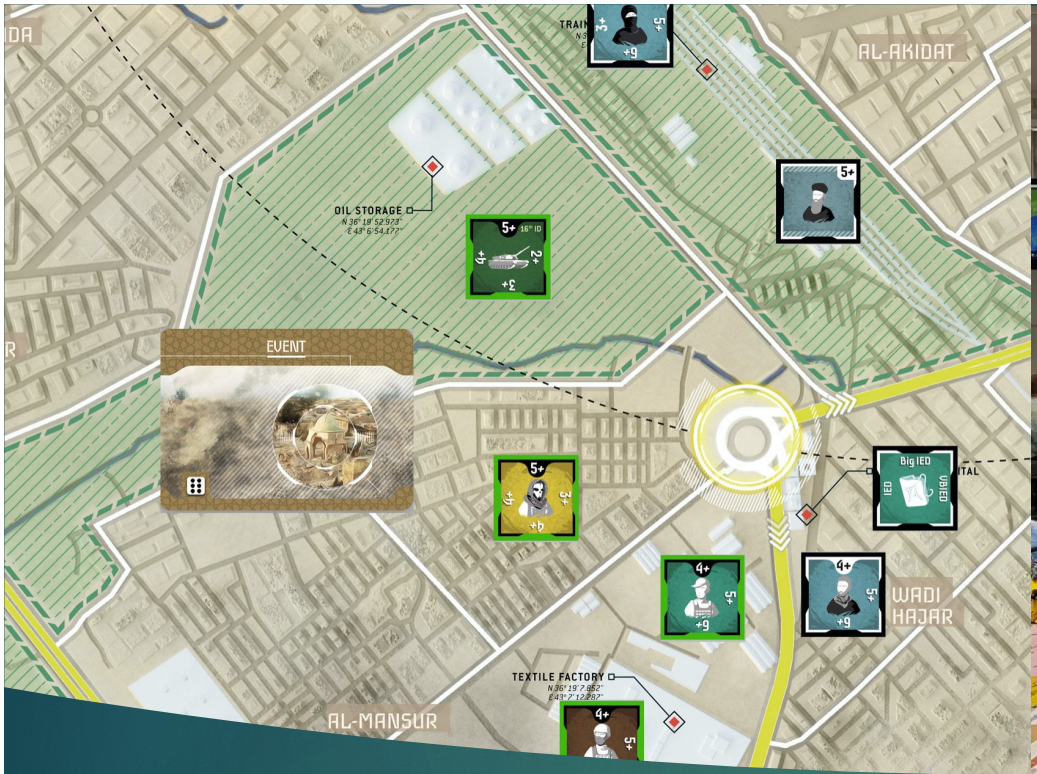


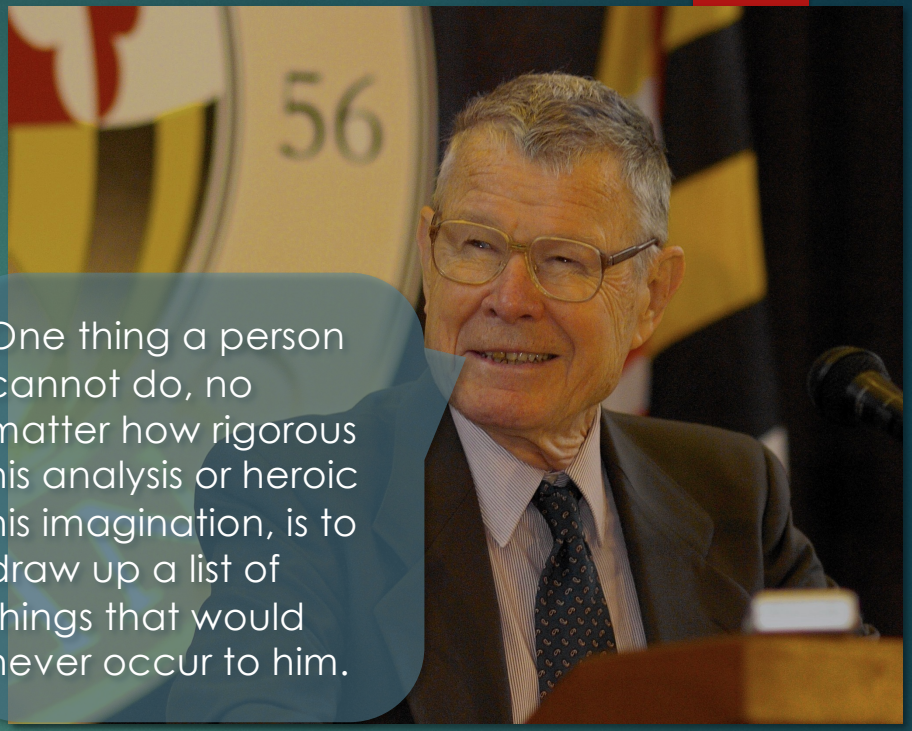
Why Serious Games?

...in the whole range of human activities, war most closely resembles a game of cards.

Carl von Clausewitz

with Marie Sophie Gräfin von Brühl

- Prussian military theorist.
- Author of *On War*.



One thing a person cannot do, no matter how rigorous his analysis or heroic his imagination, is to draw up a list of things that would never occur to him.

Thomas Schelling

- Nobel Prize (Economics) for work on game theory.
- Pioneer of POL-MIL gaming at RAND.

What are serious games?

Structured form of play. Adversarial or competitive interaction.

- **Serious games** are those that have as their primary purpose a serious objective other than entertainment.
  - education and capacity-building
  - analysis
  - information, influence and advocacy

Serious games can also be engaging and even "enjoyable".

What is gamification?

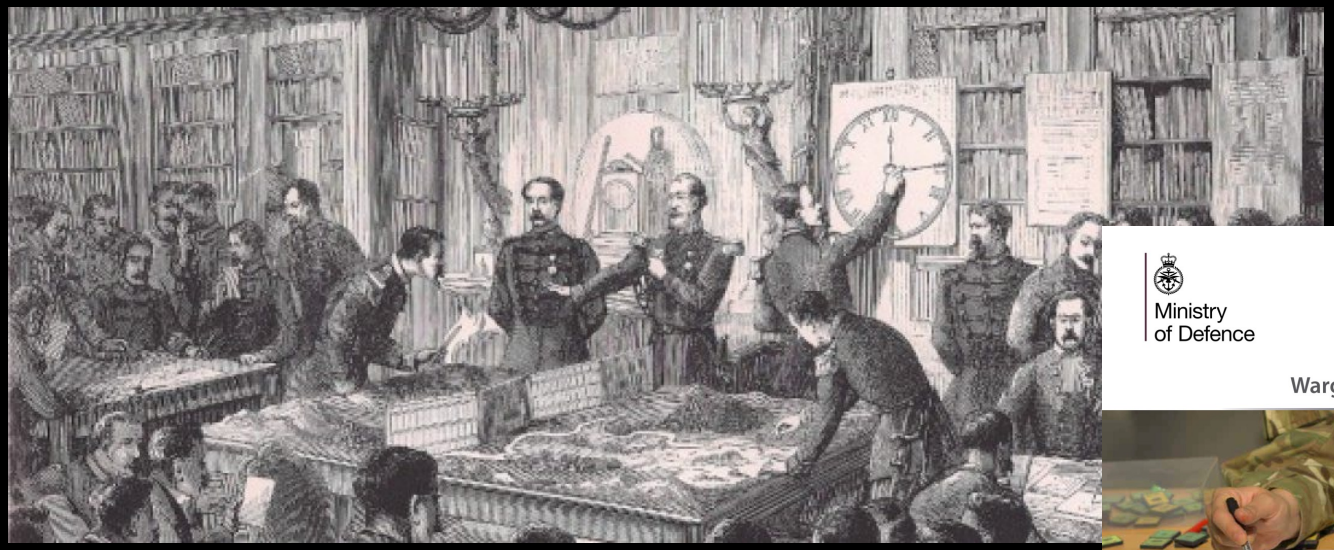
- **Gamification** is the application of typical elements of game playing to other areas of activity.
  - tasks
  - points scoring
  - competition
  - badges

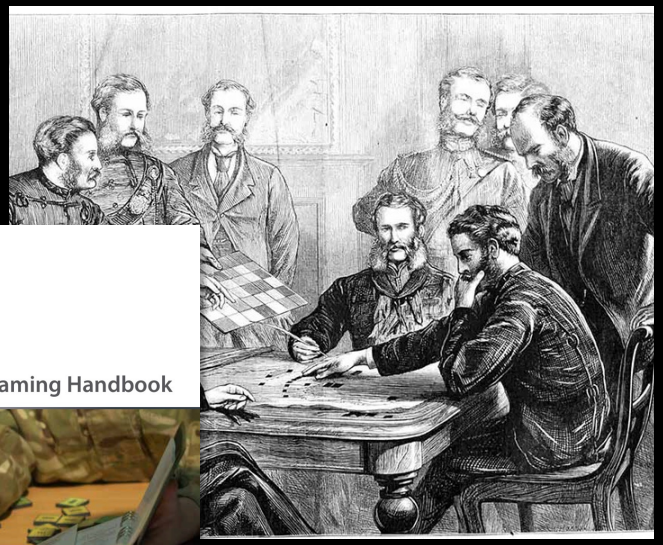
What is wargaming?

Wargaming was perhaps the first form of professional "serious gaming."

- **Wargaming** is the application of **serious games** to issues of **armed conflict**.

In critical security and strategic studies, this might be expanded beyond military security and armed conflict to many other forms of (human) security and (political, social, economic) conflict.

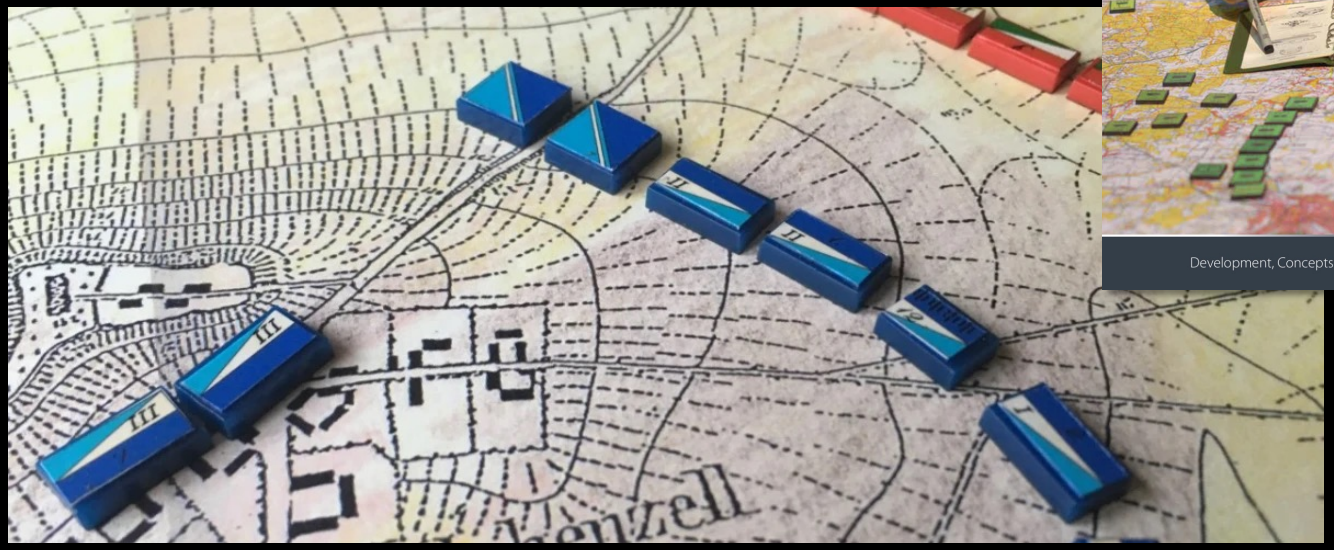


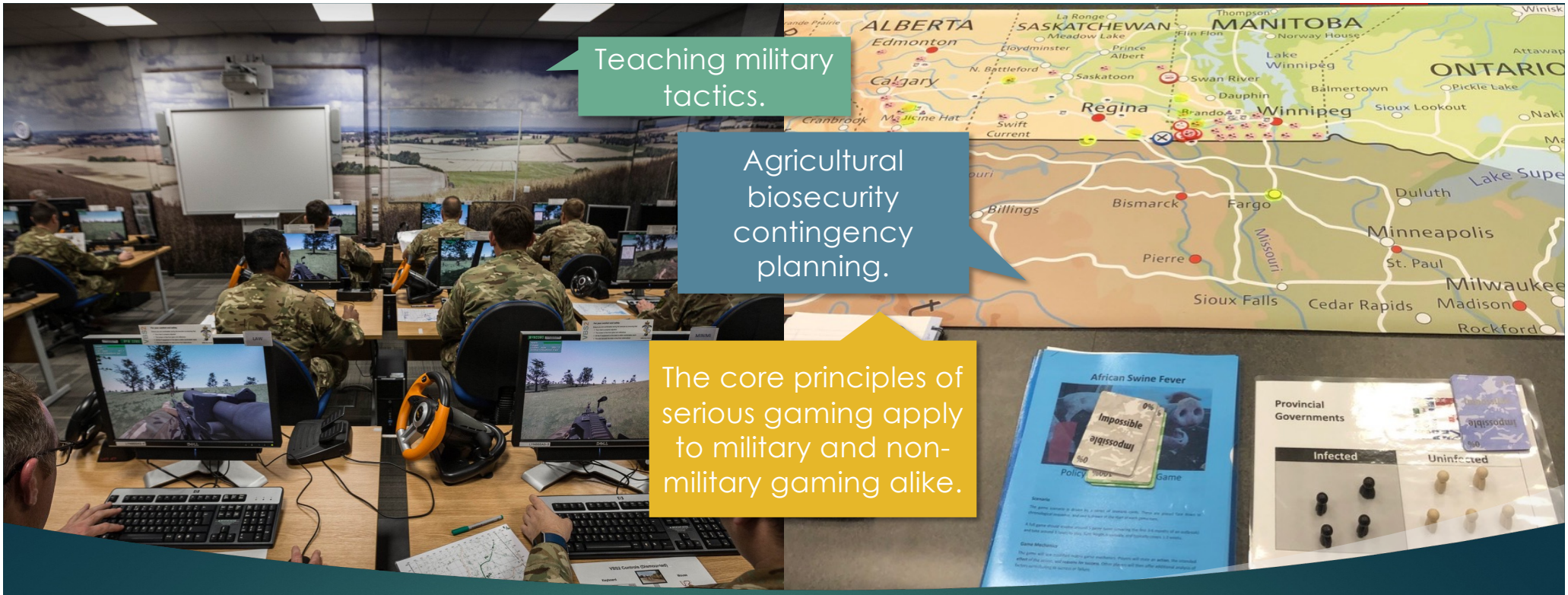


Ministry
of Defence

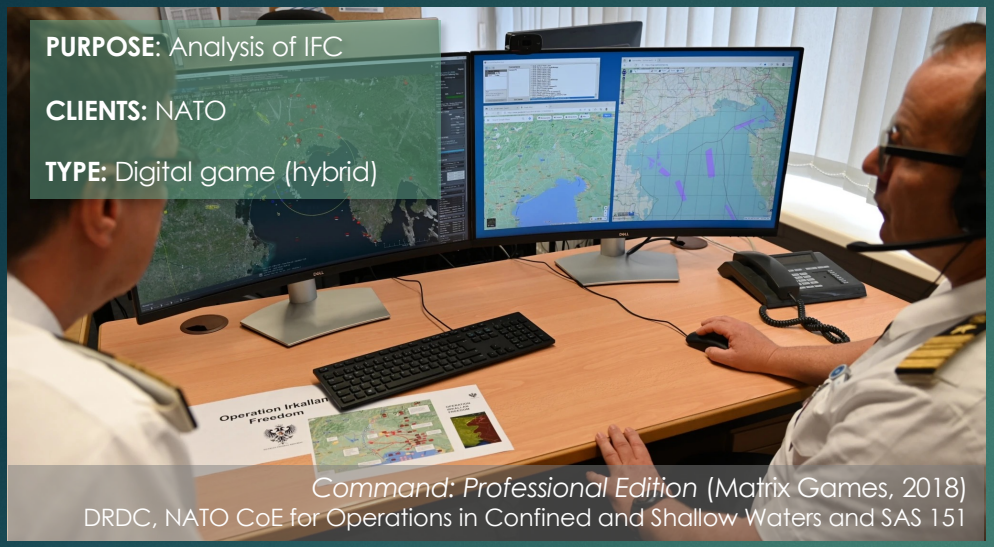
Wargaming Handbook

Development, Concepts and Doctrine Centre





Some serious game examples…

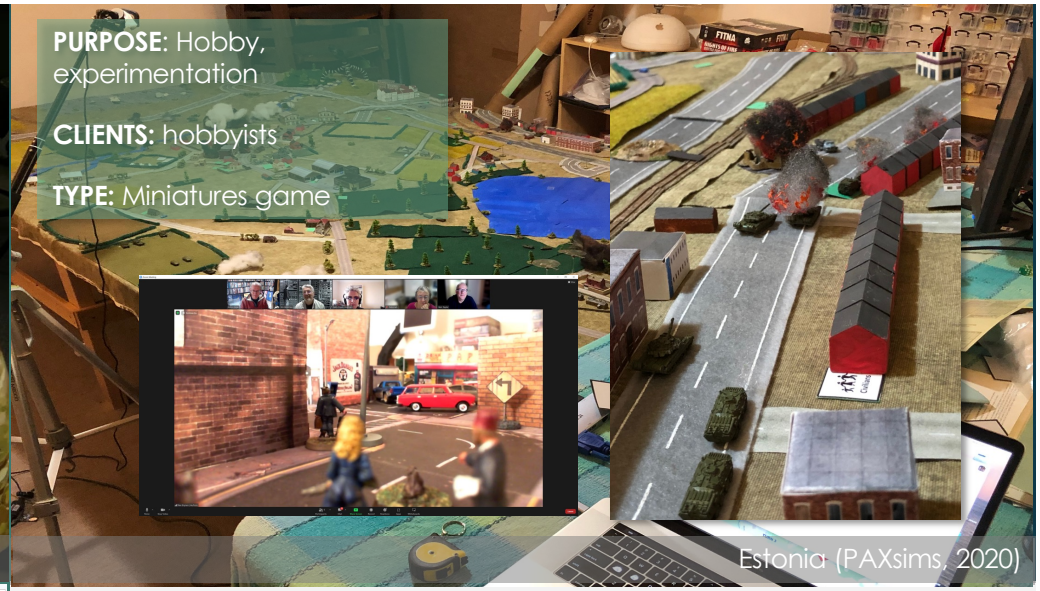

PURPOSE: Analysis of IFC
CLIENTS: NATO
TYPE: Digital game (hybrid)
Command: Professional Edition (Matrix Games, 2018)
DRDC, NATO CoE for Operations in Confined and Shallow Waters and SAS 151

PURPOSE: Tactical analysis and training
CLIENT: British Army
TYPE: Board game
STRIKE! (DstI, 2018)

PURPOSE: Familiarization, experiment
CLIENT: Connections UK
TYPE: Megagame
Dire Straits (Rock Paper Scissors/PAXsims, 2017)

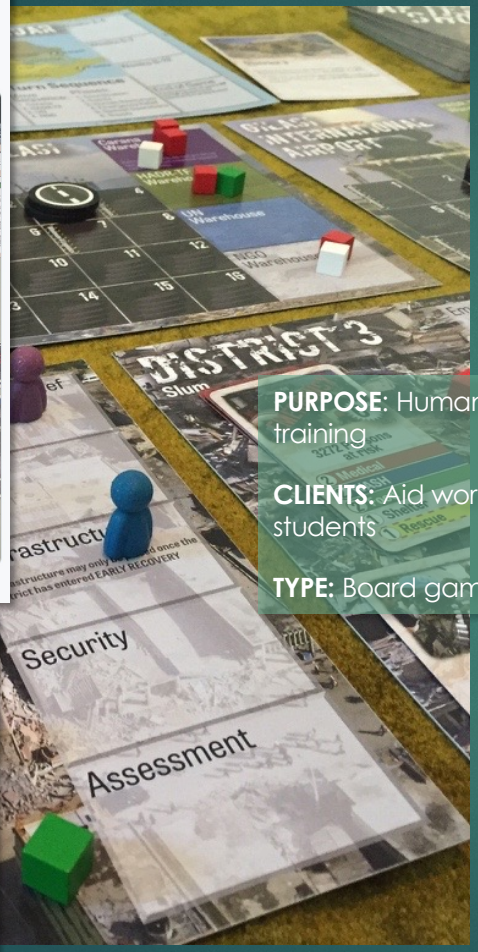
PURPOSE: Strategic reflection
CLIENT: US national security community, PME students
TYPE: Board game
Hedgemony (RAND, 2017)

PURPOSE: Matrix game familiarization
CLIENTS: serious gamers
TYPE: Matrix game
ISIS Crisis and Reckoning of Vultures (PAXsims, 2014-17)


PURPOSE: Hobby, experimentation
CLIENTS: hobbyists
TYPE: Miniatures game
Estonia (PAXsims, 2020)

PURPOSE: Analysis of IFC information warfare
CLIENTS: NATO SAS 151
TYPE: Social media game (hybrid)
Not all media outlets are independent of government influence
Democracy Today has reported that the Hyptian government has ordered the arrest of ethnic-Illyrian (or "Irkallan") officials. Hypatia Television has denied this. Who is being more truthful?
The truth is somewhere in between. According to the Hypatian Minister of Defence, all Irkallan officials who participated in the recent auonomy referendum are to be arrested. This represents almost all elected officials in the region. Irkallan Members of Parliament have fled the Hypatian capital because they believe they will be arrested. Two are reported to already be in police custody. The effect of martial law, therefore, may be to entirely disenfrachise the Irkallan minority.
Courtesy of the Anti-Disinformation Network
New report: Military violated rules by collecting information on Hypatian-Canadians, conducting OCS propaganda
BobrtheBeaver • Follow
Irkalla
Liked by MayorofIrkalla and 1,560 others
BobrtheBeaver Here I am with volunteers from the Irkallan Popular Self Defence Forces. They're fighting to defend Irkalla! Are you?
#irkallafree #IPSDF ...more
View all 720 comments
NATO SAS 151 (2021/22)

PURPOSE: PME, hobby
CLIENTS: PME, students, hobby
TYPE: Board game
IMPROVISED EXPLOSIVE DEVICE
IEDs may be placed in non-ISF areas. The IED may not be moved once placed.
Roll immediately upon ISF unit entering area:
1-3 No effect
4 Inflict 1 disruption
5-6 Inflict 1 step loss
POOR COORDINATION HAMPERS OPERATIONS
Place a disrupted marker on a unit in an area that contains ISF units reporting to different headquarters (ISF player's choice). If there is no such area or the ISF player has *Improved Coordination*, ignore this effect.
25
We Are Coming, Nineveh! (Nuts! Publishing, 2023)



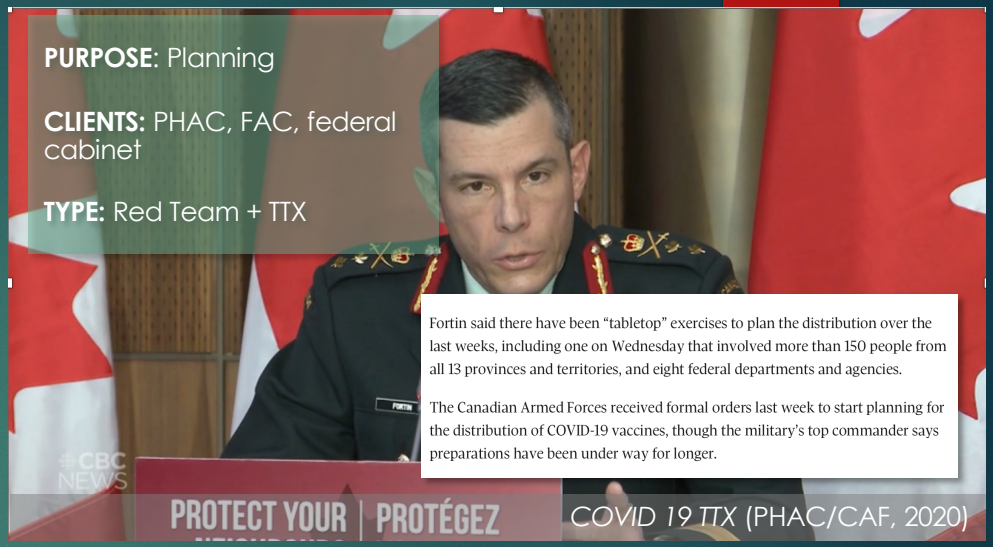
PURPOSE: Humanitarian training

CLIENTS: Aid workers, PME, students

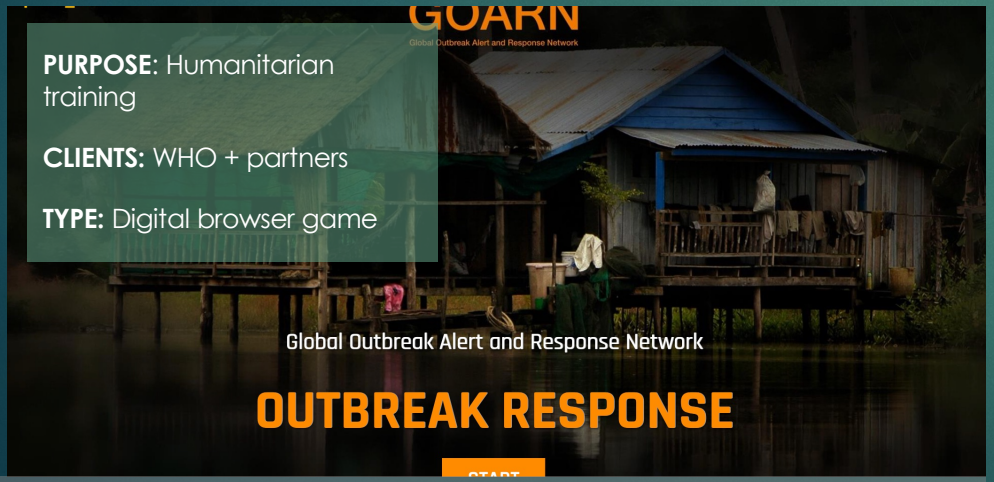
TYPE: Board game

AFTERSHOCK: A Humanitarian Crisis Game (PAXsims, 2015)

Outbreak READY! 2 (Ready Initiative, 2023)



COVID 19 TTX (PHAC/CAF, 2020)



GOARN Outbreak Response (WHO, 2022)

African Swine Fever (AAFC, 2020)

PURPOSE: Forecasting

CLIENTS: Journalists

TYPE: Matrix game

Election 2020 (NPR + The New Yorker, 2020)

PURPOSE: Policy development, negotiations support

CLIENTS: Negotiators, diplomats

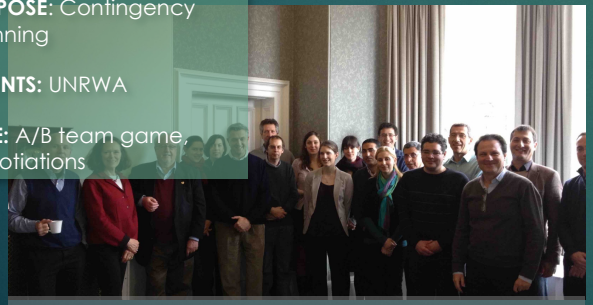
TYPE: Various

Minster Lovell Process (Chatham House, 2000-11)

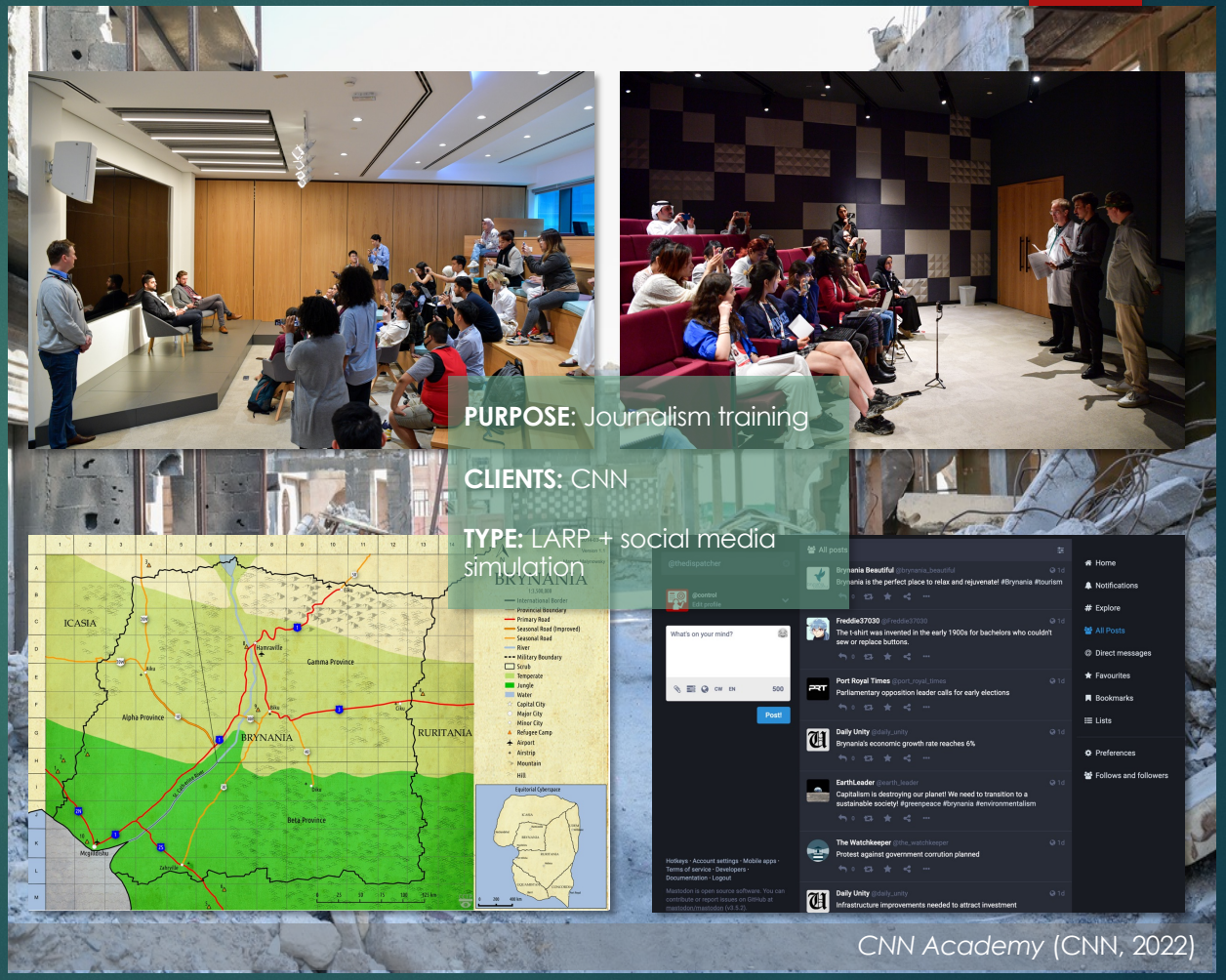
PURPOSE: Contingency planning

CLIENTS: UNRWA

TYPE: A/B team game, negotiations



UNRWA funding (University of Exeter, 2013)



PURPOSE: Journalism training

CLIENTS: CNN

TYPE: LARP + social media simulation

CNN Academy (CNN, 2022)

Serious gaming is not a magic wand

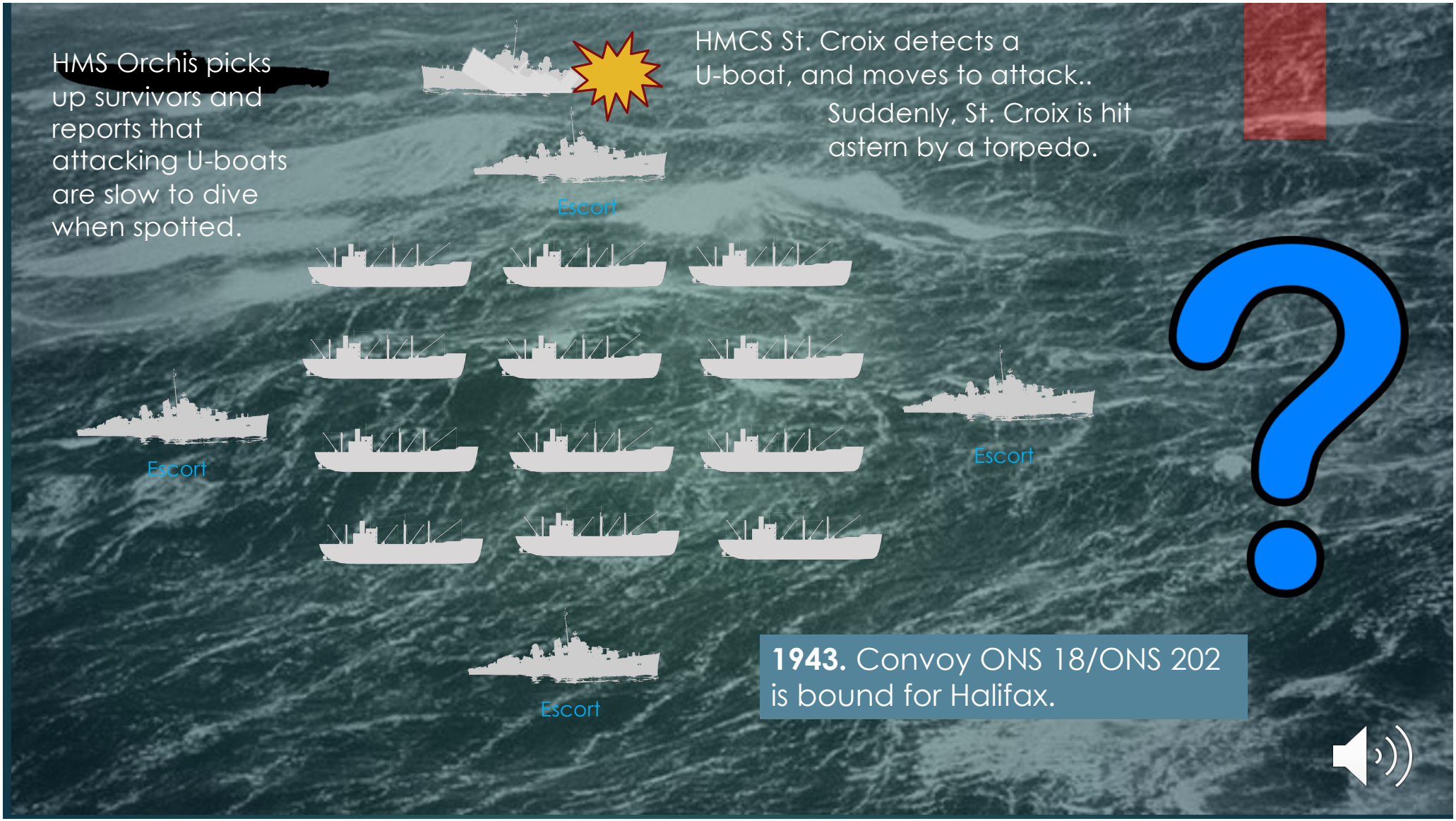
- The **question** questions
  - Is gaming the right tool? Are we gaming the right thing?
- The **modelling** problem
  - Does our game appropriately and adequately represent what it needs to represent?
- Challenge of **idiosyncrasy**
  - How is the value of the game affected by those who play it?
- The **curse of a small-n**.
  - Few iterations make it hard to generalize.

Serious gaming IS a useful tool in the analytic toolbox

- Serious gaming offers a (possibly) **unique perspective** on how capability, context, and human decision-making interact.
- Serious gaming (might) **generate new insights** into old problems.
- Serious gaming (done well) **crowdsources ideas** from diverse participants.
- Serious games can be part of an experimental methodology.
- Serious games complement other analytical methodologies.

Western Approaches Tactical Unit (RN)

Halifax Tactical Table (RCN)

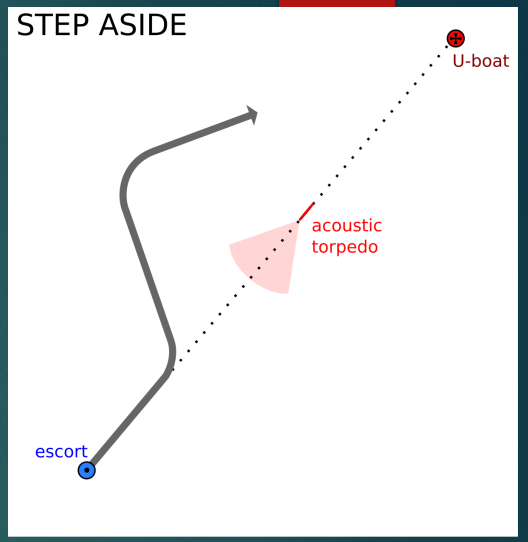

HMS Orchis picks up survivors and reports that attacking U-boats are slow to dive when spotted.
HMCS St. Croix detects a U-boat, and moves to attack..
Suddenly, St. Croix is hit astern by a torpedo.
Escort
Escort
Escort
Escort
1943. Convoy ONS 18/ONS 202 is bound for Halifax.

Intelligence on G7es (T5) Zaunkönig (Wren/GNAT) acoustic torpedo.

Reports from escort commanders.

Working assumptions.

Wargame possible solutions.



Development of tactical techniques for countering acoustic torpedoes.

Advise convoy escorts.

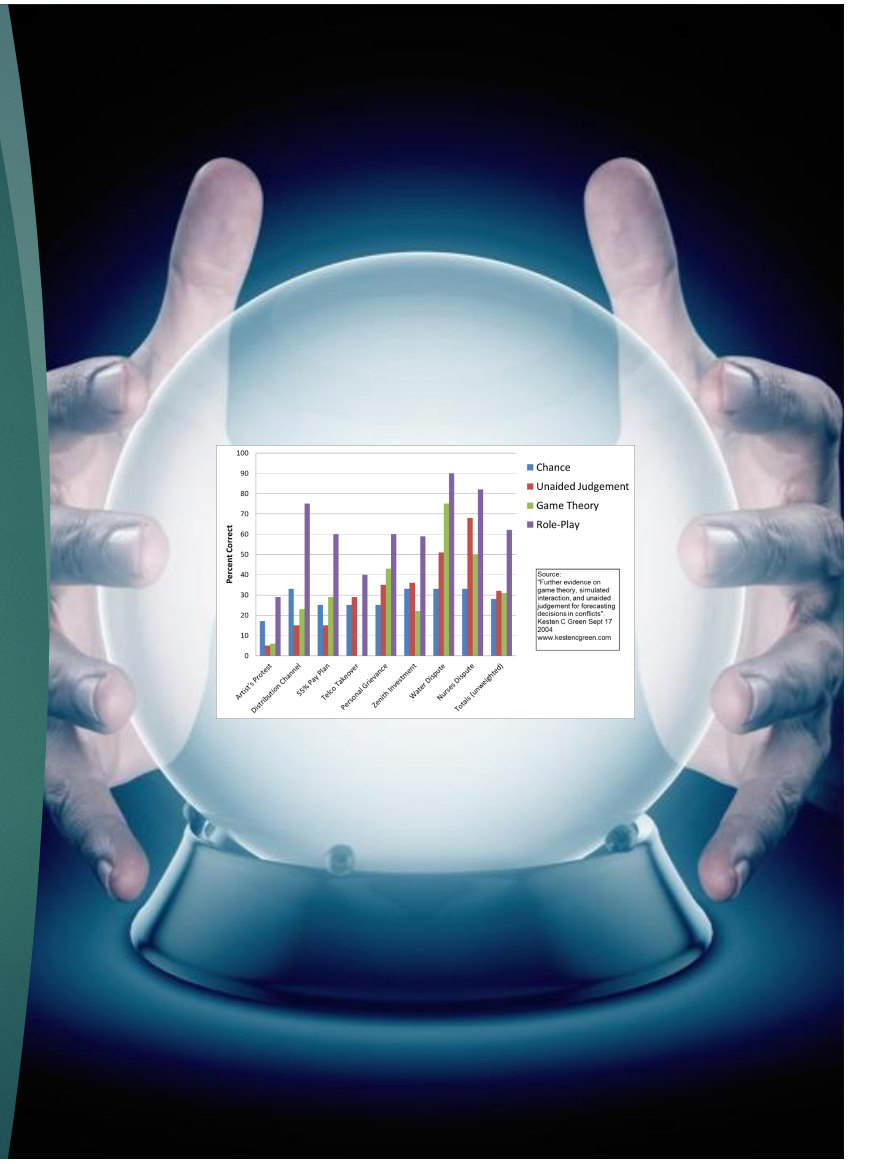
Inform future development of technical countermeasures.

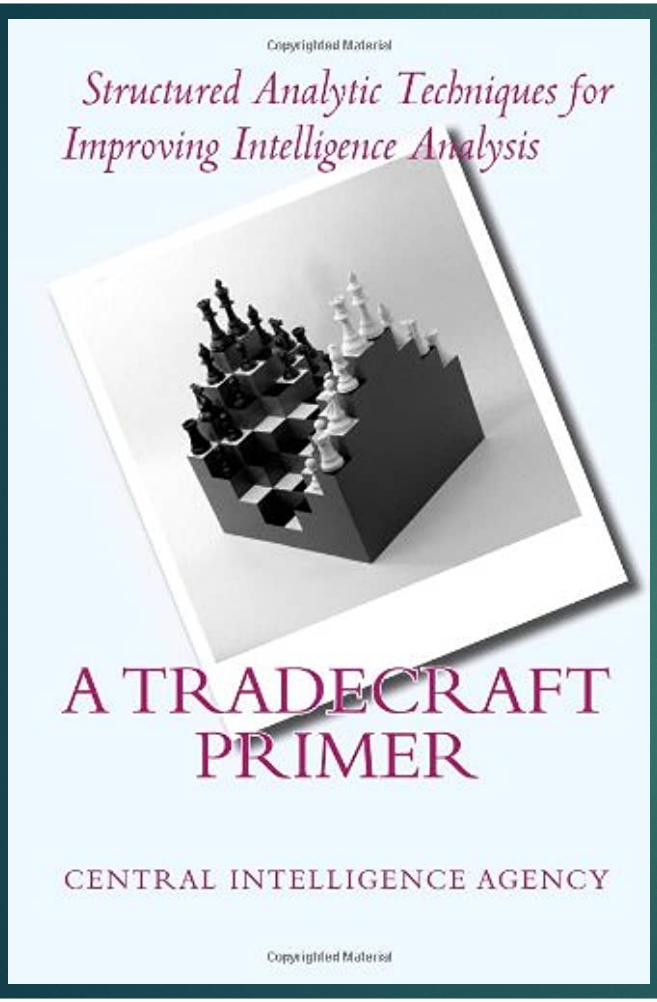
Policy analysis and planning

- considering responses
  - adversaries
  - allies, partners, other stakeholders
- contingency planning
  - identifying and exploring "what-ifs?
  - thinking about second and third-order effects
  - immunization against risks
- fostering innovation
- cheaper than policy or planning mistakes (and no one gets hurt)

Stimulating foresight

- Research suggests that "gaming" a situation produces a superior forecast compared to simply "thinking about it."
  - This is not to say that a single game reveals the future—it remains a highly imperfect technique of prediction (and prediction is hard in any case).
  - However, a (well-designed and well–facilitated) game aids in understanding stakeholder perspectives and anticipating responses.
  - Gaming encourages players to "show their work" when thinking about future trends
- It thus explores a *possible* future, while **stimulating a much broader discussion of how a future might come to be.**





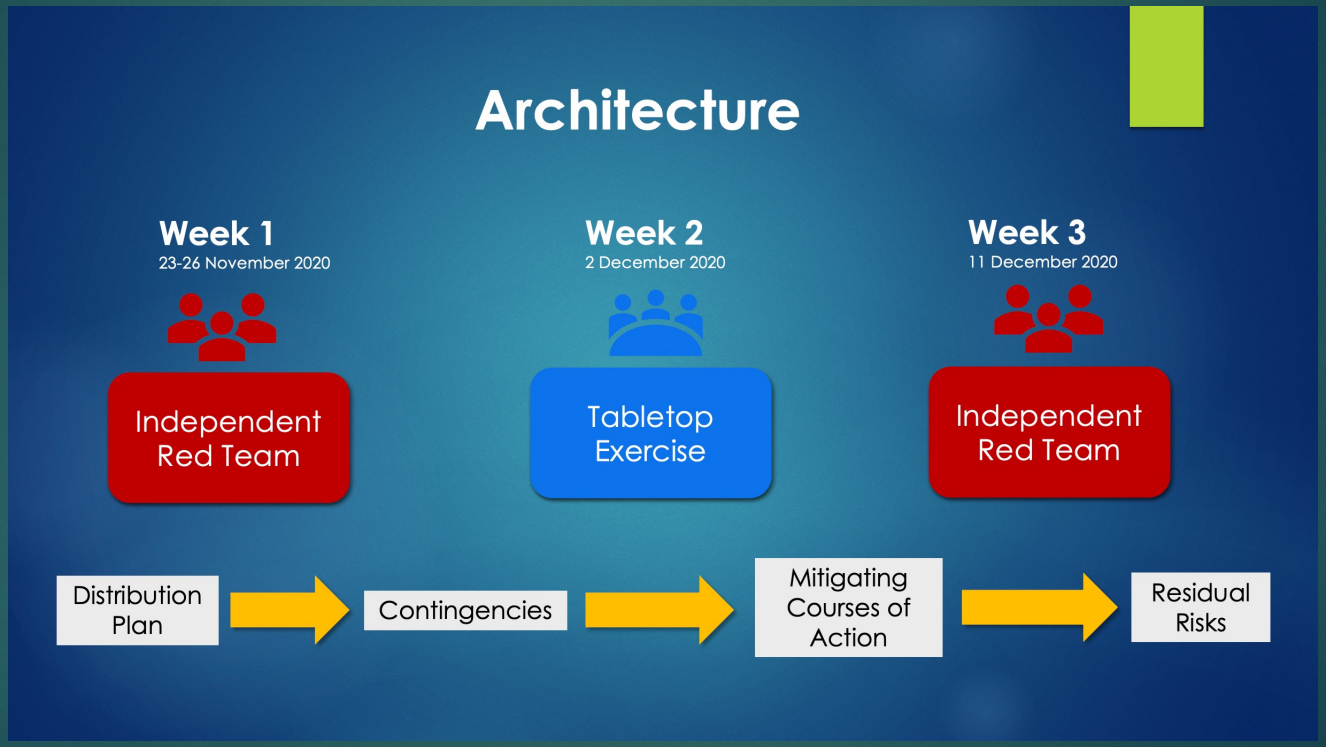
Most of these require less time/resources to organize than a substantial or complex game.

- **Alternative analysis** comprises a range of structured analytical techniques, many of which are "game adjacent"
  - brainstorming
  - Team A / Team B
  - red teaming
  - scenario discussions
  - alternative futures analysis

Most of these do not incorporate iterative adversarial adaptation (a dynamic, thinking, adapting foe or other stakeholders).

Available at www.cia.gov

Gaming the Vaccine

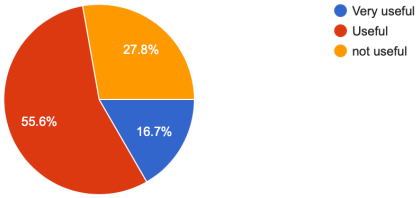


Gaming the Vaccine

Gaming the Vaccine

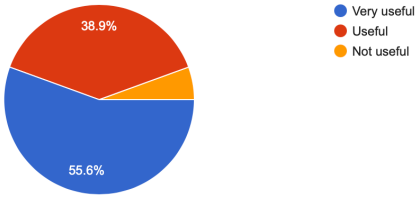
Was the TTX a useful way of building or expanding networks?

18 responses



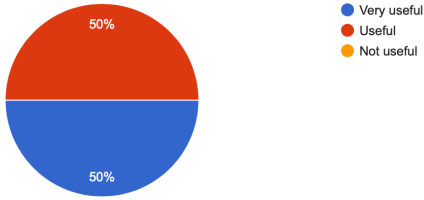
Was the TTX useful for gaining new information?

18 responses



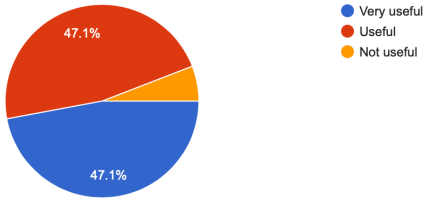
Was the TTX a useful way of exploring possible contingencies?

18 responses



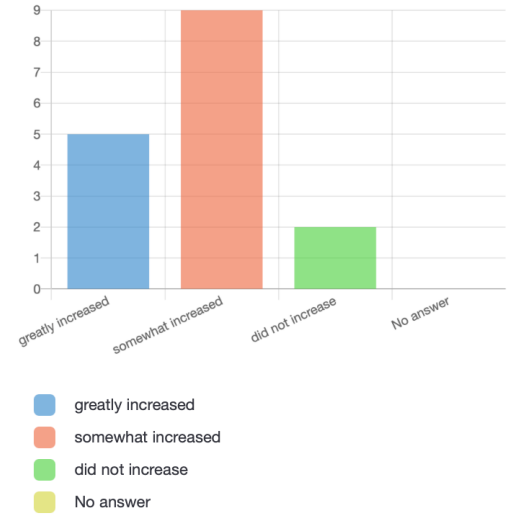
Was the TTX a useful way of sharing perspectives with other organizations ?

17 responses

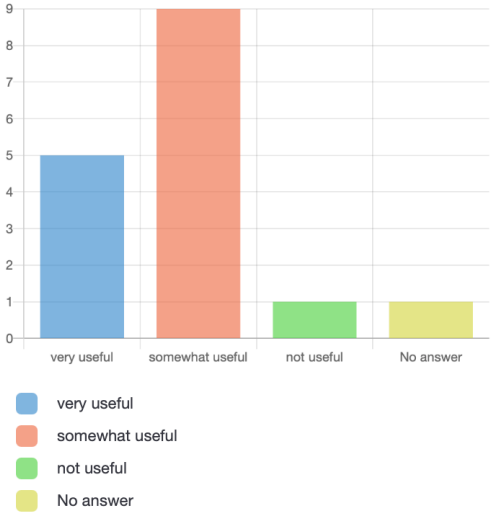


Gaming the Vaccine

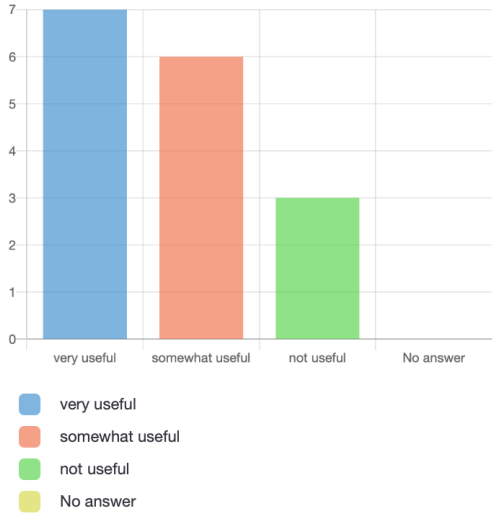
To what extent did the December 2020 tabletop exercise increase your knowledge of the vaccine rollout?



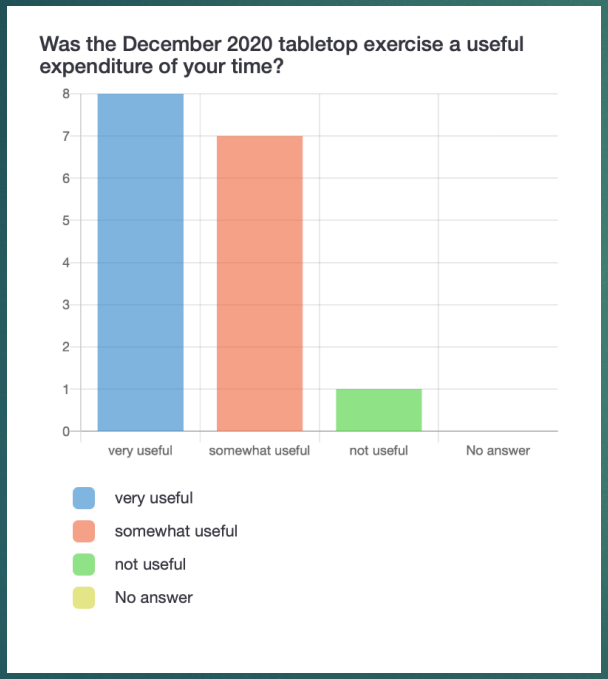
How useful was the tabletop exercise in allowing you to share insights and perspectives with other officials (in different jurisdictions or with different areas of responsibility or expertise)?

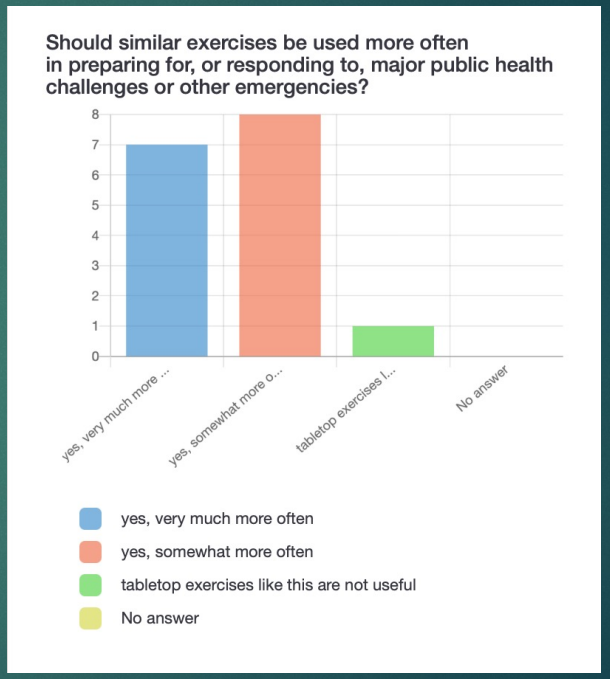


How useful was the TTX in helping to anticipate major challenges in Canada's vaccine rollout?



Gaming the Vaccine





Gaming the Vaccine

So, when people were saying "OK but what is this risk analysis based on?" I said, "Here, in the wargame." When people anchored that to the wargame they said "OK, that's good, that means this has been discussed, there's been a lot of eyes on this."

Everyone liked that, not because of any specific revelation… but because it seemed a good vector check by outside agents…. This is a good way to assure we're not falling for some sort of confirmation bias…. That was appreciated by a lot of the seniors.

CAF planner

Had we not done it in a really controlled fashion before the doses hit the ground, when it all got really muddy… I think we would have been in a much more challenging space.

PHAC official

Serious gaming IS ALSO useful tool in the pedagogical toolbox

- Stimulate engagement and motivation.
- Provide a "safe to fail" environment.
- Form of "intellectual cross-training."
  - Learning styles?
  - Provide a break from the monotony of readings and lectures.
- Offer insight into issues of process, coordination, interaction that lectures and readings often convey poorly.

Education and capacity-building

research on educational games

…suggests moderately positive effects on learning (compared to conventional methods), but considerable variability.

much depends on simulation design and implementation

A poor simulation implemented well may have superior learning outcomes over a good simulation implemented poorly.

Simulations do not teach themselves.

Education and capacity-building

Play	Transform	Design
Game **play** generates more effective learning than "role thinking" (Green and Armstrong 2011).	Games can **transform** classroom dynamics in positive ways: ice-breaking; team-building; motivation.	Game **design** can generate more effective and structured learning than game play (Druckman and Ebner 2007).

Diversity and inclusion in serious games

- Diversity and inclusion generally enhances the value and outputs of serious gaming
  - demographic (gender, ethnicity, class, etc.)
  - professional (expertise, seniority, etc.)
- Consideration of a broader range of ideas and perspectives
- Innovation and synergy

The **Derby House Principles** have been adopted by many of the leading professional wargaming organizations, conferences, and think-tanks.

Some caveats

- Do you really need a game?
- Serious gaming is part of a "cycle of research" (Perla) or a pedagogical process.
- Educational games and negative learning.
- "The three witches of wargaming" (Downes-Martin).
- Technology and gaming.
- Don't lose sight of the objective.