

Improving the commander's speed and agility in decision-making

12th ICCRTS – Miranda Cornelissen

TNO | Knowledge for business



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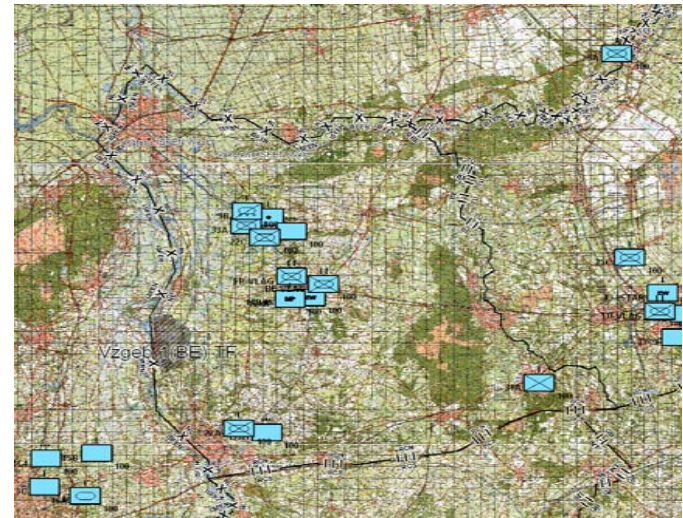


Background

- Focus on fast decision making and (re)planning
 - Earlier insight into implications of developing situations
 - Earlier determination of value of different options
- Issues in decision making
 - Once chosen, not likely to change
 - Tunnel vision
 - Dynamic relationships between time and place
- Techniques
 - Real wargaming – coupling reality and simulation
 - Critical thinking – new information plotted against earlier assumptions

Support tool 1 - CFSim

- Current-Future Simulation Tool (CFSim)
 - Command and Staff Trainer (Castor)
 - Simulates development of current operational situations
 - Possibility to review development of current operational situations
 - Simulates future plans
 - Integrated Staff Information System (ISIS)
 - C2 system



Support tool 2 - CTT

- Critical Thinking Tool (CTT)
 - Visualize arguments
 - Relate information to hypotheses
 - Color encoding

Critical information	Current Plan ↓	Reserve Plan 1 ↓	Reserve Plan 2 ↓
	Accident	All Deeds	Anti-Globalists
1 People reported skin-heads behaving suspiciously in the harbour area yesterday.	Yellow	Red	Green
2 A couple of McDonald's restaurants report they have been placed with posters depicting hungry children and the slogan "war on McWorld"	Red	Red	Green
3 Police found a "How to make a bomb for dummies!" book and some dutch e-mail addresses during a raid on a house that belonged to an Anti-Globalist	Red	Red	Yellow
4 The Minister of Transport and Communications said they have to reconsider whether a further extension of the harbour is still safe.	Yellow	Yellow	Yellow
5 Today is the 9th of November	Red	Red	Red
6 A high concentration of nitrogen is reported, which is released upon burning of Ammoniumnitrate	Yellow	Green	Red
7 A second explosion is being reported	Red	Green	Red
8 First estimates indicate a high number of heavily wounded, a fireman fears that a number of lives are certainly lost!	Yellow	Green	Red

Sense making | Alarms | New plan | Results | Plan 1 | Plan 2 | Plan 3

Color		Meaning
Green	Green	Supportive
Lime	Light Green	Supportive, weaker
Orange	Orange	Slight undermining
Red	Red	Undermining
Yellow	Yellow	Neutral
Empty		Not yet coded

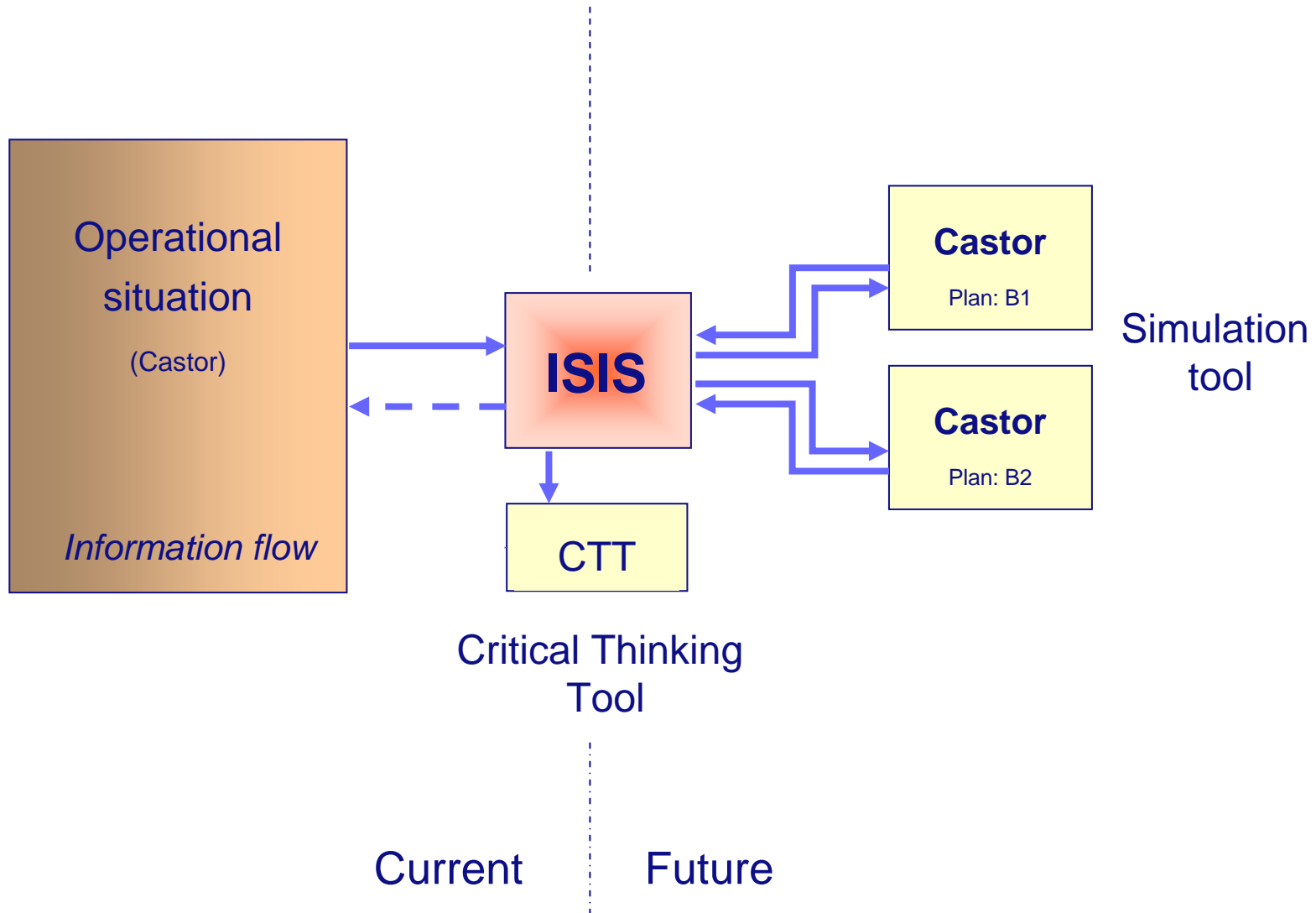
Experiment - Hypotheses

- CFSim: Detailed appreciation of dynamic development operational field
- CTT: Earlier detection changing conditions which make current plan not valid anymore

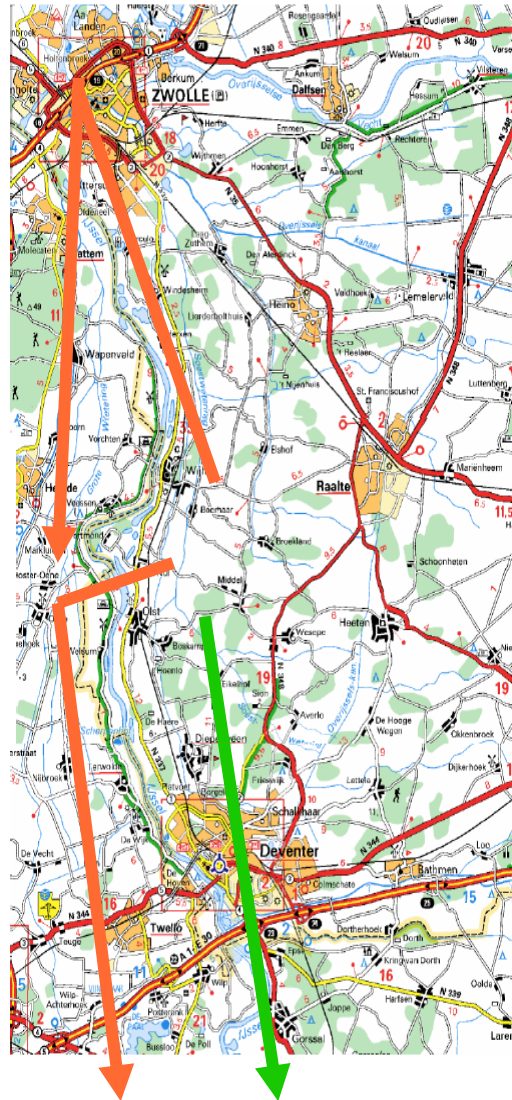
	CFSim	CFSim + CTT
Day 1	Team 1	Team 2
Day 2	Team 3	Team 4



Experiment - Set up



Experiment - Scenario



Experiment - Measurement & Monitoring

- Questionnaires
- Observers
- Logging tool
- Discussion



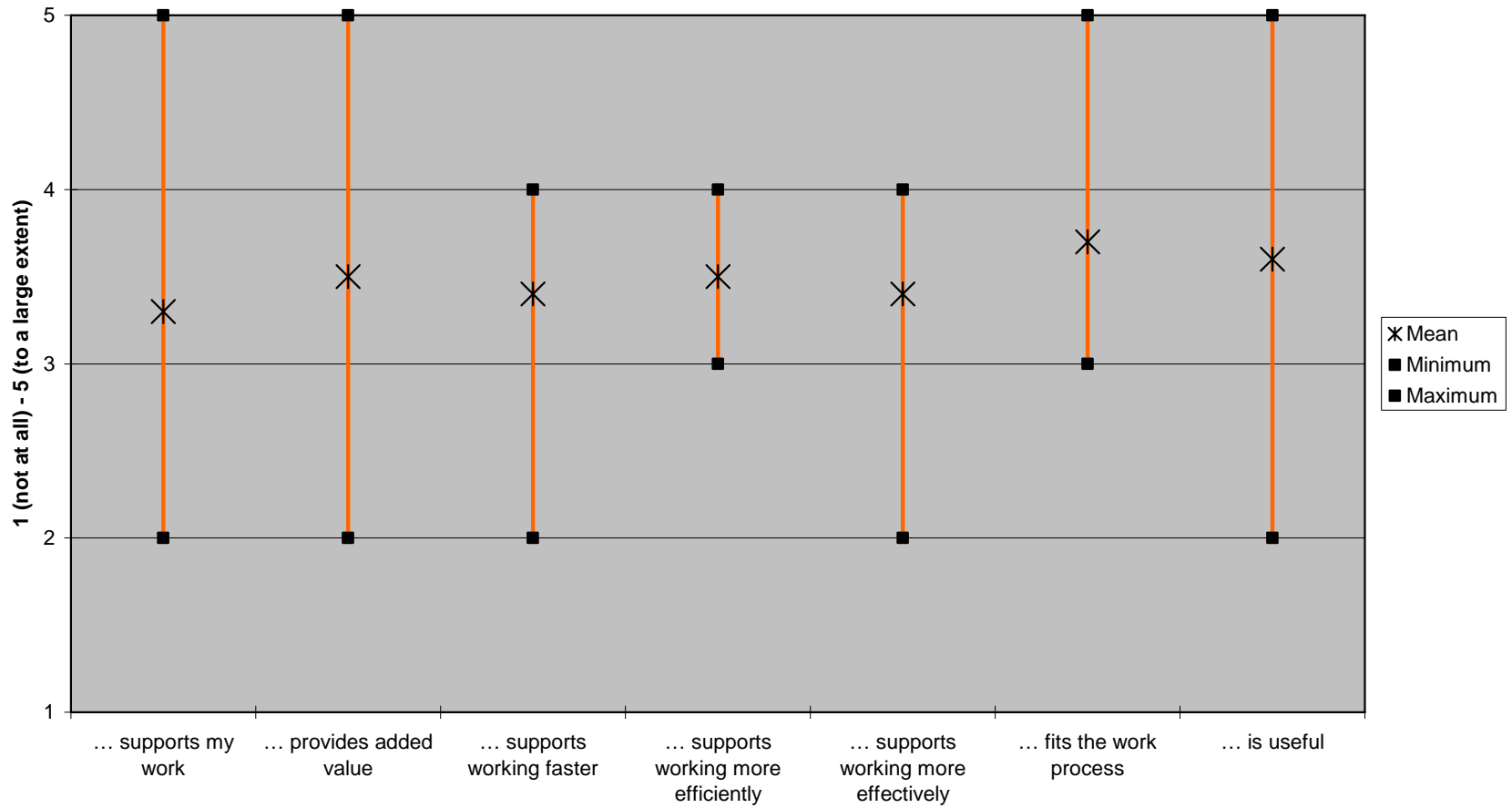
Experiment - Results

- General questionnaire
 - Have served the RNLA for several years, and at least one mission
 - Accustomed to computers
 - Relevant experience simulations mixed



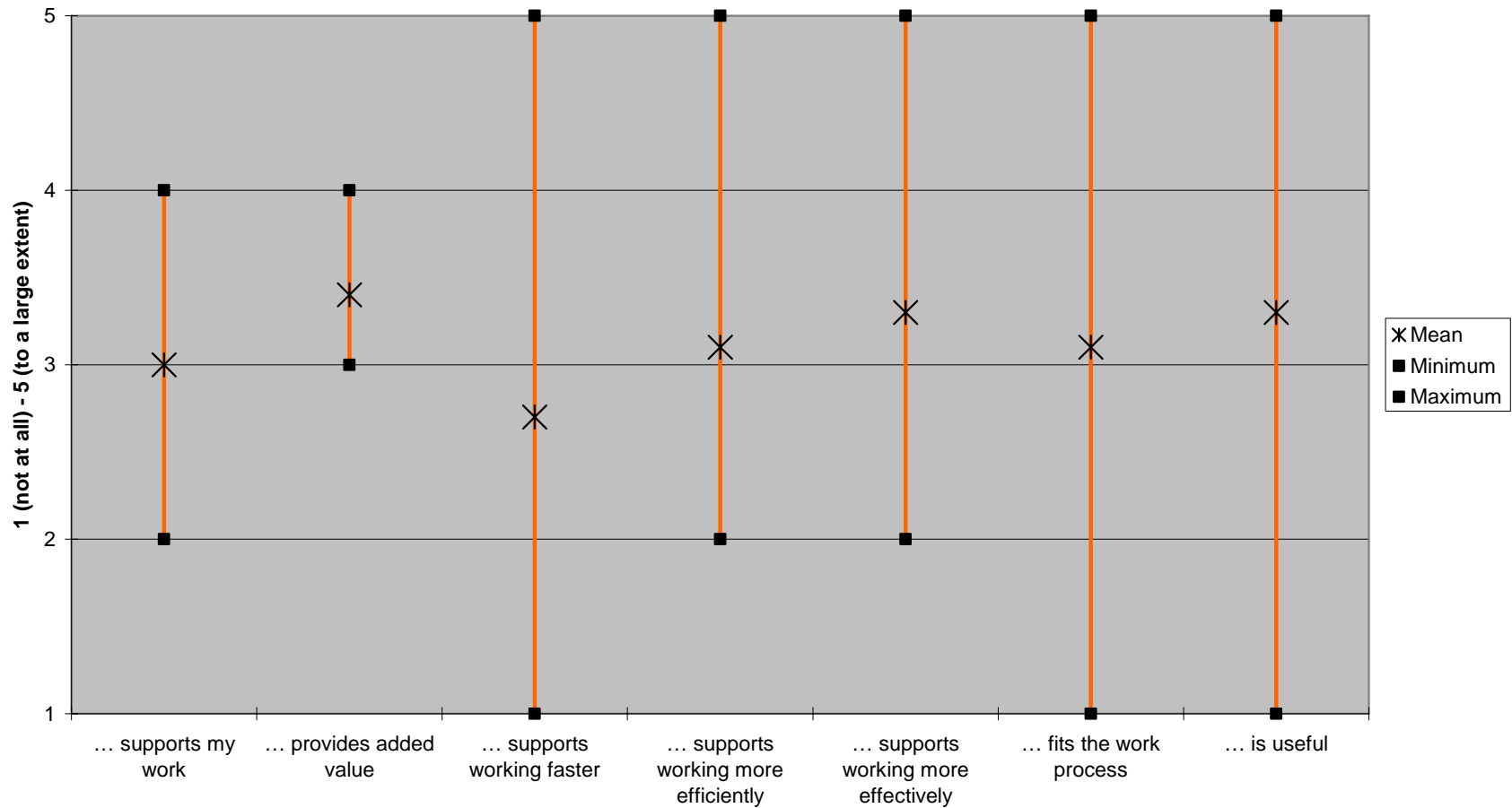
Experiment - Results

● CFSim



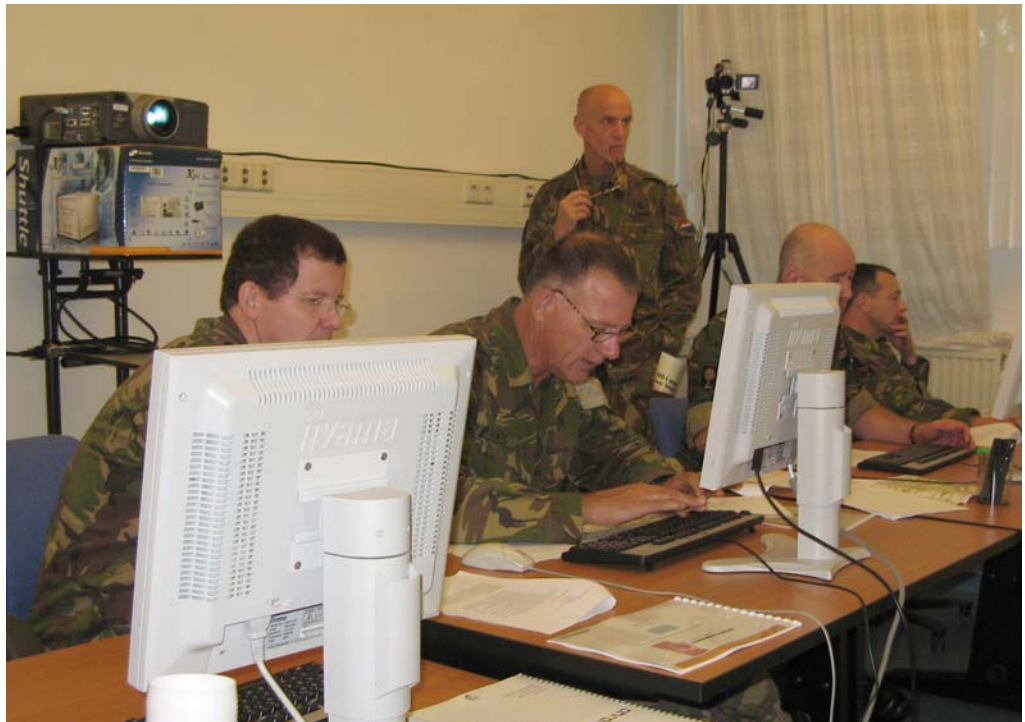
Experiment - Results

CTT



Reflection

- Goal: evaluate multidisciplinary ideas by potential users
- Tentative yes, but we are not there yet





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