center
- Smoking Lounge
- VIP Lounge
- International Duty Free
- Banks and Currency Exchange
- Restaurants and Café
- Baggage Wrapping
- Taxi and Limousine Service 24 Hours
- ATM Machines - Gift Shops

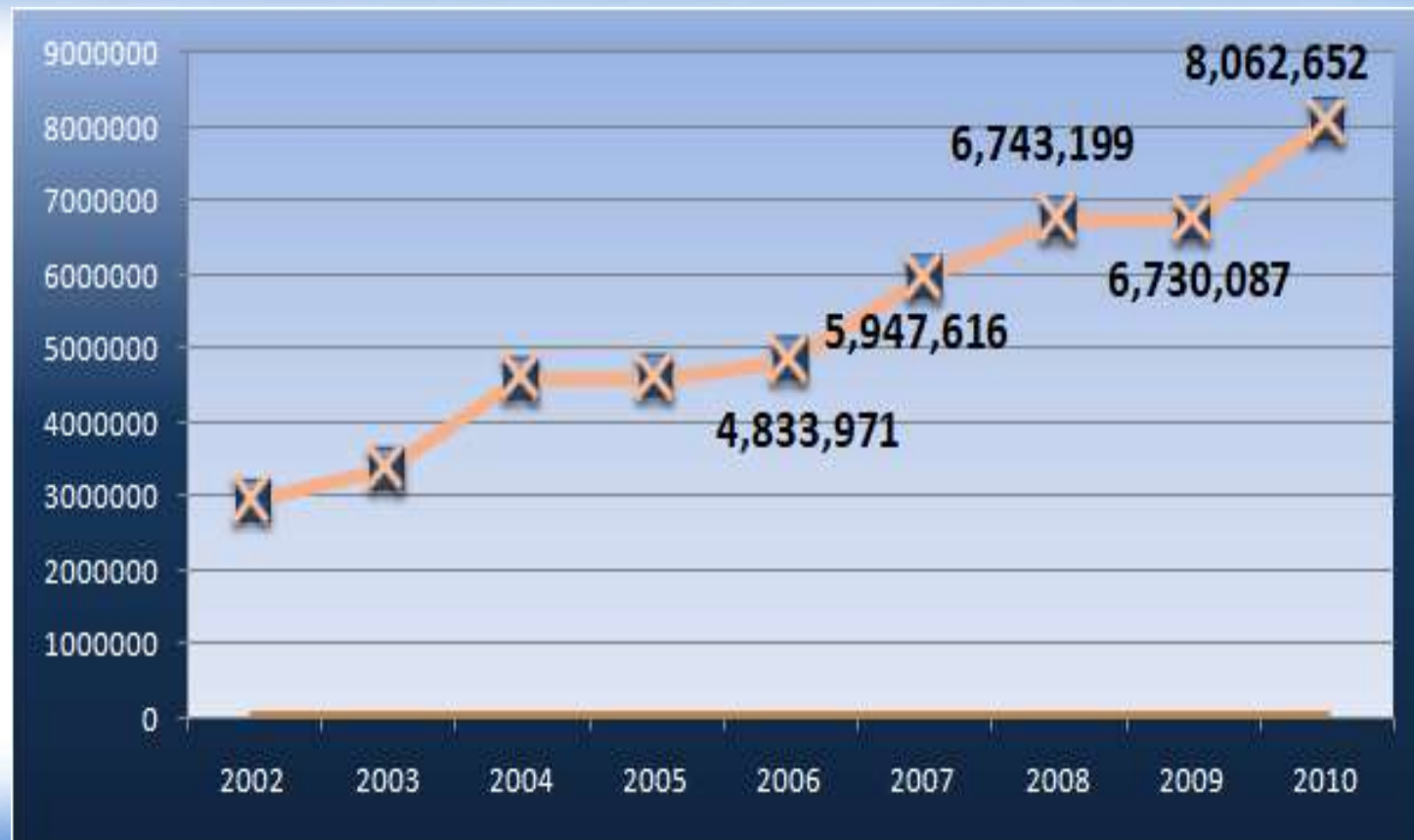
Ground Handling:

- EAS
- Egyptair Ground Services



Actual Traffic 2002-2010

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Stage 4: Implementation Plan

- ☐ Environmental Study
- ☐ Financial Study
- ☐ Negotiation for the land required
- ☐ Negotiation with stakeholders such as :
 - Ministry of Tourism
 - Airlines Comp.
 - Navigation Comp.
 - Electricity Comp.
 - Water Supply comp.
- ☐ Made a topographic Survey

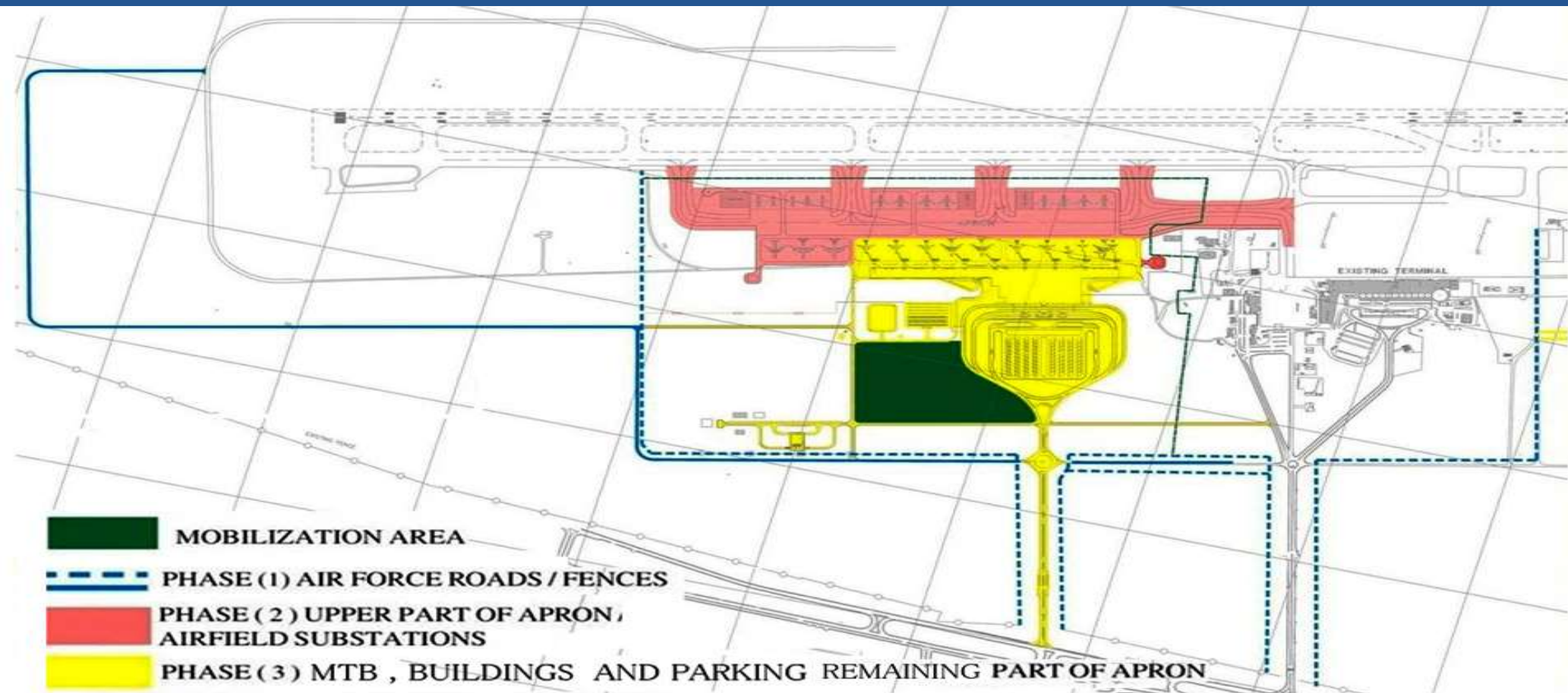
First Phase : NEW TERMINAL BUILDING & LANDSIDE FACILITIES



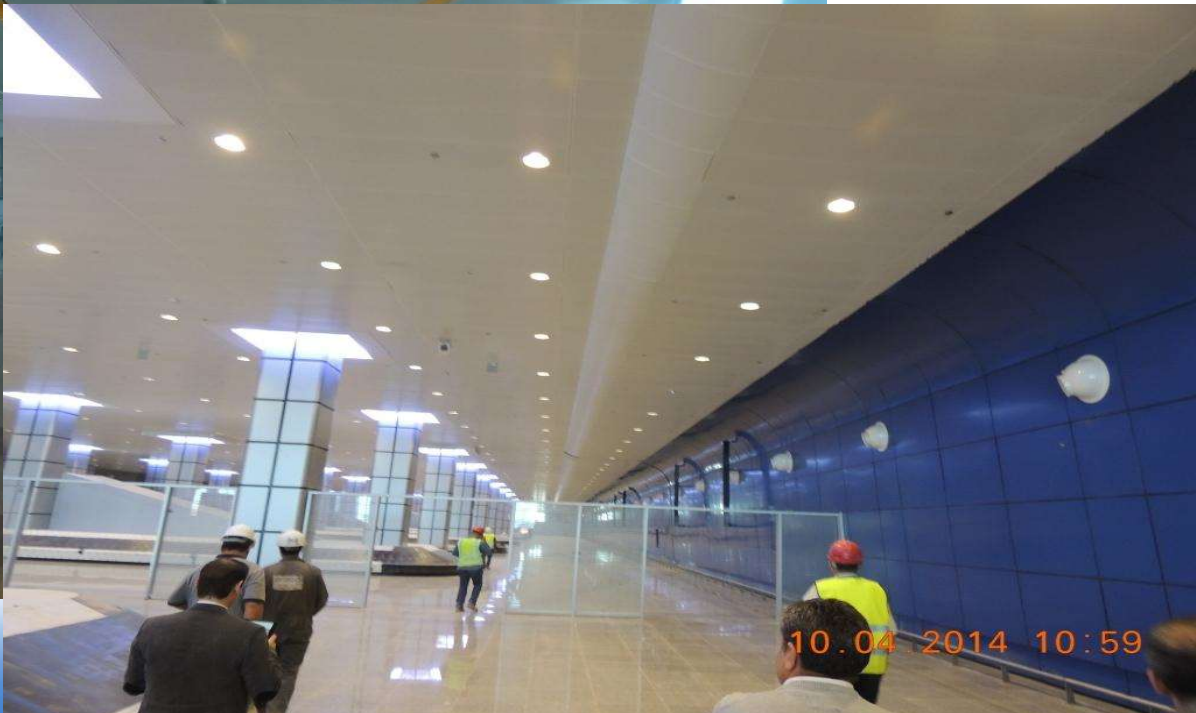
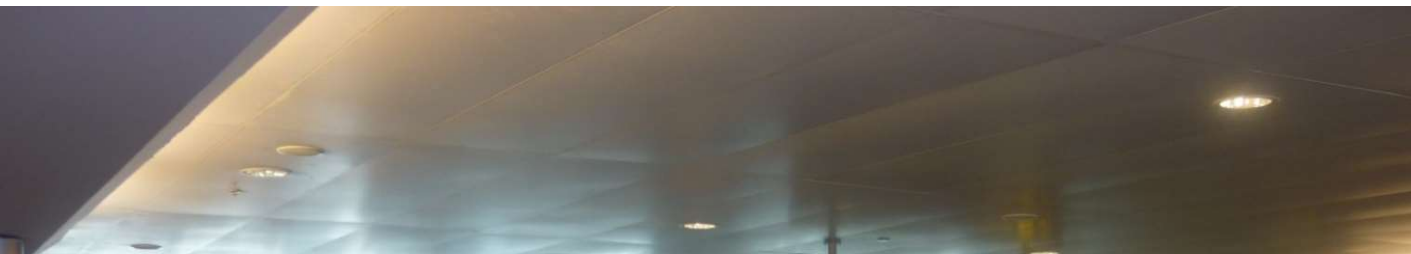
Project Main Items :

-Main terminal building	92,600 m ²
-Apron	425,000 m ²
-Ancillary buildings	10,800 m ²
-Parking AREA	84,000 m ² (850 CAR & 115 BUS)
-9 Boarding bridge	(11 air crafts) <u>Contract duration</u> :
-started from <u>6th Feb. 201</u>	
❖ <u>Project value</u> :	<u>2000,000</u> Egyptian pounds (51.5 % L.E 48.5 % \$&€

Sub. phases





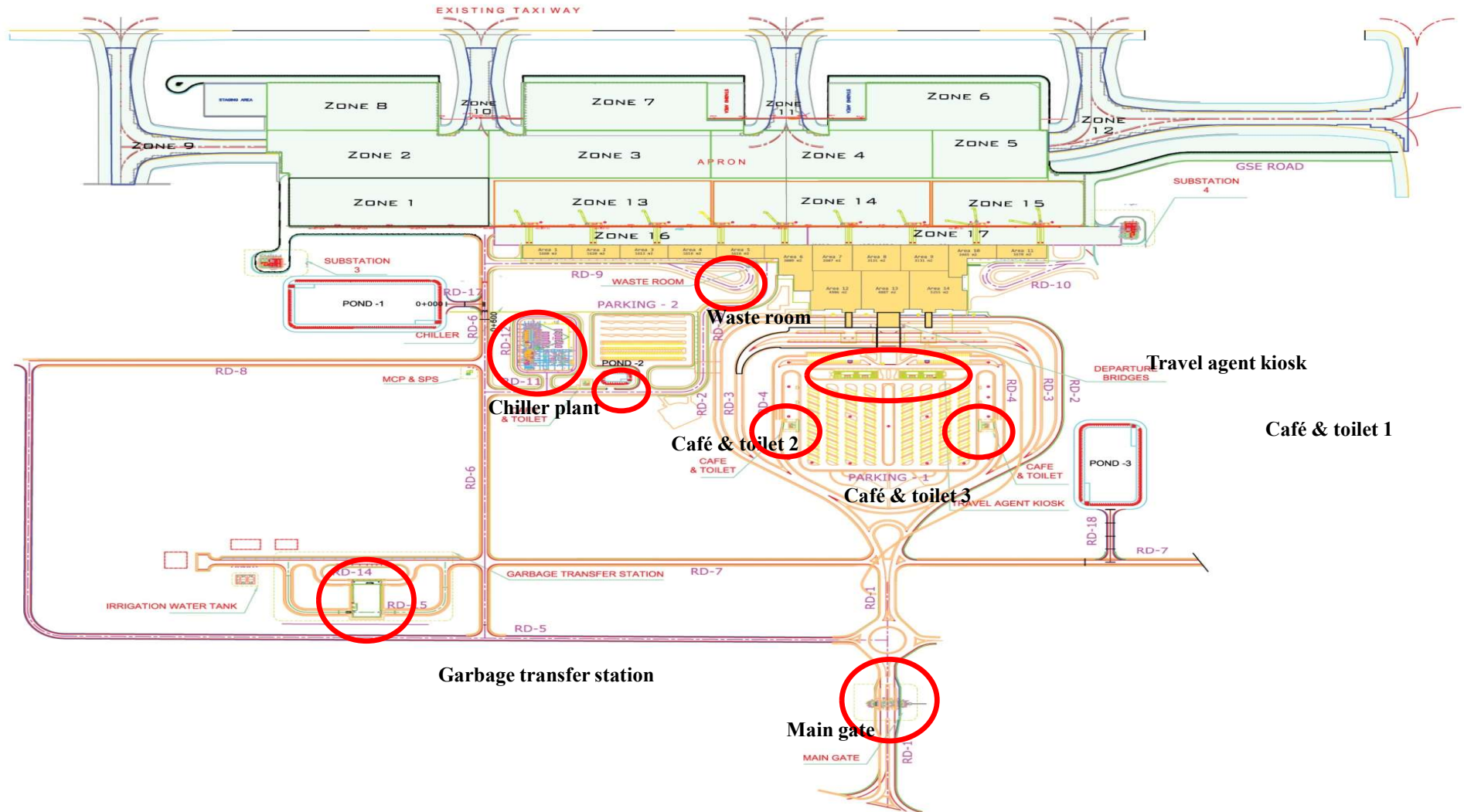




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EGYPTIAN AIRPORTS CO.

Ancillary Buildings

External buildings Layout



External Buildings

Cafeteria



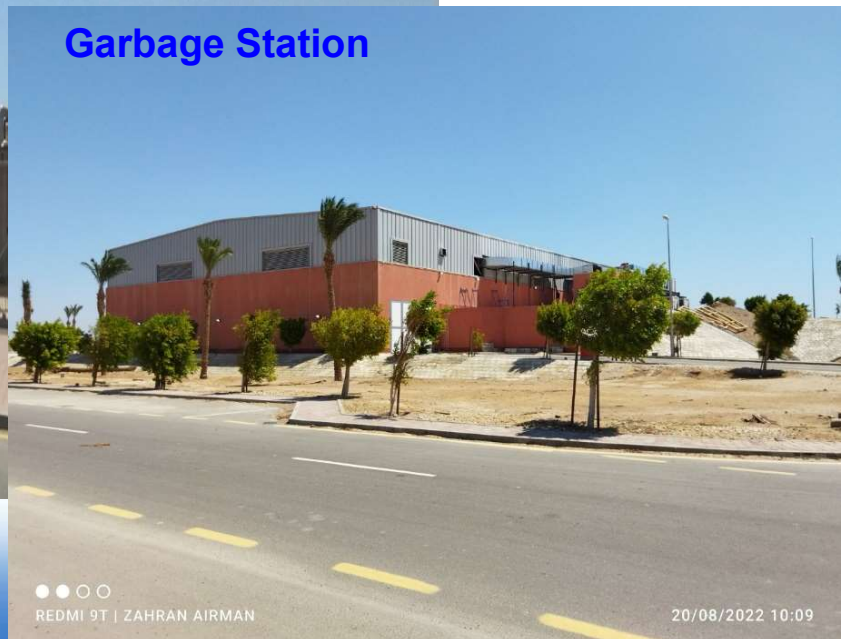
Tourist Kiosks



Chiller Station



Garbage Station



Second Phase :

Hurghada Airport development

- 1- New R/W 4000 m code F**
- 2- Parallel T/W**
- 3- Lighting sys. CATI**
- 4- Connection between existing air field and the new one**

Hurghada International Airport



SWOT ANALYSIS

STRENGTHS

- ❖ Geographical location
- ❖ Long coastal strip of the Red Sea

S

W

WEAKNESSES

- ❖ Renovation cost
- ❖ The exchange rate is constantly changing

SWOT

OPPORTUNITIES

- ❖ Increase tourism investment

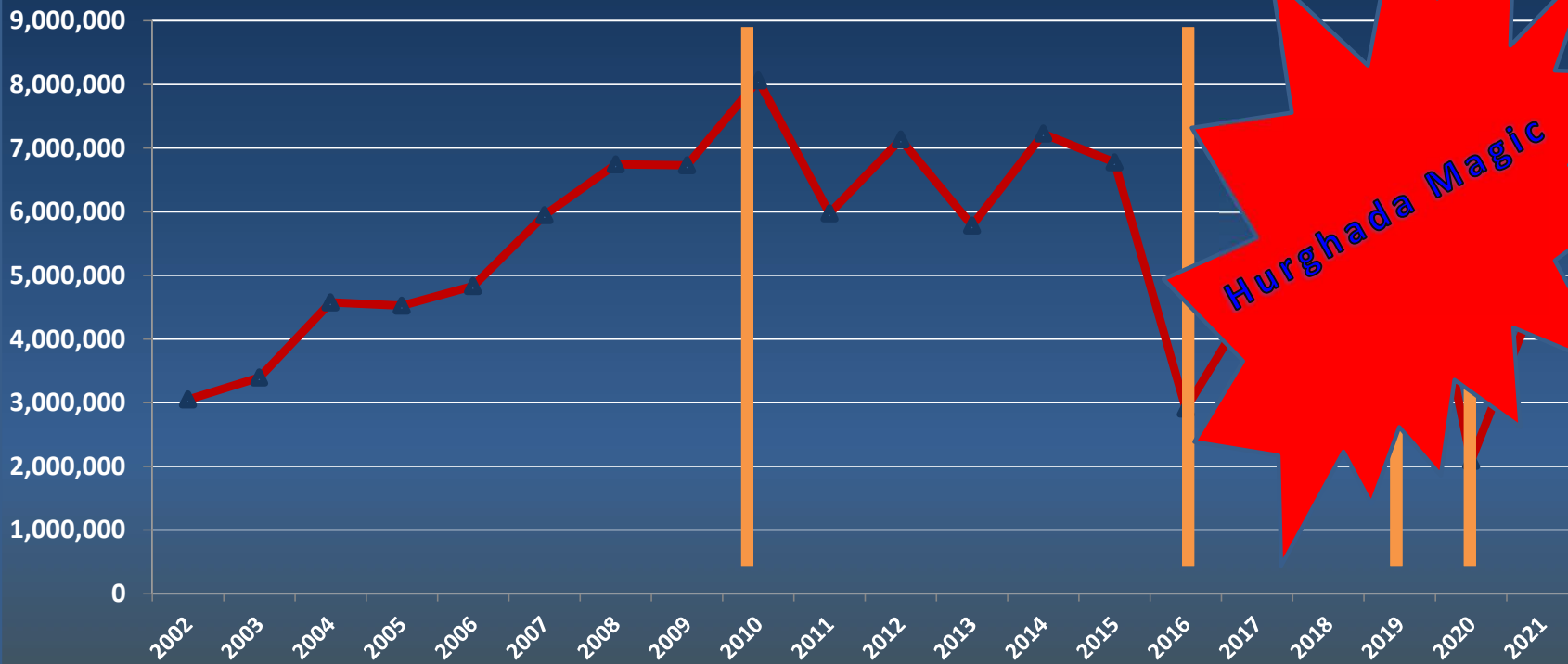
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THREATS

- ❖ Covid-19
- ❖ Natural & Climate change
- ❖ World Political Events
- ❖ Force Majeure

Follow up Actual Traffic



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2009	6,730,087
2010	8,062,652
2011	5,975,423
2012	7,135,972
2013	5,782,566
2014	7,225,935
2015	6,777,547
2016	2,906,907
2017	4,730,232
2018	6,672,650
2019	7,505,566
2020	2,085,607
2021	4,911,797

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Actual Data

Louis Berger
Forecast

Forecast Traffic in 2018
occurred as Actual Traffic in
2010

Forecast Traffic in 2016
occurred as Actual Traffic in
2019

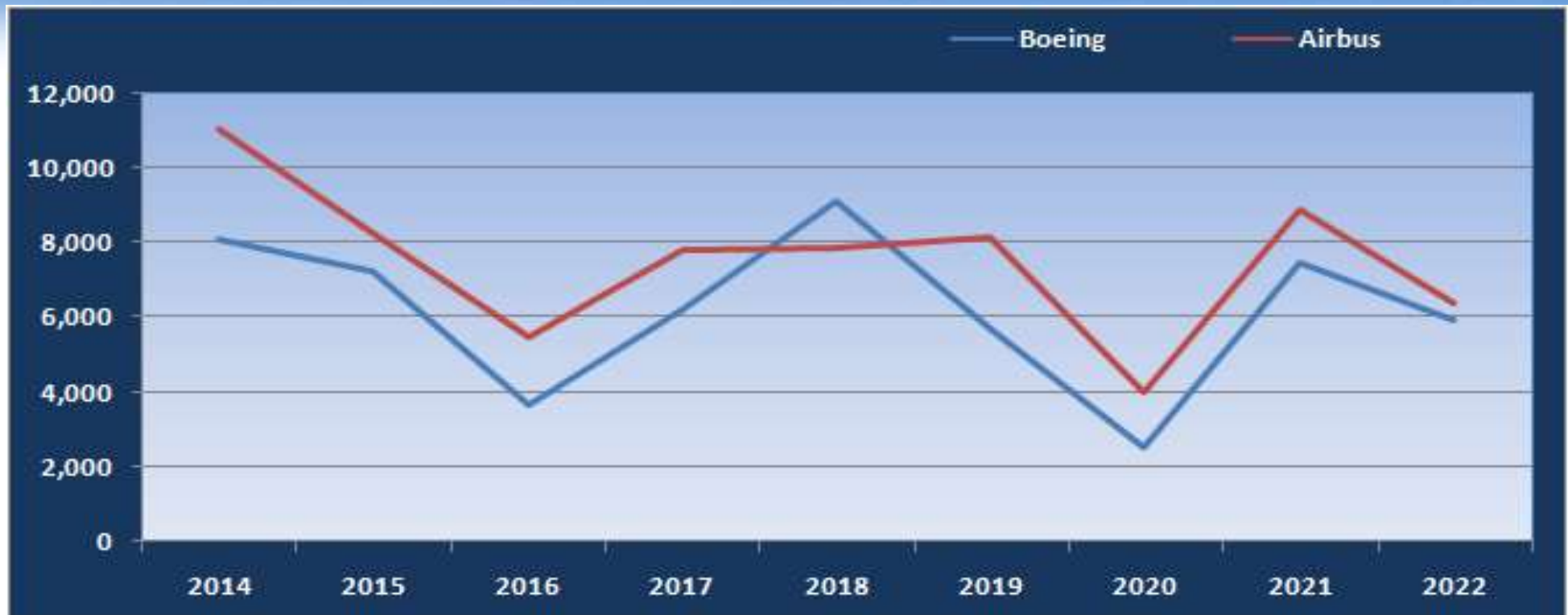
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REVOLUTION
EFFECTS

RUSSIAN
AIRCRAFT
CRISES

COVID-19

The most common Aircraft Type landed in Hurghada Airport through years



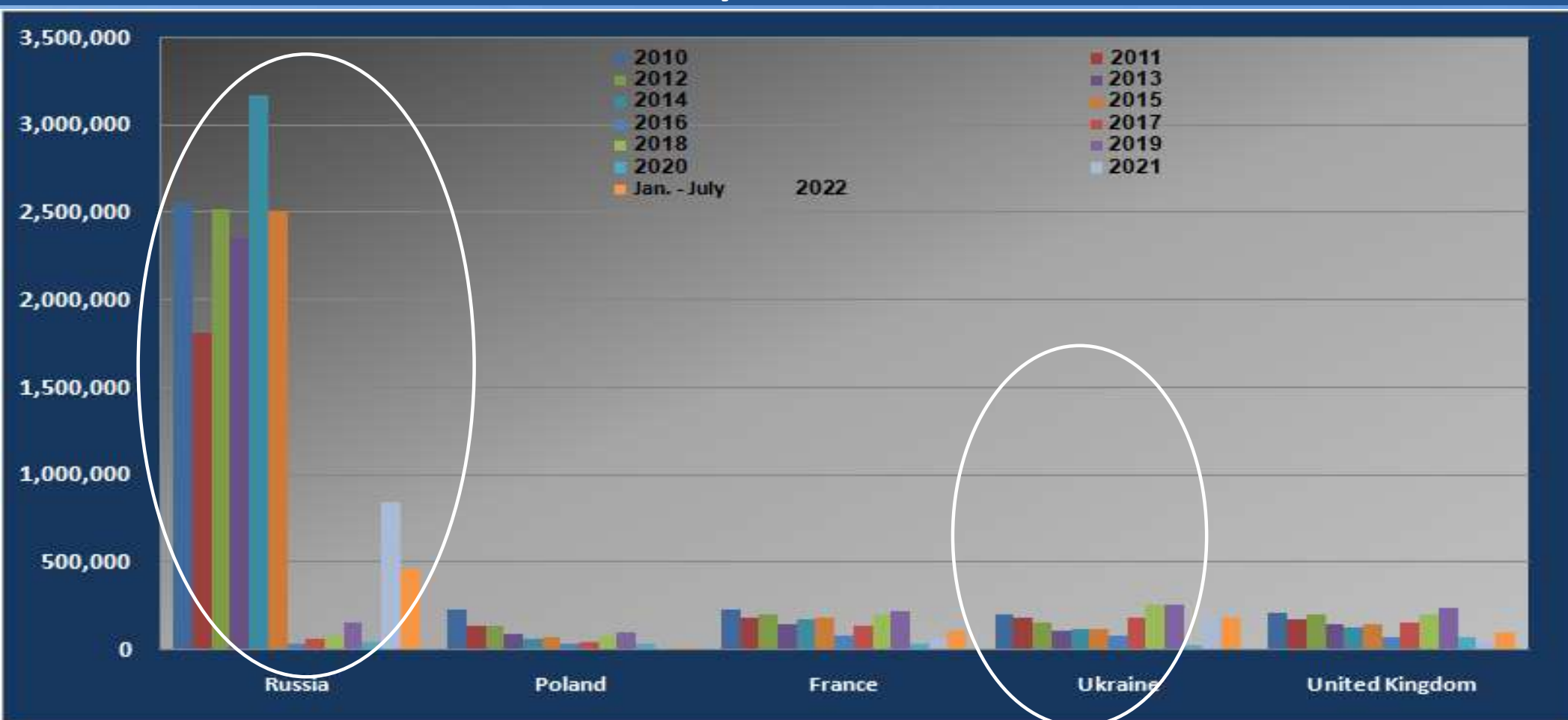
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Boeing	8,132	7,266	3,665	6,193	9,136	5,697	2,507	7,451	5,946
Airbus	11,039	8,260	5,427	7,772	7,843	8,125	3,971	8,865	6,389

PAX. Peak Hour



المطار	التاريخ	التوقيت	اجمالي الركاب	الوصول	المغادرة
الغردقة	13/11/2010	From 1001 - 1100	4630	2776	1854
المطار	24/11/2012	From 1001 - 1100	4073	2889	1184
الغردقة	21/03/2013	From 1401 - 1500	4037	2573	1464
المطار	13/11/2014	From 1301 - 1400	4160	2051	2109
الغردقة	13/08/2015	From 1601 - 1700	4056	1910	2146
المطار	07/01/2016	From 1301 - 1400	2386	963	1423
الغردقة	05/01/2017	From 1401 - 1500	2278	1205	1073
المطار	04/01/2018	From 1301 - 1400	3746	1433	2313
الغردقة	09/11/2019	From 1101 - 1200	3864	1974	1890
المطار	22/02/2020	From 1101 - 1200	4222	2795	1427
الغردقة	13/11/2021	From 901 - 1000	3800	2124	1676
المطار	22/04/2022	From 1301 - 1400	3041	866	2175

First Five Nationalities in Hurghada Airport through years



Actual Hotels& Rooms No. in Hurghada City

Hurghada City	Hotels.No	Room No.
Sahl hasheesh	8	3,497
EL Ahiaa	11	3,555
Soma bay	9	1,872
Saqala area hurghada	18	3,071
El Gouna	19	2,932
El dahar	30	5,771
Tourist Center	27	9,194
South Magawish	32	15,909
Makadi	29	11,442

Traffic Forecast



Hurghada Airport(Pax.)	
Years	Traffic
1997	1,432,223
1998	1,215,325
1999	2,092,194
2000	3,286,339
2001	2,926,148
2002	3,049,403
2003	3,397,599
2004	4,575,874
2005	4,525,290
2006	4,833,971
2007	5,947,616
2008	6,743,199
2009	6,730,087
2010	8,062,652
2011	5,975,423
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2021	4,911,797
2022	7,819,144
2023	8,078,100
2024	8,338,334
2025	8,599,900
2026	8,882,856
2027	9,127,283
2028	9,393,183
2029	9,660,683
2030	9,929,830

Year	Pax.	% to total capacity
2019	7,505,566	57.7%
2022	7,819,144	60.1%
2023	8,078,100	62.13%
2024	8,338,334	64.1%
2025	8,599,900	66.15%
2026	8,882,856	68.3%
2027	9,127,283	70.2%
2028	9,393,183	72.2%
2029	9,660,683	74.3%
2030	9,929,830	76.4%

Hurghada International Airport

Vision & Mission

Till 2030

Mission

we have to put onto our consideration sum important terms Such as

- Processing time
(CHECK IN/ SECURITY /IMMEGRATION.....etc)
- Performance indicators (how our partners serve the passengers)
(airlines/ customs/immigration.....etc)
- Keep on the Level of service.

To be sure that passengers got their rights

Following The Governmental Strategy



FOR

- Saving Energy & Water.
- Using Solar Energy for Airports' activities.
- Upgrade of Terminal Building by
 - Update the Security Systems.
 - More Facilities for Passengers.



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VISION

Hurghada International Airport

2030

According to the previous forecast , till year 2030 it is necessary to construct a new Terminal building and a new Apron to accommodate the estimated air traffic at that time.

EAC is going to :

- ☐ Evaluate the existing RWY & Apron pavement
 ,and make Rehabilitation the (if it is necessary)
- ☐ Construct a NEW TB
- ☐ Construct a NEW APRON



The Regular Process have to be done

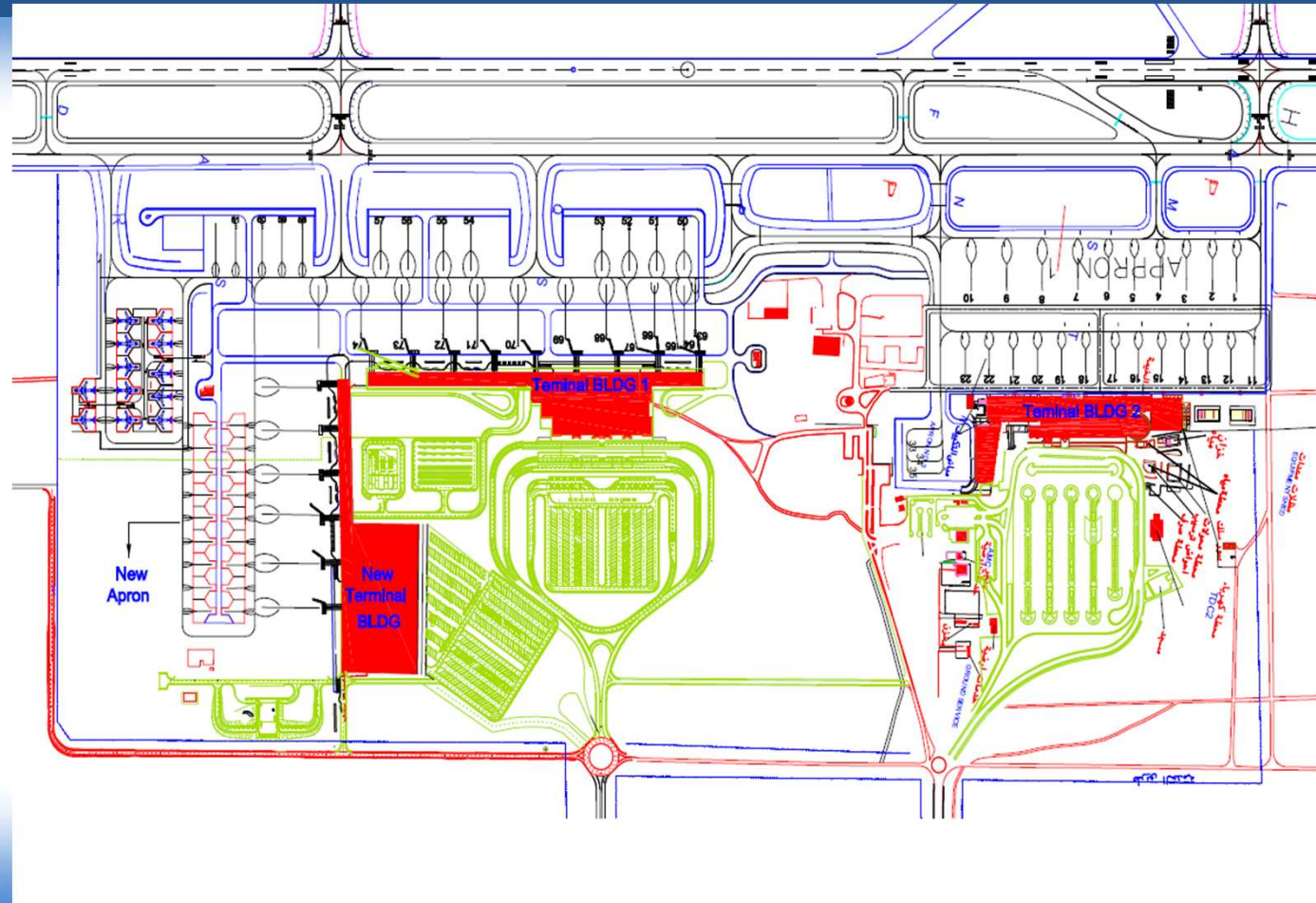
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New Terminal BLDG

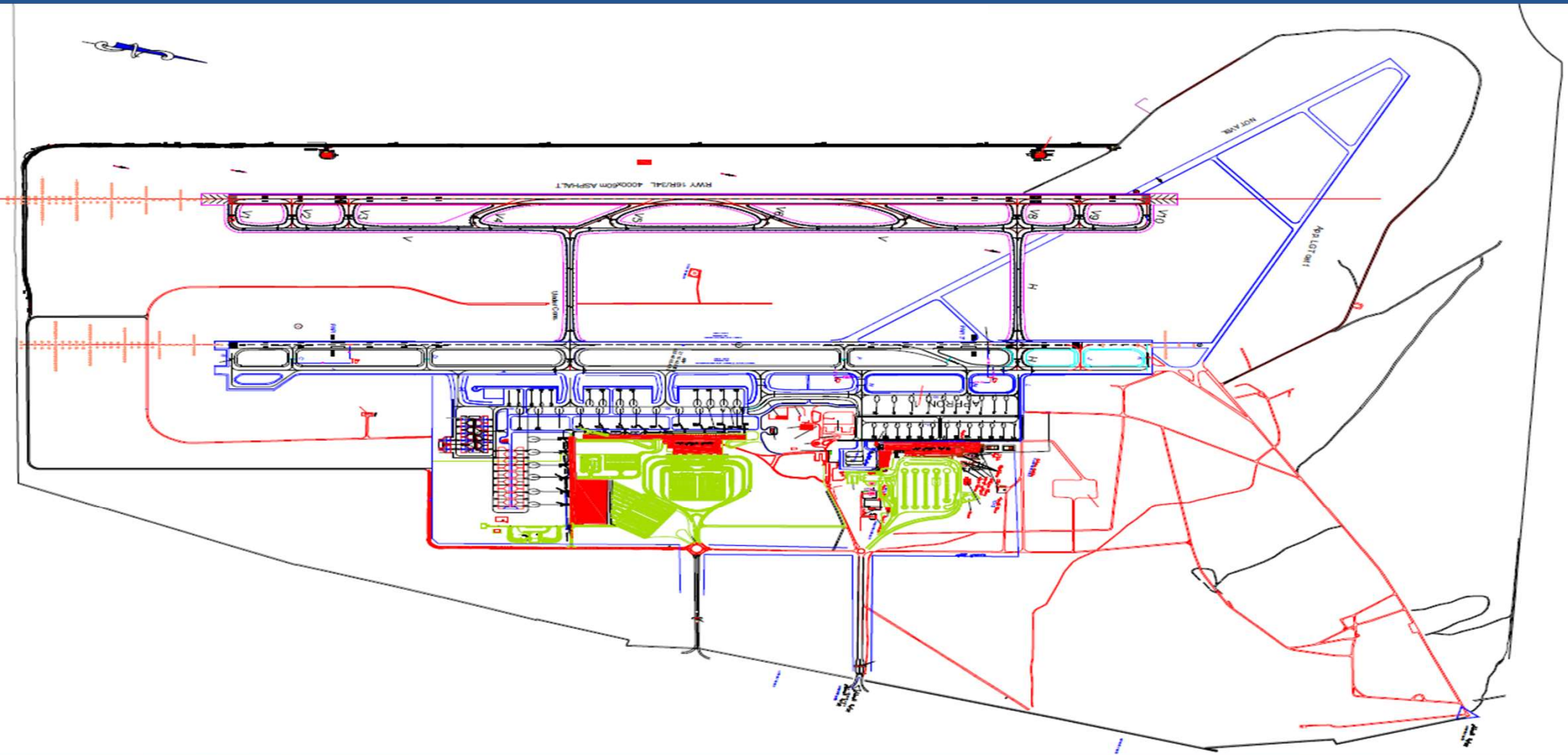
New Terminal BLDG
7 million passenger /year

New Apron
24 Aircraft

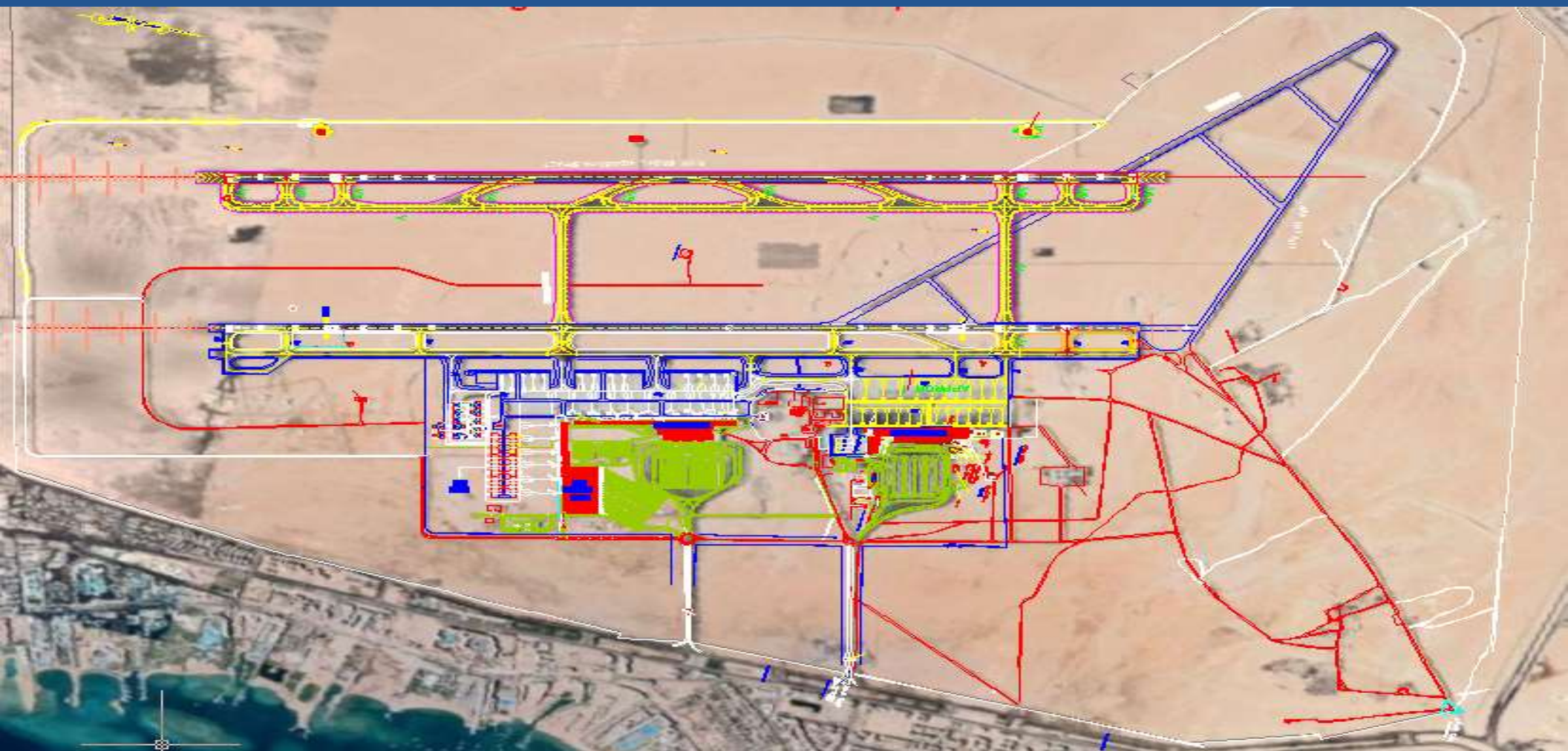
This is an Initial master
plan which is going to be
updated according to
(Traffic /Finance ...etc)



Hurghada International Airport 2030



Hurghada International Airport 2030





THANK YOU