MIDANPIRG CNS SG/7 Meeting
CNS Plan in Jordan

Presented by:
Muna ALNADAF

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1. Brief of Jordan CNS Plan
2. Update on CNS Tables in eANP
3. Update on B0-FICE module
4. Update on B0-ACAS module
5. Conclusions

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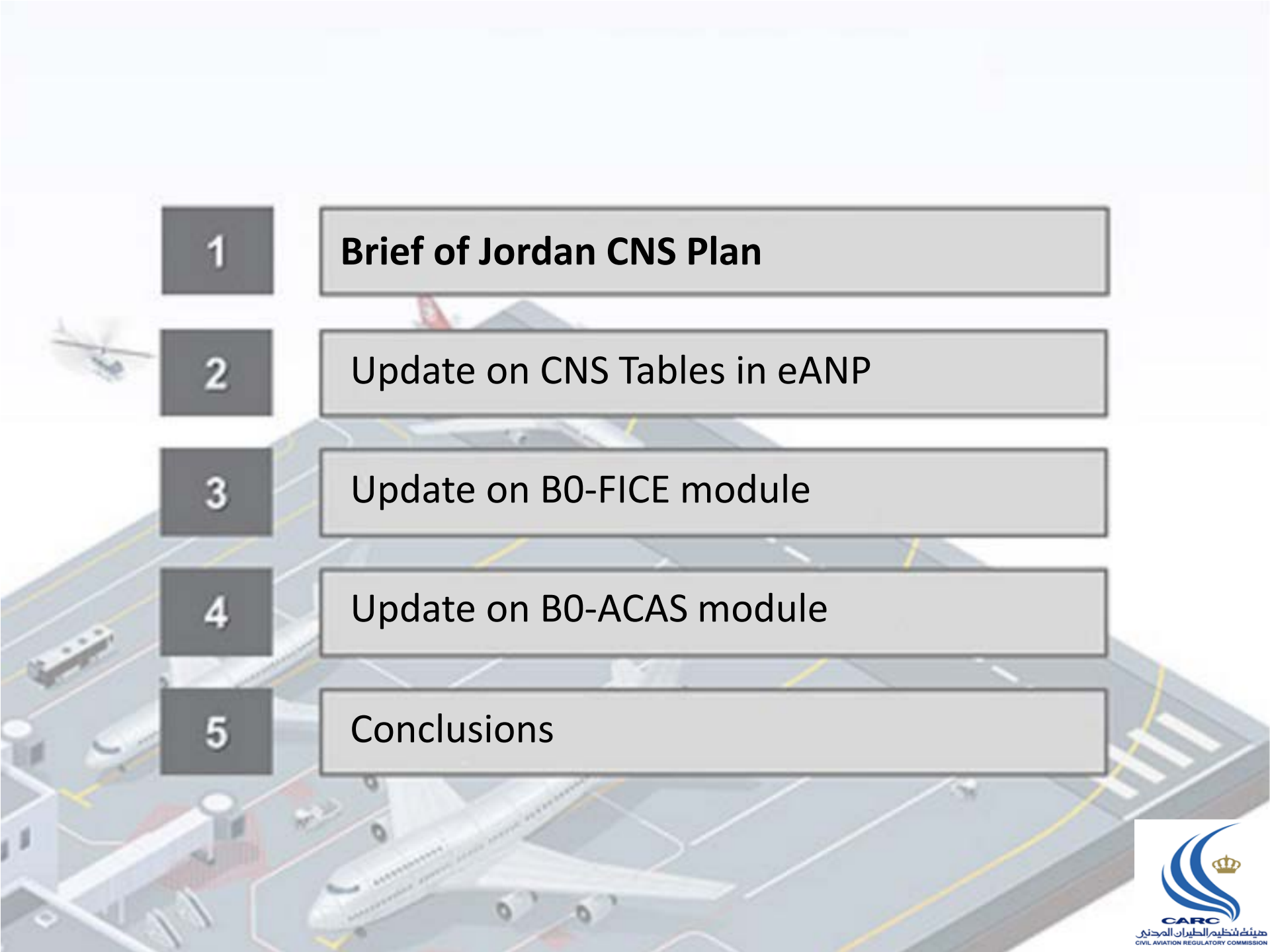

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CNS Plan

➢AMHS

- Current Connections

Jeddah, Cairo, Beirut, Ankara, Abu Dhabi

- Planned Connection

Amman – Nicosia AMHS Link -> June, 2016

Amman – Ben-Gurion AMHS Link -> August, 2016

- Regional Connection with SITA Type X gateway planned in August, 2016

- Fully Migration to AMHS -> December, 2016

CNS Plan

- Voice Communication System (VCS)

New VCS system is planned for King Hussein Airport (Aqaba) and Amman Airport in 2017

CNS Plan

Ranging and Integrity Monitoring Station (RIMS) will be hosted at Aqaba in 2017

The EGNOS RIMS performs the following key functions:

- Signal Quality Monitoring
- Satellite pseudo ranges measurements (code + phase) on GPS/GLONASS and SBAS Geostationary satellites signals
- Viterbi decoding (Geo signals)
- data demodulation
- Messages formatting and transmission towards EGNOS Master Control Centers (MCC's)
- Measurement of the time offset between a reference UTC clock and the EGNOS Network time (ENT).

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CNS Plan

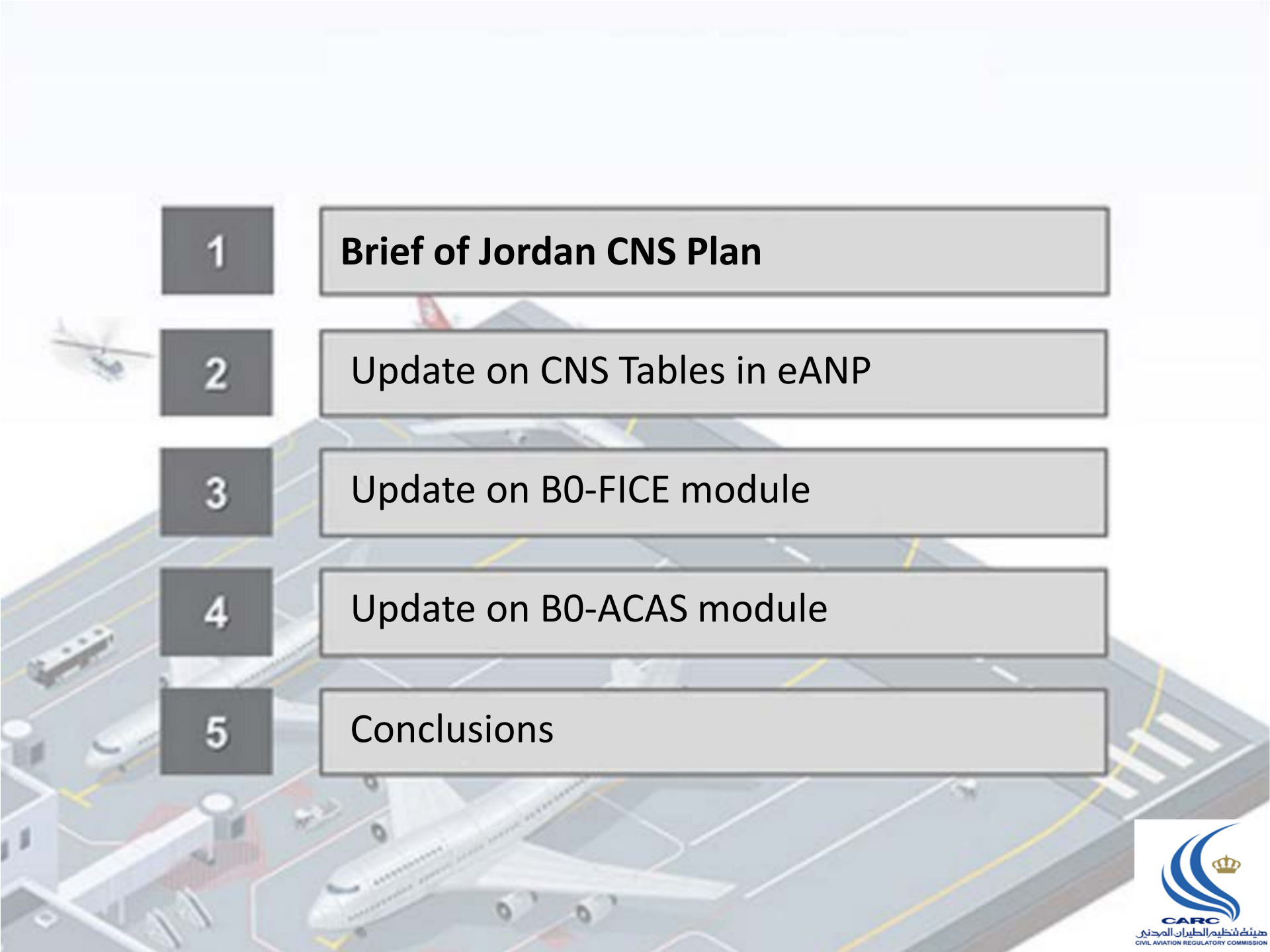
- New SSR sensor at Approach Area in Amman -> 2017

-To improve Surveillance coverage

-To enable RNAV implementation

-Backup System

- Multilateration system at the South and East Area to cover the GAP areas -> 2018



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CNS II-1 Table

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
JORDAN						
AMMAN						
ABU DHABI	T			AMHS		
BAGHDAD	T			AMHS	-	PN Planed
BEIRUT	T		2	MHS	-	VPN Planed
BEN GURION	M		9.6	lone	IA-5	
CAIRO	T		64 –	MHS		
DAMASCUS	T		64 –	lone	IA-5	
JEDDAH	M		64Kb	AMHS	X400	
NICOSIA	T		9.6Kbps	AFTN	IA-5	

64 K with Ben Gurion

64 K with Nicosia

AMHS in operation with Beirut

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CNS II-2 Table

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
BAHRAIN, Bahrain	BIS	Inter-Regional Intra Regional	ASIA/PAC Oman, Saudi Arabia Kuwait, Lebanon Iran, Qatar, UAE		IPv4		
EGYPT, Cairo	BIS	Inter-Regional Intra Regional	AFI, EUR Israel, Jordan, Lebanon, Athena Saudi Arabia		IPv4		
IRAN, Tehran	BIS	Intra Regional	ASIA/PAC Kuwait, Bahrain Afganistan		IPv4		
IRAQ, Baghdad	IS	Intra Regional	Jordan, Lebanon		IPv4		
JORDAN, Amman	BIS	Intra Regional	Egypt,Israel Lebanon,Iraq,Syria		IPv4 VPN	JT	

Amman has connection with Abu Dhabi COM center

This table should be withdrawn when establish the MID IP Network

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CNS II-3 Table

TABLE CNS II-3 - ATS DIRECT SPEECH CIRCUITS PLAN

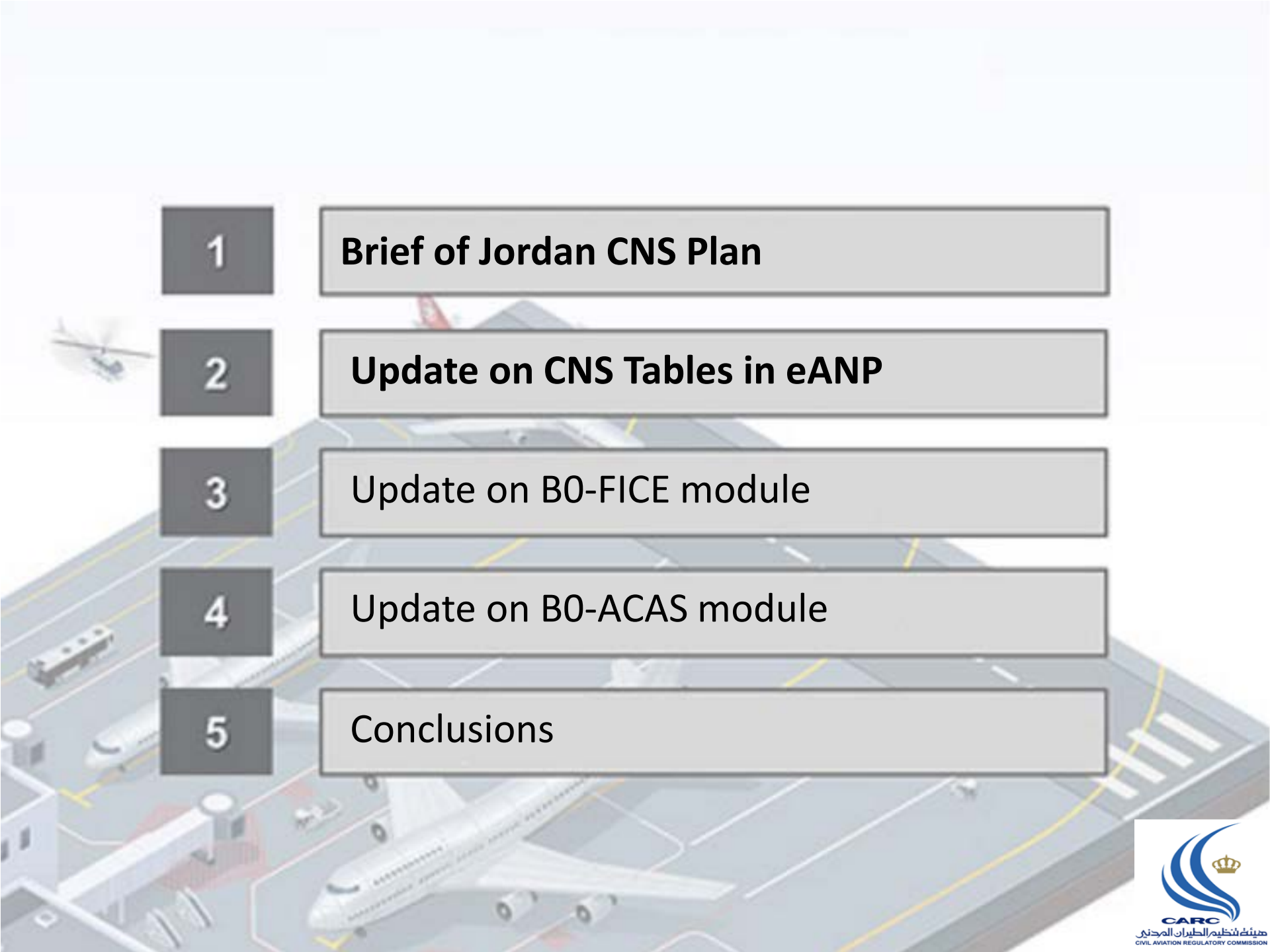
EXPLANATION OF THE TABLE

Column	
1 and 2	Circuit terminal stations are listed alphabetically by the Terminal I.
3	A — indicates ATS requirement for the establishment of voice comm seconds. D — indicates requirements for instantaneous communications.
4	Type of service specified: LTF — landline telephone (landline, cable, UHF, VHF, satellite). RTF — radiotelephone.
5	Type of circuits, Direct (DIR) or Switched (SW). D — indicates a direct circuit connecting Terminals I and II. S — indicates that a direct circuit does not exist and that the connection is established via switching at the switching centre(s) indicated in column 6. IDD — International direct dialling by public switch telephone network *Note 1.— Number of D and/or S circuits between Terminals I and II are indicated by numerical prefix, i.e. 2 D/S means 2 direct circuits and one switched circuit.* *Note 2.— Pending the implementation of proper ATS voice circuits, and provided that aeronautical operational requirements are met, IDD services may be used for the ATS voice communications in low traffic areas.*
6	Location of switching centre(s). Alternate routing location, if available, is indicated in brackets.
7	Remarks

Voice Over IP (VOIP) can be added as a type of service

CNS II-3 Table

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS			CIRCUIT			REMARKS
TERMINAL I	TERMINAL II	TYPE	SERVICE	DIR/SW	TO BE SWITCHED VIA	
1	2	3	4	5	6	7
JORDAN						
Amman	Baghdad	A	LTF			VSAT
	Cairo	A	LTF			
	Damascus	A	LTF			
	Jeddah	A	LTF			
	Tel Aviv	A	LTF			
	Riyadh	A	LTF			



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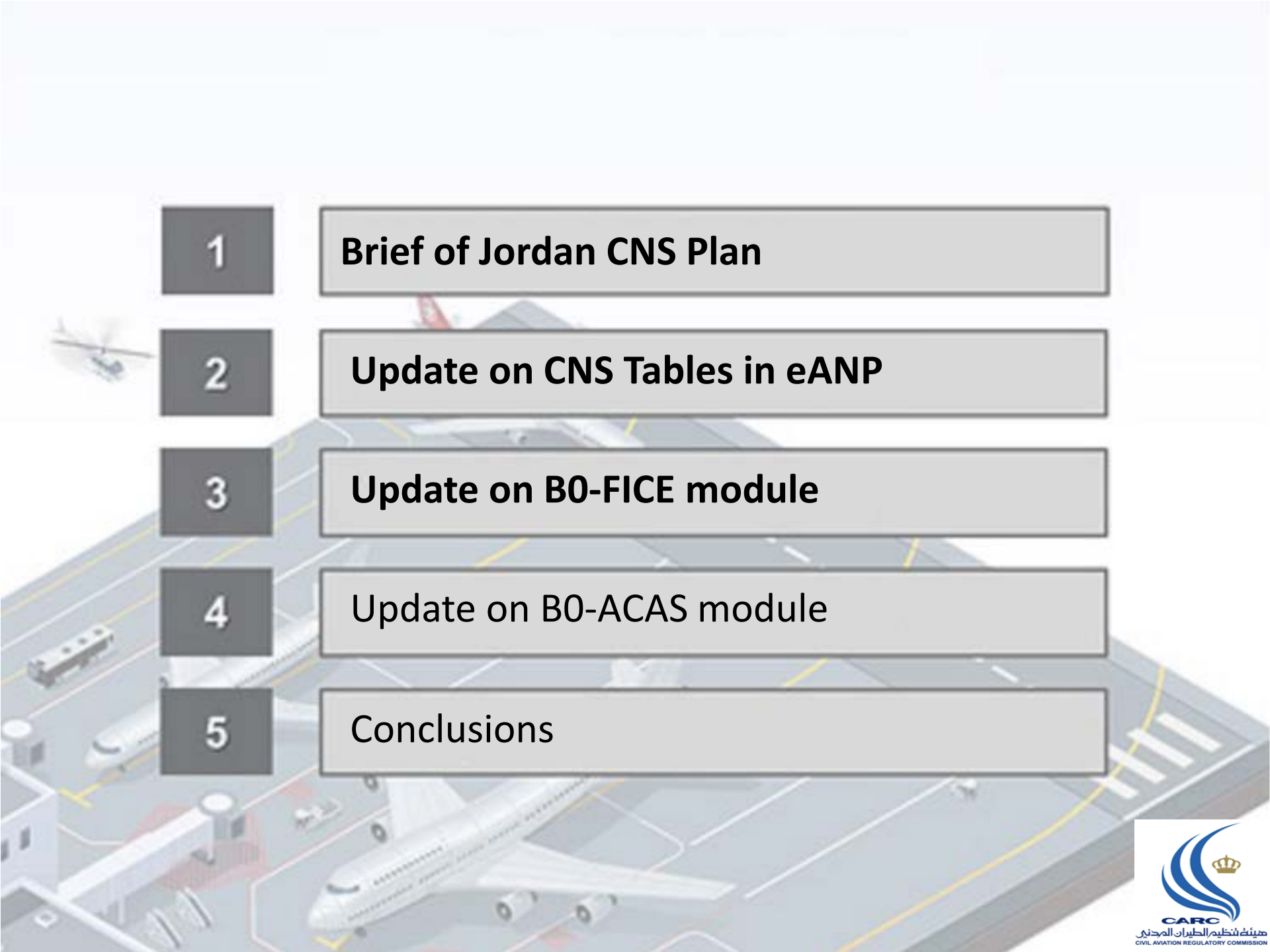
- The ATM System in Jordan Supports OLDI, AIDC, and FMTP standards.

- Jordan is ready to establish data communication with adjacent centers.

- OLDI/AIDC can be implemented with Jeddah and Cairo over the current IP links.



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AIP G 1.5 MANDATE ACAS II VERSION 7.1

GEN 1.5 AIRCRAFT INSTRUMENTS, EQUIPMENT AND FLIGHT DOCUMENTS

1. GENERAL

Commercial air transport aircraft operating in the Hashemite Kingdom of Jordan must adhere to the provisions of Annex 6 - Operation of Aircraft, Part I, Chapter 6 (Airplane Instruments, Equipment, and Flight Documents) and chapter 7 (Airplane Communication and Navigation Equipment).

2. SPECIAL EQUIPMENT TO BE CARRIED

2.1 Mandatory carriage of Airborne Collision Avoidance System (ACAS)

All fixed-wing aeroplanes having a maximum certificated take-off mass in excess of 5700 Kg, or authorized to carry more than 19 passengers operating in Jordanian airspace shall be equipped with ACAS II system.

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(b) The ground proximity warning system must automatically provide, by means of aural signals, which may be supplemented by visual signals, timely and distinctive warning to the flight crew of sink rate, ground proximity, altitude loss after take-off or go-around, incorrect landing configuration and downward glide slope deviation.

(c) The terrain awareness and warning system must automatically provide the flight crew, by means of visual and aural signals and a terrain awareness display, with sufficient alerting time to prevent controlled flight into terrain events, and provided a forward looking capability and terrain clearance floor.

OPS 1.668 Airborne collision avoidance system.

(a) An operator shall not operate a turbine powered aeroplane having a maximum certificated take-off mass in excess of 5700kg or a maximum approved passenger seating configuration of more than 19 unless it is equipped with an airborne collision avoidance system with a minimum performance level of at least collision avoidance logic version 7.1 of ACAS II.

(b) Aircraft not referred to in point (a) above but which will be equipped on a voluntary basis with ACAS II, shall have collision avoidance logic version 7.1.

(c) Point (a) shall not apply to unmanned aircraft systems.

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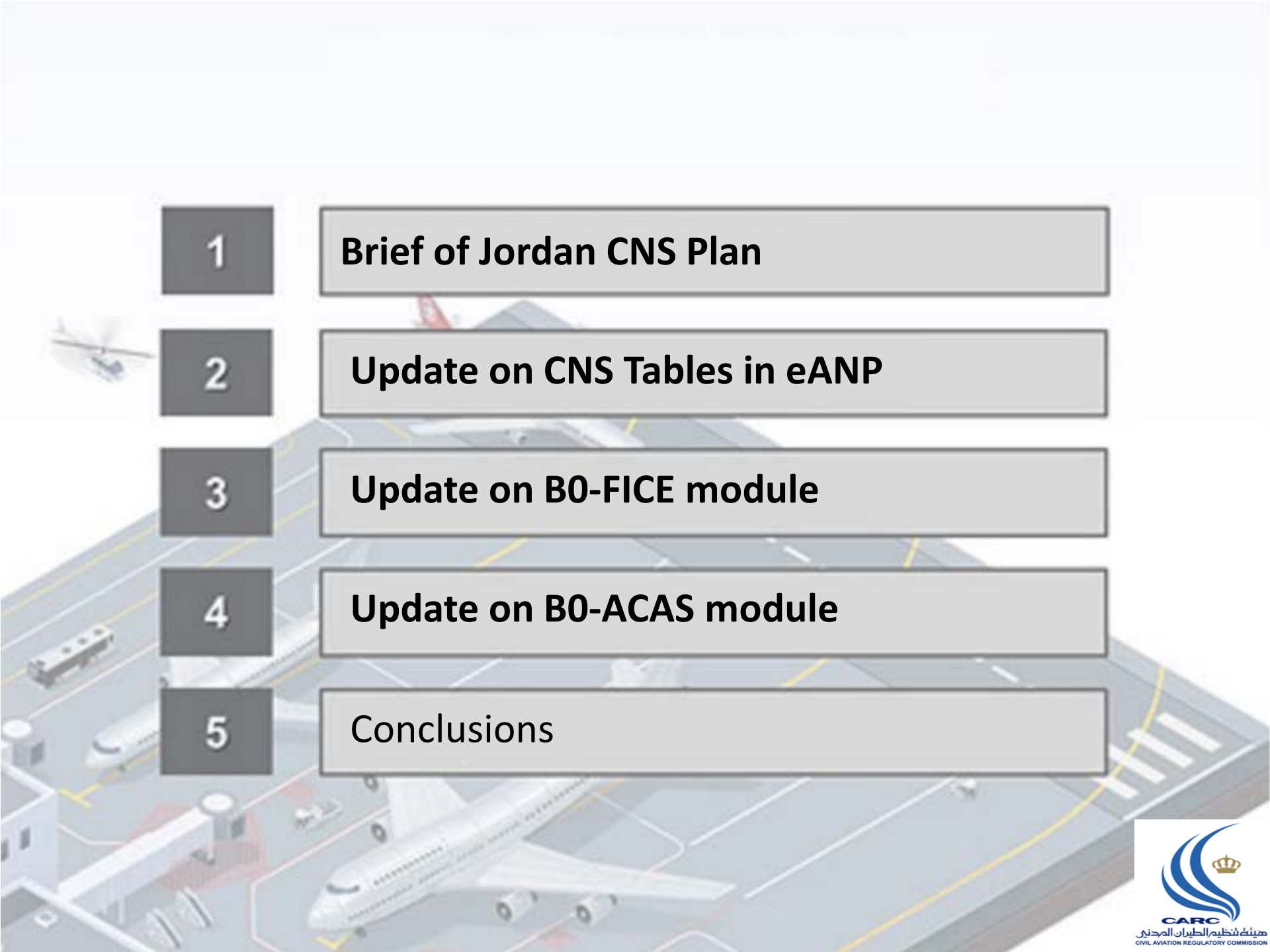

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- Urge SITA to speedup establishment of regional Type X connection in Jordan

- The meeting to determine causes of the late progress toward B0-FICE module implementation in the MID Region and identify any problem or challenges.

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