



AGUERIS SYNTHETIC TRAINING SOLUTIONS



Company and expertise

MISSION

AGUERIS is a new first rank player in training & simulation. AGUERIS designs, develops, integrates, sells, deploys and supports military simulation solutions for land/airland weapon systems and vehicles: vehicle specific simulators and precision gunnery training.

Our mission : optimize operational efficiency through cost-effective training and simulation.

COMPANY HISTORY

The company was created in April 2015 as a joint venture between two companies: SILKAN and CMI Defence. The company ambitions to become a reference actor in the field of land military simulation, through an offer of technical and tactical training simulators, and the development of innovative technological modules for training & simulation.

SILKAN is a French leader in virtual simulation and real time interconnection applied to critical systems, while CMI Defence is a subsidiary of CMI group (Cockerill Maintenance & Ingenierie), a leader in multifunctional, high-effect weapon systems for light and medium weight armored vehicles and a provider of technical and training assistance. (CMI Defence is designing, manufacturing, marketing and selling turret systems, including guns, of a wide range of calibres and is defining and developing tools, equipments, installations, programs to support the use and to perform training related to these turret systems.)

While AGUERIS is a new company, it was created through the transfer of military training and simulation activity and teams of both SILKAN and CMI Defence. The company is now a 100% subsidiary of CMI Defence.

EXPERTISE

AGUERIS personnel have demonstrated their expertise and know-how in the following domains:

- Virtual simulation
- Embedded simulation
- Constructive simulation
- Virtual and augmented reality
- Simulation interoperability
- Integration with military vehicle onboard electronics
- Modeling
- Definition of training courses and educational material
- After Action Review
- Defense technological innovation
- Audit and consulting in defense technologies

AGUERIS – COMPANY AND EXPERTISE

PAST EXPERIENCE & REFERENCES

The company has an extensive experience in simulation and is widely recognized as an expert in this field. AGUERIS is a member of the French ADIS group, gathering companies, armed forces, MINDEF and academic structures in the field of simulation for defense. AGUERIS created the Simulation Innovation contest, which is held every year during the French SIMDEF symposium and is the official French Land Armament Industry Association (GICAT) partner, to conceive, design and animate the Eurosatory Simulation Cluster.

Its business references include:

- The development and deployment of LCTS90 (Light Cockerill Turret Systems): embedded, mobile and virtual immersive simulators for 90mm turret crew training (up to platoon) – customer: CMI Defence
- AB program : Development, installation and support of the turret training simulators for 30mm up to 105mm turret crew training (up to platoon) – customer: CMI Defence
- SEMBA : embedded simulation for the French SCORPION next-generation armored vehicles program – customer: French MoD
- VETESIM : technological watch and design of the simulation roadmap for the French MoD – customer: French MoD
- JANUS training simulation optimization and parallelizing – customer: French MoD



AGUERIS – SYNTHETIC TRAINING PRODUCTS

Synthetic training products: precision gunnery training

PHILOSOPHY

AGUERIS products are designed to provide operational training to weapon systems operators and crews. Rather than building new simulators each time a specific weapon system is considered, AGUERIS has developed a common technical simulation core that can be adapted to reproduce the specifics of the targeted system.

AGUERIS develops its solutions with two goals in mind:

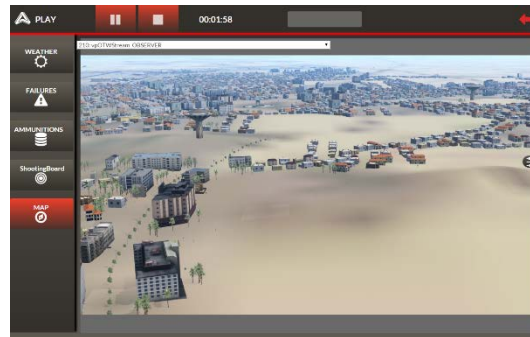
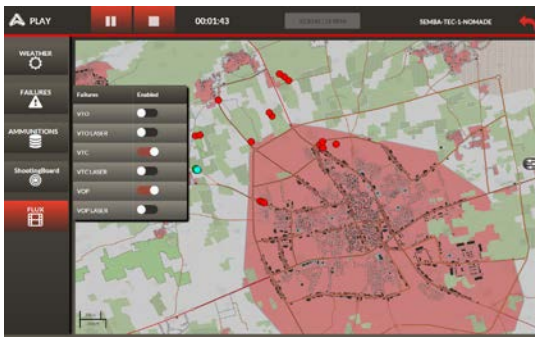
- Enable trainees to acquire the technical know-how allowing the management of the weapon system and vehicle in any context or situation;
- Develop the tactical know-how enabling units to react accurately while facing various operational contexts

Its solutions can be used both in training schools in order to: train the officers for their first mission as commanders, and ensure basic training of drivers and gunners. They can also be used within operational units : maintain operational know-how at all levels: crew – patrol – platoon – battlegroup.

Each simulator built by AGUERIS includes a high-fidelity visual engine, as well as a full synthetic tactical environment. All AGUERIS solution share a common core platform including :

- Simulation engines (physical, visual, communications and tactical – computer generated forces or CGF)
- Interoperability framework
- Instructor station
- Add-ons such as Mobile ExCon (Exercise Control) : the instructor has access to all features of the Instructor Station through a dedicated tablet – see screenshots below.

The instructor station has been designed by operational experts to ensure its quick adoption by end-users. It provides views and windows which display all functions, controls and monitoring necessary to develop and conduct the training. It also incorporate scenario creation features, after-action review, exercise and student database management functions.



AGUERIS – SYNTHETIC TRAINING PRODUCTS

VIRTUAL SIMULATION FOR GUNNERY TRAINING

AGUERIS has developed and deployed a scalable training solution based upon a virtual immersive cockpit to train the crew (commander, gunner) and/or the pilot.

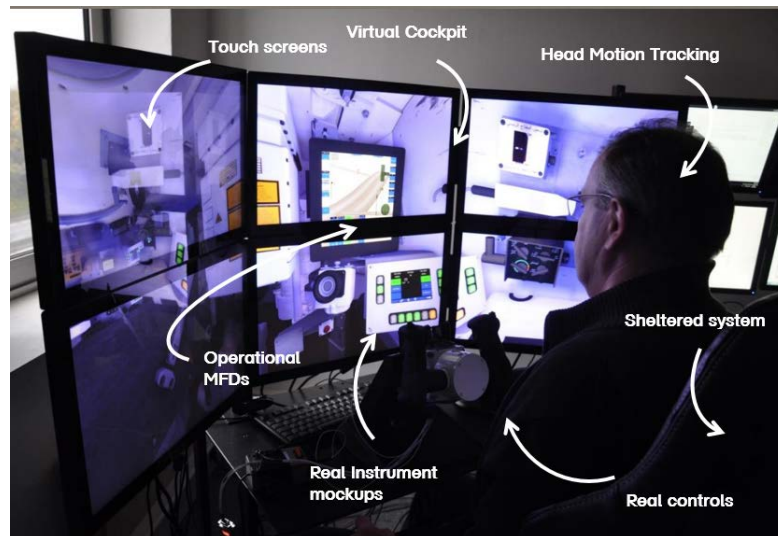
This concept rests on a virtual representation of the turret cockpit itself, into which out-of-the-window imagery is injected. The virtual cockpit is high-fidelity real-time 3D, which allows to position the trainee in a highly realistic immersive environment.



This virtual cockpit is a new concept today used by AGUERIS for generic technical & tactical training. Compared with classical cabin-based simulations, benefits are the following:

- No specific hardware other than control handles – cost is less than a classical cabin
- Maintenance is easy and requires only IT intervention
- The system is light and can be projected in flycases to enable training outside specialized training centers
- Upgrade is purely IT ; the simulator always represent the operational system currently in use
- The simulator can be easily used for either pre-sales, or ergonomics studies

AGUERIS – SYNTHETIC TRAINING PRODUCTS



Training can be performed up to platoon level, through the connection of multiple simulators.

GENERICITY

The virtual simulation solution developed by AGUERIS is generic and is not restricted to CMI Defence weapon systems. The system can be adapted to provide training on any equipment.

In addition, virtual cockpit simulators can be adapted to provide an all-in-one training solution by dynamically switching between multiple weapon systems and vehicles on a single trainer. The benefits are as follows:

- Cost-effective Approach: only one simulator is used, without the need to redevelop specific simulators for new systems
- Adapts to the lifecycle of equipment (retrofits or upgrades)
- Allows to train multiple crews on different systems, simultaneously.



AGUERIS – SYNTHETIC TRAINING PRODUCTS

EMBEDDED SIMULATION FOR GUNNERY TRAINING

AGUERIS is the first and only company to have deployed embedded training solutions. The principle is that the real vehicle or turret becomes the simulator: the simulation system connects to the real equipment in a garage, and the crew trains within its real environment using the real-world command and controls.

AGUERIS technology allows to inject a complete ground forces virtual scenario, including friendly and enemy forces, into a vehicle on-board systems, and provide the crew with a realistic way of training while keeping costs to a minimum.

This ability to train and practice anytime and anywhere in the combat system is a capability never before enjoyed by any modern fighting force.



The benefits provided by embedded simulation can be listed as follows:

- “Train as you fight”, i.e., provide a trainee with an experience that is as close as possible to reality;
- Achieve both direct and indirect cost savings : no use of costly expendable items (e.g. missiles, torpedoes, chaff, flare), no degradation of the operational equipment, no specific maintenance costs;
- Simplicity : A simple method allows to transition the crew from a combat mode to a training mode and vice-versa.
- Mobility : through embedded simulation, any operational base, unit motor park, training area, or range can become a training center without the need to be tethered to specific infrastructures - the need for centralized scheduling and time sharing on limited training centers can be eliminated.;
- In addition to training, embedded simulation can be used to provide mission rehearsal capability.

Gunnery training currently conducted on standalone trainers have similar capabilities built into the real combat system. Multiple vehicle exercises may be accomplished by using digital communications over the tactical internet or a supplemental LAN.

This capability is not limited to a specific weapon system. Through the use of custom kits, AGUERIS can adapt this concept to any weapon system.

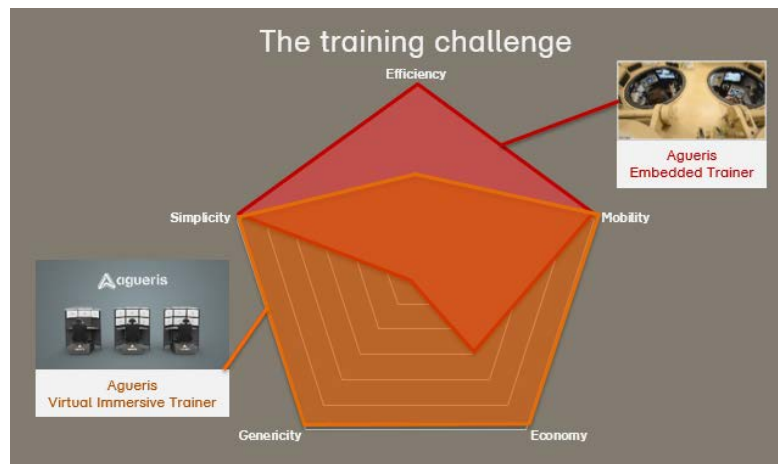
AGUERIS – SYNTHETIC TRAINING PRODUCTS

A COMPREHENSIVE SOLUTION

AGUERIS simulators rest on a double concept : the alliance between virtual and embedded simulation. Virtual simulators are used to provide technical and tactical training to weapon systems operators and turret crews, while embedded simulations – a concept in which the real weapon system, stimulated by simulation, is used as the trainer,

Combination of embedded and immersive training is the solution to solve all challenges of training :

- Efficiency : train effectively, boost up the learning curve
- Simplicity : train as you fight
- Mobility : train anywhere, even deployed in the field
- Economy : manage and decrease training costs
- Genericity: use the same trainer to train to different systems



In summary, AGUERIS competitive advantages are the following :

- **Technological advance** : our team, supported by our two founders (CMI Defence & Silkan), was the first to design and operationally deploy a fully functional simulation solution embedded in a real weapon system.
- **Invention and creativity**: Agueris develops its own technological modules, both for its own needs and to offer innovative technological products to the market.
- **Operational proximity**: Through the experience of its team and in-house military expertise, Agueris products are in line with armed forces needs and requirements, to ensure optimal training and mission readiness.
- **Efficiency** : Agueris simulation solutions are designed to maximize training efficiency while minimizing development and possession costs. As an example, a single simulator can be used to train on various weapon systems.

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