



JTLS Support to Strategic/Operational requirements and Integration with Wargaming

JTLS-GO International Users Working Group

VERSION 1.0

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AGENDA

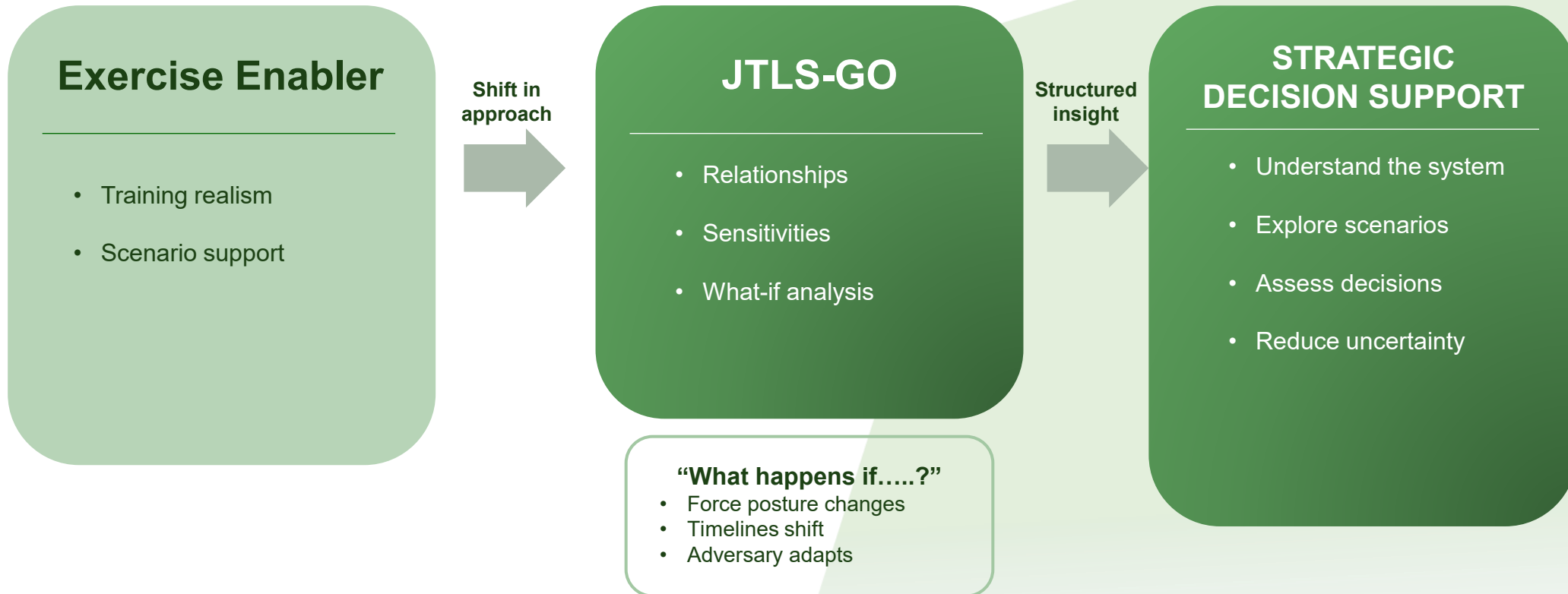
1. M&S/JTLS-GO within ACO Innovation Portfolio
2. From Exercise Support to Decision Advantage
3. SHAPE Research & Analysis Ecosystem
4. Integrating M&S/JTLS-GO and Wargaming
5. JTLS-GO and Wargaming Integration Cycle.
6. JTLS Support to Wargaming for Tactical Offensive Operation
7. Conclusions and Key Findings
8. Q&A

M&S/JTLS within ACO Innovation Portfolio



From Exercise Support to Decision Advantage

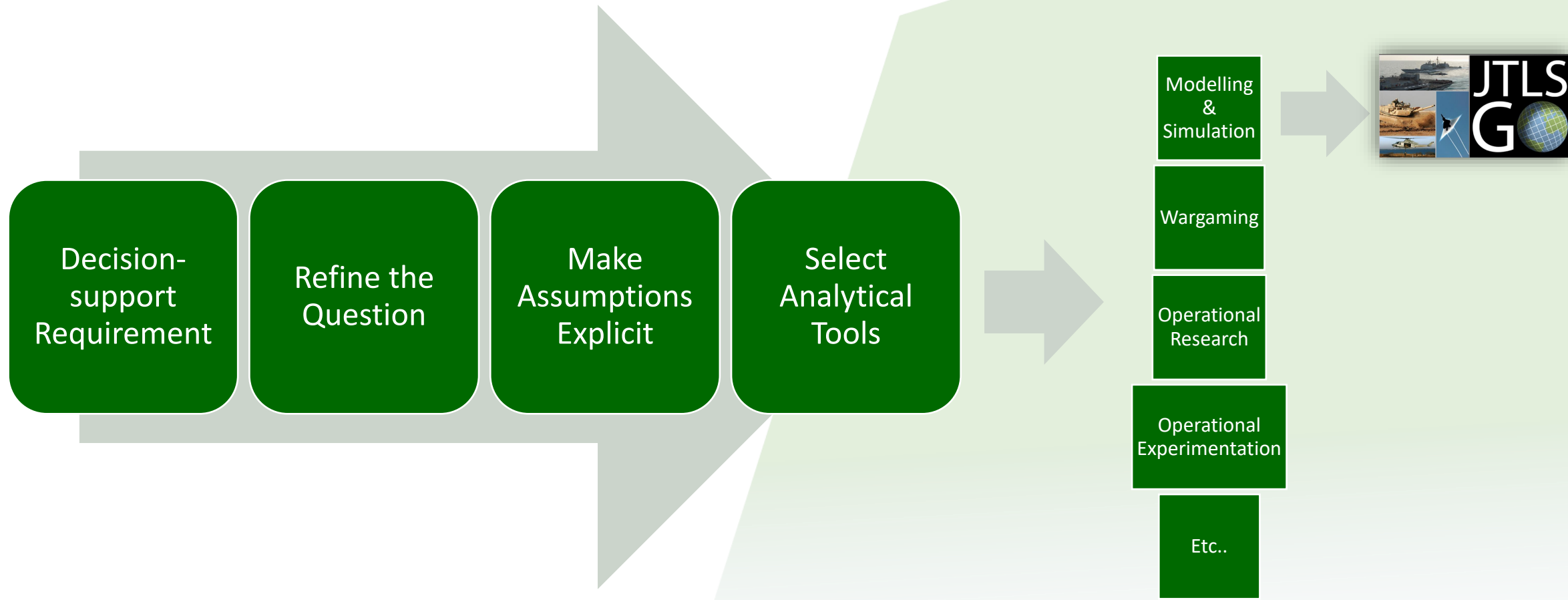
Decision-making under uncertainty



Goal: Not 100% truth, but indications for better-informed decisions



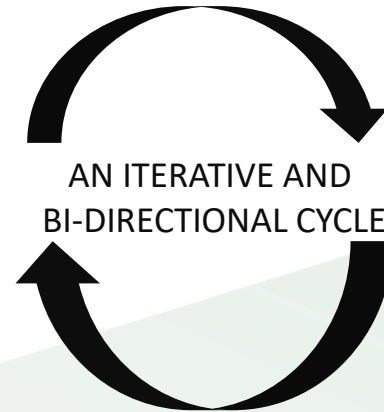
SHAPE Research & Analysis Ecosystem



Integrating M&S/JTLS-GO and Wargaming

JTLS-GO explores complex systems but lacks human judgement:

- It does not think
- It does not adapt
- It cannot fully capture human behaviours or adversary creativity



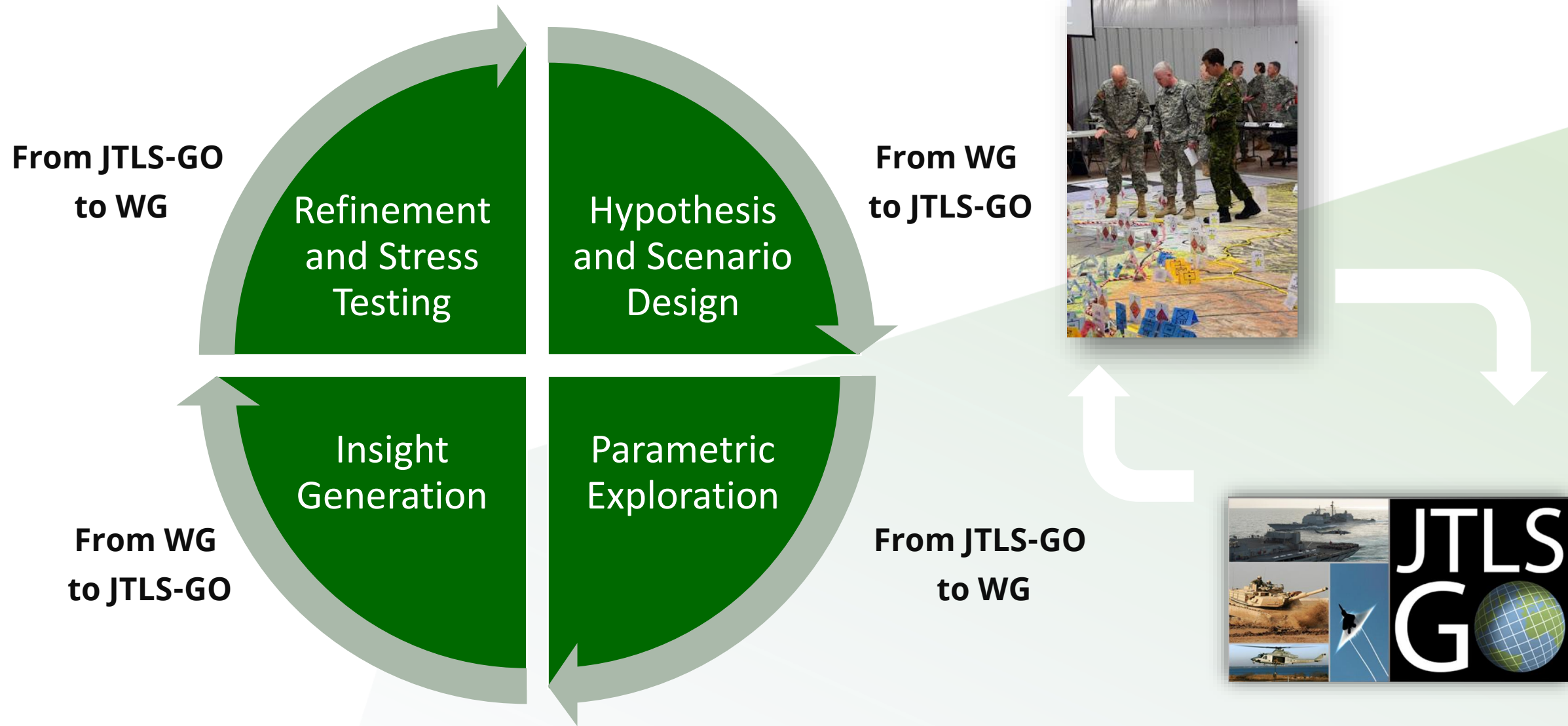
Wargaming adds decision-making and adversarial thinking:

- But the analysis might lack granularity



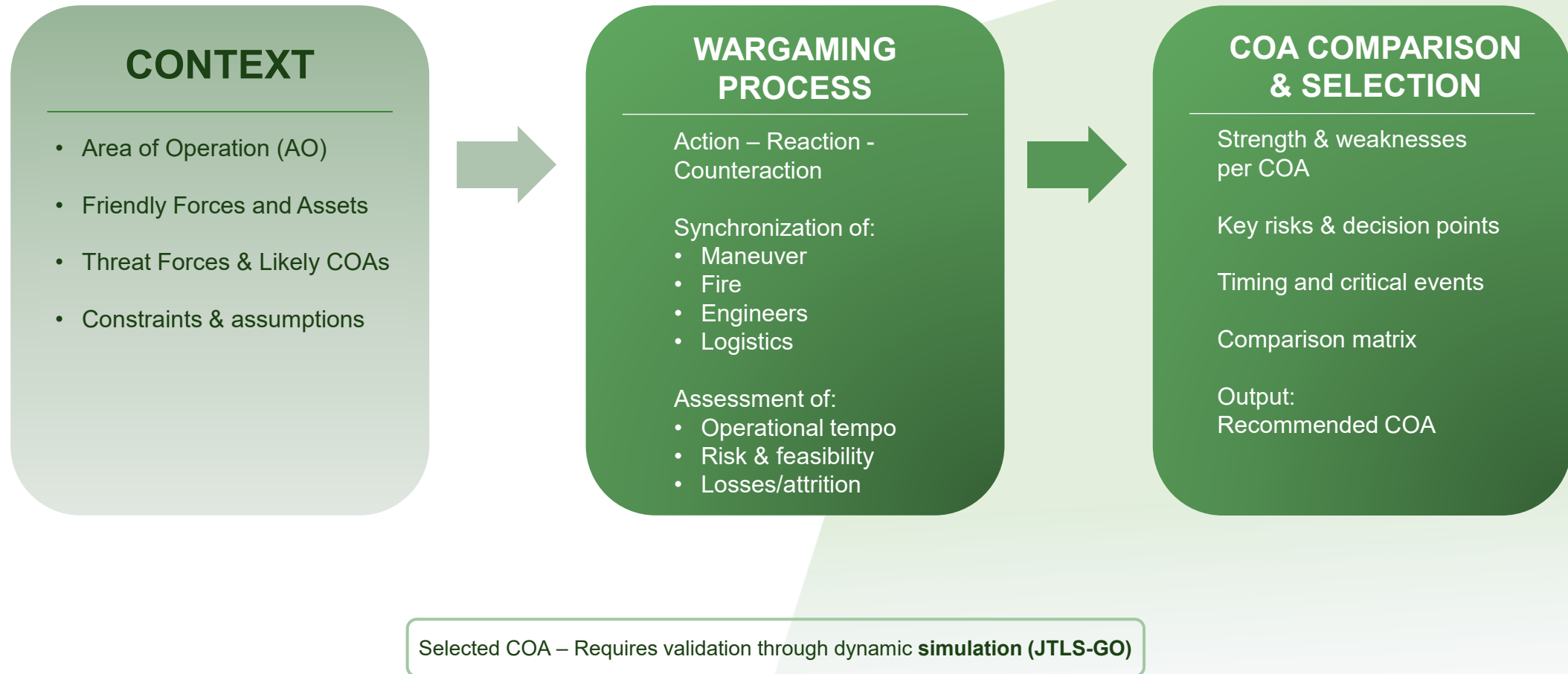
Combining JTLS-GO and Wargaming reinforces one another during a research campaign.
Introduced by Perla's Research Cycle (within the Art of Wargaming).

JTLS-GO and Wargaming Integration Cycle



JTLS Support to Wargaming for Tactical Offensive Operation

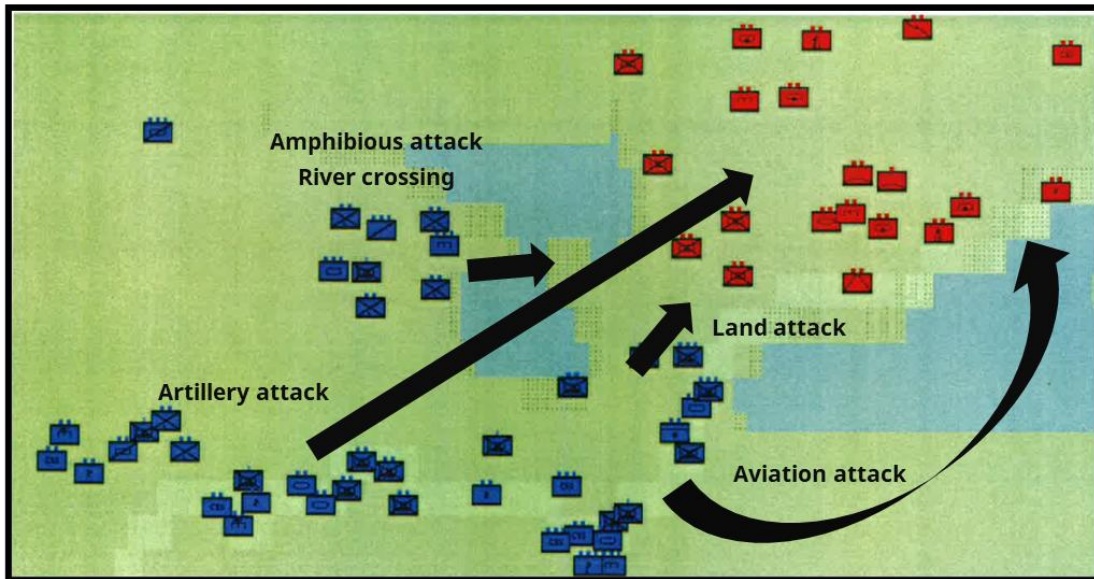
Wargaming to Identify the Optimal Course of Action (COA)



JTLS Support to Wargaming for Tactical Offensive Operation

Objectives of the study

- To analyse the effectiveness of the selected COA and support decision-making
- To assess the feasibility of resupply routes



Key Elements modelled in JTLS

1. Terrain & Environment

- Hydrography: rivers, lakes, swamps
- Trafficability for approach and supply routes;

2. Friendly Forces & Capabilities

- Manoeuvre units (armoured, infantry, mechanized);
- Engineer assets (bridging, assault boats);
- Support assets (artillery fires, aviation units, sustainment);

3. Threat Forces & Behaviour

- Enemy locations and likely courses of action;
- Detection, engagement ranges, and weapons effects;
- Reaction time and reinforcement patterns.

4. Operations & Tasks

- Shaping operations (fires, artillery fire, aviation assault and amphibious attack);
- Crossing operations and tempo;
- Follow-on operations: build-up and expansion.

5. Logistics & Sustainment

- Fuel, ammo, and general supply;
- Resupply routes and throughput.

6. Measures & Outcomes

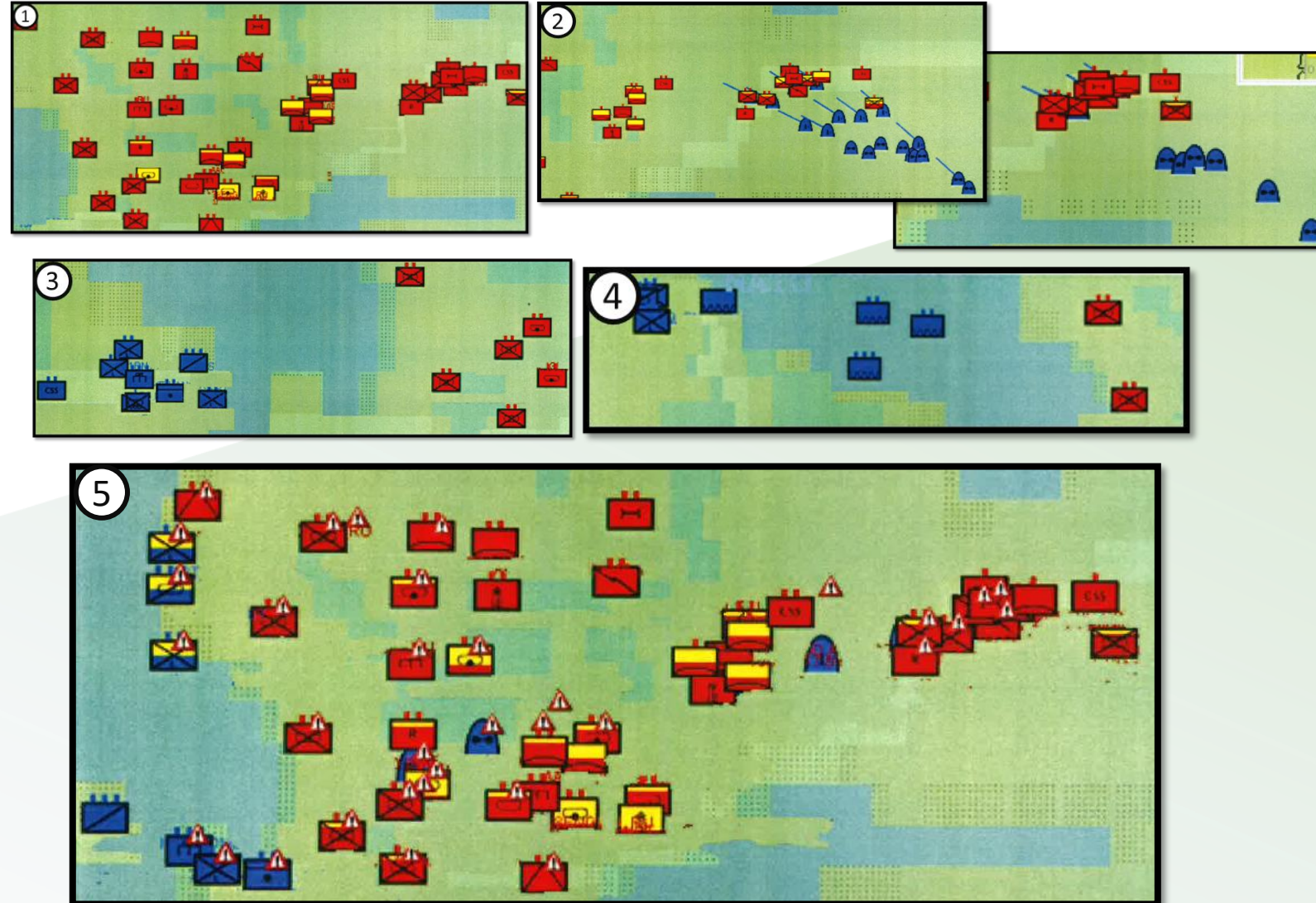
- Operations timelines and throughput;
- Losses and attrition;
- Mission success and risk assessment.

JTLS Support to Wargaming for Tactical Offensive Operation

Modelled Operational Activities

1. Long and medium range artillery fire effects
2. Aviation attacks
3. River crossing operations
4. Amphibious attack
5. Battalion-level Land offensive Manoeuvre and overall resulting attrition level

Simulation Outputs





Conclusions and Key Findings

COA Effectiveness (Main Insight)

- Selected COA showed limitations under simulation
- Insufficient suppression of enemy air defence
- Aviation phase resulted in higher-than-expected losses

Fires & Sequencing Adjustment

- Requirement for extended artillery preparation phase
- Improved shaping needed to degrade enemy AD capabilities
- Better synchronisation between fires and aviation

Logistics & Sustainment Constraints

- SPOD-based supply flow insufficient and delayed
- Terrain significantly impacted throughput and timing
- Risk to sustainment during critical operational phases

Overall Assessment

- COA not fully viable in current form
- Requires refinement in fires planning and logistics design

JTLS enables identification of critical weaknesses and supports COA refinement before execution

Questions

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