ROYAL MILITARY ACADEMY
ROBOTICS & AUTONOMOUS SYSTEMS
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ROBOTICS & AUTONOMOUS SYSTEMS

DEFENCE

Drone warfare seminar–Wrap-up

RMA Brussels
Royal Military Academy

SitRep on drone warfare

- Use cases: Nagorno-Karabakh + Ukraine
- Widespread use of drones
- Compressed kill chain ➔ high-intensity battlefield
- Countermeasures (and tactics) and Electronic Warfare getting better
- Accessibility and affordability ➔ proliferation of the technology
- Strategic and tactical advantages of using drones
- Tactical innovations

Future Trends and Innovations: Drones

- Artificial Intelligence and Machine Learning Integration: Autonomy & Swarming
- Enhanced Surveillance and Reconnaissance Capabilities
- Miniaturization and Stealth Technologies
- Improved Payload Capabilities
- Long-Range and High-Endurance Drones
- Network-Centric Warfare
- Human-Machine Teaming
- Quantitative Training of drone operators

Future Trends and Innovations: Counter-drone

DTI technologies:

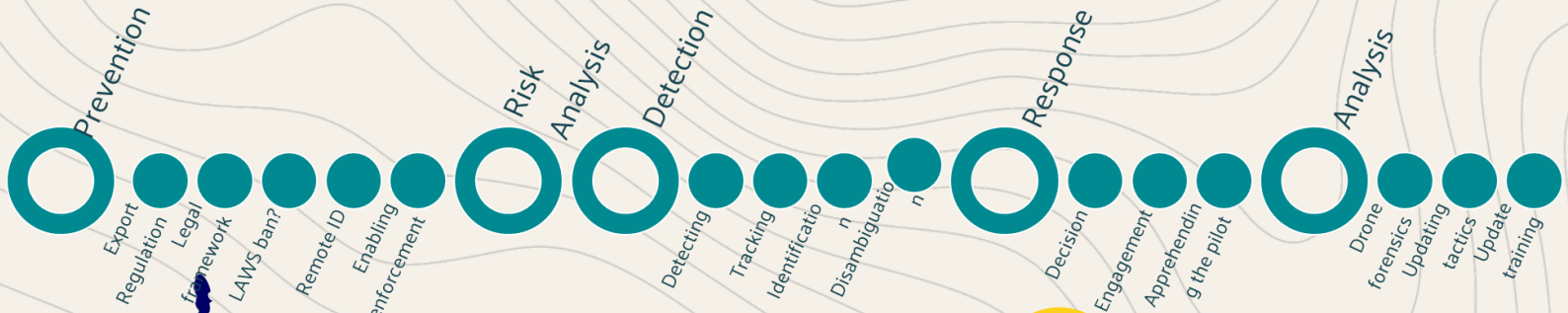
- Visual cameras
- Thermal cameras
- RF Monitoring
- Acoustic sensing
- RADAR
- LiDAR
- Combinations

Neutralisation technologies:

- High-Power Laser
- RF Jamming & Spoofing
- GNSS jamming & spoofing
- Interceptor drones
- High-Power Microwave
- Kinetic

Future:

- Regulatory framework
- Predictive Analytics
- Behavioral Analysis
- UTM Integration
- Portability
- Performance assessment (COURAGEOUS)
- Automated Response Systems
- Directed Signal Jamming and Spoofing
- Hacking & takeover



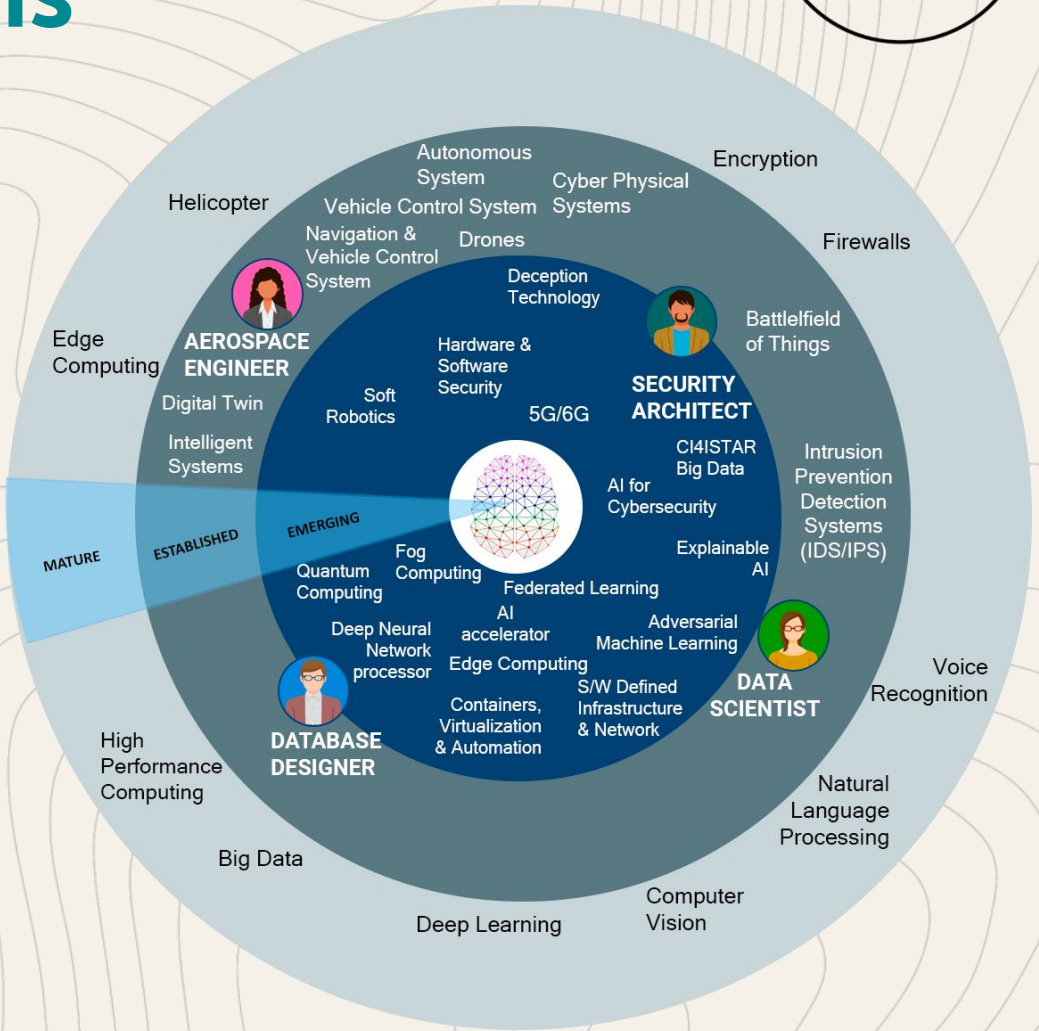
Training the future generations

Alliance for Strategic Skills addressing Emerging Technologies in Defence: ASSETs+

ASSETs+ is an Erasmus+ project, aiming to close the gap between skills developed in universities and requirements on the terrain

30 partners from 8 countries and a broad ecosystem of stakeholders.

https://assets-plus.eu/



Adapting to the new era

- Update policies to address new capabilities like **AI** and **autonomous systems**.
- This includes revising **rules of engagement**, adapt military acquisition cycles, and developing frameworks for counter-drone technologies.
- Multiple similarities between air-ground-maritime domains ➔ concertation required, also in upcoming EDA / EDF projects
- **Discussion**: How to integrate this new reality in training of officers?
    - From training drone operators (e.g. VR or not) to training new commanders to develop new tactics (availability of lessons learned?)
- **Problem**: access to airspace for testing
- **Opportunity**: Competition between military academies (/universities)?

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Thank you!

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