



JTLS-GO in POLAND



Joint Theater Level Simulation – Global Operations

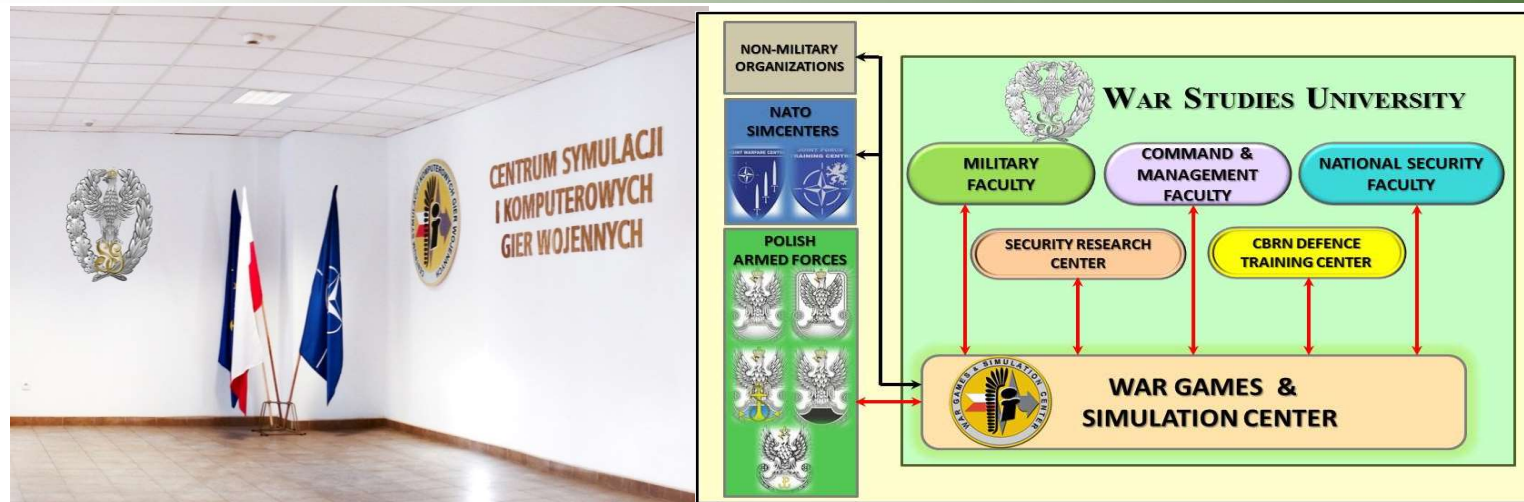
POLISH TEAM:

COL PhD Marek SOLODUCHA

LTC PhD Krzysztof ZWIREK



- **Introduction**
- **WG&SC overview**
- **Exercises in 2023**
- **Exercises in 2024**
- **New version of the system - observations**

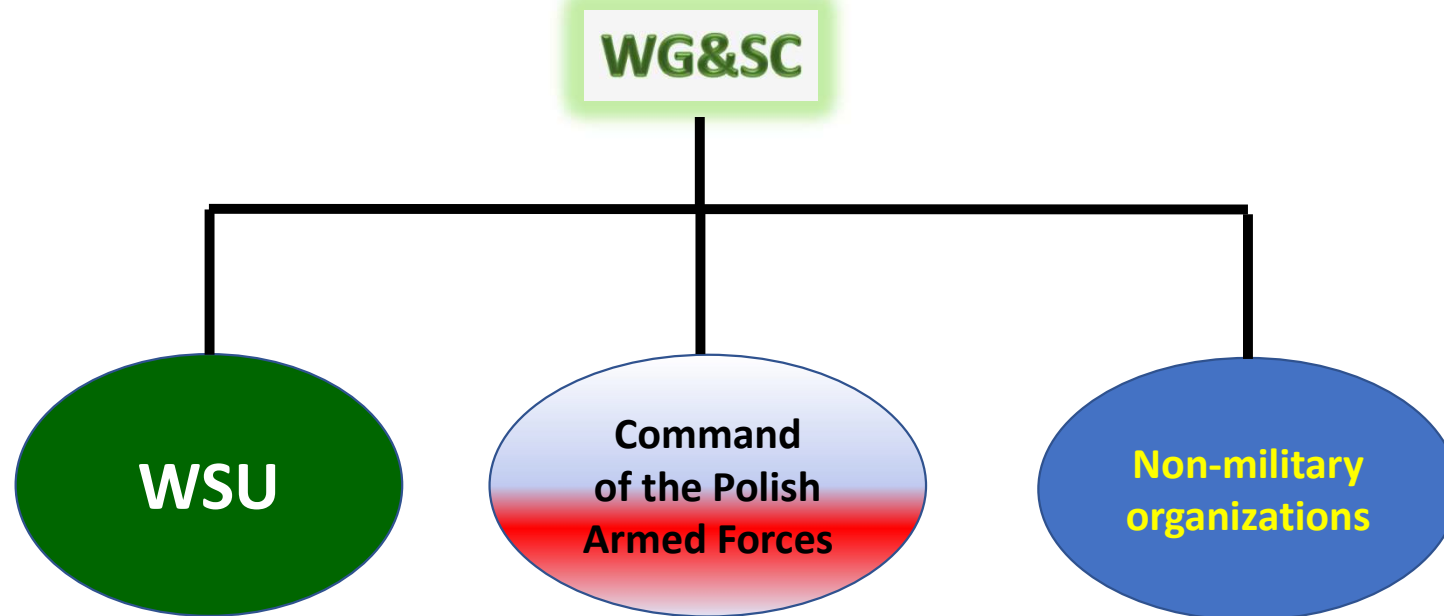


WAR GAMES & SIMULATION CENTER MISSIONS:

- Supports of our University with conducting training activities.
- Provides support for the General Staff Joint Training Program which prepares Polish Armed Forces to conduct joint and multinational operations.
- Contributes to Modelling and Simulation activities of the Polish Armed Forces.



- Exercises
 - Both large and small
 - Local (distributed)
- Pre-exercise preparations events
- Planning and technical support expertise
- Operational analysis
- Modeling and simulation development
- CAX Courses

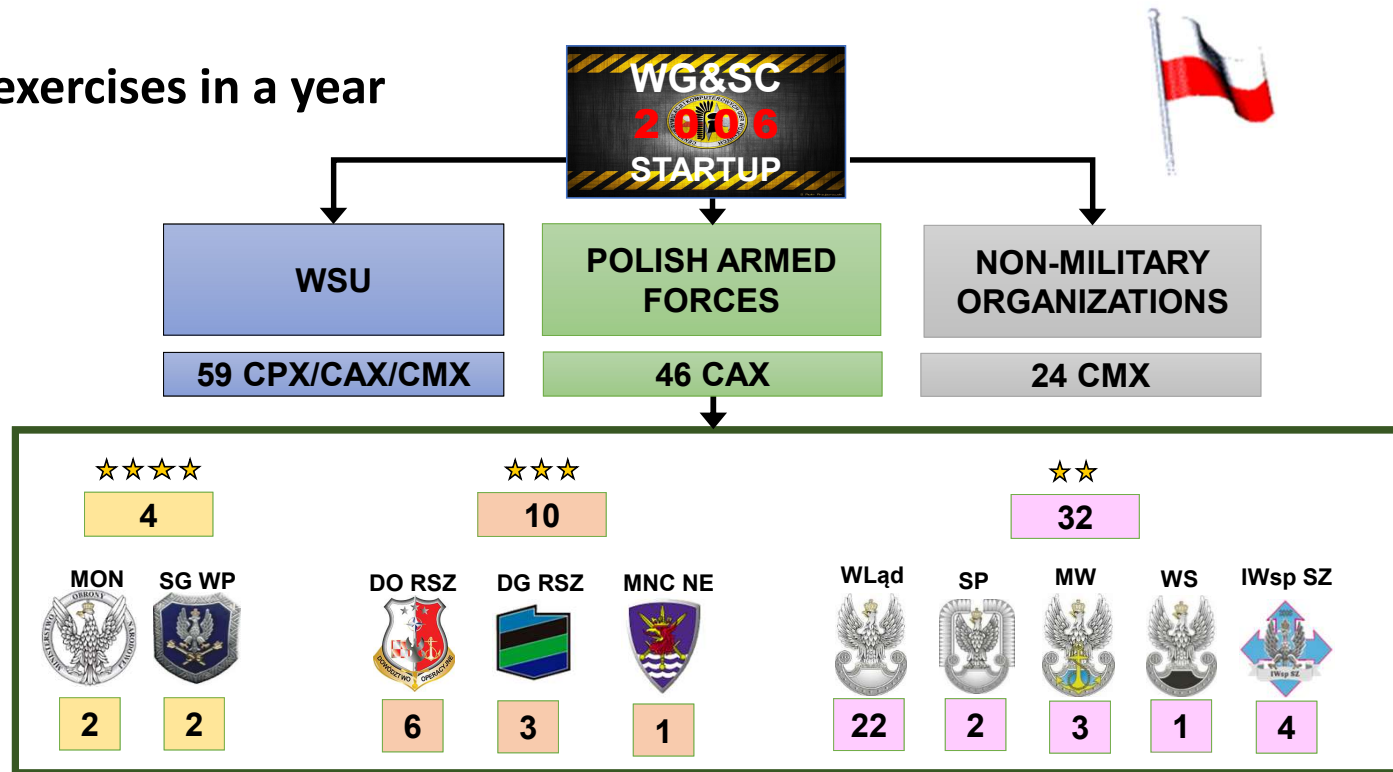


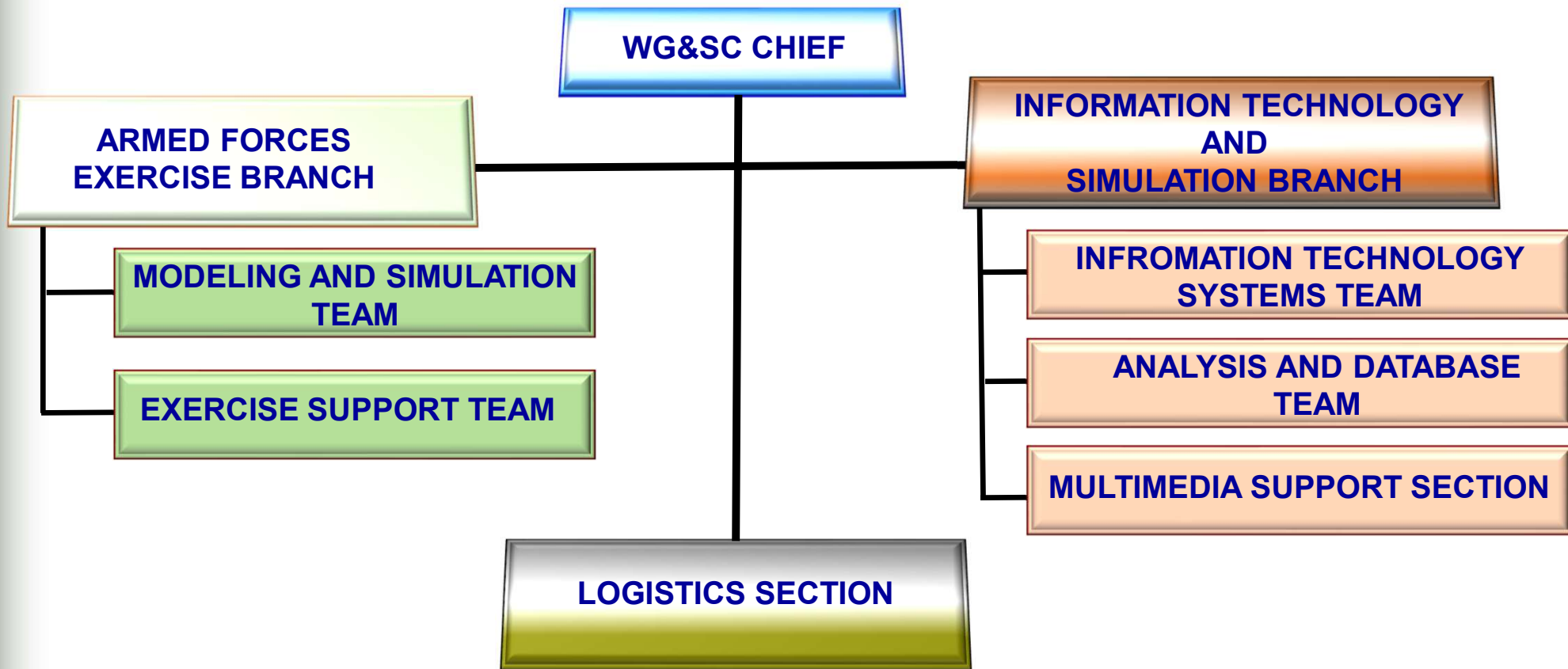
Type of exercises:

- **Command Post Exercises (CAX - Computer Assisted Exercise)**
- **Crisis Management Exercises – CMX (CMX CAX)**

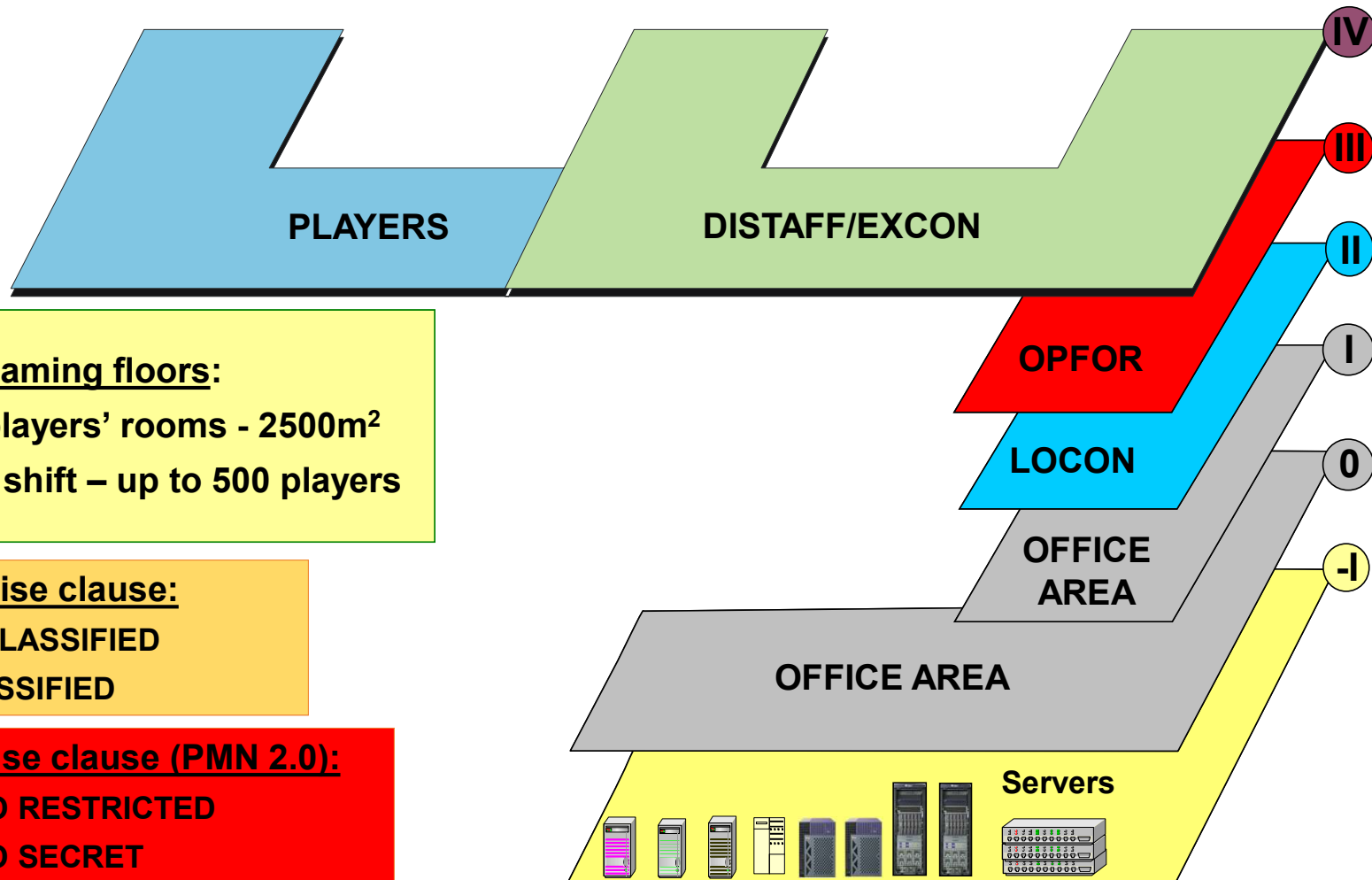


Up to 4-8 exercises in a year





STAFF: 58 persons (54 military posts)



War gaming floors:

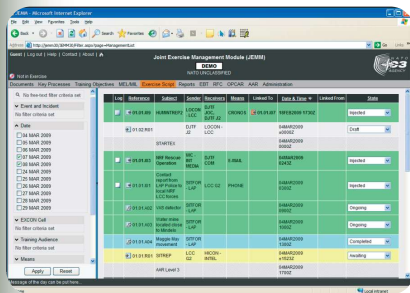
- 39 players' rooms - 2500m²
- one shift – up to 500 players

Exercise clause:

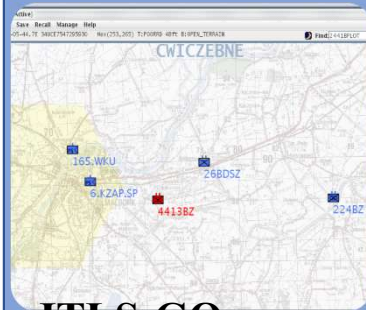
- UNCLASSIFIED
- CLASSIFIED

Exercise clause (PMN 2.0):

- NATO RESTRICTED
- NATO SECRET



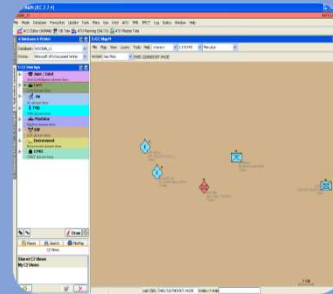
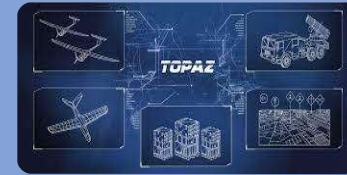
JEMM



JTLS-GO



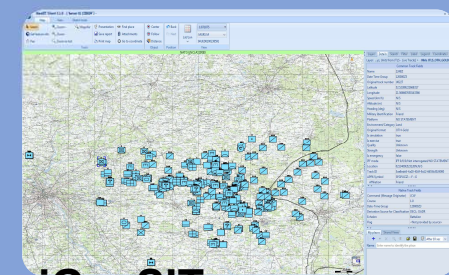
Link 16
ADATP-3
ENSITREP
ADATP-3
OWNSITREP
OTH-T GOLD
KML
XML



ICC



NCOP









iGeoSIT



SIMULATION SYSTEM:

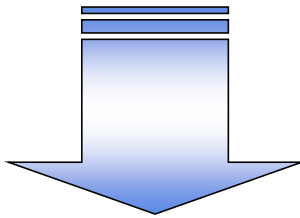
- ➔  JTLS-GO – Joint Theatre Level Simulation – Global Operations

NATO FAS:

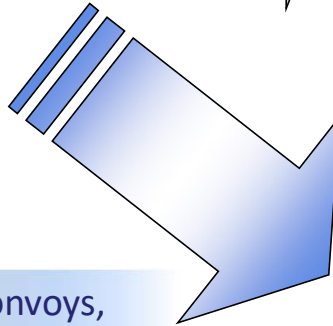
- ➔  JEMM – Joint Exercise Management Module
- ➔  NIRIS – Networked Interoperable Real-Time Information Services
- ➔  ICC – NATO-wide Integrated Command and Control Software for Air Operations
- ➔  iGeoSIT – Interim Geo-Spatial Intelligence Tool
- ➔  LOGFAS – Logistic Functional Area Services
- ➔  JChat – Joint Tactical Chat

National FAS:

- ➔  C3I System Jasmin
- ➔  PGO – Operational Graphic Packet
- ➔  LOGRep – National Logistic Report from JTLS



Gathering data about convoys, events, actions, states, losses



Gathering data about simulated objects

Screenshot of a simulation control interface. It includes a status bar at the top showing 'STATE: SDC_WEATHER' and 'DOWN'. Below that, there are fields for 'Sprawdzenie co' (1) and 'Zrzut co' (30) minutes. A 'Zrzuty nieaktywne - WŁACZ' button is visible. A table shows simulation status: 'SPRAWDZENIE' at 2012-11-26 14:42:00, 'ZRZUT' at 2012-11-23 09:03:00, and 'PAUSED' at 2012-11-21 09:00:00. A 'Podgląd' button is present. At the bottom, there are tabs for 'T1: monitorowanie', 'T2: rozkazy histogram', 'T3: rozkazy strona', 'T4: ranking operatorów', 'T5: typy rozkazów', and 'T6:'. A large blue arrow points from the 'Gathering data about convoys...' text to this interface.

Simulation state import into isolated database

```

select staging_f.NUMBER_SYSTEM, staging_f.NUMBER_DAMAGED, staging_f.NUMBER_KILLED, staging_f.NUMBER_REMAINING, staging_f.FIRING_RANGE,
(select distinct id_side from casip_wb.side_d where side_d.side = staging_f.killer_owning_side) id_killer_side, staging_f.killer_owning_side,
(select distinct id_side from casip_wb.side_d where side_d.side = staging_f.victim_owning_side) id_victim_side, staging_f.victim_owning_side,
(select distinct id_perpetrator from casip_wb.perpetrator_d where perpetrator_d.perpetrator = staging_f.killer_type) id_killer_perpetrator, staging_f.killer_type,
(select distinct id_perpetrator from casip_wb.perpetrator_d where perpetrator_d.perpetrator = staging_f.victim_type) id_victim_perpetrator, staging_f.victim_type,
loc_d.killer_id_loc id_loc_killer, staging_f.killer_latitude, staging_f.killer_longitude, staging_f.killer_altitude,
loc_d.victim_id_loc id_loc_victim, staging_f.victim_latitude, staging_f.victim_longitude, staging_f.victim_altitude,
ATTENTION_TYPE_d.id_attention, staging_f.attention_type, staging_f.attention, staging_f.weapon_line_d,
dmg_sys_d.id_dmg_sys, dmg_sys_d.dmg_sys, system_type_d.id_system_type, system_type_d.system_type, group_d.id_group, group_d.group, group_d.factor,
(select distinct id_sy_type from casip_wb.sy_type_d where sy_type_d.sy_type = staging_f.victim_sy_type) id_victim_sy_type, staging_f.victim_sy_type,
(select distinct id_sy_type from casip_wb.sy_type_d where sy_type_d.sy_type = staging_f.killer_sy_type) id_killer_sy_type, staging_f.killer_sy_type,
(select distinct symbol_d.id_symbol from casip_wb.symbol_d where symbol_d.symbol = staging_f.KILLER_SYMBOL) id_killer_symbol, staging_f.KILLER_SYMBOL,
(select distinct symbol_d.id_symbol from casip_wb.symbol_d where symbol_d.symbol = staging_f.VICTIM_SYMBOL) id_victim_symbol, staging_f.VICTIM_SYMBOL,
(select distinct casip_wb.depth_d.id_depth from casip_wb.depth_d where depth_d.depth = staging_f.KILLER_LEVEL_MQ) id_killer_level_mq, staging_f.KILLER_LEVEL_MQ,
(select distinct casip_wb.depth_d.id_depth from casip_wb.depth_d where depth_d.depth = staging_f.VICTIM_LEVEL_MQ) id_victim_level_mq, staging_f.VICTIM_LEVEL_MQ,
(select distinct casip_wb.depth_d.id_depth from casip_wb.depth_d where depth_d.depth = staging_f.VICTIM_LEVEL_MQ) id_victim_level_mq, staging_f.VICTIM_LEVEL_MQ
from end_all_facts_int staging_f
inner join casip_wb.loc_d loc_d_killer on
COALESCE(staging_f.killer_latitude, -1) = COALESCE(loc_d.killer.lat, -1) and
COALESCE(staging_f.killer_longitude, -1) = COALESCE(loc_d.killer.lon, -1) and
COALESCE(staging_f.killer_altitude, -1) = COALESCE(loc_d.killer.alt, -1)
inner join casip_wb.loc_d loc_d_victim on
COALESCE(staging_f.victim_latitude, -1) = COALESCE(loc_d.victim.lat, -1) and
COALESCE(staging_f.victim_longitude, -1) = COALESCE(loc_d.victim.lon, -1) and
COALESCE(staging_f.victim_altitude, -1) = COALESCE(loc_d.victim.alt, -1)
inner join casip_wb.attention_type_d attention_type_d on
staging_f.attention_type = attention_type_d.attention_type and
staging_f.attention = attention_type_d.attention_value
inner join casip_wb.weapon_line_type_d weapon_line_type_d on
staging_f.weapon_line = weapon_line_type_d.weapon_line_type
inner join casip_wb.dmg_sys_d dmg_sys_d on
staging_f.damaged_system = dmg_sys_d.dmg_sys
inner join casip_wb.system_type_d system_type_d on
staging_f.system_type = system_type_d.system_type
inner join casip_wb.group_d group_d on
staging_f.group = group_d.group and COALESCE(staging_f.factor, -1) = COALESCE(group_d.factor, -1)
where exercise = '808_311' -- 1. postawienie faktor nach mize powstanie wsteczni 2 i mial, nigdy nie biala klat wsteczni

```

Tables (Filtered)

- AC_TYPE_D
- ATTRITION_TYPE_D
- CMD_CHAIN_D
- DEPTH_D
- DMG_SYS_D
- ENG_TYPE_D
- ENGAGEMENT_F
- EXERCISE_D
- GROUP_D
- LOC_D
- PERPETRATOR_D
- SIDE_D
- SYMBOL_D
- SYSTEM_TYPE_D
- TIME_ABS_D
- TIME_REL_D

DEPTH	ID	NAME	SIM_TIME	PARENT_NAME	SIDE
1	5 260034050 2512ACAVCOY	2021/03/08 03:59:59 251ABCAVBN	BLUE		
2	5 300307971 2512ASQN.MI8	2021/03/08 03:59:59 251ABCAVBN	BLUE		
3	5 267038210 2813.EW.PLT	2021/03/08 03:59:59 281.EW.COY	BLUE		
4	6 54286850 1101131.RECPLT	2021/03/08 04:03:03 110113.TANK.BN	FROLAND		
5	7 58664450 11011342.TANK.PLT	2021/03/08 03:59:59 1101134.TANK.COY	FROLAND		
6	6 61291010 1101161ADCOY	2021/03/08 04:13:30 110116ADBN.HQ	FROLAND		
7	6 67419650 1101183.RECPLT	2021/03/08 03:59:59 110118.REC.COY	FROLAND		
8	5 430237447 1101501CBTRY.LIWIEC	2021/03/08 04:09:58 11015.ART.REG.HQ	FROLAND		
9	5 88432130 110181.REC.COY	2021/03/08 03:59:59 11018.REC.BN.HQ	FROLAND		
10	2 270540290 ACC.HQ-OF	2021/03/08 03:59:59 JFC.FROL	FROLAND		
11	4 48158210 1101183.RECPLT	2021/03/08 03:59:59 1.AFB	FROLAND		
12	2 270540290 ACC.HQ-OF	2021/03/08 03:59:59 HQ_HP_LUBEL	CIVILIANS		
13	1 270540290 ACC.HQ-OF	2021/03/08 03:59:59 (null)	BLUE		
14	3 47282690 1.TAW	2021/03/08 03:59:59 ACC	BLUE		

A large blue arrow points from the 'Gathering data about convoys...' text to this table.

periodically

On demand



EXAMPLES OF ANALYTICAL APPLICATIONS



Unit guide-book

Drzewo hierarchii jednostek: 2EPR_12 03.09.2012 17:00

DSP.WI WOJSKA LĄDOWE WISLANDIA.SP

NAZWA JEDNOSTKI: DSP.WI
NAZWA DRUGA: DOWODZTWO SIL POWIETRZYCH W WISLANDIA.SP
IDENTYFIKATOR JEDNOSTKI: SD.DSP.WI

- DOP.DRAG
- GEILENKIRCHENAB
- PRESCHENAB
- 1.ALB
- 2.ALB
- SD.DOWALFA
- 4.SRBS
- DKL.MO
- 65DKA
- 62DKA
- DSM.MO
- DSF.MO
- SDN.WI
- DSP.WI
- 21D8LT
- 22SPLCHEM.SP.WI
- 24D8LSZ
- 25BICHHEM.SP.WI
- 22D8LT
- 23D8LTR
- 21B1TR
- L.GD.REBECHOWO
- L.KATOWICE
- L.LĘCZYCA
- L.MALBORK
- L.N.W.MIASTO
- L.P.N.LAWICA
- L.WAWA.BABICE
- GWL
- DWLAD
- DWS

Strength ratio

Konfigurowanie aplikacji do obliczenia stosunku sił

Wykonawca: II

Uruchomienie: IMPORT, TWÓRZ LINKI, UNIT ALL, CSP CS, CS.WSP JAK, GRUPY CS, DANE ANALIZA

Status wykonania: [Progress indicators]

Wybór obiektów i czasu analizy: WYBÓR ANALIZ, POLA MINOWE, POLA MINOWE W OBSZARZE, ROZP POLA MINOWE W OBSZARZE, WYBÓR W OBSZARZE

Engineers troops analysis

ANALIZY WOJSK INŻYNIERYJNYCH

WYBÓR OBIEKTÓW I CZASU ANALIZY

WYBÓR ANALIZ

ANALIZY W OBSZARZE

Transport analysis

ANALIZA KONWOJÓW TRANSPORTOWYCH

Unit selection to analyse

PRZYGOTOWANIE WYBORÓW OBIEKTÓW DO ANALIZY

Wskaz jednostkę - podstawę wyboru: SD.DKL

Automat wyborczy dla: [Dropdown]

Efekt wyboru: 1.ALB SD.DKL

?	P0	P1	P2	P3	P4	P5	P6	P7	P8	PELNA NAZWA
<input checked="" type="checkbox"/>										1 AIR LOGISTIC BASE DR
<input checked="" type="checkbox"/>										SD DOWODZTWO KOMPONENTU LĄDOWEGO Y
<input checked="" type="checkbox"/>										WYSUNIĘTA GRUPA WSPARCIA POMORZE.WI
<input checked="" type="checkbox"/>										WYSUNIĘTA GRUPA WSPARCIA DRAWSKO.WI
<input checked="" type="checkbox"/>										WYSUNIĘTA GRUPA WSPARCIA MAZURY.WI
<input checked="" type="checkbox"/>										2110DOW.PULK.ARTYLERII.WI
<input checked="" type="checkbox"/>										2117BLOG.211PA.WI
<input checked="" type="checkbox"/>										21113.POST.ROZP.ROKACYJN.211PA.WI
<input checked="" type="checkbox"/>										2112.DYWIZJON.ART.SAMOBIEZNEJ.211PA.WI
<input checked="" type="checkbox"/>										2113.DYWIZJON.ART.SAMOBIEZNEJ.211PA.WI
<input checked="" type="checkbox"/>										2114.DYWIZJON.ART.RAKIETOWEJ.211PA.WI
<input checked="" type="checkbox"/>										2116.DYWIZJON.ART.PPANC.211PA.WI
<input checked="" type="checkbox"/>										2180DOW.PULK.ROZP.ZNAWCZY
<input checked="" type="checkbox"/>										2188KLOG.218PR.WI

Analysis of troops armament and equipment, warfare and supply agents

102BLOG.21D8LOG

Wskazana jednostka: [Dropdown]

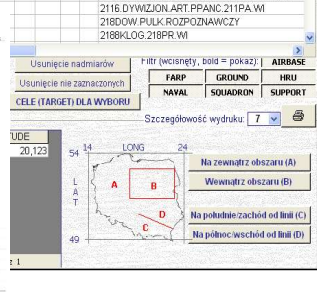
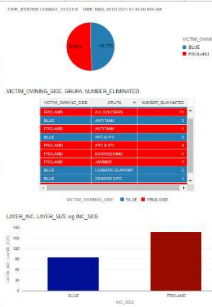
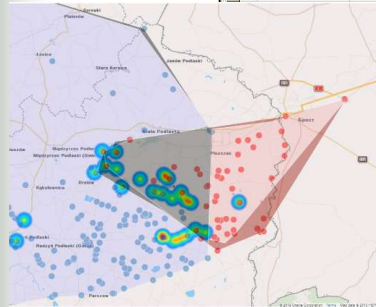
Wybór obiektów: [List]

Mapa: [Map showing unit positions]

Legenda: Kolor ofary: BLUE, FROLAND

Legenda: Kolor ofary: GRUPA DMGD

Kolor ofary	GRUPA	DMGD
BLUE	AIRCRAFT_CS	0.00
BLUE	ALL SOLDIERS	100.00
BLUE	ANTITANK	4.00
BLUE	APC & IVC	3.00
BLUE	FIELD ARTILLERY	2.00
BLUE	ENGINEERS	2.00
BLUE	TANK	0.00
FROLAND	ALL SOLDIERS	28.00
FROLAND	APC & IVC	7.00
FROLAND	FIELD ARTILLERY	3.00
FROLAND	ENGINEERS	0.00
FROLAND	TANK	0.00





Different formats of sources Transformation, description, ordering, sorting, archiving

ORACLE
DATABASE

THP

Microsoft Office

PDF

Exercise data

- 16-24.05.2007 - cz. I
- CAŁE CVIČENIE
- DZIEŃ_01_200900ZAPR07
- DZIEŃ_02_201900ZAPR07
- DZIEŃ_03_210900ZAPR07
- DZIEŃ_04_212100ZAPR07
- DZIEŃ_05_220900ZAPR07
- MiniCAX_DZIEŃ_01_170800ZAPR07

BESKIDY 07



- **1 - Division-level**

(MND NE)



- **1 - Targeting exercises**

(Operational Command of Armed Forces)



- **2 - War Studies University**

(Division Level, Air Forces)





- **3 - Division-level**

(MND NE, 11 DKPanc, 18DZ)

- **1 - Targeting exercises**

(Operational Command of Armed Forces)

- **3 - War Studies University**

(War Studies University, Baltic College Defense)

- **1 - Coalition Warrior Interoperability Exercise CWIX**

(interoperability event, operationally driven and technically supported)





- **JTLS-GO Training Workshops – one week of December 2023**
- **Scheduled JTLS-GO Training Workshops – two weeks of June 2024**

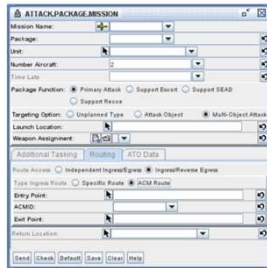


- **JTLS-GO Advanced Modeling Course
23-27 October 2023**



- **JTLS-GO Training Workshops
09-13 September 2024**





AIR FORCE

A ROUTING tab has been introduced, which, according to the ACO order, forces aircraft to fly according to the procedures of flexible and fixed airspace elements (ACMs). This enables a more realistic representation of air force operations.



NAVAL

- A PATROL tab has been introduced, which forces ships to perform patrol tasks in accordance with ACMID. This enables a more realistic representation of air force operations.



- Conversely, as in the Air Force, it is possible to select armaments only from the items available and not from the entire database.



MINEFIELDS

- The unit after encountering a minefield suffers losses, proceed automatically to demining, demining time - delay, depending on the type of minefield and the number of mines.
- The unit demines the entire minefield (all mines), no possibility to cancel the task, withdraw the unit.
- A demined minefield disappears in the player and the controller.





Please ask questions...

&

Thank you for your attention!



Joint Theater Level Simulation – Global Operations

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