Training for Security Operations in Complex Urban Environments

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The Environment

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Disaster Relief

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Support Operations

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Warfighting Operations

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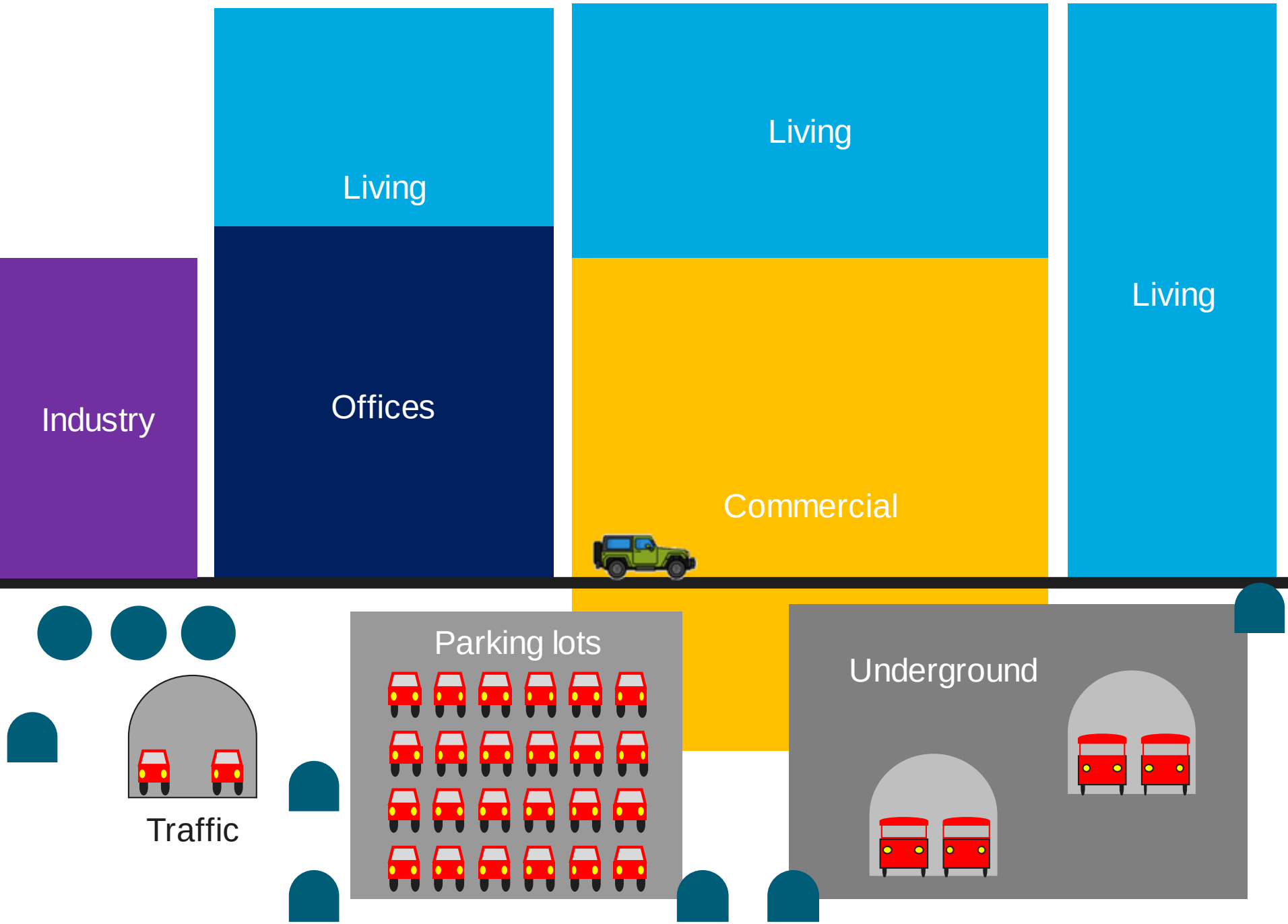
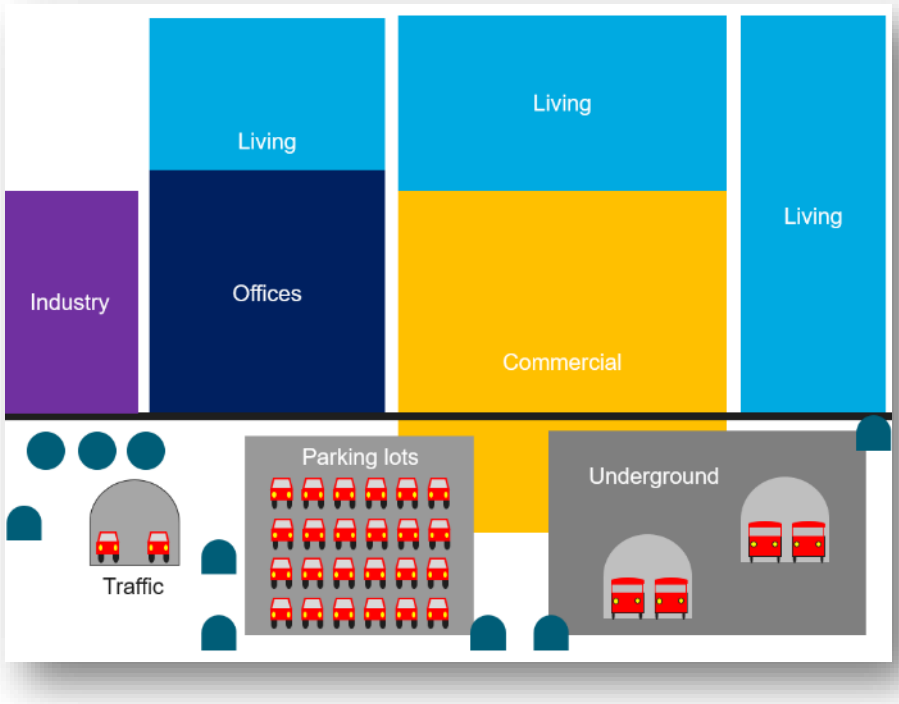

Living
Living
Living
Industry
Offices
Commercial
Parking lots
Underground
Traffic

Challenges (1)

- Very large buildings (above and bellow ground), like
  - industrial complex,
  - shopping malls,
  - parking lots
  - railroad stations
- Transportation network (above and bellow ground)
- Housing
- Population
- …



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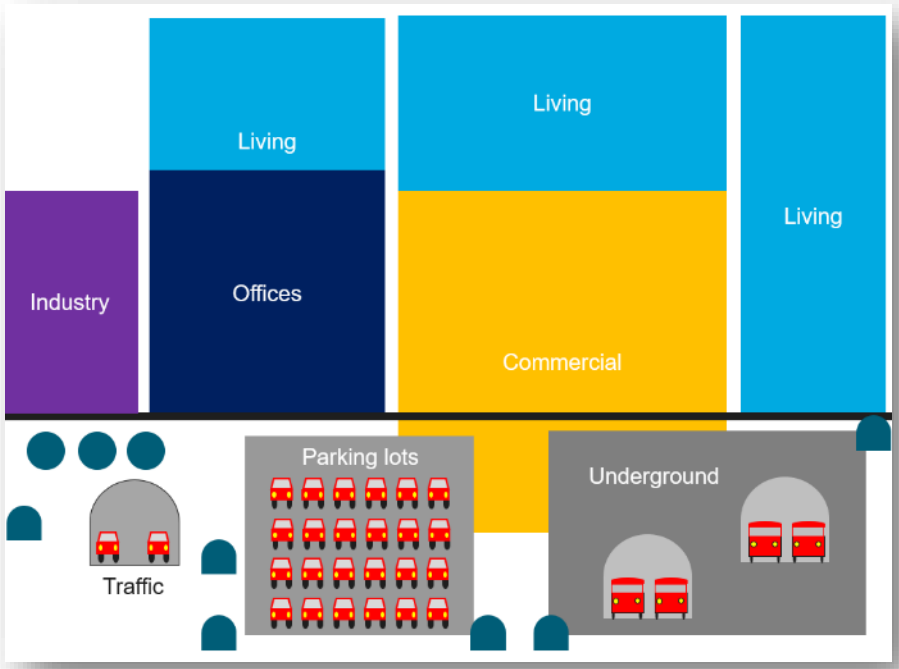
Challenges (2)

- 3 dimensional environment
- To gain and keep the situational awareness
- Combined Arms
- Coordination
- Blocked view
- Blocked lines of fire
- Tactical communication
- Battlefield Management System
- Tracking BLUEFOR & OPFOR
- Logistics
- …



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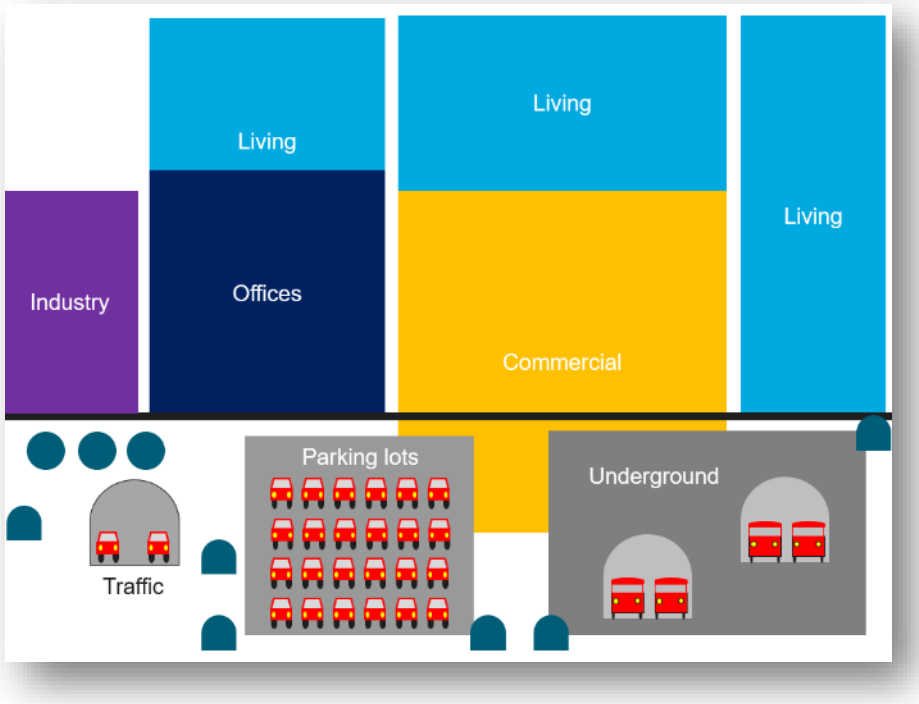
Challenges (3)

- Asymmetric Warfare
- Unmanned Ground Vehicles
- Unmanned Aerial Vehicles
- Cyberwarfare

- Medias
- Social Networks
- NGOs
- Civil Protection Organisations
- Blue Light Organisations
- …



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Training

- Technical Procedures
  - Fire, Indirect Fire
  - Movement (AABG)
  - Communication
  - Mobility
  - CASEVAC

- Tactical Procedures
  - Decision Making Process
  - Tactical Schemes
  - Mixed Units
  - Combined Arms
  - Collaboration with others

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Training Tools

Live Fire

Field Exercises

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Training Tools

Decision Making Exercises

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Training Tools

Staff Exercises with Partners

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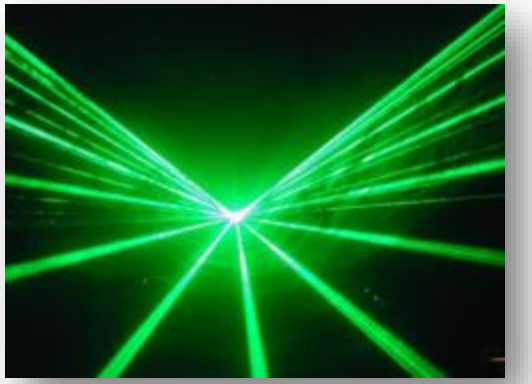
Training Tools

Real people
Real weapon systems
Real terrain
Simulated effects



LIVE SIMULATION

Real people
Simulated weapon systems
Simulated terrain
Simulated effects

VIRTUAL SIMULATION

Simulated people
Simulated weapon systems
Simulated terrain
Simulated effects

CONSTRUCTIVE SIMULATION

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Training Tools

Desktop Trainer / Serious Games

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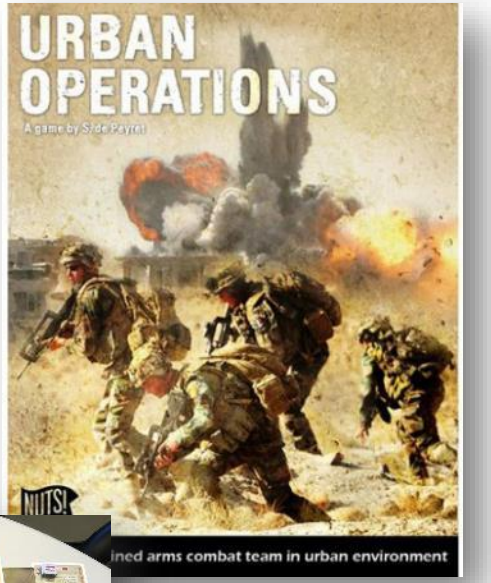
Training Tools

Paper War Games



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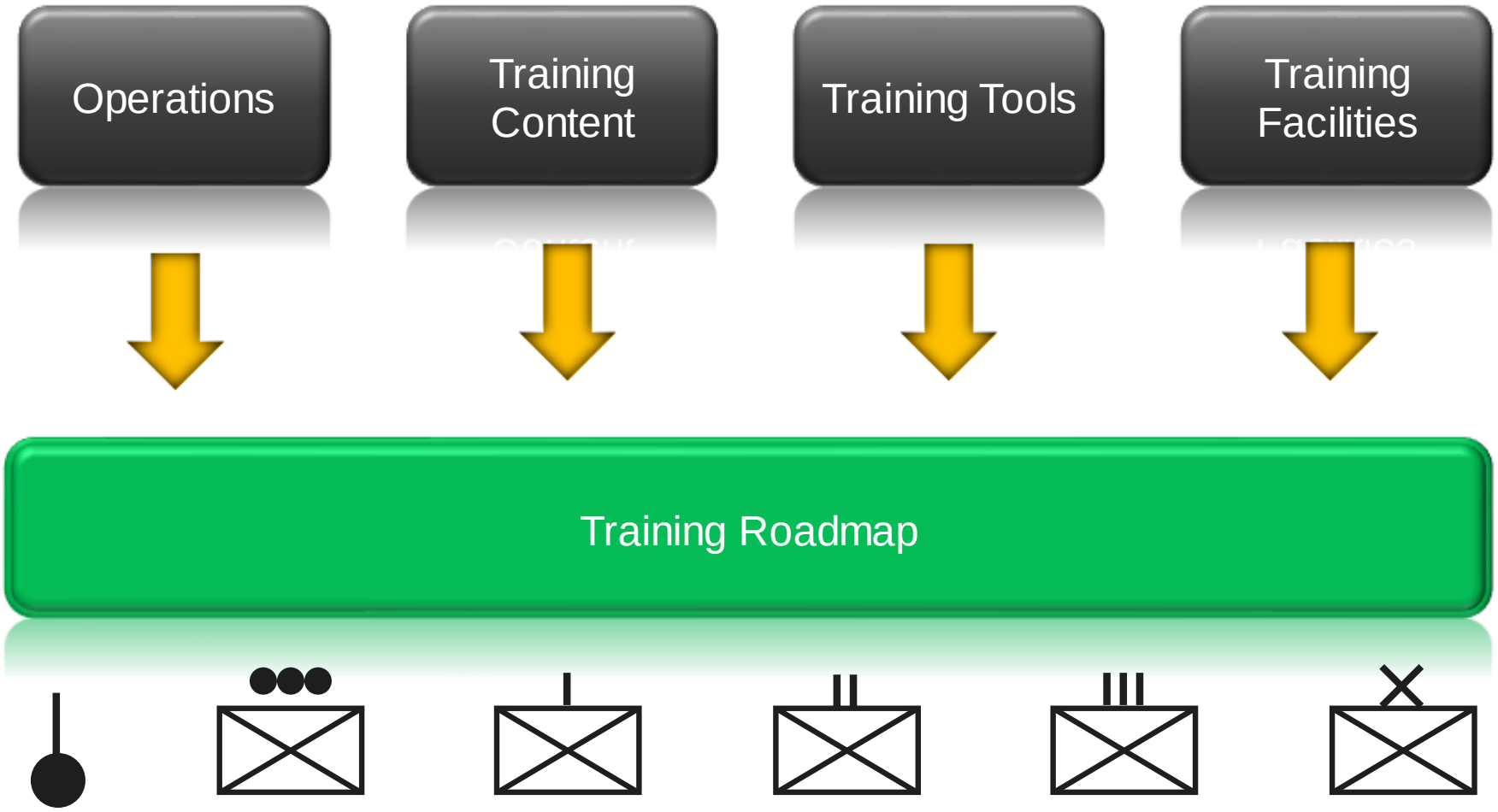
The Challenge



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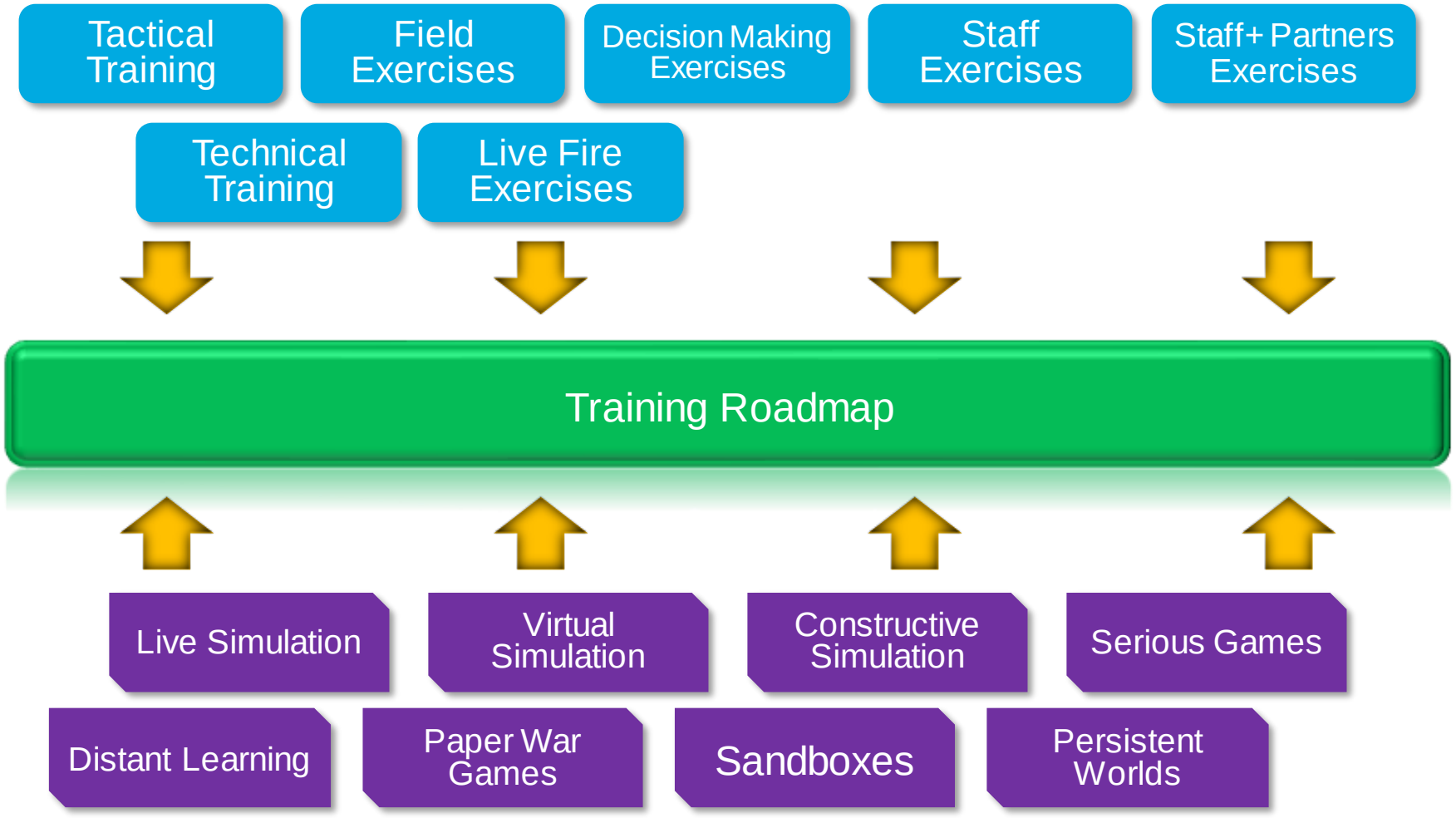
The Challenge



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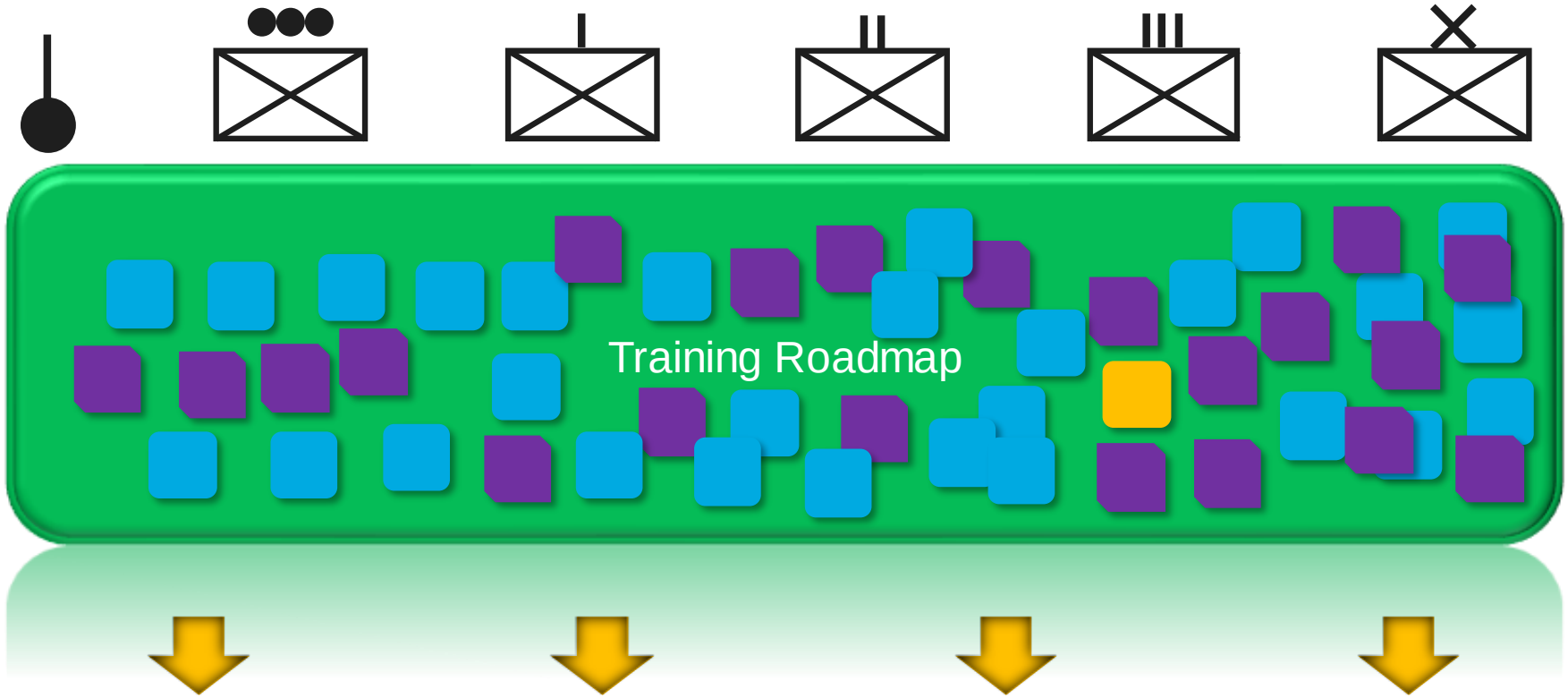
The Follow-up



The Requirements

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Remarks

- To train the operations in the urban environment, is a challenge on it's own:
  - In Live simulation, due to boundaries imposed by the law of physics, we have to find some work around allowing the soldier to train as close as possible to reality.
  - Good or bad technical solutions from a technology point of view, can generate negative training.
  - Some aspects are very difficult or useless to support with computer based simulation:
    - a press conference from a commander can be trained with role players to achieve the needed level of confidence:
    - a coordination meeting with Blue Light Organisations should be played with the real partners.

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Final Thoughts

- The level of details for the After Action Review is different for every type of operation.
- The level of fidelity for the simulations may also differ between the different operation types and the training tools.
- Live Simulation needs a higher investment but allows to train as close as possible to reality.
- There is a correlation between the understanding how the troops operates and the live simulation to avoid negative training.
- The Training Requirements are the foundation for any efficient training roadmap with adapted tools, to reach the operational readiness in urban operations.

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