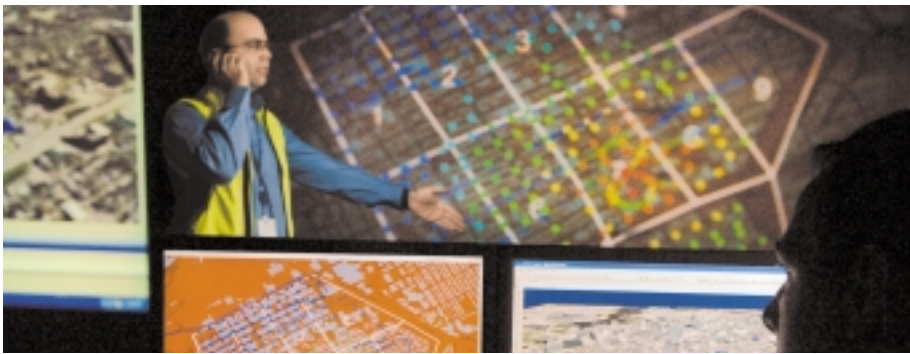


Promoting “Agility” in the Synthetic Environment

The current “transformation” initiatives of the Canadian Forces (CF) demand responsive capabilities. Much attention has been focused on transformation issues of operations, force structure and organizations. However, these efforts will extend to all aspects of the force development, planning, operations, and support of the CF.



An example of a major ongoing activity which lends itself to the support of the CF Transformation is the Joint Simulation and Modeling for Acquisition, Requirements, Training and Support (JSMARTS) series of exercises. This Materiel Group-led initiative is conducted in the context of the Future Forces Synthetic Environment (FFSE). It applies the Materiel Group’s enterprise-level modelling and simulation (M&S) vision as an overarching objective.

In the process, it seeks to demonstrate, through a series of simulation events, how M&S technologies can be used at a national level, and to demonstrate their value in a host of military and civilian applications. The end objective is to develop and improve CF systems and capabilities.

JSMARTS has established itself as an emerging way of conceptualizing the development of distributed simulation events by markedly moving away from large-scale, monolithic simulation-based exercises in favour of rapidly constructed, minimally developed simulation environments. This has been characterized as a simulation-based ‘pick up game.’

Guided by this conceptual goal, JSMARTS seeks to take advantage of M&S technologies to impart ‘agility’ to the development and acquisition processes. This is easily coupled with exposure to and integration with operational end-users.

“Agility,” or the ability to rapidly react to developments in research and development (R&D) projects is particularly important to forces like the CF which do not have the resources to pursue multiple, costly and lengthy R&D or acquisition projects

By advancing the capability to provide rapidly developed and reconfigured M&S-based exercises, the operational community is able to quickly consider existing systems, evolving tactics, requirements, techniques and procedures, as well as the potential capability of new or as yet nonexistent systems. At the same time, these simulations are generating unrealized transformational concepts through exposure of the personnel and concepts to the simulation environment.

While these exercises may have deficiencies in structure, fidelity or ‘faithful’ representations of perceived operational reality when compared to larger and more complex simulations, this is offset by

speed and the ability to rapidly evaluate as yet unconsidered scenarios.

As the JSMARTS exercise series advances, many of the traditional challenges faced by M&S technology will be overcome as the demand for M&S capability will be demanded by the operational community to assist them to better define and articulate their requirements as a direct result of their exposure. In essence, the JSMARTS approach has the potential to invert the M&S ‘supply-demand’ curve and markedly increase transaction rates that will exceed the M&S resource base – a harbinger of change.

A key strategic objective of the FFSE Section is to ‘push’ M&S capability that covers the full spectrum of its potential ‘value’ to the operator, in the field. In essence, to move M&S out of the laboratory and into the hands of the operators to provide them with the capability to explore new concepts in the only environment ideally suited to understanding concepts, equipment, organizations and systems that as yet do not exist. JSMARTS supports this objective.

This is not to propose that ‘agility,’ in isolation from the other “effects-based” capability metrics, should be pursued, but rather to suggest that the greatest potential ‘value’ to the operational community lies in the speed with which M&S can support decision cycles.

It can be argued that in today’s dynamic global security environment, when coupled with the increasing pace of technological advance, future military decision makers will ‘value’ speed in decision making above all else – including precision, which will simply form an element of the overall risk assessment associated with the decision. It has even been observed that one of greatest barriers facing the use of M&S to support the short planning cycles of today’s operations is the time required to generate scenarios. This suggests that the present focus on Return On Investment and other procurement-centric measures of ‘value’ may be disingenuous to advancing M&S into the next realm of application – rapid decision support.

Perhaps M&S offers the only obvious domain from which the required ‘agility’ will emerge. **FL**

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