



Air-Land & Maritime Integration in Multi-Domain Operations: challenge to military education

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POLISH AIR FORCE UNIVERSITY

	THEME	SPEAKER
1.	Introduction	Moderator
2.	Multi-Domain by Polish Air Force University	Col. NEFFE
3.	Multi-Domain by Military University of Land Forces	Col. RACHWALIK (RET)
4.	International Exchange Programs ISO Multi-Domain Training	Maj. CHRISTOFOROU
5.	Coffee break	
6.	Discussion with Experts	CHAIRMAN
7.	SUMMARY/RECAP	CHAIRMAN

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MULTINATIONAL AIR-GROUND INTEGRATION SCHOOL



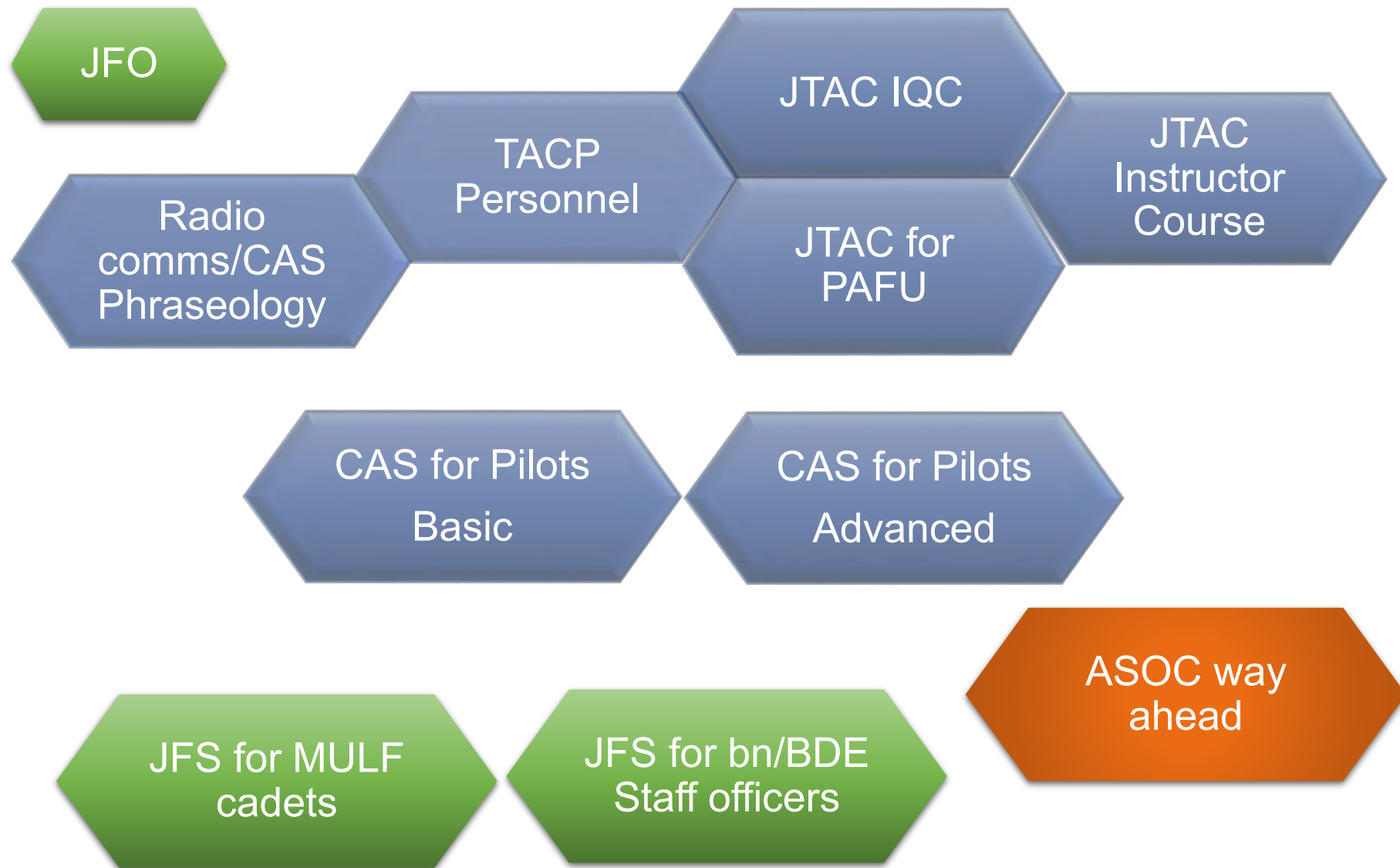
To provide the training for the JTAC Program:

- according to the NATO/US standards (ATP/JFS ESC MoU);
- for ground personnel (JTAC/TACP, JFO, cadets) and pilots;
- elements of Air-Land Integration and Joint Fires Support;

FA/NGS CFF, CCA, CAS (APCLaMO)



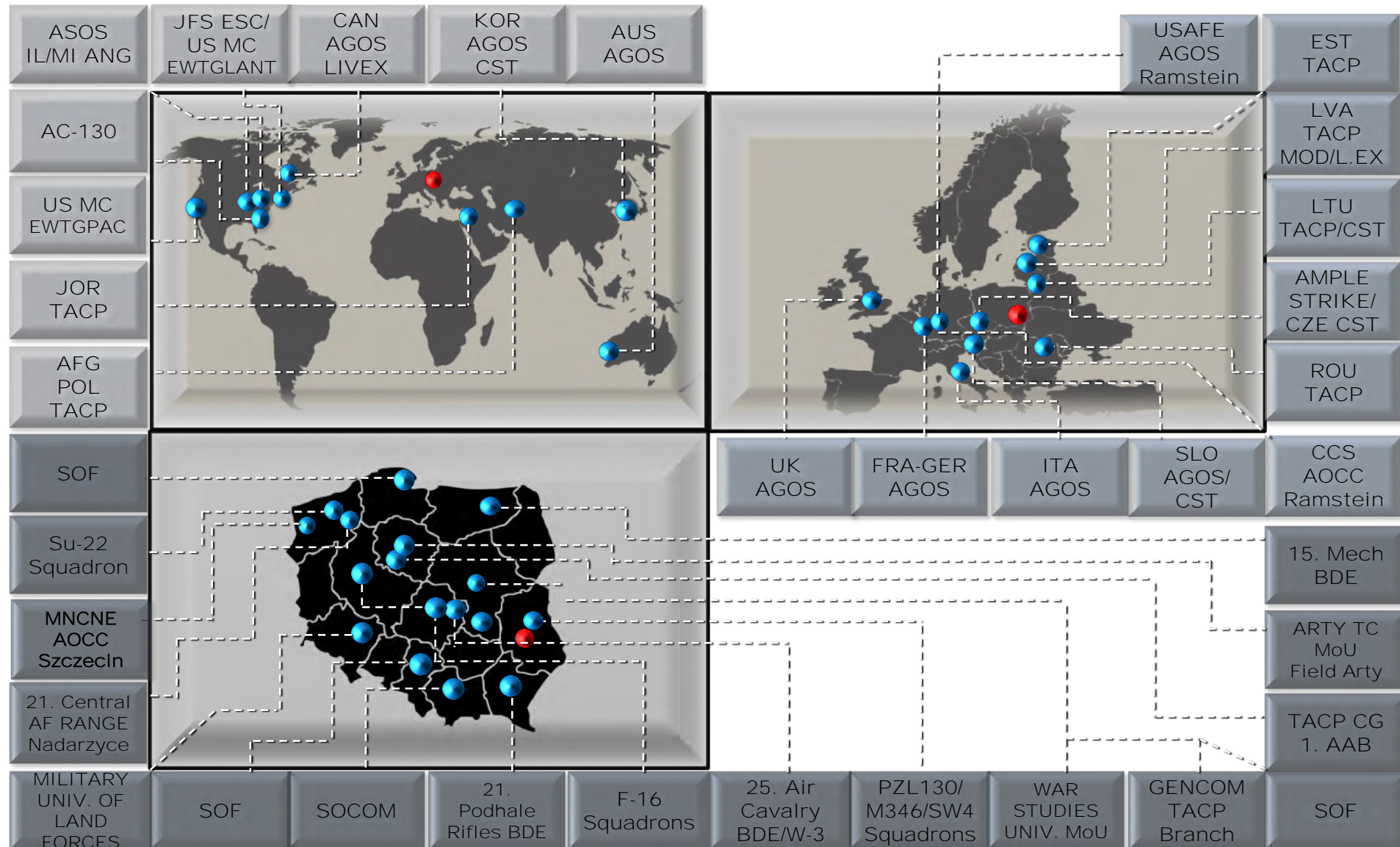
MULTINATIONAL AIR-GROUND INTEGRATION SCHOOL



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1. Current solutions:

- Primary target (5-year education curriculum);
 - ✓ Joint Fire Support classes (basic)
 - ✓ Army Aviation CFF basic course
 - ✓ Remote Observer basic course
 - ✓ Call For Fire classes
- Secondary target (officer courses for enlisted personnel, career captain course)
 - ✓ Joint Fire Support classes (basic)

2. Methodology:

- Academics;
- Practical Exercises (maps, imagery, Google StreetView, etc.);
- Practical Exercises (VBS 3 simulation).



MILITARY UNIVERSITY OF LAND FORCES

3. LIMFAC:

- Large training audiences (20 – 30 studs in class)
 - ✓ limited exposure on practical application of skills
 - ✓ no rationale for training with live assets
- Redundancy of content for 5-year curriculum;
- Limited resources (time, team, tools)

4. Way ahead:

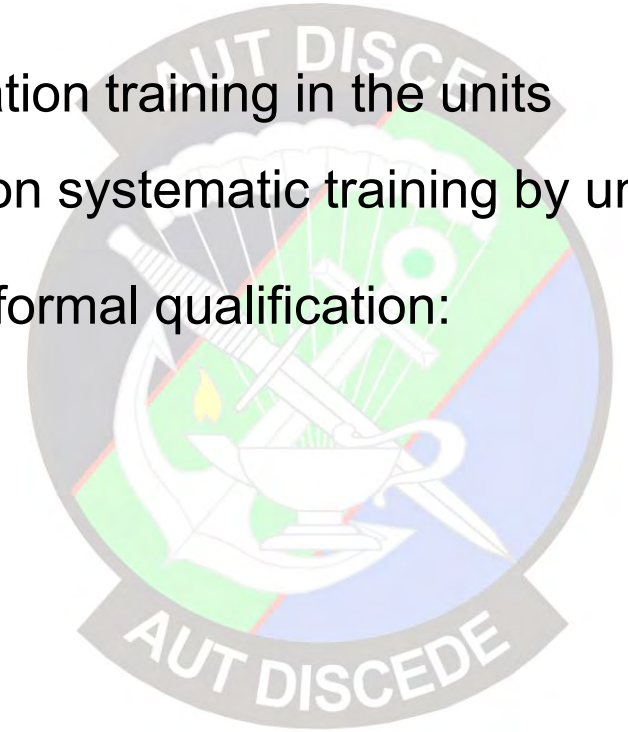
- Product endstate redefined;
- JFS classes (basic) review;
- Replacement of RO/CCA courses with unified JFS classes (advanced);
- **MAGIS, JFSTC and Land Forces Academy FA branch collaboration.**



POLSOF TRAINING CENTER

1. Joint Fires Integrator Training concept:

- Flexible and efficient alternative to JFO Program;
- Formal course run by POLSOF TC followed by continuation training in the units
- Proficiency based on formalized METL and dependent on systematic training by unit
- Full spectrum of attack coordination tasks not requiring formal qualification:
 - ✓ FA and NGF Call For Fire;
 - ✓ Long range missile attack coordination;
 - ✓ Attack Helicopter and SOF Gunship Call For Fire;
 - ✓ Ground Assisted Air Interdiction;
 - ✓ RO support for CAS type 2 / 3 control.



2. JTAC and CCT pipelines design

3. Drone operator education and tactics development



Military Erasmus (EMILYO)



The Military Erasmus (EMILYO) international exchange program play a crucial role in enhancing cadets' situational awareness across different domains and within a joint environment through several key mechanisms.

Exposure to Diverse Military Cultures and Doctrines:

- ✓ International Semesters
- ✓ Common Modules
- ✓ Cultural Awareness Training

Understanding Different Operational Domains:

- ✓ Specialized Programs
- ✓ Joint Exercises and Simulations
- ✓ Technology and Innovation Focus



Military Erasmus (EMILYO)



Fostering Interoperability and a Joint Mindset:

- ✓ Building Networks
- ✓ Language Skills
- ✓ Shared Learning Experiences

In summary, the Military Erasmus (EMILYO) program enhances cadets' situational awareness by providing them with first-hand experience of diverse military cultures and operational doctrines, offering insights into different operational domains, and fostering the interoperability and shared understanding necessary for effective collaboration in a joint, multinational environment.



International Semesters

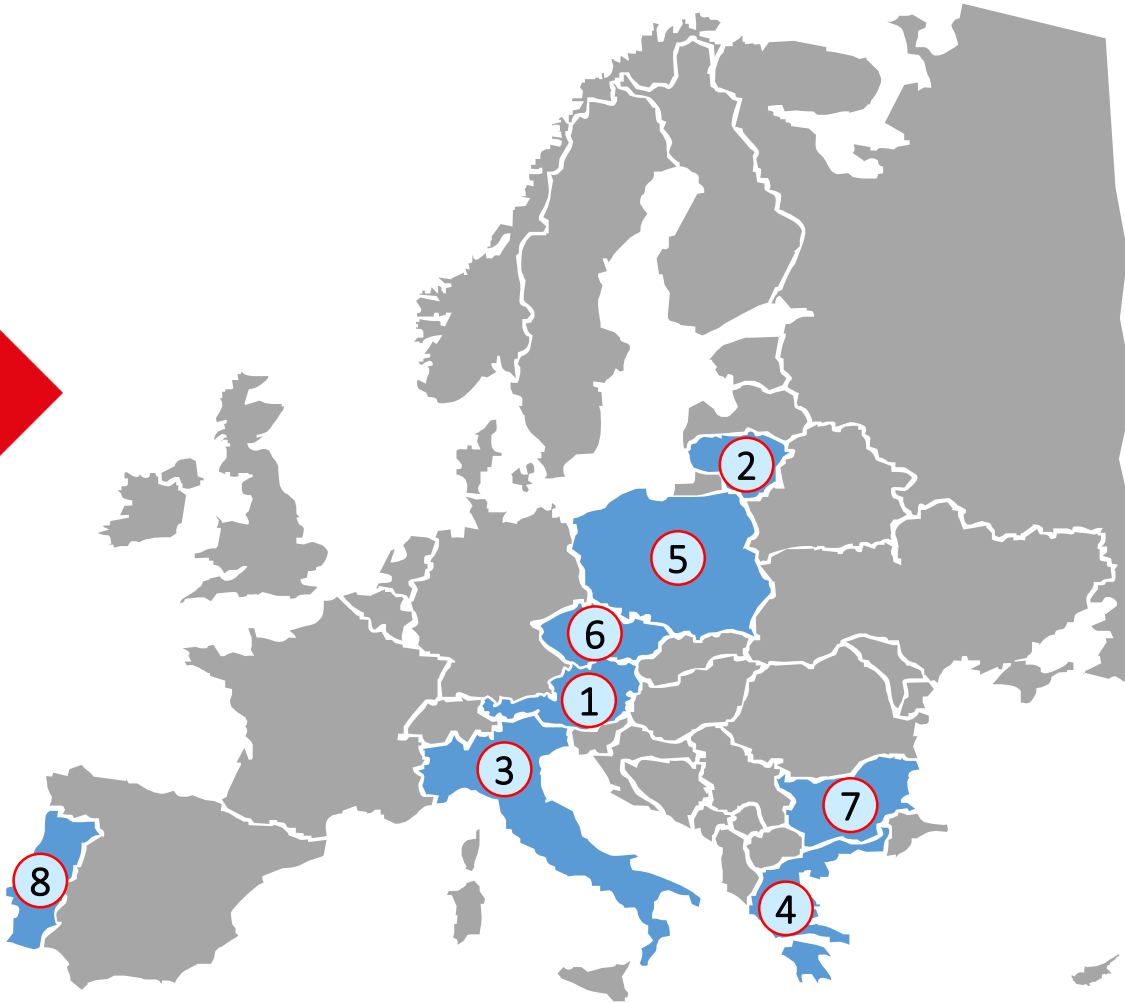
Erasmus+ Strategic Partnership Project



International Semester

1	AT	Austrian Theresan Military Academy
2	LT	Lithuanian Military Academy General Jonas Žemaitis
3	IT	Italian Army Officers School
4	GR	Hellenic Army Academy
5	PL	Polish Military University of Land Forces 'General Tadeusz Kościuszko'
6	CZ	Czech University of Defence
7	BG	G.S. Georgi Rakovski' National Defence Academy
8	PT	Portuguese Military Academy

International Semester on Common Security and Defence Policy was established in 2015 during the international Military Academic Forum - iMAF that took place in the 'Nicolae Balcescu' Land Forces Academy in Sibiu, Romania.





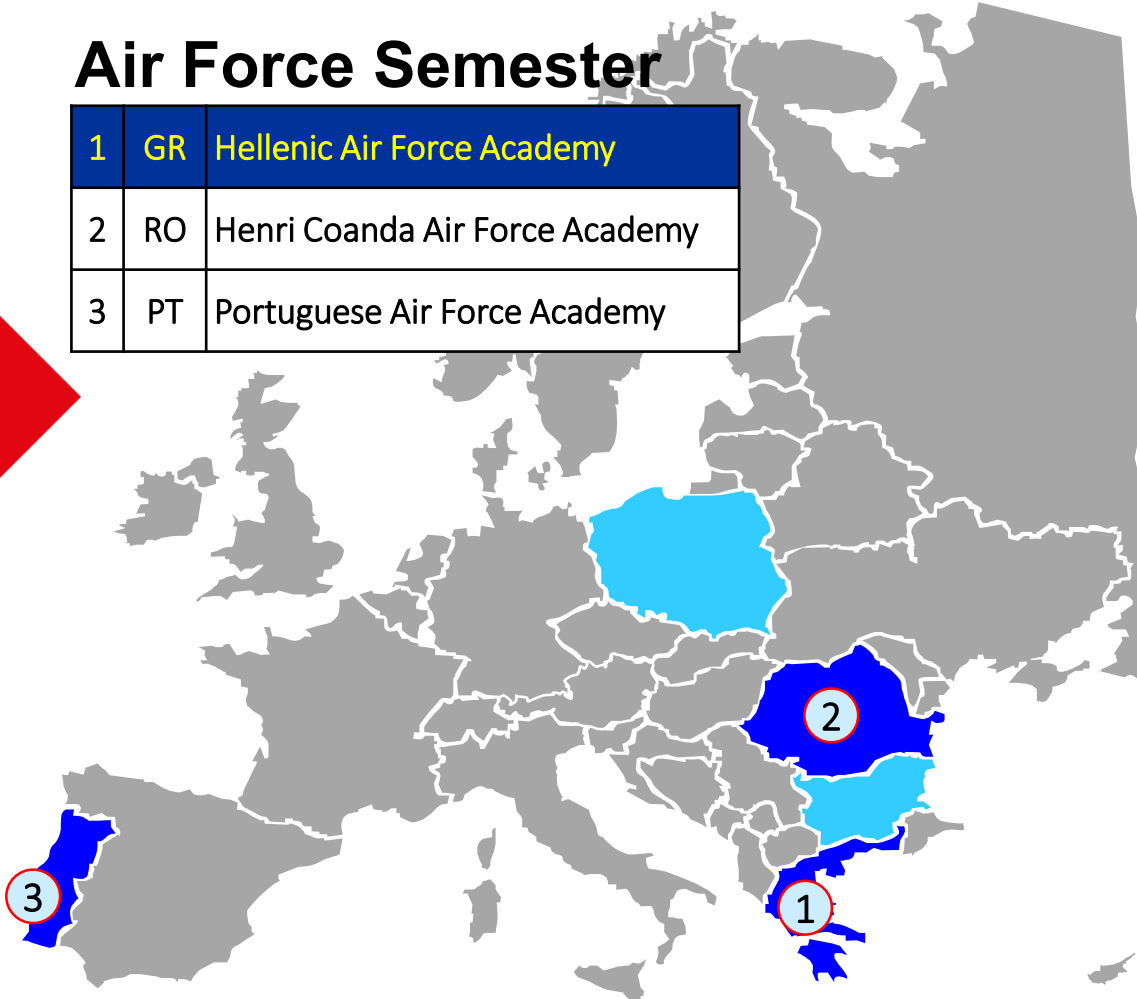
International Semesters

Erasmus+ Strategic Partnership Project



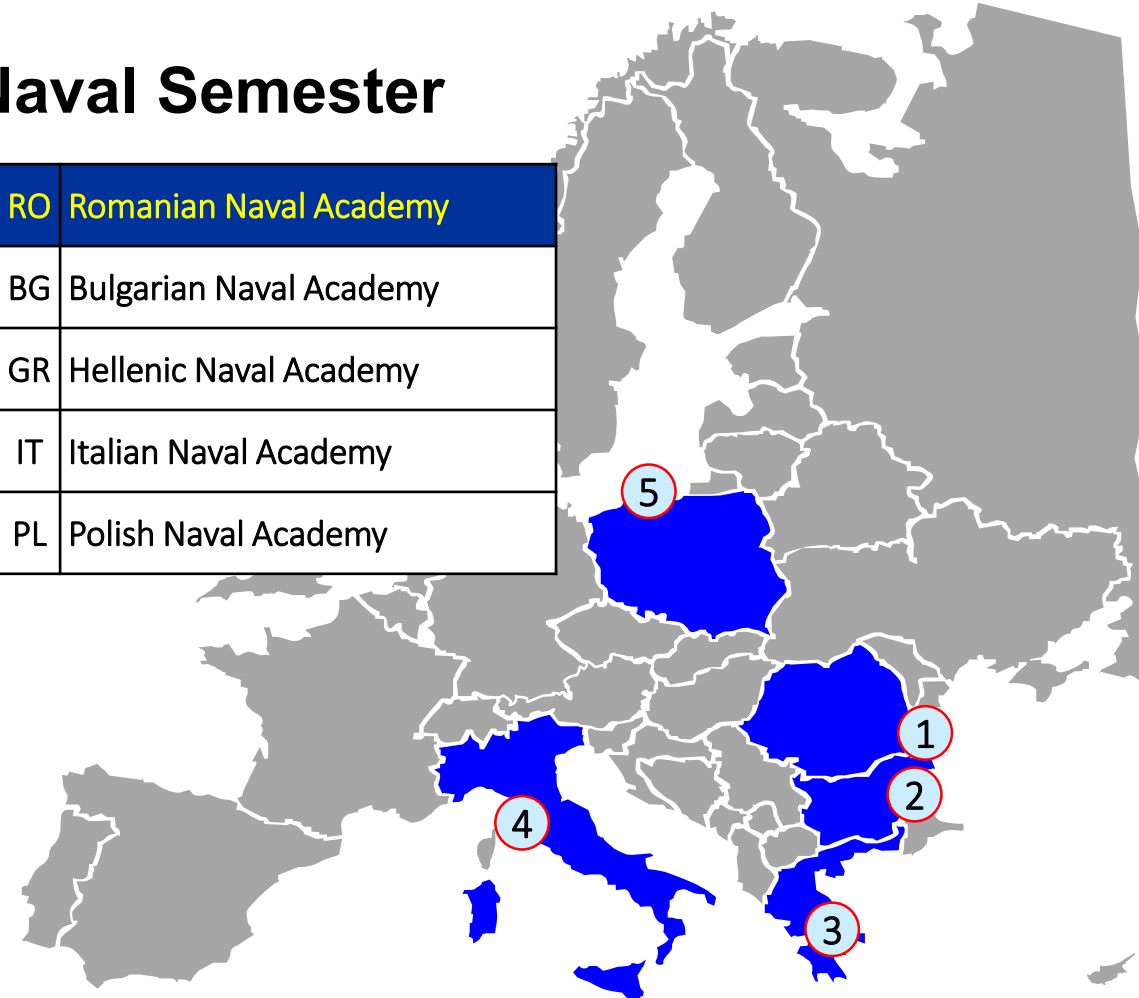
Air Force Semester

1	GR	Hellenic Air Force Academy
2	RO	Henri Coanda Air Force Academy
3	PT	Portuguese Air Force Academy



Naval Semester

1	RO	Romanian Naval Academy
2	BG	Bulgarian Naval Academy
3	GR	Hellenic Naval Academy
4	IT	Italian Naval Academy
5	PL	Polish Naval Academy





Military Erasmus in Numbers 2022-2023



24

EU MEMBER
STATES



65

MILITARY
INSTITUTIONS

48

ACTIVE
PARTICIPATION

UP TO DATE



3569

CADETS



238

EVENTS



110840

DAYS

55

COMMON
MODULES

146.5

ECTS

26

IMAF MEMBERS



72 % MALE

28 % FEMALE



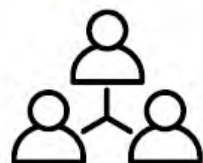
Military Erasmus in Numbers 2023-2024



ACTIVE
ACADEMIES

48

STAFF
MEMBERS



EU MEMBER
STATES

24



TOTAL NUMBER OF
CADETS TRAINED

4643

TOTAL NUMBER OF
TRAINING DAYS

150000

CADETS TRAINING GROWTH




30%



72 % MALE


28 % FEMALE

DISCUSSION with EXPERTS



What are the biggest institutional or cultural barriers within the services that prevent truly integrated education for Multi-Domain Operations?

DISCUSSION with EXPERTS



What are the primary doctrinal gaps that hinder effective integration of air-land-maritime operations in a multi-domain conflict?

DISCUSSION with EXPERTS

What lessons from recent conflicts (e.g. Ukraine) emphasize the need for better air-land-maritime integration in officer training and education?

DISCUSSION with EXPERTS



Should military education/training programs be redesigned to emphasize cross-domain operational thinking and how?

DISCUSSION with EXPERTS

In what ways can simulation and wargaming enhance cross-domain understanding among future commanders and staff officers?

DISCUSSION with EXPERTS



How can military education institutions cooperate with academies or industry to improve cross-domain operational proficiency?

Panel 2: Air-Land & Maritime Integration in Multi-Domain Operations: challenge to military education - conclusions

- **Multi-Domain Operations (MDO)** require seamless integration of domain capabilities - traditional domain-centric education is no longer sufficient.
- **Military education must evolve** to foster cross-domain operational thinking and adaptability in increasingly complex and contested environments.
- **Integrated operational proficiency** is essential - officers must be equipped to understand and lead in joint environment.
- **Persistent challenges include:**
 - Institutional inertia and stovepiped training models
 - Limited exposure to joint force operations during education
 - Gaps in curriculum regarding emerging technologies and domains
- **Cyber, space, and information domains** are reshaping the character of warfare and must be incorporated into education alongside kinetic domains.
- **Modern tools and methodologies** such as advanced simulations, AI-driven wargames, and cross-domain case studies enhance learning outcomes.
- **International and interagency collaboration** offers valuable perspectives and strengthens multi-domain awareness.
- **Recent conflicts highlight** that disjointed operations reduce effectiveness - joint understanding must be a foundational part of leadership development.
- **Evaluation and feedback mechanisms** are critical to ensure education outcomes align with operational demands.
- **Conclusion:** Military education must **adapt and evolve** to produce agile, joint-minded leaders capable of operating in the dynamic, multi-domain battlespace of the future.



SPREAD YOUR WINGS

DEBŁIN "SCHOOL OF EAGLETS"
- WHERE THE HEART OF AVIATION BEATS