

# Zetor Engineering

## Company & Vehicles Profile

Created by Zetor Engineering 2022



*Zetor*

ENGINEERING

- ❖ **06/2000: Zetor Engineering Slovakia a.s company founded**
  - Member of the Engineering sector of ZETOR group
  - Member of the Safety and Defence Industry Association of the Slovak Republic
  - Main activities: research, development and innovation centre of mobile application for machines and special vehicles
  
- ❖ **05/2009: Zetor Engineering s.r.o Czech republic company founded**
  - Member of the Engineering sector of ZETOR Group
  - Member of the Defence and Security Industry Association of the Czech Republic
  - Main activities: project management, purchasing, assembling/production, quality for special vehicles
  
- Both members (Zetor Engineering s.r.o Czech republic and Zetor Engineering Slovakia a.s. ) have developed 4x4 armoured tactical vehicle **Zetor Gerlach** as the main priority

## Ongoing projects at ZETOR ENGINEERING companies

- ▶ ATV Zetor Gerlach 4x4
  - ▶ Zetor Gerlach 4x4 ATV
  - ▶ Zetor Gerlach 4x4 RDV
  - ▶ Zetor Gerlach 4x4 Light Tactical Utility, custom ready
  - ▶ Zetor Gerlach 4x4 Ambulance, custom ready
  - ▶ Zetor Gerlach 4x4 Carried Mortar – 120 mm Calibr, custom ready
  - ▶ Zetor Gerlach 4x4 personal carrier, custom ready
  
- ▶ ATV Zetor Gerlach 6x6, custom ready
  - ▶ Zetor Gerlach 6x6 personal carrier
  - ▶ Zetor Gerlach 6x6 howitzer

# Zetor Gerlach 4x4 ATV

- ❖ New concept – ARMOURED TACTICAL VEHICLE 4x4 **ZETOR GERLACH** reflects the new combat and safety factors resulting from current skills and experience from the combat deployments of 21<sup>st</sup> century. Vehicle concept ATV 4x4 initiated 3 years ago in the company **ZETOR ENGINEERING CZ** in close cooperation with the subsidiary **ZETOR ENGINEERING SK**, both members of **HTC INVESTMENTS group** – sector ENGINEERING.

[https://www.youtube.com/watch?time\\_continue=10&v=1dxrpfUJaEw&feature=emb\\_title](https://www.youtube.com/watch?time_continue=10&v=1dxrpfUJaEw&feature=emb_title)

## Main Advantages:



HIGH LEVEL PROTECTION



COMFORT AND ERGONOMY



MOBILITY AND DYNAMICS



RELIABILITY, BUSINESS CASE, PRODUCT RANGE, MILITARY SYSTEMS





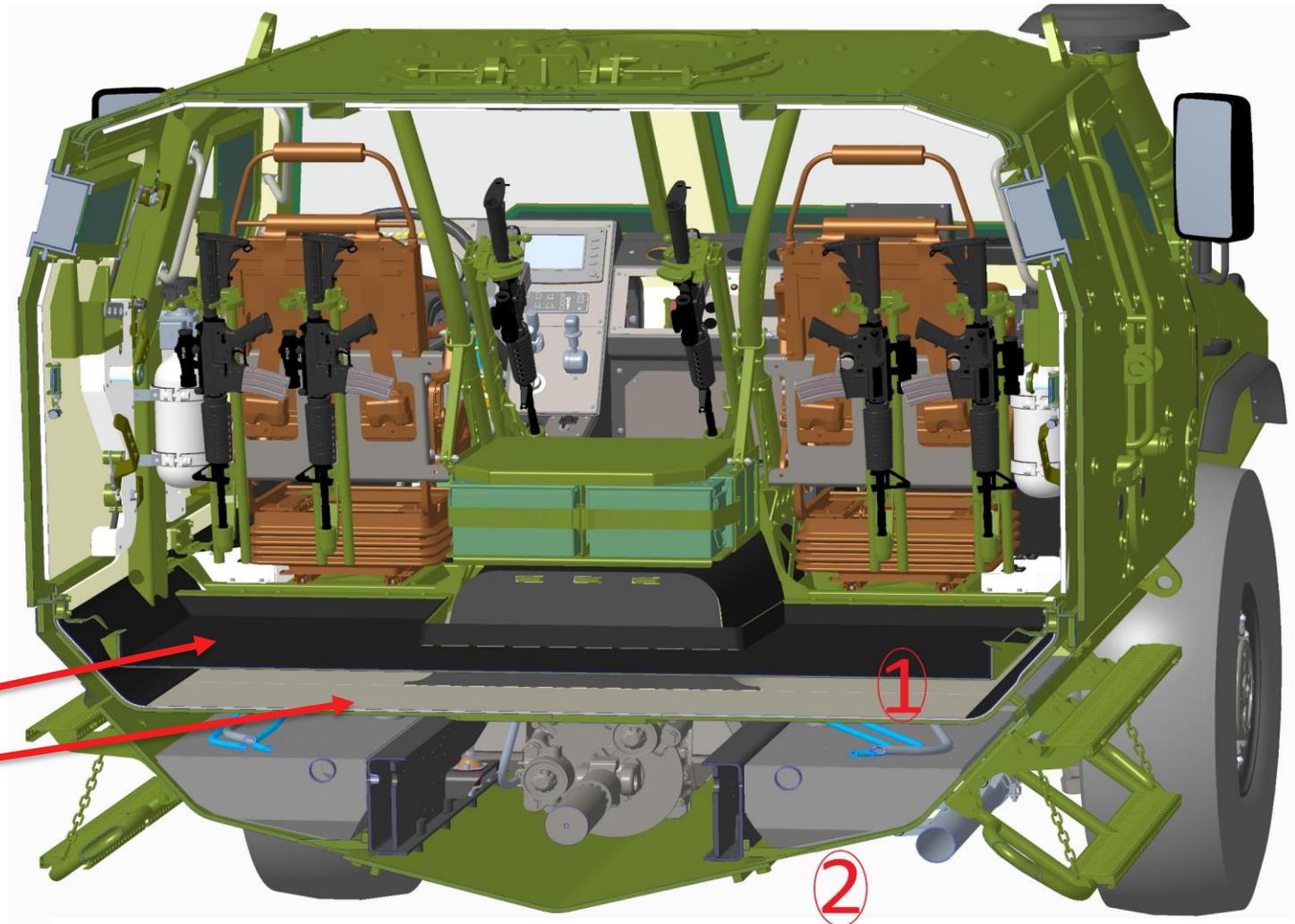
## HIGH LEVEL PROTECTION

- ❖ **Ballistic protection:** STANAG 4569 Volume 1 level 3
- ❖ **Anti-mine protection:** [STANAG 4569 Volume 2 level 3a, 3b](#)
- ❖ **Safety cabin:** protection assured by additional modular armoured plating with (1) double floor and (2) anti-mine „V“ shield



## HIGH LEVEL PROTECTION

- ❖ **Safety cabin:** protection assured by additional modular armoured plating with (1) double floor\* and (2) anti-mine „V“ shield



- \* Double floor includes:
  - floating floor base
  - cabine floor base



### Milestones of the Certification process

- ❖ **06/2018:** Zetor and IBD (now **Rheinmetall Protection System**) signed a common contract of developing protection systems for both ballistic and mine protection
- ❖ **12/2018:** 1<sup>st</sup> vehicle blast test campaign (3a/3b) + ballistic certification (STANAG 4569 Volume 1 level 3)
- ❖ **07-09/2019:** 2<sup>nd</sup> rolling chassis blast test campaign (3a/3b + to prove also 4a level)
- ❖ **09/2019:** 3<sup>rd</sup> vehicle blast test – certification (3a/3b)
- ❖ **12/2020:** Life cycle test (LCC test)



# HIGH LEVEL PROTECTION - WE ARE CERTIFIED

**Zetor**  
ENGINEERING





# HIGH LEVEL PROTECTION - WE ARE CERTIFIED



Test Report Version 1.1 Date 21.11.2019

**RHEINMETALL DEFENCE**

Title: 638100-2019-09-30-Test Report-Mine-CW38-3b-V1.1

Classification: Company Confidential Page 1 of 99

## Test Report

8 kg TNT – 3b Mine Test: under belly  
8 kg TNT – 3a Mine Test: under front wheel

### Gerlach 4x4




Project No. 638100

Issued by/date/signature: G. Teslau, 21<sup>st</sup> November 2019

Released by/date/signature: W. Münch, 21<sup>st</sup> November 2019

Approved by/date/signature: R. Fischer, 21<sup>st</sup> November 2019

Number of originals: NA  
Number of this original: NA

Number of pages: 99  
Number of pages Company Confidential: 99

Please respect Security Notes on Page 2!

Rheinmetall Protection Systems GmbH Branch Development  
Im Röhmerthor 41 - 53797 Lohmar, Germany - Phone +49 2205 89408 0 - Fax +49 2205 89408 580 - Registered Office: Bonn  
Bonn Local court CPr No. HRB 23942 - Tax No.: 306/0946/0625 - VAT No.: DE 251360 678

**Beschussamt Ulm**  
Eich- und Beschusswesen Baden-Württemberg  
Staatliche Prüf- und Zertifizierungsstelle für Waffen- und Sicherheitstechnik

### Zertifikat - Certificate

S 19 0050 02 / Z

**Fahrzeug-Sprengprüfung**  
Vehicle-blast test

**Antragsteller** Zetor Engineering s.r.o.  
628 00 Brno / Česká republika

**Hersteller Fahrzeug** Zetor Engineering s.r.o.  
628 00 Brno / Česká republika

**Hersteller Schutz** Rheinmetall Protection Systems GmbH  
D-53797 Lohmar

**Ort und Datum der Prüfung** Schrobenhausen, 17.09.2019

**Prüfanforderung und Verfahren**  
Nach Kundenspezifikation in Anlehnung an STANAG 4569, Prüfmethode AEP55, Vol. 2, Level 3b (Mai 2014) [mitig unterhalb der Wanne, Fondbereich]  
To Applicant's specifications in accordance with STANAG 4569, test method AEP55, Vol.2, level 3b (May 2014) [in the middle under the belly, rear area]

**Gegenstand der Zertifizierung** Fahrzeug  
Item under certification

**Typenbezeichnung** Zetor Gerlach 4x4  
Product reference (RPS 44940, Projekt 638100-9)

Das Fahrzeug erfüllt alle Leistungskriterien entsprechend der Kundenspezifikation in Anlehnung an STANAG 4569, AEP55, Vol. 2, Level 3b (Mai 2014)  
Details siehe Prüfbericht S 19 0050 01 / B  
The vehicle passed all the mandatory performance criteria according Applicant's specifications in accordance with STANAG 4569, AEP55, Vol. 2, level 3b (May 2014)  
Details see test report S 19 0050 01 / B

Herrn bestätigen wir, dass sämtliche zur Zertifizierung eingesetzten Prüfmittel, Messmittel und Hilfsmittel entsprechend dem akkreditierten System qualifiziert bzw. metrologisch rückgeführt sind.  
We hereby confirm that all test devices, measuring tools and aids used for the certification are qualified or metrologically traceable to the national system.  
Zertifikat eines Unterwirth und Dienstzeugel haben keine Gültigkeit. Dieses Zertifikat darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung des Beschussamtes Ulm.  
Der Prüfbericht ist Grundlage und Bestandteil des Zertifikats.  
Only the original certificate remains valid and signed by the Proof House is valid. This certificate may only be passed on in its entirety and without modification. The use of parts of the certificate is allowed only with the express consent of the Beschussamt Ulm.  
The test report is basis and part of the certificate.

Akkreditierte Prüf- und Zertifizierungsstelle

**DAKKS**  
Deutsches Akkreditierungs-gesellschaft  
D-53797 Lohmar

Ulm, den 01.10.2019

**TONNER**  
Leiter der Zertifizierung  
Head of certification

**Beschussamt Ulm**  
Eich- und Beschusswesen Baden-Württemberg  
Staatliche Prüf- und Zertifizierungsstelle für Waffen- und Sicherheitstechnik

### Zertifikat - Certificate

S 19 0050 03 / Z

**Fahrzeug-Sprengprüfung**  
Vehicle-blast test

**Antragsteller** Zetor Engineering s.r.o.  
628 00 Brno / Česká republika

**Hersteller Fahrzeug** Zetor Engineering s.r.o.  
628 00 Brno / Česká republika

**Hersteller Schutz** Rheinmetall Protection Systems GmbH  
D-53797 Lohmar

**Ort und Datum der Prüfung** Schrobenhausen, 19.09.2019

**Prüfanforderung und Verfahren**  
Nach Kundenspezifikation in Anlehnung an STANAG 4569, Prüfmethode AEP55, Vol. 2, Level 3a (Mai 2014) [unter Vorderrad, Sella links]  
To Applicant's specifications in accordance with STANAG 4569, test method AEP55, Vol.2, level 3a (May 2014) [under front wheel, left side]

**Gegenstand der Zertifizierung** Fahrzeug  
Item under certification

**Typenbezeichnung** Zetor Gerlach 4x4  
Product reference (RPS 44941, Projekt 638100-9)

Das Fahrzeug erfüllt alle Leistungskriterien entsprechend der Kundenspezifikation in Anlehnung an STANAG 4569, AEP55, Vol. 2, Level 3a (Mai 2014)  
Details siehe Prüfbericht S 19 0050 04 / B  
The vehicle passed all the mandatory performance criteria according Applicant's specifications in accordance with STANAG 4569, AEP55, Vol. 2, level 3a (May 2014)  
Details see test report S 19 0050 04 / B

Herrn bestätigen wir, dass sämtliche zur Zertifizierung eingesetzten Prüfmittel, Messmittel und Hilfsmittel entsprechend dem akkreditierten System qualifiziert bzw. metrologisch rückgeführt sind.  
We hereby confirm that all test devices, measuring tools and aids used for the certification are qualified or metrologically traceable to the national system.  
Zertifikat eines Unterwirth und Dienstzeugel haben keine Gültigkeit. Dieses Zertifikat darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung des Beschussamtes Ulm.  
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Akkreditierte Prüf- und Zertifizierungsstelle

**DAKKS**  
Deutsches Akkreditierungs-gesellschaft  
D-53797 Lohmar

Ulm, den 01.10.2019

**TONNER**  
Leiter der Zertifizierung  
Head of certification



## MOBILITY AND DYNAMICS

Version	ATV Zetor Gerlach 4x4
Weight	standard: 12.5 t maximal: up to 15.2 t
<b>Crew</b>	<b>2+4 – the biggest advantage over the competition in this sector with 2+2 crew cars</b>
Max. speed	117 km/h
Range	600 km (220 l fuel tank)
<b>Chassis</b>	engine 326 HP, 6-speed automatic transmission, frame construction, independent suspension, <b>Torque 1300Nm – the biggest advantage over the competition in this sector. Gerlachs torque is more than 30% better than any other car from the competitions</b>
Dynamics	at standard weight: 26.1 Hp/t at maximum weight: 22.5 Hp/t
Logistics	STANAG 2165 TRUCK, RAILWAY, AIRBUS 400 M (Note: means that it is transportable by highway, rail and air)



### BASIC VEHICLE SPECIFICATION

- STANAG 4569 Volume 1 level 3
- STANAG 4569 Volume 2 level 3a, 3b
- CBRN (Chemical, biological, radiological and nuclear defence) and Air condition



## OBSTACLES AND DIMENSIONS

**Side slope:** ride up to 57%  
statically up to 62,5%





## OBSTACLES AND DIMENSIONS

**Trench crossing: up to 1m**





## OBSTACLES AND DIMENSIONS

**Vertical step:** up & down up to 0,5m





## OBSTACLES AND DIMENSIONS

**Fording:** up to 1,2m





## OBSTACLES AND DIMENSIONS

**Gradient:** up & down up to 60%





Space for crew members – <b>Safety cabin (2+4)</b>	<b>7.7 m<sup>3</sup> - the biggest cabin in the segment !!! Not only that we have most crew members seats in the segment (2+4), we also have the biggest cabin with plenty of space for all their needs</b>
Cargo space	2.3 m <sup>3</sup>
Cargo – useful load	2.5 t
Length × Width × Height	6,25 m × 2,55 m × 2,6 m (14R20)
Wheel base	3.6 m
Turning radius	7.5 m
Tires	14 R20 CTIS (central tire inflation system)

- Comfortable independent suspended spring axle system
- Interior equipped with special noise damping and anti-vibration materials
- SUBSYSTEMS: CBRN, chemical protection, communication systems, central tire inflation system (CTIS), data and voice communication



## PRODUCT RANGE – Zetor Gerlach 4x4 Light Tactical Utility

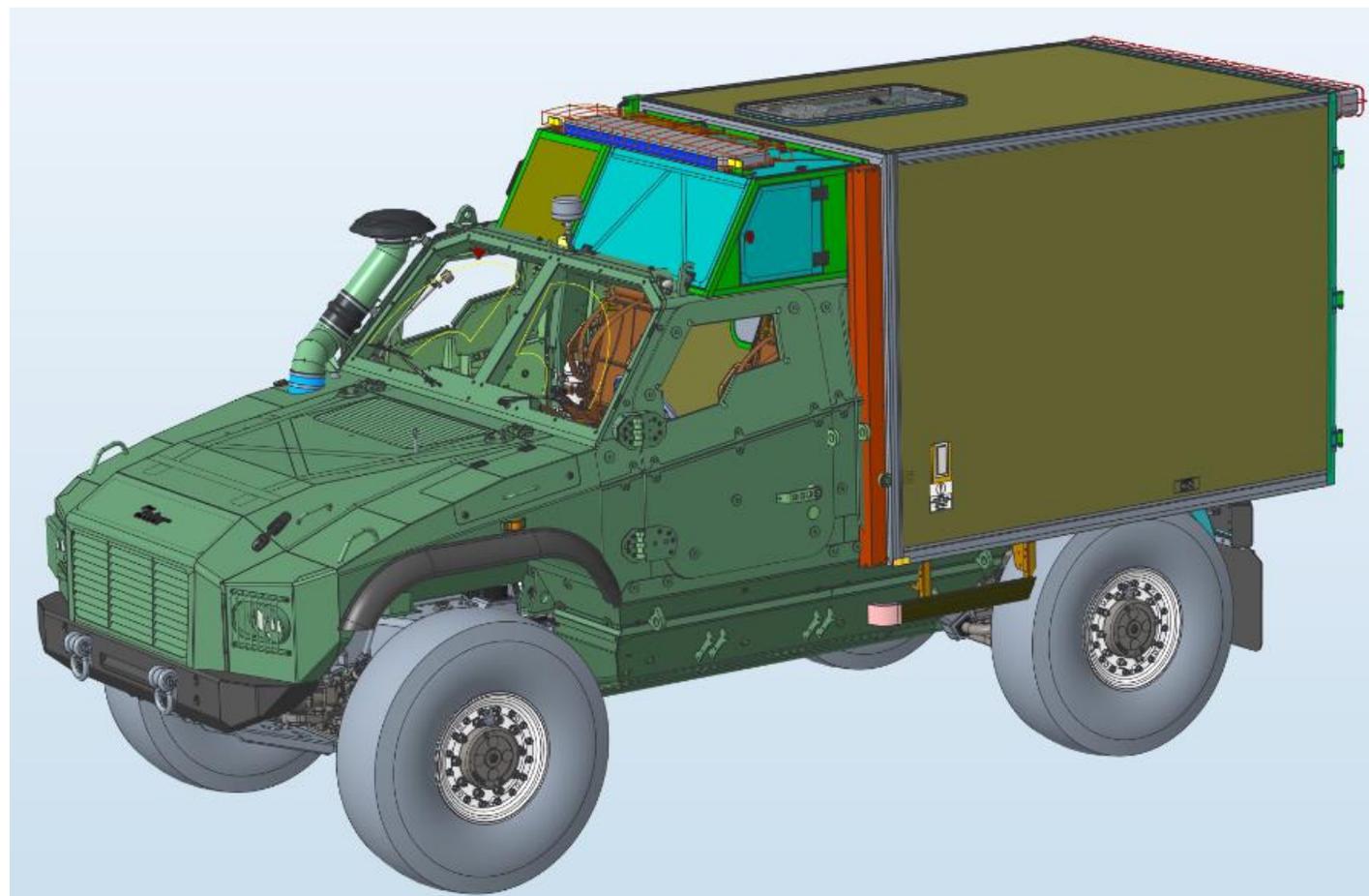
- ❖ Built to haul cargo or shelters
- ❖ 2-person crew cabin
- ❖ With blast protected seats
- ❖ Ballistic protection: STANAG 4569 Volume 1 level 3
- ❖ Anti-mine protection: **STANAG 4569 Volume 2 level 3a, 3b**
- ❖ Fire Suppression System (crew and engine compartments)
- ❖ CBRN/AC





## PRODUCT RANGE – Zetor Gerlach 4x4 Ambulance

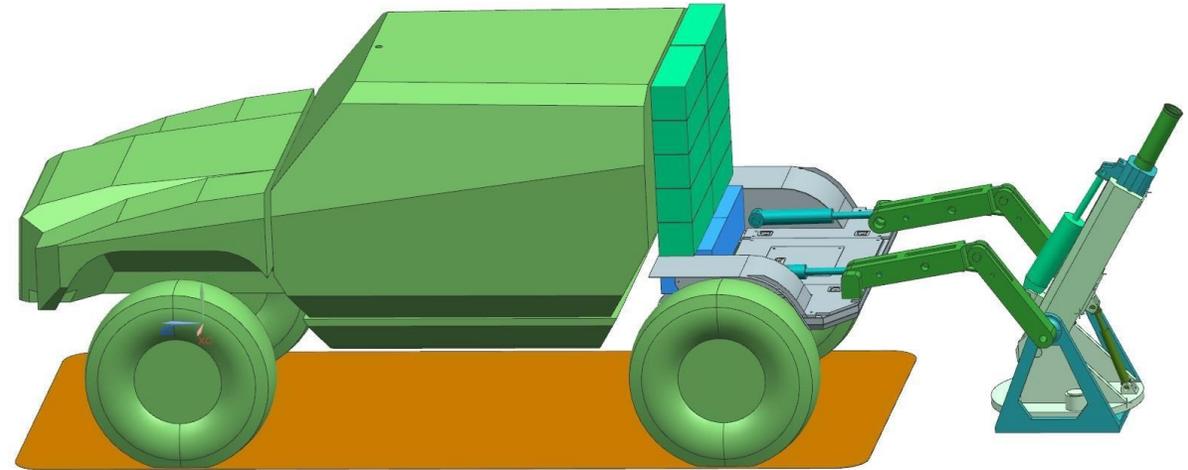
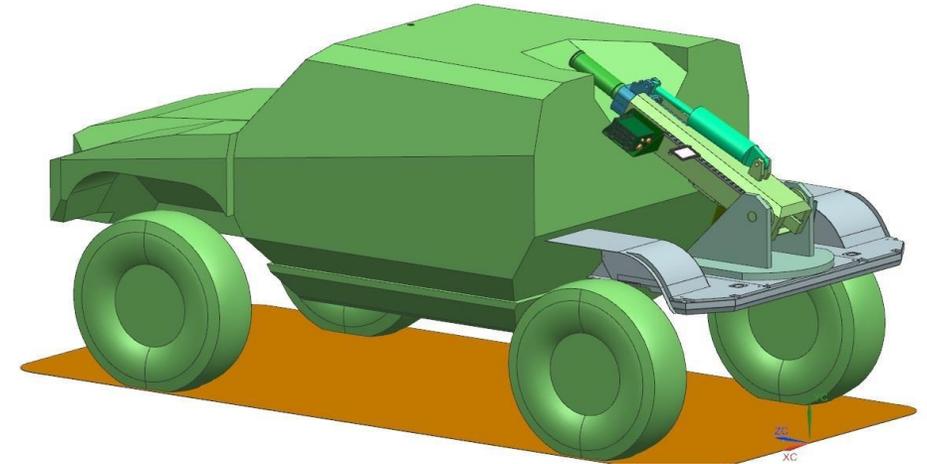
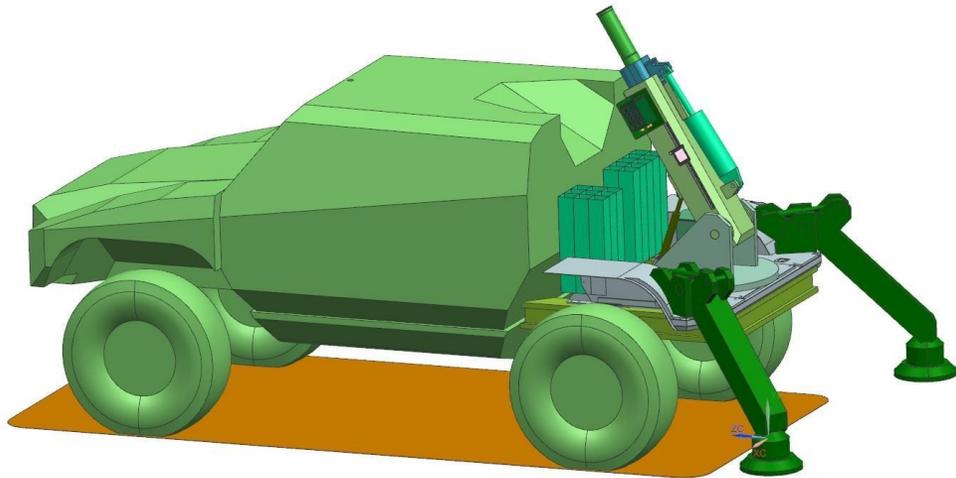
- ❖ Installed on chassis of the Zetor Gerlach 4x4
- ❖ 2-person crew cabin
- ❖ With blast protected seats
- ❖ Ballistic protection STANAG 4569 Volume 1 level 3
- ❖ Anti-mine protection: **STANAG 4569 Volume 2 level 3a, 3b**
- ❖ Fire Suppression System (crew and engine compartments)
- ❖ CBRN/AC





## PRODUCT RANGE – Zetor Gerlach 4x4 Carried Mortar 120mm Calibre

- ❖ Co-development (feasibility study) with **Konštrukta –Defence, a.s.** - the carried mortar – 120 mm calibre on the chassis Zetor Gerlach 4x4 ATV
- ❖ Feasibility study includes:
  - a description of the function and the main design features of the mounted mortar incl. variants
  - Proposals for the deployment of the weapon part on the chassis of the vehicle, together with the evaluation of convenience





## PRODUCT RANGE – Zetor Gerlach 4x4 Open Armoured Tactical vehicle

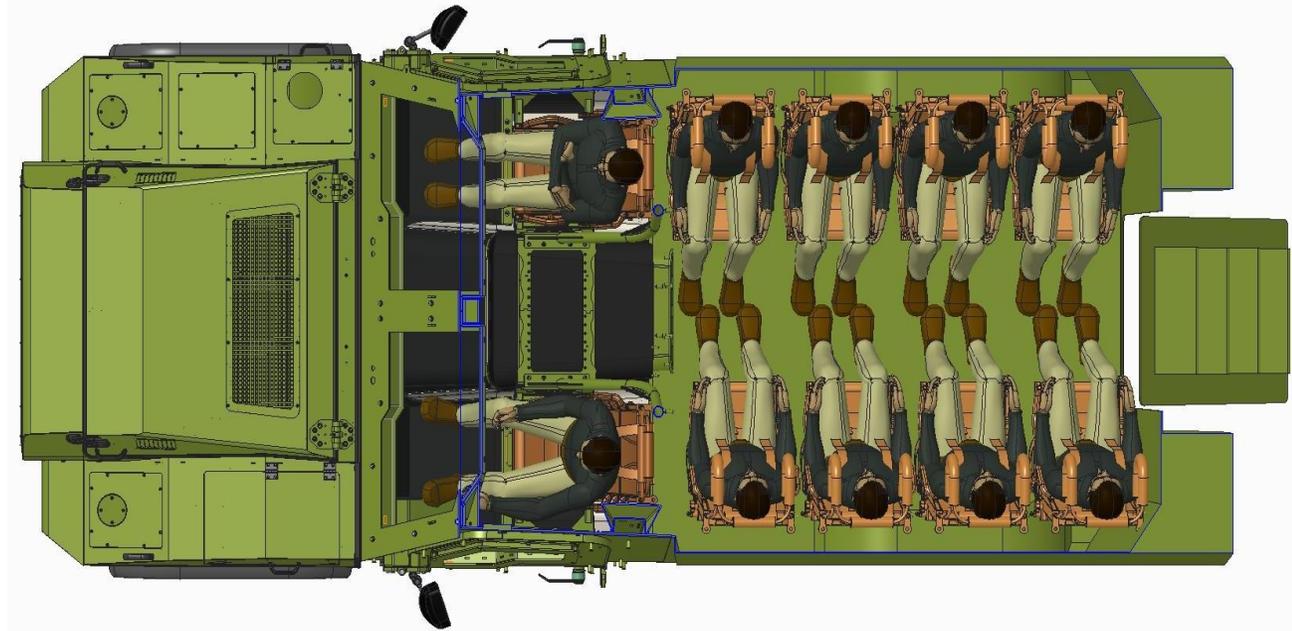
- ❖ 4-6-person crew cabin
- ❖ With blast protected seats
- ❖ Ballistic protection: STANAG 4569 Volume 1 level 3 (doors + front window)
- ❖ Anti-mine protection: **STANAG 4569 Volume 2 level 3a, 3b**
- ❖ Fire Suppression System (engine compartments)
- ❖ Ventilation system



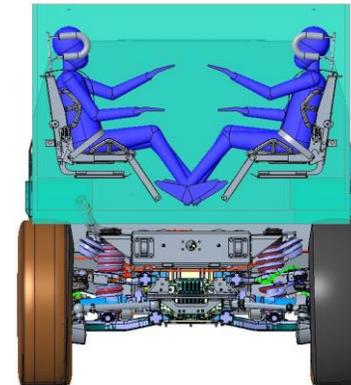
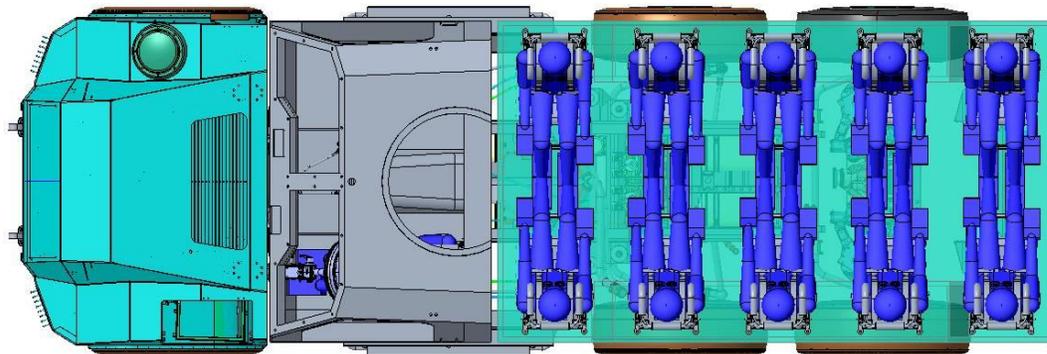


## PRODUCT RANGE – Zetor Gerlach 4x4 Personal carrier

- ❖ 2-person crew cabin
- ❖ Up to 10 crew members (2+8)
- ❖ With blast protected seats
- ❖ Ballistic protection: STANAG 4569 Volume 1 level 3
- ❖ Anti-mine protection: **STANAG 4569 Volume 2 level 3a, 3b**
- ❖ Fire Suppression System (crew and engine compartments)
- ❖ CBRN/AC



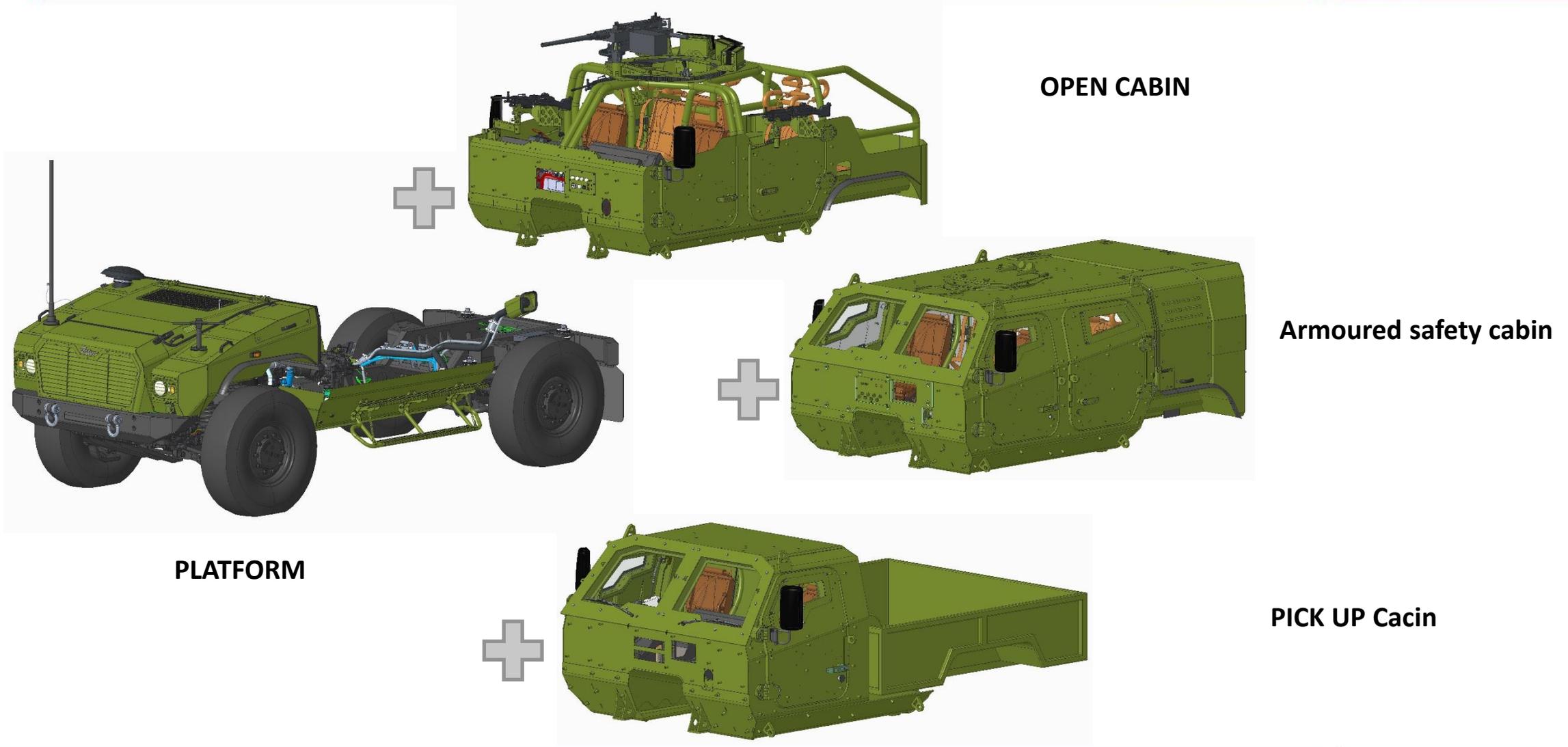
# Ongoing Projects: Project Zetor Gerlach 6x6 – Personal carrier



# Ongoing Projects: **Project Zetor Gerlach 6x6 – Howitzer**



# ATV ZETOR GERLACH 4x4 MODULAR Concept



## Our Presence – Exhibitions

- ❖ **05/2017:** IDET Brno (CZ), Wolfdog and Project FOX presented – marketing concept / feasibility study
- ❖ **05/2018:** IDEB Bratislava (SK), Zetor Gerlach 4x4 and Project FOX presented
- ❖ **09/2018:** MSPO Kielce (PL), Zetor Gerlach 4x4 presented
- ❖ **05/2019:** IDET Brno (CZ), Zetor Gerlach 4x4 presented
- ❖ **09/2019:** MSPO Kielce (PL), Zetor Gerlach 4x4 presented
- ❖ **09/2021:** MSPO Kielce (PL), Zetor Gerlach 4x4 presented
- ❖ **08/2021:** IDEB Bratislava (SK), 2 x ZETOR GERLACH vehicles to be presented
- ❖ **10/2021:** IDET Brno (CZ), 2x Zetor Gerlach vehicles to be presented – one GERLACH RDV version

# Contacts

## ❖ Zetor Engineering, s.r.o.

❖ Trnkova 3060/111, Brno 628 00, Czech republic

❖ Mr. Michal Malhocky; + 420 734 416 557; [mmalhocky@zetorengineering.com](mailto:mmalhocky@zetorengineering.com)

## ❖ Zetor Engineering Slovakia, a.s.

❖ Ulica 1. mája 71/36, Bytča 014 83, Slovakia

❖ Mr. Juraj Palko; + 421 904 544 962; [palko@zetorengineering.sk](mailto:palko@zetorengineering.sk)



# PRODUCT RANGE – Zetor Gerlach 4x4 ATV: Pictures

