



THE ACTIVE DEFENCE EXPERTS
FORCE PROTECTION IS OUR MISSION








ADS – ACTIVE DEFENCE SYSTEM

ASSURED PROTECTION

Hard Kill Active Protection System (APS)

Armour is no longer enough to defend against ATGMs or even RPGs, vehicles need reliable automated defence systems to destroy incoming missiles. ADS delivers assured protection against multi-missile attacks that turns the tables on an adversary in milliseconds.

BENEFITS:

-  **MATURE:** Proven in-service APS
-  **SCALABLE:** Only APS deployable across all vehicle types
-  **SAFE:** APS with the highest safety level, independently verified
-  **ADVANCED:** Smartest, fastest APS on the market
-  **LOWEST PROFILE:** Electronic warfare exposure



ADS – AN OPEN DISTRIBUTED APS

There are two design approaches to APSs: launcher and distributed. A launcher places one or more rotating missile launchers on the vehicle and intercepts missiles at some arbitrary point in the battlefield. Distributed systems wait until the very last moment to destroy the missile right next to the vehicle, using armour to absorb the missile debris without suffering penetration.

Rheinmetall Protection Systems GmbH (RPS) selected a distributed design for ADS because it's an assured missile destruction technique that avoids missile jet activation.

You also know where the automated weaponry impacts the battlefield, giving you deployment confidence. Our distributed modular architecture ensures agile and cost-effective field upgrades.

ADS is effective and mature:

With over 900 successful missile destruction trials, ADS is a market leader. ADS is in serial production and active deployment.

ADS scales efficiently:

Our distributed design enables integration that carefully matches passive armour with active hard kill capability, enabling balanced weight distribution and flexible size management. The missile destruction method needs no more power than it takes to boil a kettle! Just like passive armour, you can select the level of protection to meet your SWaP objectives.

ADS is safe:

It's paradoxical to raise the question of safety on a battlefield, but as we enter an era of automated defensive weaponry, we have to take on new safety considerations for vehicle dismount, supporting infantry and non-combatants. ADS is the only APS that has met the same safety standard as the explosives in your car airbag – IEC61508 Safety Integrity Level 3.

ADS limits your EW exposure:

Automated weapons use radar to detect incoming missiles. Our distributed APS design means we use the lowest power detection systems. ADS has the best (lowest) Electronic Warfare (EW) signature in the market. Don't advertise your presence; use a distributed APS.

NEW TECH NEEDS

NEW THINKING

With the ADS distributed design, you always know where missile destruction occurs, which gives you the control you need:

- To keep your countermeasures active and operational
- To train troops how to operate alongside our APS

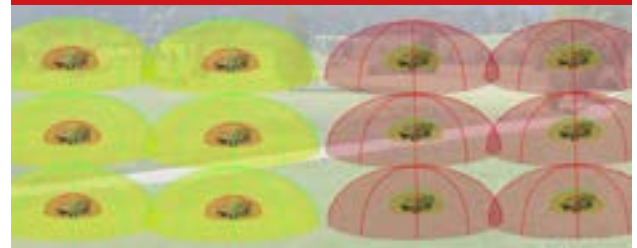
Missile destruction should create no more risk to dismounted troops than a successful missile strike might.



Safe Zone – Solo Vehicle – ADS Distributed Architecture



Danger Zone – Solo Vehicle – Launcher based APS Architecture



Multi-Vehicle Deployment with APS – Safe Zones in a Battlefield



Real application setup – trial result (pedestrian)



No significant impact was observed – just polluted clothes

WE MAKE IT SAFE

Control is not just about where missile destruction occurs, but how. These test dummies were standing within a few metres of ADS missile destruction – yet suffered no more than marked clothing.

EW CONSIDERATIONS FOR APS

ADS's distributed design has an incredibly low Electronic Warfare signature, as low as voice radio channels. Even a small increase of 10's of metres in missile detection range requirement has a massive impact on your detectability on the battlefield. Your enemy may advertise their presence – but you don't need to with ADS.

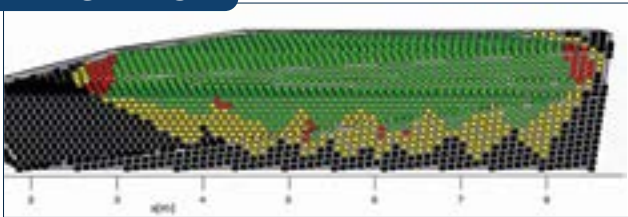


ADS

SPECIFICATION

APS type:	distributed
Minimum defeat distance:	≈ 10 m
Simultaneous attack defeat:	yes
weight:	100 kg to 1 ton
Peak power draw:	< 1 kW
Missile defeat mechanism:	directed blast
System redundancy:	yes, all subsystems
Shot type detection:	yes
Independent safety assurance:	IEC61508 SIL3 (i.e. failure per hour < 10^{-7})
Tactical radar exposure range:	≈ 0.35 km (at -60 dBm sensitivity)
Strategic radar exposure range:	≈ 6 km (at -95 dBm sensitivity)

☐ BEST APS INTEGRATION



Balance physical armour with ADS.
RPS provides simulation and design support
tools for defensive capacity assessment.

THE ACTIVE DEFENCE EXPERTS

FORCE PROTECTION IS OUR MISSION



FOR MORE INFORMATION

CONTACT US

Rheinmetall Protection Systems GmbH
Pützchens Chaussee 58a
53227 Bonn, Germany

Phone: +49 228 422132 - 0
Fax: +49 228 422132 - 490
Email: info-rps@rheinmetall.com
URL: www.ads-protection.de