

# AI for smart cuts

As funding for defence projects continues to fall, armies are increasingly looking to simulation software for economically viable training solutions. Juan-Pablo Torres, CEO of **MASA Group**, discusses how artificial intelligence (AI)-based computer programs can save forces time and money.

## Could you brief describe what your company does?

**Juan-Pablo Torres:** Founded as a spin-off of a bio-computing laboratory, MASA is a leading developer of artificial intelligence (AI)-based COTS (commercially available off-the-shelf) software for modelling and simulation within the defence, emergency management and games-related markets.

Headquartered in Paris, MASA is a global firm with a worldwide network of partners and resellers. We have very close contact with end users, who are typically an army or the equivalent emergency-management agency.

## What key trends are currently impacting the modelling and simulation (M&S) market?

One major trend is budget cuts to defence projects. As a result, training has to become more efficient – you must do more with fewer people and resources. The other key issue is interoperability with other simulations – joint operational training. Analysis is also important: generals and colonels using the software need to be able to see what happens if different strategies or equipment are used for a situation.

## How can AI make training more efficient?

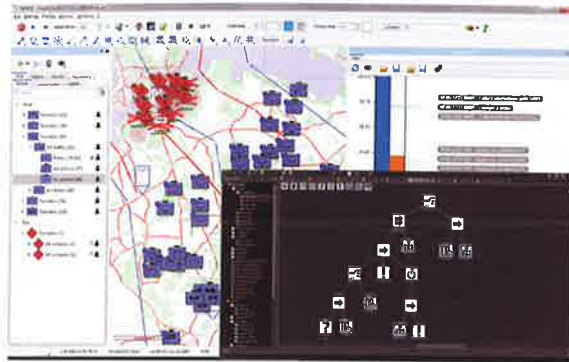
Usually, the training undertaken by generals and colonels for decision-making is particularly costly and time consuming. They are taught how to analyse a complex situation, make a decision and convey it back to their subordinates.

For the training to be good, the general and his staff should pass that order on to all their subordinates, often consisting of four or five different levels below them. In total, between two and ten thousand people can be required.

However, with MASA SWORD, our automated wargame, the general only has to give his orders to one level of staff below. The subordinates can then give these orders to the simulation software, rather down all the ranks.

## Is AI-based training as effective as real-life scenarios?

SWORD actually adds an element of realism to the training. When the orders are given to the virtual entities, they will be executed according to a doctrine pre-modelled by experts. Also, since most of the virtual entities are autonomous, far fewer controllers are required to actually operate the system. The result is more efficient training that costs less.



SWORD executes orders according to a doctrine pre-modelled with LIFE by experts, adding an additional layer of realism to training.

## Who is currently using your AI-based software?

One of our largest and most recent deployments was to the Brazilian Army, who signed a major contract for our software last year. It involves equipping the training centres of command staff at division level with a customised version of our SWORD wargame. It will be used to train command staff of up to 100 people and is reducing the number of operators needed by around 30%.

Also, MASA LIFE, our AI middleware for smarter simulations and game engines, was commercially released earlier this year for the games development and M&S industries. Since then, several tens of licenses have been deployed.

## Could you describe your software in more detail?

SWORD, our flagship product, is an automated wargame (high-level constructive simulation). It is mainly used for training and analysis. It has a state-of-the-art AI engine unique in today's market, and possesses fully defined interoperability features that very few other systems have. It also has a double-use case for defence and public safety applications when it comes to emergency management, further distinguishing it from most of its competitors.

LIFE, our most recent product, is middleware that allows the easy creation of behaviours and autonomous characters within a virtual battlefield. It was designed, like SWORD, to populate other simulations with AI-driven armed forces, civilians and other virtual objects, all of which cannot be driven by human operators. LIFE can be integrated with existing simulations or game engines, and is easy to use, even for non-technical users. It also provides a library of ready-to-use behaviours.

## How will the AI-based M&S market develop?

Low cost and easy interoperability will still be a key differentiator over the years to come. Also, an increasing number of armies are needed for population-related missions, such as anti-terrorism operations or disaster management. This is another type of training, and forces must be prepared for that. Cutting-edge AI technologies such as MASA's will enable smarter simulations that can deliver more realist and efficient training solutions to better deal with these challenges. ■

### Further information

MASA Group  
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