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TACTICAL COMMUNICATIONS FORUM



Kaunas Lithuania, 29/30 May 2018

Operational Requirements Information Exchange Communications Systems



presented by
Cdr (DEU NA) Andreas Kernchen
Data Link Support Staff , NHQC3S

30 MAY 18

Introduction

Operational Requirements

NATO Standards—Responsibilities - Development

Information Exchange

A Generic/System Agnostic View

Communications Systems

What is needed where ... and if, why ...

OUTLINE





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Operational Requirements / Information Exchange / Communications Systems

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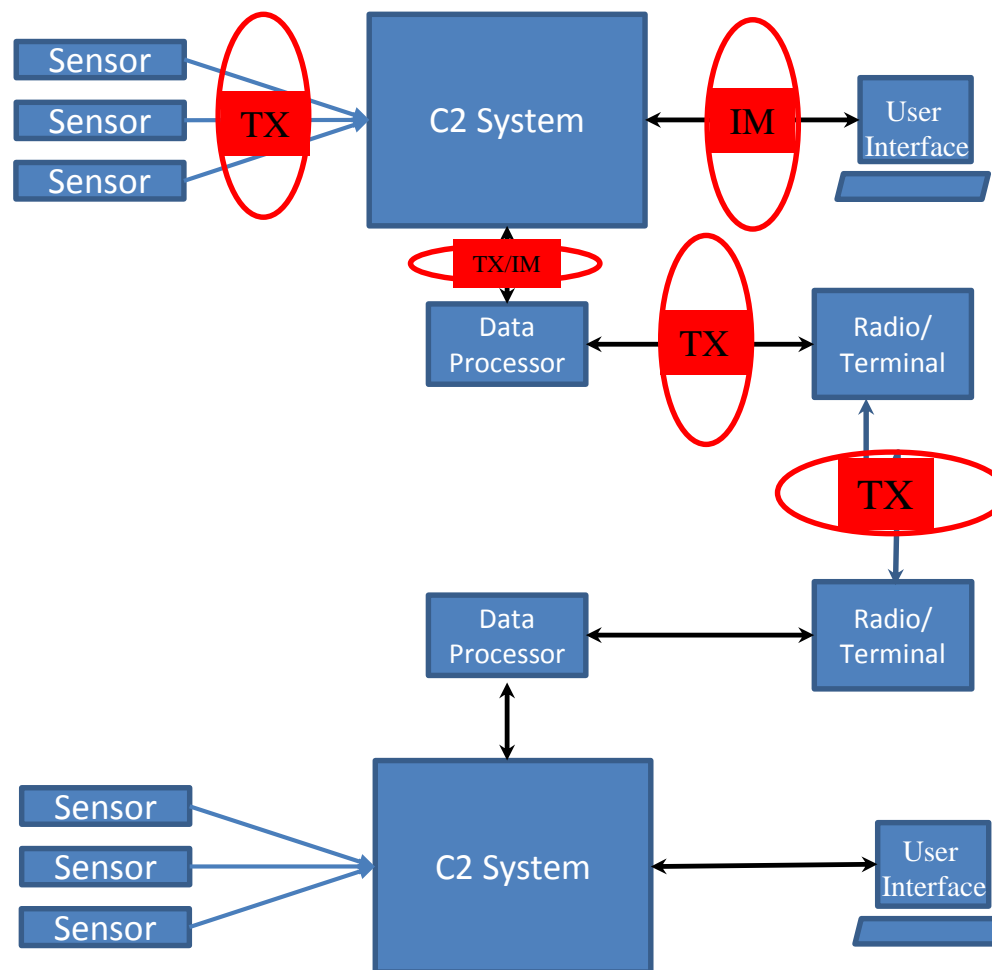
Communications Systems

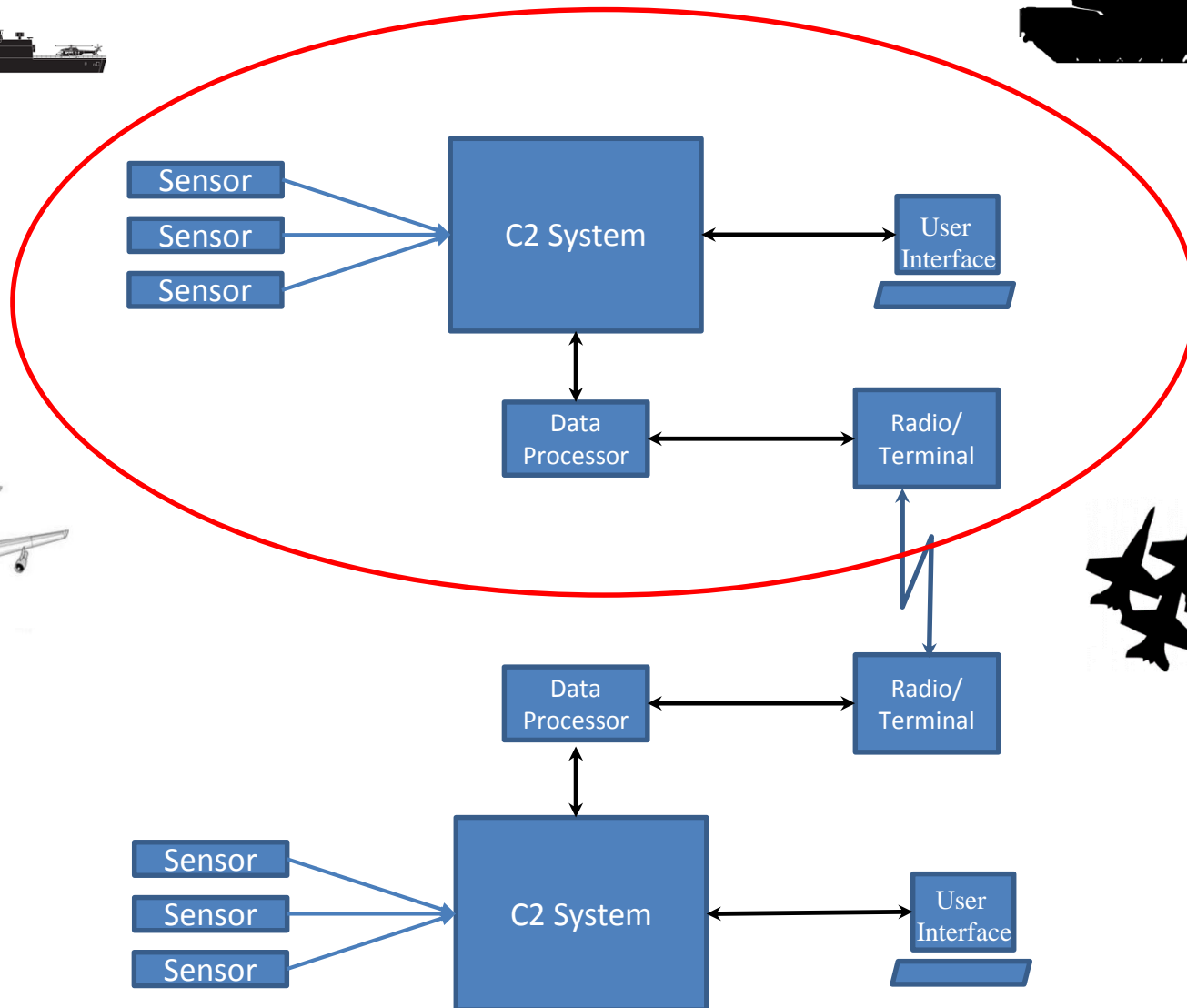
What is needed where ... and if, why ...

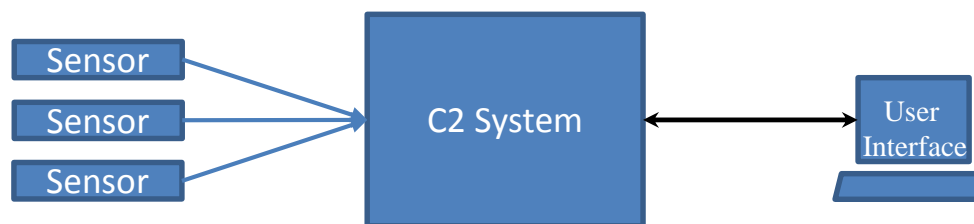
OUTLINE



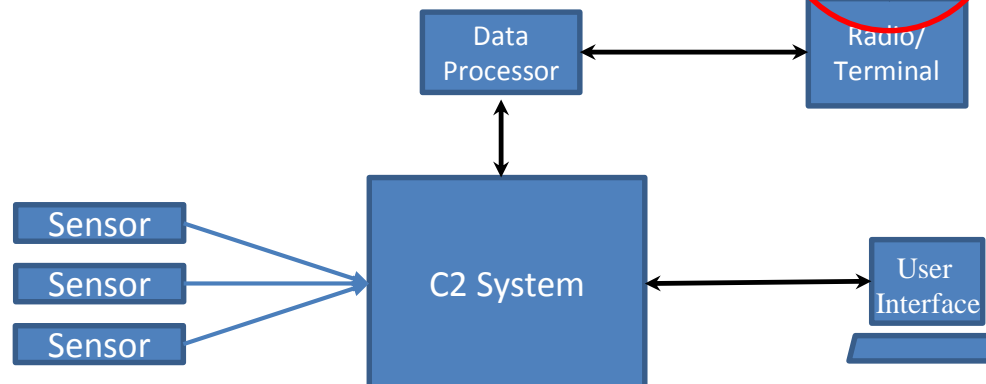
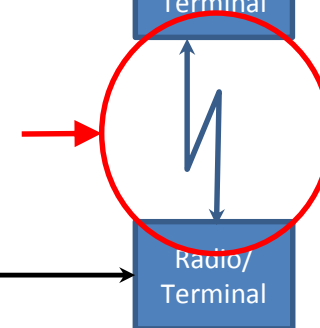
TX Technical
IM Information Management







Tactical Communications



So, what is needed for ‘Tactical Communications’

Common Operational Understanding (Doctrine)

Need to Communicate (Doctrine)

Technical connectivity (Waveform, Frequency ...)





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Introduction to Standardisation in NATO:

Hello

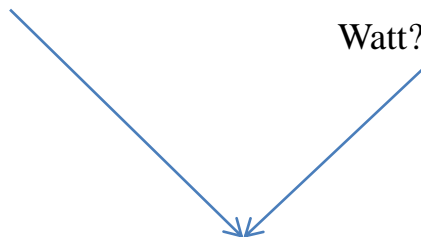
Ja, bitte?

Can you help me?

Wie bitte?

What please?

Watt? Nö!



What are you 'sinking' about?

Language – Definition - Action



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Introduction to Standardisation in NATO:

The Standardisation in NATO is Standardised

Allied Administrative Publication 3 (AAP-3)



AAP-3 - The Bible for Standardisation



It defines the **PROCESS** – the **HOW** to develop NATO Standards

The Standards themselves are developed by **Subject Matter Experts**

Introduction to Standardisation in NATO:

Allied Procedural Publication 15 (APP-15)



- Defining the *Information Exchange Requirements*

Separation of

- Operational Standards - the “how to fight” (what to do when)
- Technical Standards - the “with what to fight”

Operational and Technical Standards must be clearly separated



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Operational Requirements / Information Exchange / Communications Systems

The “Operational Requirements Cycle”:

Where do the Operational Requirements come from?

THE OPERATOR !

Who is the Operator?

THE SOLDIER IN THE FIELD !

Who validates/authorises Requirements

TASKING AUTHORITIES (Nations / NATO Governing Working Groups)

Where are the Requirements manifested

DOCTRINAL OPERATIONAL DOCUMENTATION (Nations in WGs)

(Allied Joint Publications (AJP), Allied Tactical Publications (ATPs),
Tactics, Techniques and Procedures (TTPs), dedicated SOPs)

Who satisfies the Operational Requirement

INDUSTRY (Nations)





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Operational Requirements / Information Exchange / Communications Systems

Operational User

Operational Requirement

NATO Working Groups
Operational

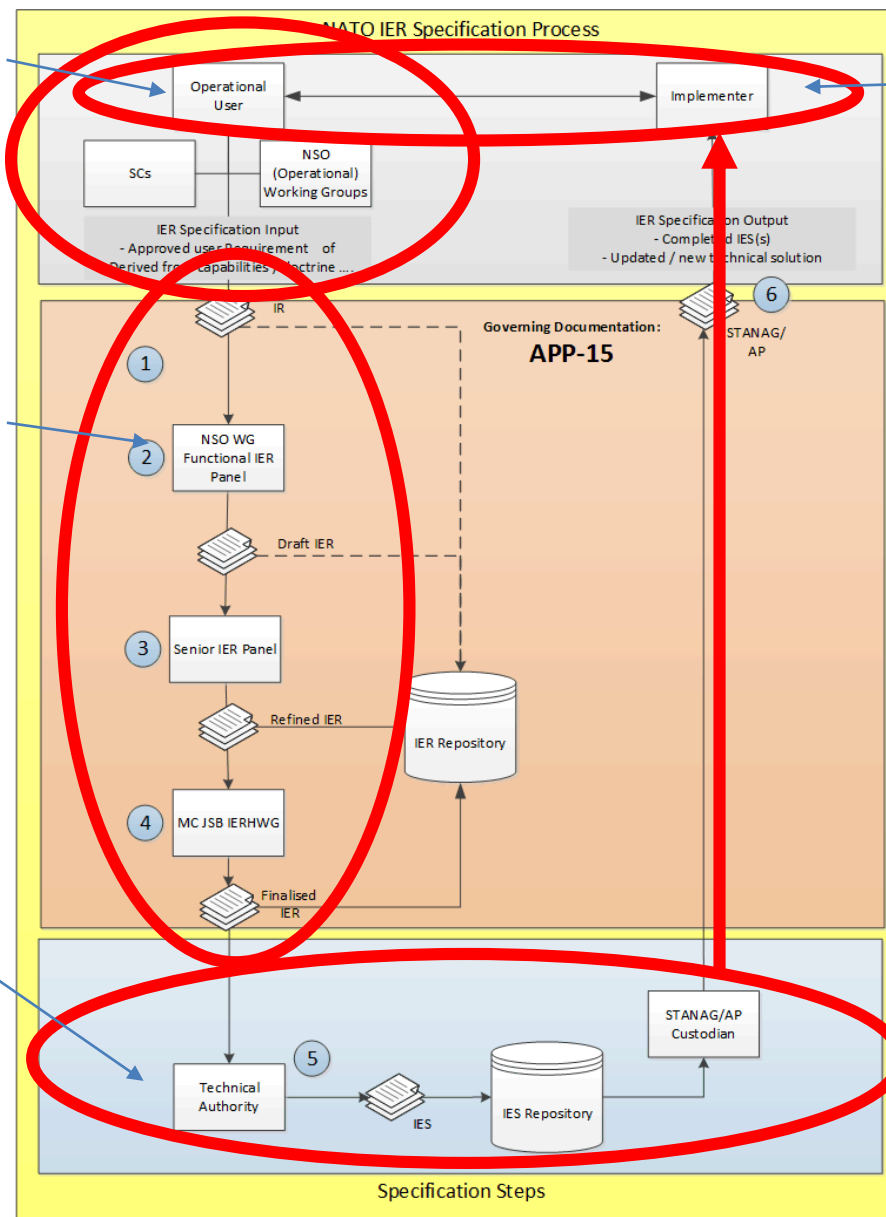
Information Exchange Requirement

NATO Working Groups
Technical

Technical Solution

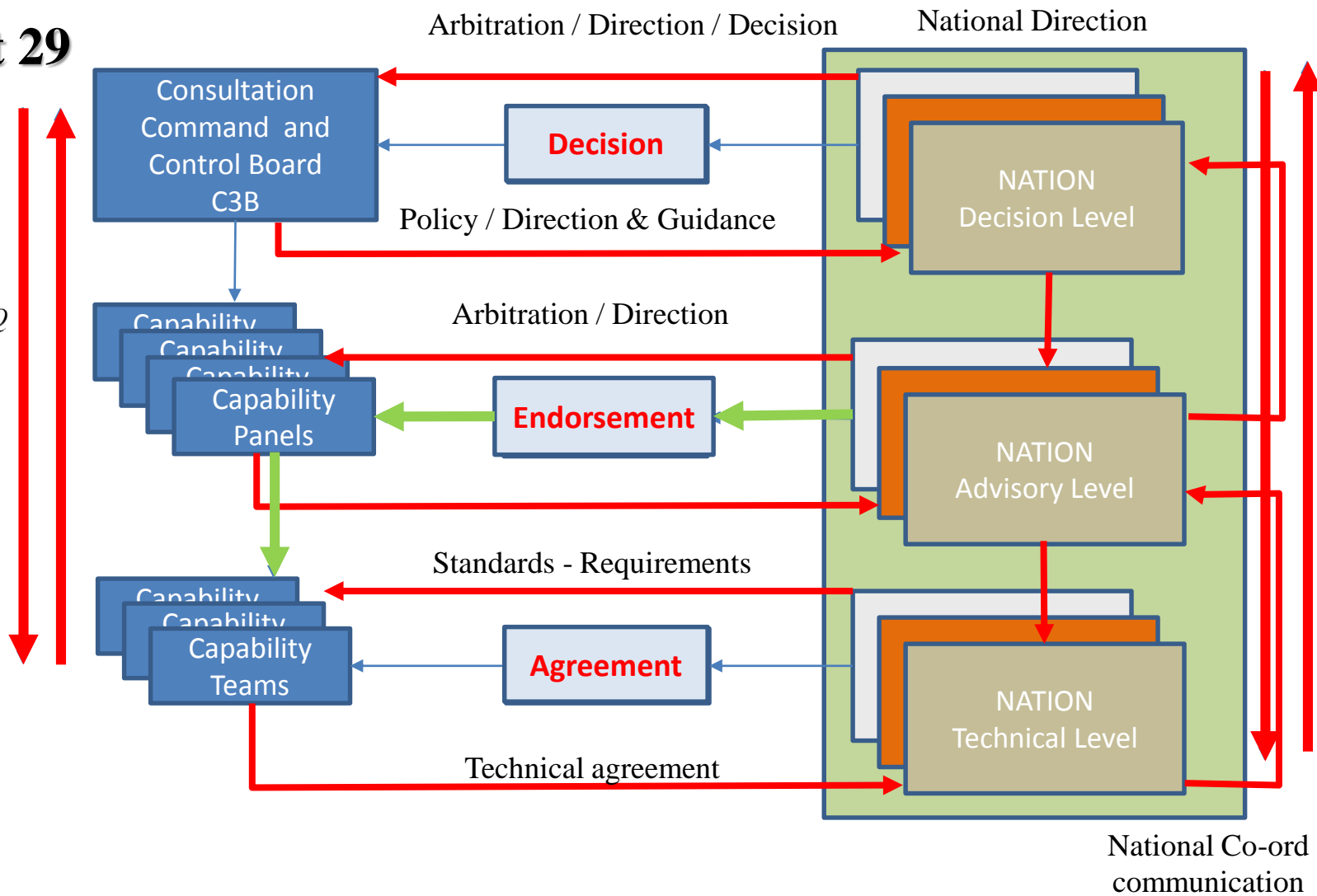
Implementer
(Industry)

Validation Feedback



NATO Nations - Nations' NATO

At 29





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Operational Requirements / Information Exchange / Communications Systems

Many ways to exchange information (at the Tactical Level)

- Speech (Listening distance)
- Paper wrapped around a stone (throwing distance)
- Smoke signals (Line of Sight)
- Pigeon (over the horizon/Beyond Line of Sight)
- Telephone (over the horizon – real time)
- Dedicated communications transmission systems for Messages
VHF, UHF, HF, SHF, VLF, SatCom
- Tactical Data Links (quite a few of them)
- Video Links
- Technical Links, etc, etc.



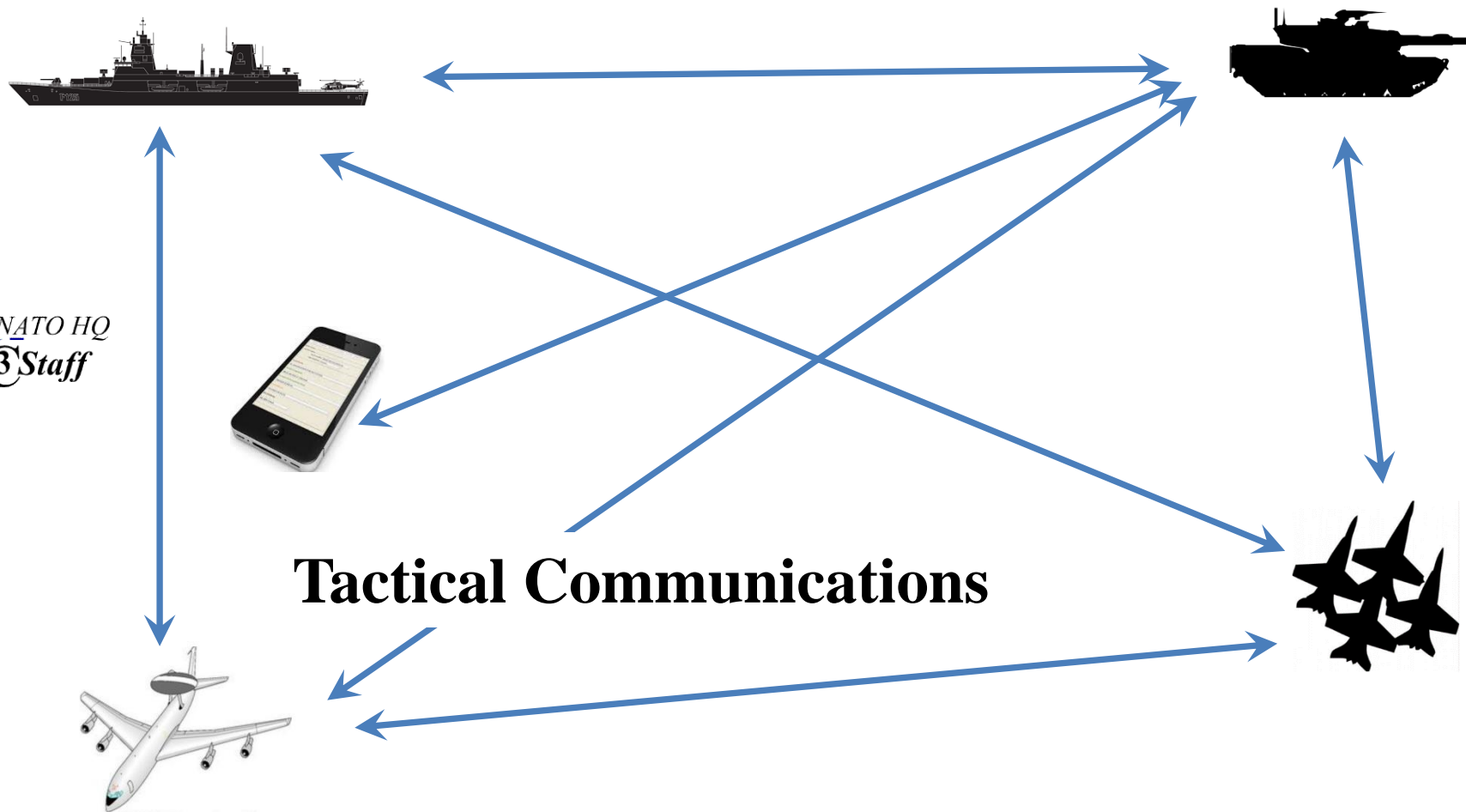


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Tactical Communications

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Operational Requirements / Information Exchange / Communications Systems

					
	Voice UHF/VHF/HF/SHF/ VLF/SAT/Link	Voice UHF/VHF/HF/SAT/ Link	Voice VHF/HF/Link	Voice UHF/VHF/Link	
	Voice UHF/VHF/HF/SAT/ Link	Voice UHF/VHF/HF/SAT/ Link	Voice VHF/HF/Link	Voice UHF/VHF/Link	
	Voice VHF/HF/Link	Voice VHF/HF/Link	Voice VHF/HF/Link	Voice VHF/Link	
	Voice UHF/VHF/Link	Voice UHF/VHF/Link	Voice VHF/Link	Voice UHF/VHF/Link	
					Voice UMTS/3G/4G



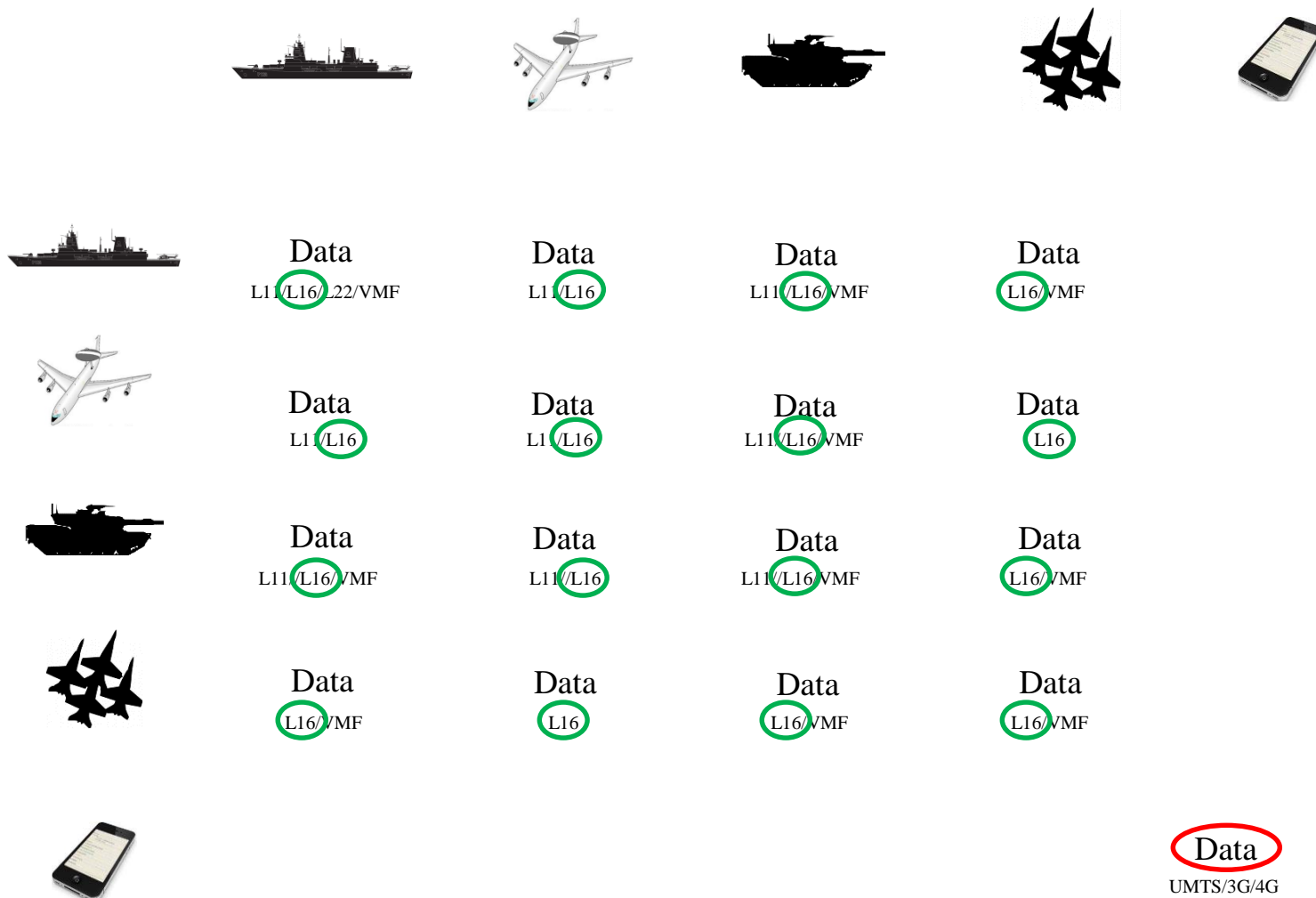


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UMTS/3G/4G



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Communications Systems

Dependencies:

- **Hierarchical Structure**
 - Who needs which information when and why
- **Distance**
 - Which type of transmission can/must be used
- **Amount**
 - Which capacity is required (an issue that needs to be understood in the end-to-end view!!)
- **Time**
 - When and how often is the information required

NECESSITY!!! DOCTRINE!!!

(What – Where - Wither – When)

REQUIREMENT!

Available SPACE

TECHNOLOGY

POWER

BUDGET

WEIGHT

BANDWIDTH

(and many more ...!!!!)



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Challenges Maintaining Information Superiority

Questions



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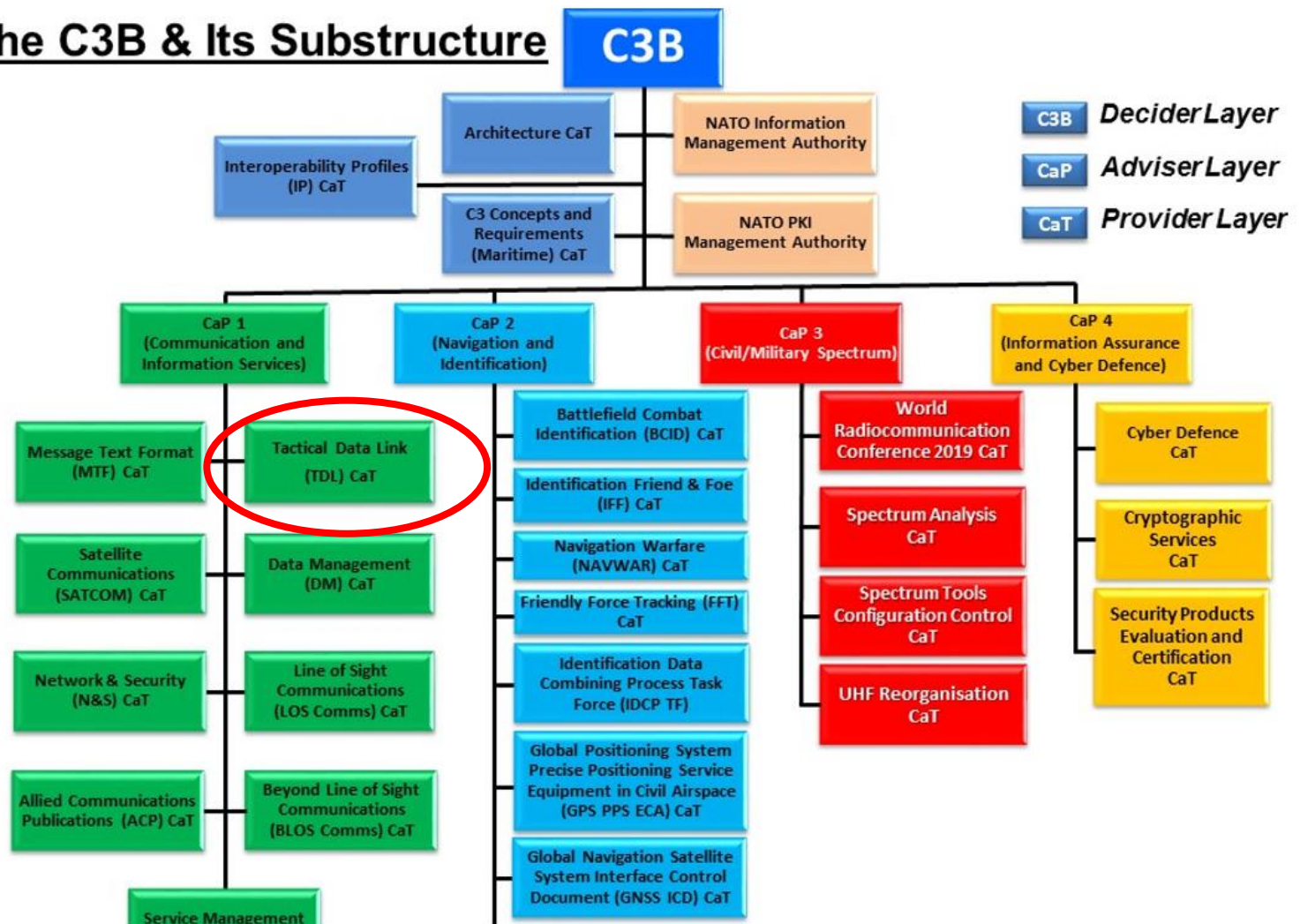
Two more Slides ☺



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Challenges Maintaining Information Superiority

The C3B & Its Substructure





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22nd NATO Tactical Data link Symposium 2019

01 – 04 April 2019 – Calpe, Spain

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NORTH ATLANTIC TREATY ORGANIZATION
NATO HQ Consultation, Command & Control Staff

Anonymous Sign In

C3B CaP1 CaP2 CaP3 CaP4 Others

NTDLS

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- Discussions
- AC/322 Documents
- Authorized Users

NATO Tactical Data Link Symposium

The **NATO Tactical DataLink Symposium (NTDLS)** is an international forum open to NATO and Interoperability Platform Partner Nations.

Its aim is to provide participants, military and civilian personnel, an opportunity to exchange experiences, introduce national approaches and discuss general concepts on NATO Tactical Data Links (TDLs) as an enabler to increase knowledge, sustain and increase the interoperability of TDLs.

The NTDLS provides NATO and Partner Nations an excellent opportunity to exchange experiences, introduce national approaches and discuss general concepts on NATO Tactical Data Links (TDLs) as an enabler to increase knowledge, sustain and increase the interoperability of TDLs.

Organisation

The NTDLS is held annually by the end of March / beginning of April. It provides an opportunity for NATO and Partner Nations to exchange experiences, introduce national approaches and discuss general concepts on NATO Tactical Data Links (TDLs) as an enabler to increase knowledge, sustain and increase the interoperability of TDLs.

The NTDLS is organized and co-chaired by the NATO HQ and the Interoperability Platform Partner Nations.

Detailed information about the upcoming and previous symposium can be found inside the appropriate folders.

Please log in

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19-22 March 18

NATO TDL Symposium

21st NATO TDL Symposium

With Partner Nations

Calpe / Spain

User

You don't have access to NTDLS.

Dear NTDLS Member,

The 21st Nato Tactical Data Link Symposium (NTDLS) in 2018 has been authorised to take place at the Conference Centre, Diamante Beach Hotel, Calpe Spain 19-22 March 2018.

We are again looking forward to interesting and enlightening presentations, discussions, workshops and live demonstrations relating to the current status and applications into the future of digital military information exchange by means of Tactical Data Links.

[NATO+EAPC+IP - MoD/NATO+Gov+Others] (Read Only)

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