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INTELLIGENCE

MASA Newsletter – Summer 2016

Welcome to our Summer 2016 edition of the MASA newsletter. I would like to take this opportunity of introducing myself to you as the new CEO and Chairman of MASA Group.

I am honored to be at the helm at MASA and to have the opportunity to build on the success created by Juan-Pablo Torres and the MASA team. MASA is driven by its expertise and my goal is to continue to build on what has been achieved over the past 20 years by expanding MASA's global footprint still further.



That footprint is already significant. MASA now has customers in nearly 20 countries around the world and over the coming months I hope to announce new users for our MASA SWORD constructive wargaming system as well as to unveil new and innovative product developments; such as SWORD version 6.5 that will be unveiled at ITEC 2016.

One of the things that struck me at this year's MASA User Group meeting in France was the strong bond that has developed between the company and its customers. I believe that this is a vital element in doing business - keeping communication channels open has clear benefits.

MASA is dedicated to ensuring customer satisfaction and providing the customer with the optimum tools to achieve robust and meaningful training. Remaining reactive to customer needs is a priority and will continue to be a cornerstone of our philosophy in the future.

As recent events prove, we live in an increasingly dangerous world and MASA is fully aware of the importance of providing high fidelity training solutions to prepare its users for any eventuality.

These training solutions are not only aimed at the military customer. MASA is now deploying SWORD in public safety response roles as well as for civil and para-military security applications.

This application of SWORD can be seen at the NATO Crisis Management and Disaster Response Centre of Excellence in Bulgaria. NATO is one of MASA's latest customers and exemplifies the emergency response capability of SWORD.

A key aspect of the company's success over the years has been its software engineering expertise and the use of artificial intelligence (AI) in products such as SWORD and MASA LIFE. These technologies will continue to evolve and enable further advances in simulation and the products that MASA offers.

The journey has just begun!

David Chingini

CUSTOMER SPOTLIGHT

Interview with Colonel Vassil Roussinov, Director of the NATO CMDR COE

Can you describe the concept behind NATO COEs?

Coordinated by the Allied Command Transformation in Virginia, USA, Centers of Excellence (COEs) are considered to be international military organizations. COEs are part of the wider framework supporting NATO Command Arrangements and are nationally or multinationally funded institutions. They train and educate leaders and experts from NATO member and partner countries.

COEs assist in doctrine development, identify lessons learned, improve interoperability and capabilities, and test and validate concepts through experimentation. They offer recognized expertise and experience in a wide variety of areas that are of benefit to the Alliance and support the transformation of NATO, while avoiding the duplication of assets, resources and capabilities already present within the NATO command structure.

NATO COEs are made possible by "framework nations", which take on the responsibility of developing the concept and implementation of the COE and provide physical space and personnel for the COE to operate. "Sponsoring nations" contribute both financially and with personnel for the COE, and "contributing nations" can provide financial support or another service that the COE needs to function. Twenty-one COEs have either received NATO accreditation or are in the development stage.

Specifically, what is the role of CMDR COE and who are its customers?

The Crisis Management and Disaster Response Center Of Excellence (CMDR COE) is a new Center of Excellence, established in August 2013 by the framework nation of Bulgaria, with Poland and Greece as sponsoring nations. The Center achieved its status as the 21st NATO COE in March 2015 and has now been activated as a NATO Military Body granted with international status.

The Center has been established to become NATO's transformation hub of expertise in the CMDR area. The CMDR COE will contribute significantly to the research, building and development of NATO nations' and partners' military and civilian CMDR capabilities. Our permanent goal is to provide and to disseminate the relevant knowledge and competences in support of NATO transformation and engagements to global security environment.

Presently the CMDR COE works in close cooperation with a number of well-known government organizations, non-governmental organizations, agencies, industry and academia.

How do you train at the moment and how will this change when you get SWORD?

Our teams provide SME support in ongoing training exercises such as the Resolute Support and Balkan Bridges and have successfully conducted courses on CMDR. Four of them have been certified as NATO Selected. In 2015, the CMDR COE was engaged to commence the conduct of the Training Requirements Analysis (TRA) in the discipline Military Role and Tasks in Crisis Management/Disaster Relief within the EU's Common Security and Defense Policy.

By utilizing MASA SWORD in our activities we will be able to implement modeling and simulation (M&S) in Education and Training in CMDR area as well to deliver to NATO new possibilities and capabilities as to:

- Support the CMDR Concept and Doctrine development through possibility to test their feasibility and applicability.
- Expand the areas of Concept Experimentation through implementing different models. This will reduce the time and resources spent on this main pillar in COE's area;



- Increase fidelity of the scenarios in delivery of Collective Training;
- Once the capabilities of CMDR COE rises to the required level, organizing and executing specialized Collective Training and Exercises.

There are lots of constructive training simulations in the market. Why did you select SWORD?

While there is an ever-present threat of terrorism for NATO nations, the increased need for humanitarian missions in the area of CMDR will continue to grow at a rapid pace. The role of the CMDR COE will be a critical component for the NATO response to worldwide crisis and disaster situations. The ability of the COE to respond to CMDR inquiries will be saturated with operational experience to provide subjective responses and training activities.

However, the capabilities of the CMDR COE can be greatly enhanced with the application of some unique CMDR tools, software and simulation systems. In line with its goals, the CMDR COE would like to establish an M&S Laboratory which would enable the Center to provide NATO with an unmatched, comprehensive training and analytical capability. The lab would be able to support large scale CMDR exercises and analysis with specific tools and simulations. This would greatly increase the credibility and visibility of the CMDR COE and provide a critical new capability for NATO.

In the procurement process for a tool that would both enhance the capabilities of the COE and make it possible to set up an M&S lab, MASA SWORD proved to be the simulation system that covered almost all of the requirements, making it an obvious choice. In addition to this, MASA's team provides valuable support to enhance our expertise in applying SWORD capabilities in the CMDR domain.

As well as the use of constructive training, do you use live and virtual training systems and if so, what are they?

As the Center is not an operational body it doesn't provide live training. Regarding the level of the education and training we provide to our training audience, it is oriented mainly to operational and strategic levels. However, considering the recent threats, our intention is in the very short term to acquire other software and virtual training systems.

We will therefore have capabilities to train from tactical to strategic levels as well as individual and collective training. Additionally we will be able to connect different systems in common environment will allow us to conduct distributed training and exercises.

How do you see the future of simulated, constructive, virtual and live training unfolding in NATO?

Most NATO countries have already delivered simulation systems and tools on different levels and implemented them in their training. The future of NATO is to learn how to connect those systems and tools in one Education and Training Network. A lot of experiments have already been done and the establishment of the CMDR Laboratory will be one of them.

In the near future the training process will be increasingly influenced by the utilization of the artificial intelligence (AI) and battlefield behavior will be easily simulated. However, precautions to avoid reverse engineering and modeling of the AI should be taken during the training. NATO has defined concepts and doctrines about the training and constantly strives to improve the process. We expect the improvement of the simulated systems technology to affect the virtual reality quality. It will provide an opportunity not only for full exposure of the training audience flexibility and creativity, but also will allow objective assessments of actions taken and decisions. At the moment, especially at the top level of the Training Audience, evaluation is not possible due to the limits on creating sufficiently realistic environmental computed reactions. We believe that future precise models and AI will change it.



MASA's Raue Under ITEC Spotlight

MASA's New Markets Development & Sales Manager, Enrico Raue has been selected by the ITEC Paper Selection Committee to Chair the ITEC Human Behaviour Modelling panel session at the forthcoming ITEC 2016 event in London.

The panel session is taking place as part of the M&S Technologies and Architectures conference on Tuesday May 17 between 16:00 and 17:30 in Theater Two.

Raue will be chairing four speakers who will be looking at various aspects of human behaviour modelling, a topic very close to MASA's heart as it is central to the company's MASA LIFE artificial intelligence (AI) product and also used extensively within its constructive training system, MASA SWORD.



“As a company we carry out major investments in human behaviour modelling and we believe that this expertise enables us to provide highly realistic solutions to our customers’ training requirements”, explains Raue.

The session paper titles are: *LVC and Gaming Human Behaviours for Training*; *SAF – Novel Tools for Simulating Soldiers in Human Areas*; *Dynamic Multi-Scale Assessment Tool for Integrated Cognitive Behavioural Actions*; and finally, *The Evolution of Synthetic Soldier Representation*. The speakers are from Cubic Global Defense, the Israeli Defence Forces, Sandia National Laboratories and the US Army Research Laboratory – Human Engineering and Research Directorate.

“This is a very exciting panel session to chair and I am looking forward to it very much”, says Raue. “Modelling the behaviour of humans is a key aspect of modern simulation and is not only used to increase realism but also to reduce the costs associated with using role players.

“All of the papers look extremely relevant to the challenges that are now being faced by the simulation industry and I am sure that they will provoke some excellent debate”.

This panel session is already drawing great interest. Our advice is to get there early to ensure a seat!

MASA SWORD's Latest Enhancements



As MASA's last User Group meeting in Saumur proved in March, the key to developing world beating training technologies is to cultivate a close and active relationship with your customers. This conduit provides the feedback loop that is vital to continually enhance products and keep them on the leading edge of training technology.

With MASA SWORD now in service in nearly 20 countries, this feedback loop is significant and goes to show why the SWORD constructive training wargame solution continues to be the solution of choice for so many armies and government organizations around the world.

"Customer feedback is so important for us and assists us in designing updates for the product," explains Enrico Raue, New Markets Development & Sales Manager at MASA. *"We always keep the communication channels open through our regional sales managers and field service engineers. It's part of our culture as a company to listen very closely to our customers."*

At ITEC 2016, MASA will be showcasing its latest iteration of SWORD, version 6.5.

This version of SWORD has improvements in the exercise 'timeline' application making it possible to make modifications to a created exercise plan in real-time while the simulation exercise is being executed.

This provides increased flexibility for the exercise manager and the ability for him or her to alter the scenario in response to the actions of the exercising troops by 'un-triggering' events that were initially planned during the creation of the exercise.

The timeline utility allows the exercise manager to plan and organize prior to the exercise, the missions undertaken by the exercising troops and the simulated units (Computer Generated Forces) during the exercise.

As such, the timeline utility needs to be easy to use and ergonomically functional. New functionalities that have been added to SWORD v. 6.5 include the ability for the exercise manager to launch an after action review (AAR) on remote servers.

The addition of color annotation and labeling allows exercising unit commanders to sort clearly and identify their respective planned operational orders. The other benefit of this new color and labeling process is that it allows exercise managers to reschedule triggered events and choose exactly which events they want to save. This allows them to create an action plan without having to restart the simulation several times.

Another key improvement provided by SWORD v. 6.5 is an increase in computational performance to allow the generation of more detailed contact reports and subsequent analysis. This facility enables commanders to select the most appropriate ground for deployment or the best vantage points to select for observation posts.

SWORD v.6.5 is clearly taking constructive wargame training to a new level. With more updates planned for later in the year, SWORD will continue to go from strength to strength.

MASA's User Group Meeting highlights the strong collaboration to improve simulation with armies across the globe

In March, MASA Group has concluded its second SWORD User Group Meeting that this year was held at the French Army Military School in Saumur (*Les écoles militaires de Saumur*). The event ran in conjunction with the SIMOPS conference and exhibition, the French Army led forum on operational simulation.

SWORD is MASA's wargame with automated forces that is used to train command staff from Division down to, on occasion, Company level. SWORD is a highly flexible and scalable training tool that is customizable to reflect national doctrine, tactics, techniques and procedures. SWORD is now in-service with 17 countries around the world as well as a number of defence integrators.

The SWORD User Group Meeting drew over 50 attendees that included current users and potential customers. The aim of the event was to discuss how SWORD is being used and to provide a forum where users and potential users could discuss case studies and national applications. User presentations were followed by demonstrations of SWORD by the French Army's Tactical Training Centre staff that are based in Saumur. These demonstrations included a high-intensity warfighting exercise and an emergency services scenario based on a series of terrorist attacks in the center of Paris.

User presentations were given by Colonel Gamaliel M. Ortiz Herrera from the Peruvian Ministry of Defence; Colonel Estepa Florez Luis from the Colombian Armed Forces; Major Thierry Cadot and Lieutenant Colonel F. Martinez from the French Army; Colonel Minhaz from the Bangladesh Army and Lieutenant Colonel Yordan Trendafilov of the Bulgarian Army who is currently serving with NATO's Crisis Management and Disaster Response Centre of Excellence.



Lt Col Martinez from the Tactical Training Centre, Saumur briefs members of the MASA SWORD User Group

The speakers represented the first export customer for SWORD in the form of Peru (a customer since 2010), and the latest customer, NATO (who acquired SWORD in late 2015). Together, the wide spectrum of speakers highlighted the breadth of training uses that SWORD is now being applied to. As well as the obvious military applications, SWORD is regularly used to train emergency response teams that are employed to combat natural disasters; para-military teams challenging internal security and criminal threats; and increasingly, used as a tool to validate tactics and to provide decision support reinforcement.

One of the key themes that was highlighted by all of the speakers was the ease of working with MASA during the procurement and post-sales phases. One speaker told the audience that, "although we have a written agreement with MASA our relationship goes well beyond that. They are always there for us".

Summing up the User Group Meeting, Juan Pablo Torres, MASA Group's CEO said that, "it has been a real pleasure to meet some old friends today and hear how SWORD is being used across the globe by our growing customer base. We are very proud as a company how our customers continue to innovate and find new applications for the product. We continue to address and support these new requirements to ensure that SWORD maintains its position as the world's leading automated wargaming system".



During the demonstration of the emergency services scenario

MASA profile: Lucie Ledoux Behavior Designer for MASA SWORD

How long have you been working for MASA and what were you doing before joining the company?

I joined MASA seven years ago as an intern in the optimization department. Six months later, I chose to move to the simulation department. To begin with I only worked for the French army but I have been able to grow my area of expertise and knowledge quite quickly.



Can you describe your roles and responsibilities within the company?

I am a behavior designer in the services department. I speak with a variety of experts in different countries to adapt behaviors in SWORD to customer specific doctrines. Sometimes, I train our clients and help them to modify behaviors themselves. I also provide support and respond to their questions and needs.

With modern technology moving at such a pace, how do you manage to stay abreast with the latest developments?

I follow blogs on new technologies and others on military and security topics. I also read some ministerial defense blogs and keep myself informed about operational reports too.

Many people outside France would envy you living and working in Paris. What are the best parts about being based in such a beautiful city?

Paris never sleeps. You can do whatever you like, whenever you want, go to the theater, listen to music in a bar, or just enjoy the beauty of this city. The thing I like to do best is to cycle in Paris at night. There is less traffic and you can just enjoy the amazing monuments.

Does your job involve travel for the company, and if so, what has been your most exciting destination and why?

Yes, sometimes I travel abroad to meet our clients. I think Brasilia was the most exciting destination I've been to. I never planned to go to Brazil, and Brasilia is not usually a tourist destination. But I was very impressed by the architecture of that new city.

In your opinion what are the most important developments in simulation and training?

I think that the most important thing in software is its capacity to be easily adapted. With SWORD, for example, after a few days training, any engineer can modify all the behaviors that he wants. It is therefore a very powerful tool. Every client is independent and can personalize the program autonomously.

When not at work, what hobbies and pastimes fill your time?

Tap dancing is one of my favorite hobbies. I also love reading science fiction and fantasy books.

What makes MASA unique?

The employees!