C4I Capabilities of the Hungarian Defence Forces, Force Development and Procurement Challenges

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COL (GS), HUN A

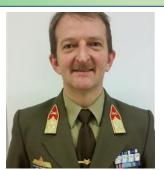**HDFC Force Planning Directorate**

About the speaker

- Artillery officer!

- HDFC Force Development Directorate, Command and Control Systems Development Branch.

- Missions in Kosovo in 2003 and 2017, and in Afghanistan in 2005 and 2006.

- Operations planning background at strategic level.

- Student of the Doctoral School of the National University of Public Service - research area is capability development.

Agenda

1. General considerations

2. Systems integration framework

3. Develeopment of the IT infrastructure of the HDF

4. New Procurements

For war we need three things-
INTEGRATION, INTEGRATION AND MORE INTEGRATION

…and money of course !!

A challenging environment

- *Zrínyi* programme

- New procurements

- Legacy systems and structures vs. new equipment

- Sometimes old way of thinking on command and control

- Time pressure!

- Same infocommunication configurations to different systems!

Budget considerations

- Strict long and short term planning;

- Project teams – contract management;

- Market search;

- Support to HUN industry;

- Close contact to manufacturers.

General direction

Key points:

- not revolution but evolution

- FMN, MIP, ASCA

- MC 0640 - "Minimum Level of Communication and Information Systems (CIS) Capabilities at Land Tactical Level"

- Simplification (fast deployment, minimum manning)

- Network management!

Systems integration

MoD – HQs	HDF CMD	MND-C	BGE, BN level	SQD, PLT, COY level	Soldier	Soldier (intel)
	Main HQ (JOC)	Static & Deployable HQ	CP elements	Fighting vehicle (IFV) (& CP)	Digital Soldier	Sensor

Horizontal integration ←

Vertical integration

Military satellite capability
Tropospheric transmission
Wireless voice & data transfer (microwave/LOS, MIMO-Mesh, laser, WiFi, LiFi (Led))
Tactical radio (HF, VHF, UHF)
Comm. Centre capability
Combined cable capability
Software systems HUNTACCIS, C4ISR, ACCS, etc.
O&M support, Training, Education

Diagonal integration

FMN capability
- *Spiral 3*

R&D
- Laser transfer
- Li-Fi
- New waveform
- 3D projecting

Implementing Inf. domains
- Unclassified & Classified domains
- Information Exchange Gateway (Restricted – Secret)
- (Static system – Deployable FMN based system) (between classified domains)

Deployable CD

Deployable Network Monitoring

Integration & extension of software
- TC2 – C4ISR
- TC2 - METEO
- TC2 – ACCS (Fire Control System)
- BN – HDF CMD lvl

Integration of complex systems
- NASAMS
- HELI
- MED (& ROLE2)
- SAMOC

Intercom „Central Intelligent"
- Int. of Interoperable radio
- TC2 communications modul
- Optical receiving interface
- Remote control unit (external)
- Interconnecting to the Comms Centre, tactical router
- *Static extension,*
- *Coop with industrial suppliers.*

Hardware integration
- Radio CPs,
- Comm. Centre kits
- Tropospheric, satellite
- Radio families
- Static sytem interconnection
- Implementation/deployment of Main CP (JOC)és CP infrastructure
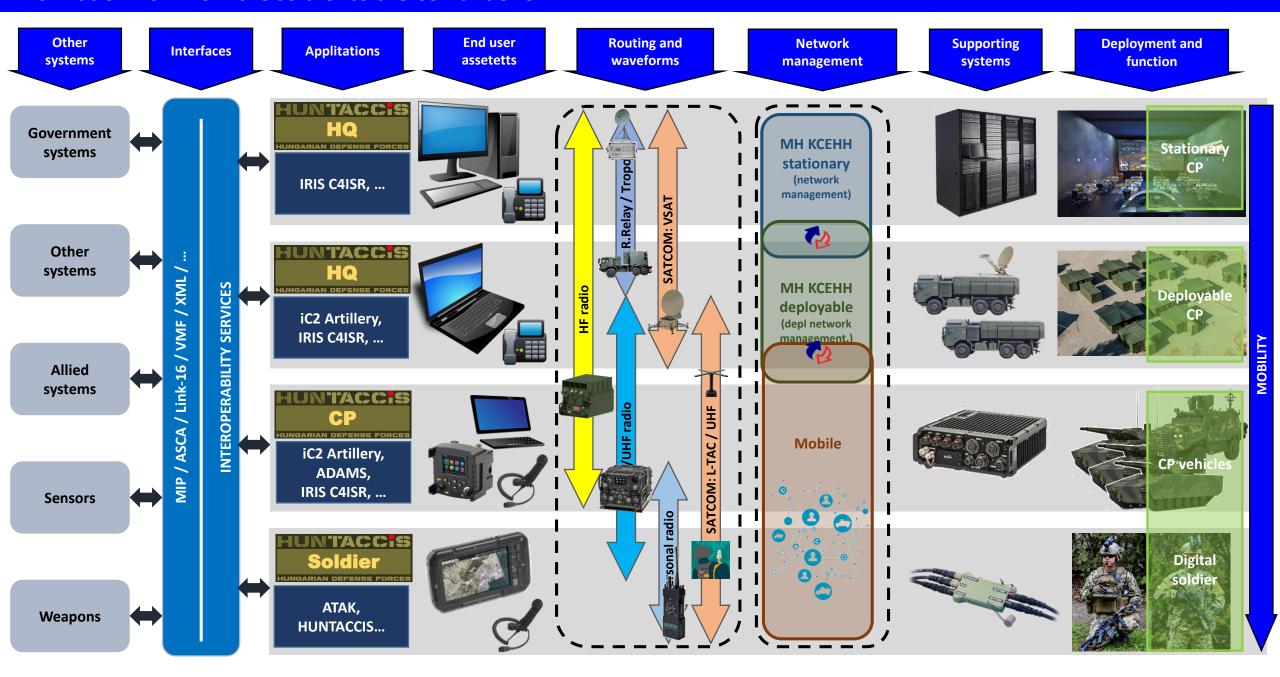
Digitalis Soldier project
- Int. of sensor signals to the Comms Centre
- TC2 soldier level
- Unified (common) waveform

Land - Air integration
- TC2 – Air C2
- GAG radio

Infrastructure of CPs

Information flow from the soldier to the Comander of HDF

Development of HDF IT-Infrastructure

- Static network developement
  - fiber optic network expansion
  - HC-LOS network modernization (radio-relay)
  - telecommunications infrastructure modernization
  - cyber-security
- Deployable CIS capability developement
  - new DCIS centres (PoP) focused on FMN battallion and above
  - new generation IP based radio-family procurement (HF, V/UHF, Intercom, accessories)
  - HC-LOS (radio-relay stations)
  - HC-BLOS (troposcatter, VSAT, L-TAC)
  - deployable fiber optic
  - C2 software improvements and integrations (Air C2; MIP)
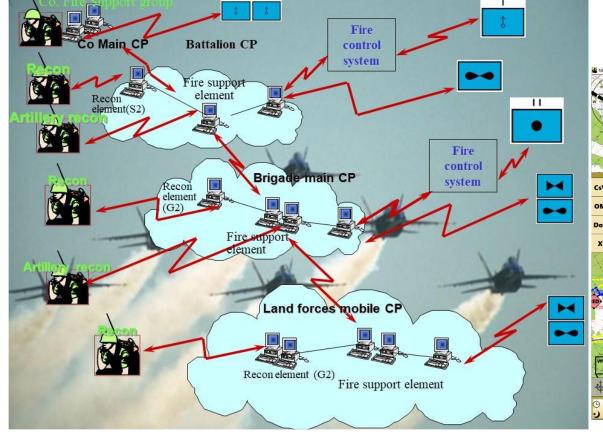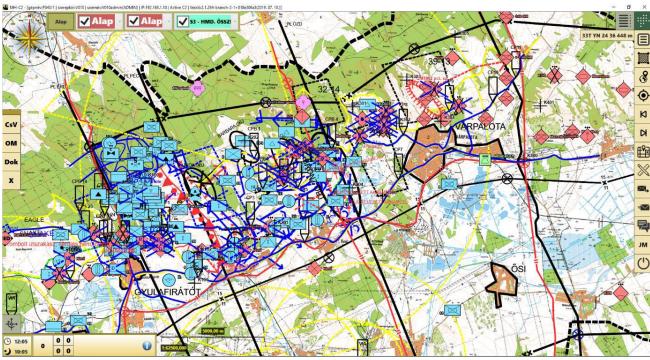 - dismounted soldier

- **HUN**garian **TA**ctical **C**ommand and **C**ontrol **I**nformation **S**ystem

New Procurements - tactical radio family

- „R" configurations
- Elbit Systems Deutschland
  - Radios E-Lynx familiy (HF and VHF)
    - dual and single channel
  - INTERCOMs
  - Tactical routers
  - training

- For interoperability
  - Harris

Config code	HF radio (1ch) ●	V/UHF radio (1ch) ◼	V/UHF radio (2ch) ◼◼	Interop. V(UHF - Harris AN/PRC-117G + SATCOM ▲	Symbols (used in this presentation)
R-10	-	1	-	-	◼
R-20	-	-	1	-	◼◼
R-30	1	-	1	-	●◼◼
R-40	1	-	1	1	●◼◼▲
R-50	2	-	1	1	●●◼◼▲

- **GPS sets**
  - **COLLINS Aerospace NavHub GNSS GPS** (SAASM module)

For supporting ops in Hungary (ie. Disaster relief):

Motorola MTM5400

Accessories

New BDU

C4I

New personal weapons

- **Airspace Control Radars**
  - Fullsize-Multi Mission Radar
  - Medium size-Multi Mission Radar
  - Passive radars
- **LINK-16 Terminal Block Upgrade 2**
  - Network management

To conclude

- 21st century challenges!!
- Interoperability!
- Networks!
- Complexity!
- INTEGRATION!

Thank you for your attention! Questions?