

Locating M&S Information

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One of the remarkable things I notice when I go to Modelling & Simulation (M&S) forums such as this one is when three-quarters of the room is silent and the remaining quarter doing all the talking already knows most of the answers anyway. Although the retention of vast corporate knowledge is certainly a plus in our community, it does not bode well for our future when the walls we place between ourselves and key leaders are self-imposed. The purpose of this lecture is to encourage the three-quarters to meet the few of us halfway by gaining a measure of self-confidence through a professional M&S reading programme.

Most of those present are not here because of a keen desire to programme; although a few can. These lecture series are conducted to empower the implementer. If you are here to gather information in support of a senior General and are unable to articulate the M&S worldview, we are doing you and ourselves a disservice. That is why I have compiled a very innocent list of answers to common questions and included the supported websites so you can have your own on-line M&S library. Whether we realize or not, those of you looking for an answer need something more instantaneous than reading an entire book. What I have done is by no means exclusive to the selection placed in your hands, but it is indeed a start.

The idea is not to embarrass anyone but you would be surprised how long some of us have been around M&S and do not know the role and purpose of the NATO Research and Technology Office (RTO) or the NATO Modelling and Simulation Group (NMSG). Web links and search engines aside, here is where you will find the vision of a gentleman that served the NMSG for many years and just recently retired, Mr. Graham Burrows. Also there is a plethora of publications that may affect your M&S dilemma or enquiry which is why I will encircle the location of the search windows. Aside from the documents available in NATO RTO's repository, particular attention should also be directed at the NATO Consultation, Command and Control Agency or NC3A for short. Aside from publications, many lectures, working group meetings and conferences relating to M&S occurs at the NC3A office at The Hague.

One of the initiatives that originated from the US was the Modelling and Simulation Resource Repositories of MSRRs of which we boast quite a few. We have the Modelling and Simulation Information and Analysis Center (MSIAC), the Defense Modelling and Simulation Office (DMSO), the Army MSRR which is sponsored by my organisation: the Battle Command, Simulation & Experimentation Directorate, along with MSRRs for the Air Force and Navy.

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Let us say that a week from now, you followed my advice and downloaded a document from one of the NATO sites. One of the discoveries that you will make is that there is a fair amount of technical terms that many take for granted. Normally academic papers can be laden with ‘technical jargon’ but this is an impediment that can be overcome. The Defense Modelling and Simulation site has a glossary where most if not all of the words can be queried successfully.

One of the best kept secrets in this field is that few things anymore are ‘discovered’ in the truest sense of the word. That is why professional developers in M&S share their findings in public forums. The best known is the Simulation Interoperability Standards Organization (SISO). Not only does it cut a worldwide swath, it also conducts regional forums for professionals. M&S is not exclusive to defence or even government organisations; the confluence also includes academia and corporations.

The most important reason I included environmental modelling in compiling your list of web resources is due to the experience we had of late. Traditionally, along the South-eastern U.S. coastline, we receive horrendous weather that devastates entire parcels of villages. Also, the Asian Tsunami caught all of us completely off-guard. It is just as wise for the U.S. to prepare for hurricanes as it would be for Turkey to research earthquakes or Germany extreme flooding. While there is not enough time to include all possible sites of interest, the Master Environment Library (MEL) is a decent start.

For those of you concerned about modelling domestic resilience or counterterrorism, I recommend the Defence Science & Technology Laboratory (DSTL). Not only does the United Kingdom have a legacy in fighting terrorism but all of its national efforts are consolidated at DSTL. DSTL is the largest employer of scientists and engineers in that country, meaning that in addition to numerous synergies the information is easier to access than the ‘stove-piping’ still occurring within the US.

The reason I consider the Swedish Defence Wargaming Centre as an M&S centre of excellence is their depth of experience in Crisis Response Operations (CRO). Not only do they have a wealth of experience working with NATO, Partnership for Peace (PfP) and neutral countries but they incorporate IOs and NGOs very well. I know of no other wargaming centre that welcomes and incorporates peace organisations at their exercises.

The oldest and one-time largest wargaming centre in the world is undergoing transition, however the two assets the Warrior Preparation Center (WPC) has that no one else does is a long legacy of Army-Air Force integration and Mission Rehearsal Exercises (MREs). The WPC, based in Ramstein always had its Grafenwöhr Germany location as a satellite, however the roles are expected to completely reverse by next year.

Another great centre is in Northern Germany at Sennelager. The facility is a wonderful mix of simulations, simulators and manoeuvre area. Ran by the United Kingdom’s Ace Rapid Reaction Corps or ARRC, this is arguably the best integrated exercise facility. When soldiers from the 3d UK Division cross the channel to come to Sennelager, the compilation of the 1st and 3d Divisions with the ARRC Headquarters makes this the premier location to train with UK forces.

Other centres are newer and deserve mention. NATO finally has a dedicated facility at JHQNE in Stavanger, Norway. Turkey and Poland have new facilities not to mention fully dedicated M&S professionals. The German simulation centre at Wildflecken is not only centrally located in Europe but able to handle thousands of visitors. No doubt there are others that deserve mention but when looking at public documents available on the web, certain niche specialties stand out. No one place or organisation has absolute advantage over the others, offering no viable alternative to research.

Sometimes, having access to web pages, documents and professional forums are not enough. The best way to propel a country's M&S programme is to recognise the need for a dedicated officer to represent the national M&S efforts. To do this, I strongly recommend the Royal College of Military Science (RMCS) at Shrivenham, UK. The staff college is Joint and the faculty is first-rate with the security side taught by Kings College, University of London and the M&S side taught by the University of Cranfield.

This also bodes well for officers that intend to continue towards a research PhD either full or part-time.

The military library is nothing short of incredible and nearby at Oxford is one of seven national trust libraries in Great Britain containing every single volume ever published in that country. It is close to Heathrow and a little further to Stanstead where Ryan Air averages 10 euros or less to any destination in Europe.

Although this was never intended to be an all-source compendium of M&S information, this certainly qualifies as a start. This is a field where confidence begins with a few distinct steps. You have the background; you have the goals. There is also a lexicon and interoperability standards already figured out. Whether you need to model the environmental clash with nature or weathering human nature, there is a place to go. Speaking of a place to go, there are many legacy simulation facilities with new ones being added – no one has a monopoly over the panoply of military activities or how it's modelled. Finally, as an enabler of your respective national effort, the best investment you can make is to identify a gifted officer worthy of the long-term investment of education.

