



# LACROIX



## VEHICLE SURVIVABILITY SYSTEMS

# VEHICLE SURVIVABILITY SYSTEMS

## Threat detection



## Alert & Communication



GAL  
SURVIVA  
SYST

SMART PR

IX  
BILITY  
EM

OTECTION

## Analysis & decision



## Countermeasures



# VARIOUS ARCHITECTURES ADAPTED TO VEHICLES MISSIONS

## Manual / Stand alone system

### Standard Integration

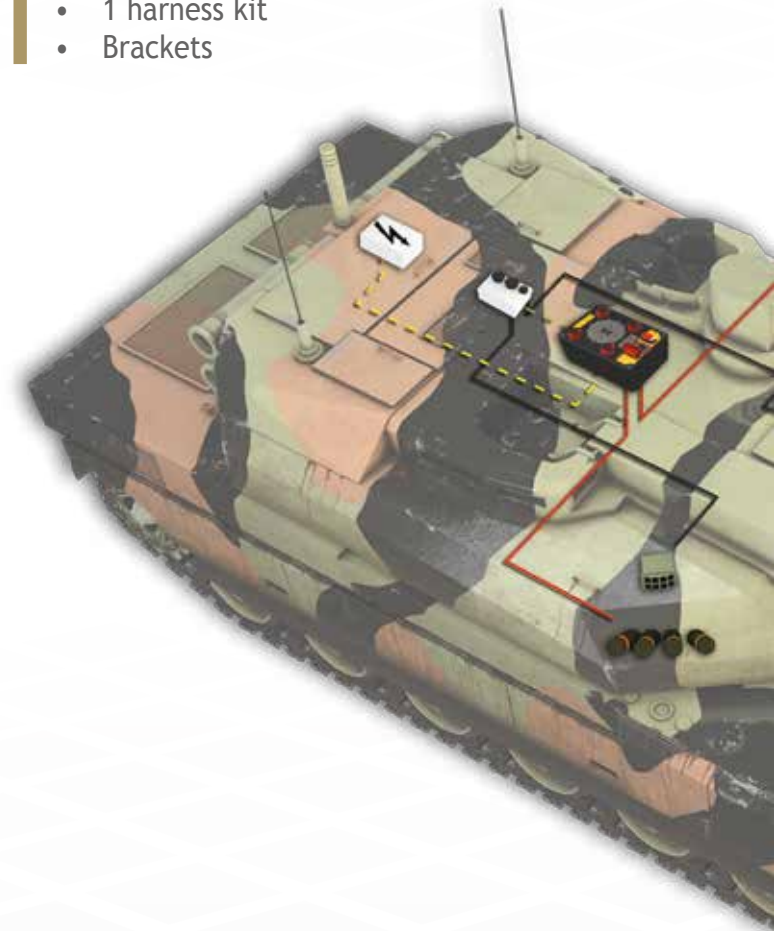
- 6 or 8 launch tubes
- 1 manual SCU
- 1 harness kit
- 1 or 2 brackets



## Automatic system

### Standard Integration

- Up to 12 launch tubes
- 1 basic automatic SCU
- 1 sensor set
- 1 harness kit
- Brackets

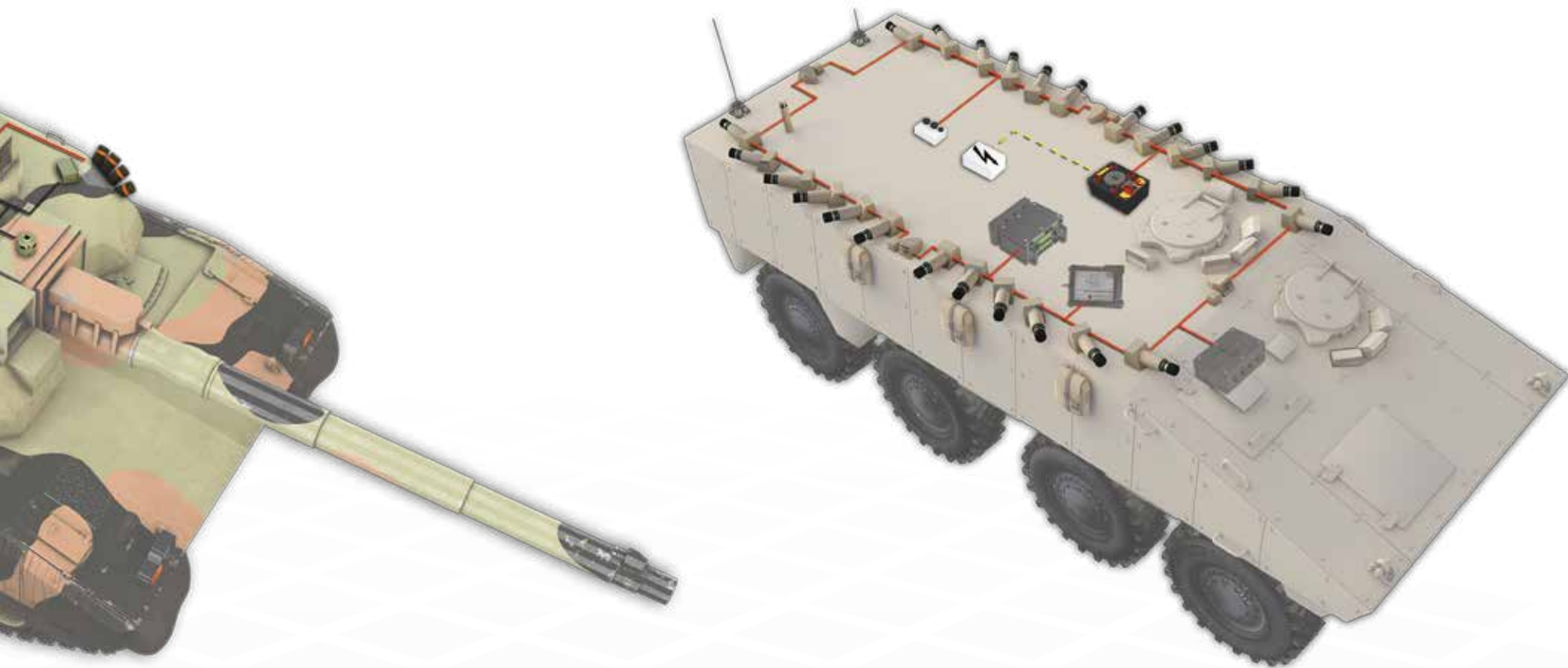




## Automatic / Connected system Distributed architecture

### Standard Integration

- Up to 24 launch tubes
- 1 automatic SCU connected to main Bus (CAN, Ethernet)
- Threat detection (LWS, MWS...)
- Sensors (GPS, Compass, Weather sensor ...)
- Harnesses Kit



# COMBAT PROVEN COMPONENTS

## Main characteristics

- Instantaneous effects thanks to trajectory
- Launch tube low elevation angle ( $\approx 10^\circ$ )
- EEM compatibility (System & Ammunition)
- Can be fitted onto any type of vehicle (Armored or Unarmored)
- Operating temperatures:  $-40^\circ\text{C}$  /  $+51^\circ\text{C}$
- Tested according to MIL-STD and AETCP Standards

## Basic control unit

- Manual mode only
- Able to control up to 12 launch tubes
- Half salvo capabilities
- Fully compliant with MIL-STD 1275 D
- Equipped with or without signalization



## Basic automatic control unit

- Auto/Manual mode (Discrete line)
- Able to control up to 12 launch tubes
- Half salvo capabilities
- Fully compliant with MIL-STD 1275 D
- Hatches control & override capabilities
- Can be separated into two units for RWS integration



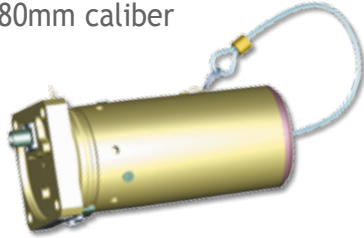
## Fully automatic control unit

- Auto/Manual mode with integrated rules of engagement
- Able to control up to 24 launch tubes (individually)
- Simple tactical situation HMI
- Fully compliant with MIL-STD 1275 D
- Hatches control & override capabilities
- BIT, PBIT, ABIT



## Launch tube

- Bayonet locking system for ammunition
- No cleaning requirement for reloading
- Reduced maintenance
- Operational even after river crossing
- 80mm caliber



## Brackets

- Regroup & fix launch tube to the vehicle
- Allow elevation and azimuth of launch tubes
- Fit to each type of vehicle or turret



## Specific Test Tool Equipment

GALIX 16P STTE is provided to check:

- Ammunition system's capacity to fire
- Safety current to the ammunition
- The safety indication of SCU - if this function is available



## Workhouse STTE

Bench test is used to:

- Locate origin of system failure
- Upgrade software to SCU
- Control and validate after repair



## Integrated control unit



## Sensors LWS, Weather



## Wideband smoke screening

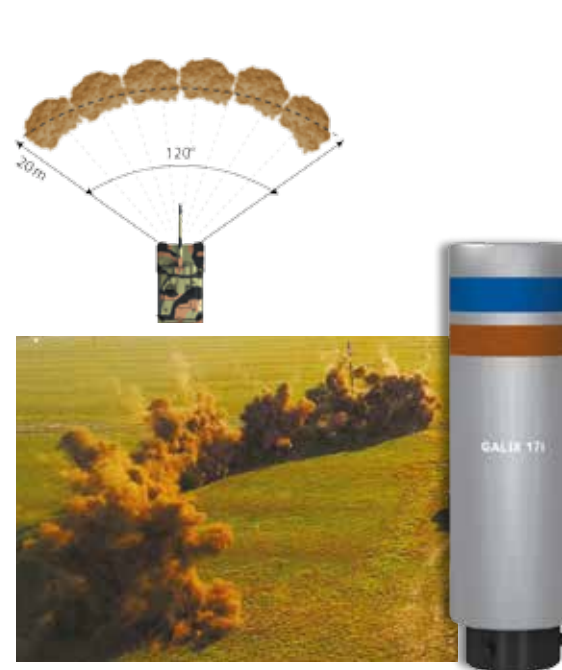
### GALIX 13 Ammunition

- Visible to far infrared
- Duration: 1 to 40s
- Screen at 50m from vehicle
- 90° with 6 G13; 120° with 8 G13
- Two effects: Instantaneous & smoke



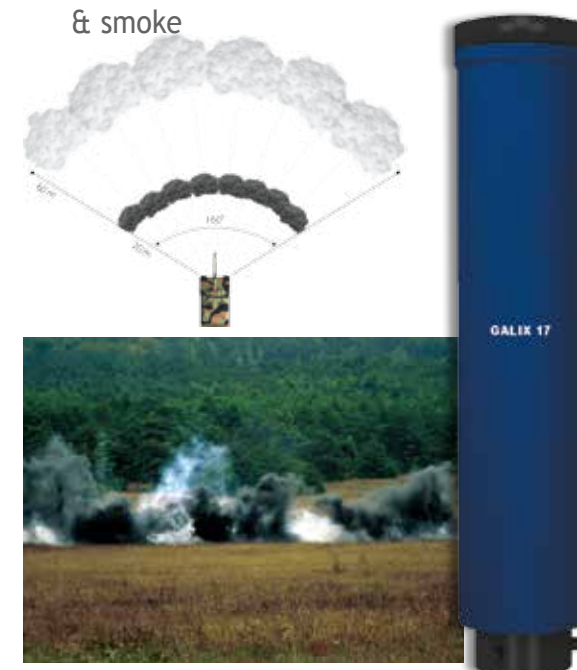
### GALIX 17 I Ammunition

- Visible to far infrared
- Duration: 1 to 25s
- Screen at 20m from vehicle
- 90° with 6 G17; 120° with 8 G17 I
- One effect: Instantaneous



### GALIX 17 Training Ammunition

- In visible only
- Duration: 2 to 30s
- Screen at 50m from vehicle
- 90° with 6 G17; 120° with 8 G17
- Two simulated effects: Instantaneous & smoke





## Peacekeeping or ambush disengagement

### GALIX 19/19 R Ammunition

- Report: 157dB to 163dB
- Instantaneous: <1s
- 2 sub payloads with effect at 24m & 48m from vehicle



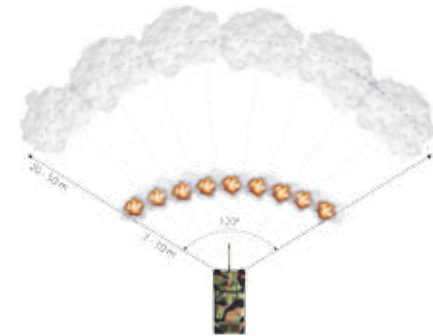
### GALIX 29 Ammunition

- Report: 180dB
- Reaction time: 2s
- Effect at 150m from vehicle; 10m high



### GALIX 46 Crowd disengagement

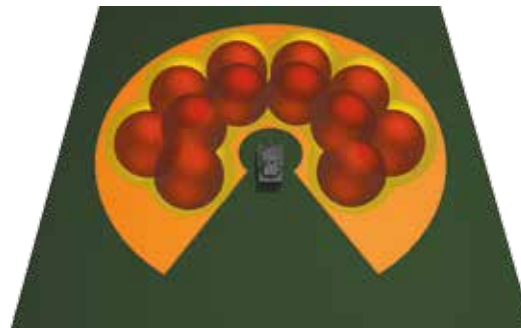
- 3 effects: Kinetic, sound & irritant smoke
- Instantaneous: <1s
- Effects: 0 to 40m from vehicle



## Neutralization

### GALIX 4 Ammunition

- Blast & fragmentation ammunition
- Instantaneous: <1s
- 2 sub payloads with effect at 24m & 42m from vehicle
- Highly effective



## Ammunition range in caliber 80mm

Name	Function	Effect	Size	Weight	Class	UN
GALIX 13	Multiband smoke screening	Mask & Smoke	330 mm	4.5 kg	1.2 G	0015
GALIX 17 I	Training & Multiband smoke screening	Mask & Smoke	265 mm	3.7 kg	1.2 G	0015
GALIX 17	Training reloadable	Smoke	330 mm	4.5 kg	1.3G	0016
GALIX 19/R	Crowd control warning	Sound	265 mm	2.2 kg	1.4 S	0405
GALIX 46	Crowd control disengagement	Kinetic & Irritant	265 mm	2.4 kg	1.4 G	0301
GALIX 29	Crowd control	Sound & Blast	265 mm	N/A	N/A	N/A
GALIX 4	Anti-personnel	Blast & Fragments	265 mm	4.0 kg	1.1 E	0464

## System components

Name	Function	Status	Qualification	Size	Weight
LAUNCH TUBE	Mechanical & electrical interface	LRU repairable	Combat Proven	120 x 120 x 214 mm	5.5 kg
Basic SCU	Manual controller	LRU	Combat Proven	122 x 160 x 108 mm	1.2 kg
Basic automatic SCU	Semi auto / Manual controller	LRU	Qualified	122 x 160 x 108 mm	1.5 kg
Basic automatic SCU	Semi auto / Manual controller (Unmanned turret or RWS)	LRU	Qualified	122 x 160 x 108 mm	1.5 kg
Fully automatic SCU	Auto / Manual controller	LRU repairable	Qualified	200 x 164 x 138 mm	< 5 kg

## New vehicles

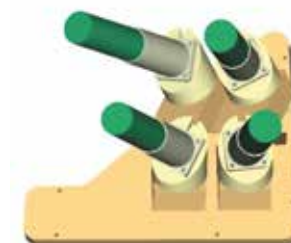
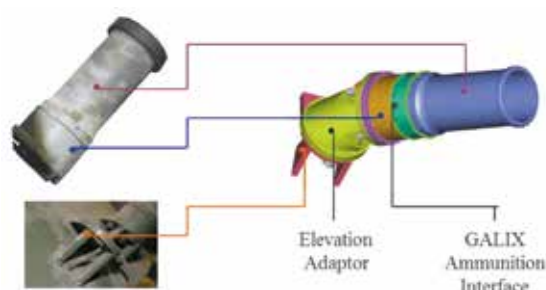
11 000 vehicles equipped



## Retrofit



## Modification of existing system





# GALIX SYSTEM INCREASES VEHICLE SURVIVABILITY



## AGAINST EXISTING AND EMERGING THREATS IN COLLABORATIVE ENVIRONMENT

In cooperation with  
**nexTER**  
MUNITIONS



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