

GENERAL DYNAMICS

European Land Systems



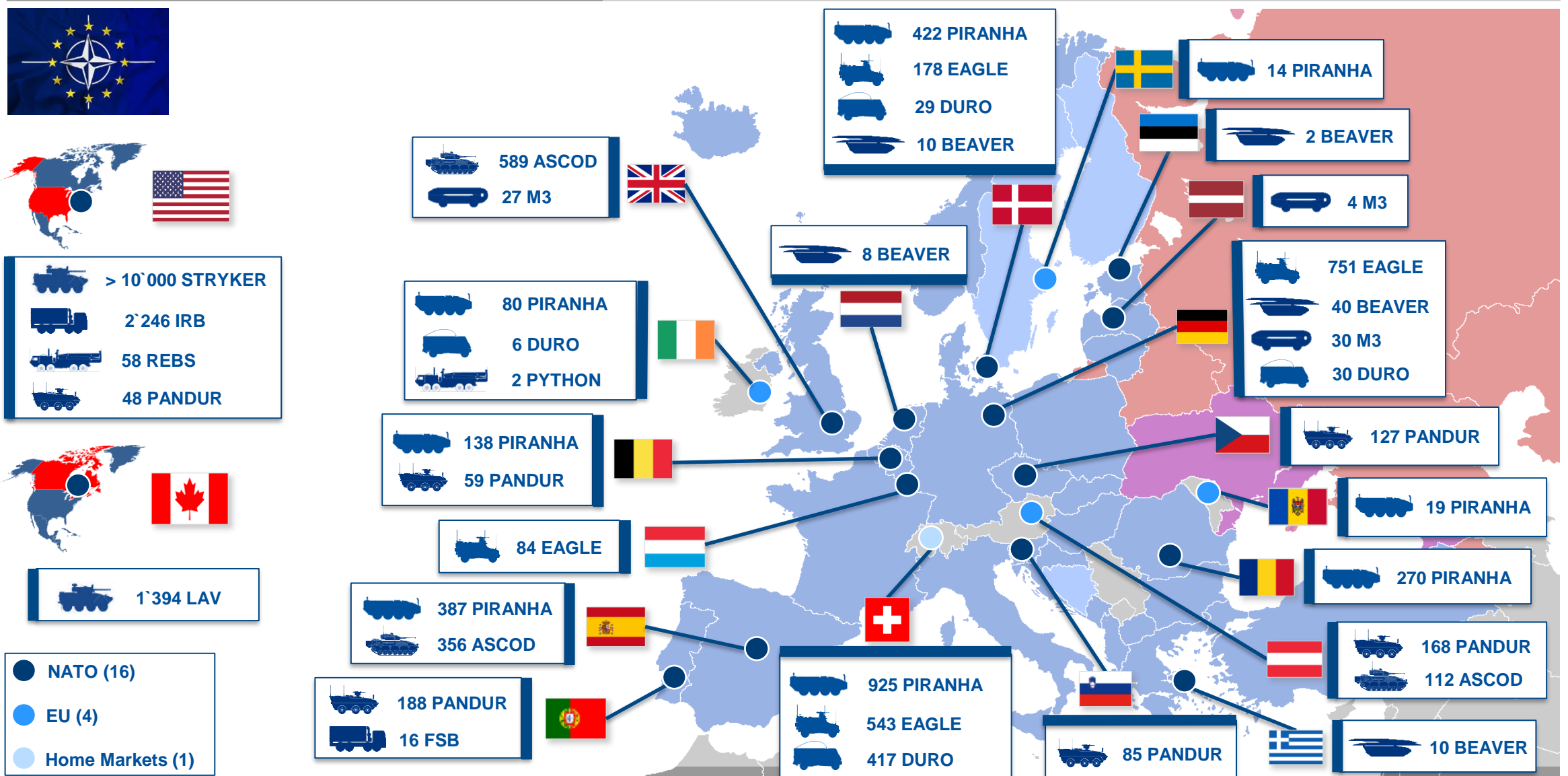
Company Presentation

18 April 2023

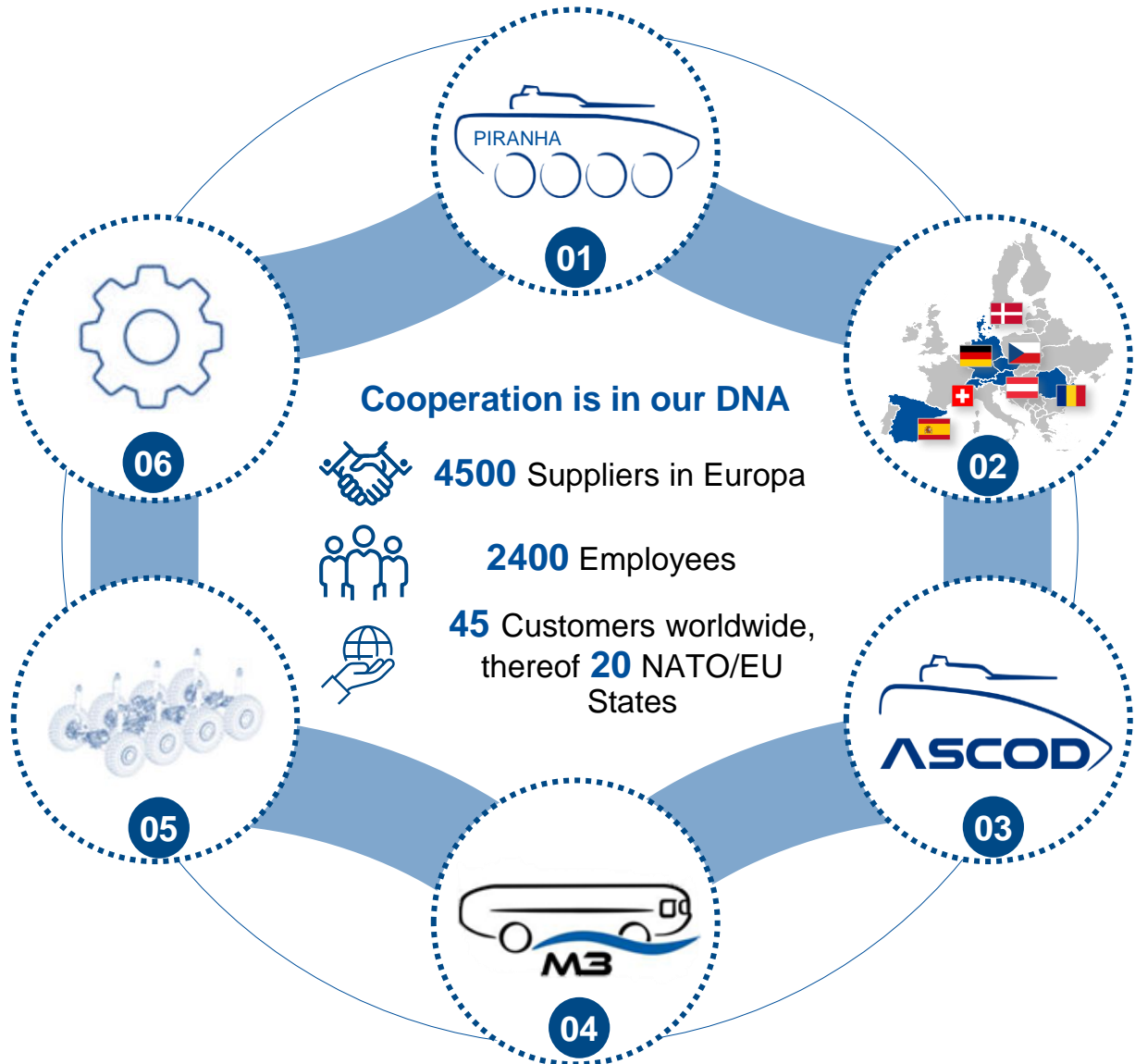
GDELS: The Transatlantic Partner for Land Defense in Europe



GDELS supports 20 NATO/EU Members to guarantee their Safety and Security



GDELS: The Transatlantic Partner for Land Defense in Europe



- 01 STANDARD & TREND-SETTER**
for wheeled armored Vehicles for over 40 Years
- 02 LARGEST HOME-BASE**
in Europe
- 03 FULL-RANGE SUPPLIER**
for Land Maneuver and Maneuver Support Systems
- 04 WORLD MARKET LEADER**
in amphibious Bridge and Support Systems
- 05 STRATEGIC EXPERTISE**
in Driveline and Suspension Technology
- 06 QUALIFIED MAINTENANCE SERVICE PROVIDER**
for a high System operational Availability

General Dynamics

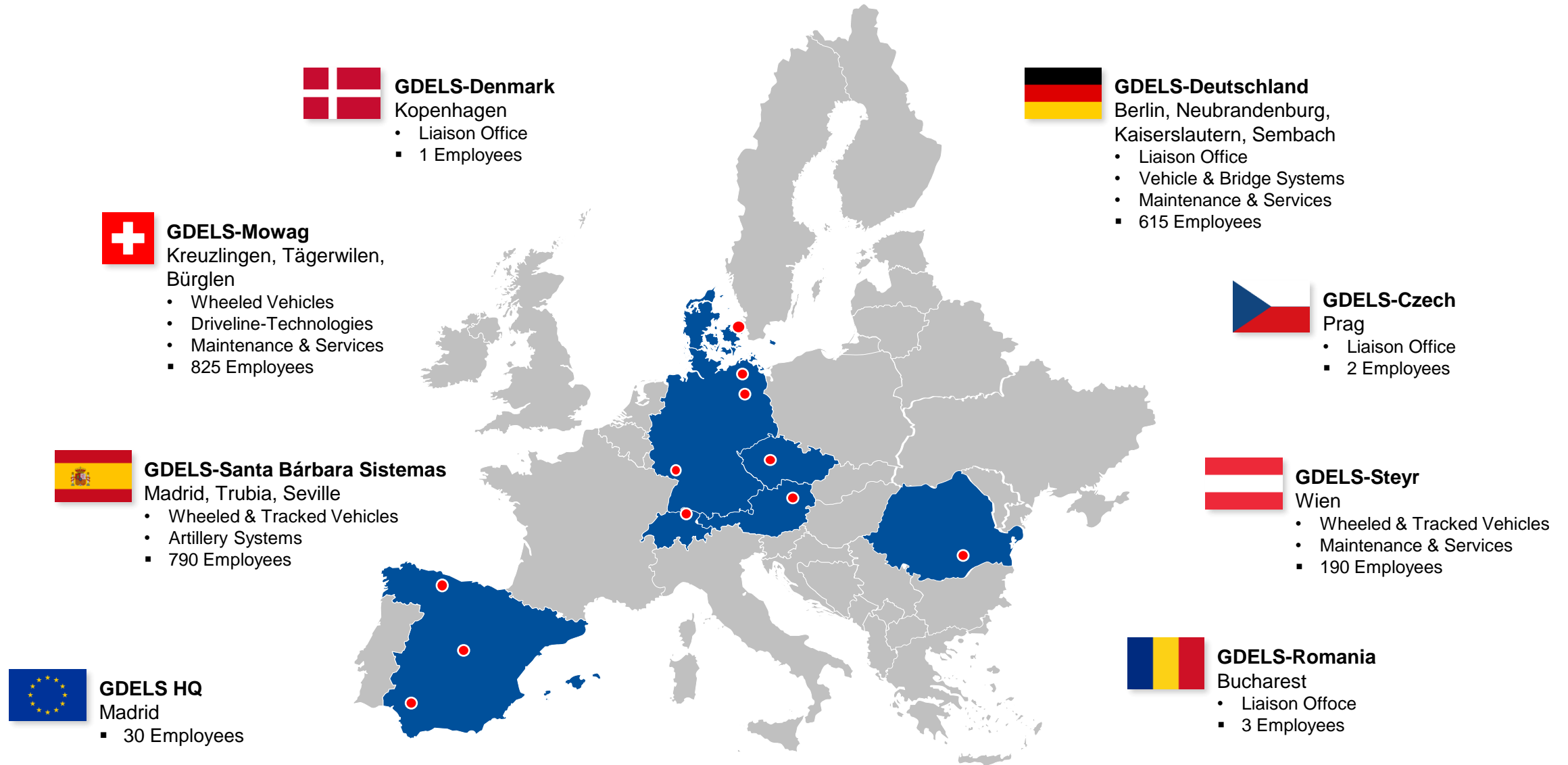
HQ: Reston, VA – 110 Employees

Employees: 107.200

Sales (2021): 38.4 bn USD



General Dynamics European Land Systems



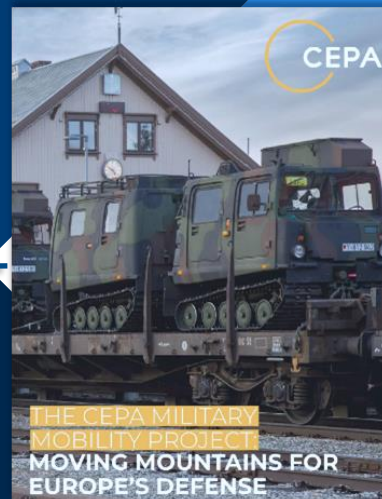
GDELS Design Principles

Economic Acquisition & Operation

- Multi-role Vehicles Platforms
- Commonality
- Separation of Mobility & Functionality
- Improved Maintainability & Reliability
- Open System Architecture
- Increased Payload for Future Technology Insertion

Networability and Digitization

- Modularity
- Open System Architecture
- Un-/manned Systems



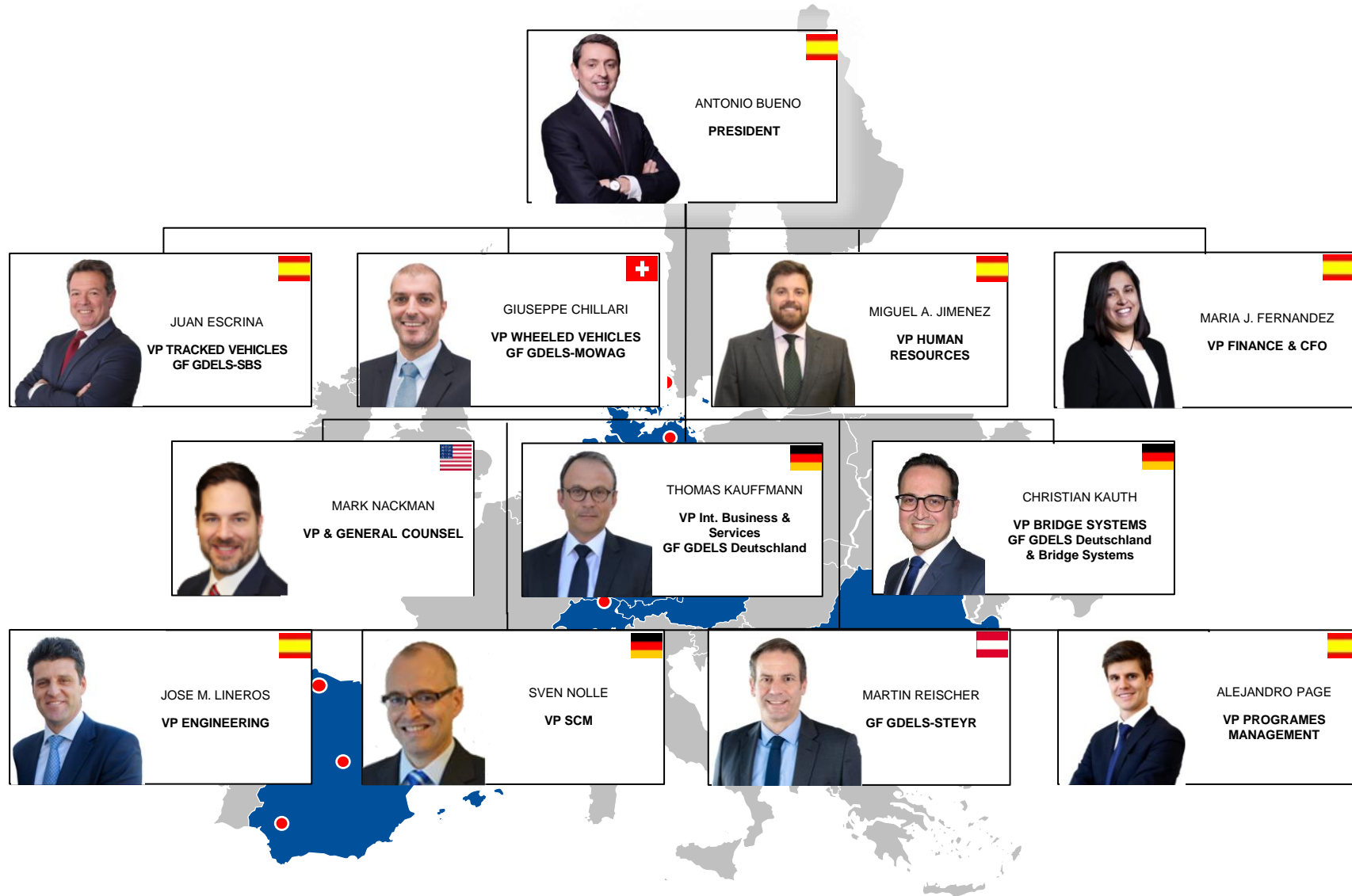
Interoperability

- NATO defined Interfaces
- Coupling Devices
- Secured Communication
- Common operational Picture
- Fuel Nozzles and logistic Standards

Improved Integration into Army as a „System“

- Compact Vehicle Dimensions
- Medium Vehicle Weight (max. MLC 50) with tailored Bridge and Ferry Assets
- Dual Use (Bridges)
- Multi-role
- **Military Mobility**

GDELS – Senior Leadership Team



Product Portfolio

Light Tactical Vehicles



EAGLE 4x4



EAGLE 6x6



DURO 4x4



DURO 6x6



MERLIN 4x4

Wheeled Armored Vehicles



PIRANHA 3 8x8



PIRANHA 5 8x8



PANDUR 6x6



PANDUR 8x8

Tracked Armored Vehicles & Artillery Systems



ASCOD



SIAC



DONAR

Bridge Systems



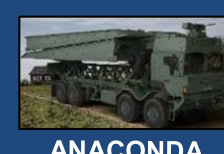
M3



IRB



BEAVER
MLC 80+



ANACONDA
MLC 80+



COBRA



PYTHON



VIPER



MAMBA

Through-Life Support, Logistics, Maintenance, Services, Overhauls, and Training

Wheeled Vehicles – from 6 to 33 tons



GDELS-Santa Bárbara Sistemas

Founded 1540
2001
Employees 790

GENERAL DYNAMICS

Madrid

Headquarters

- Engineering for Land Systems (armored vehicles and artillery)
- R&D center
- GDELS headquarters and administration

Trubia

Production

- Steel construction and welding
- Drivelines and running gear systems
- Production and overhaul of artillery systems

Seville

Final assembly and overhaul

- Final assembly line wheeled and tracked vehicles
- Overhaul, maintenance and upgrades
- 86'600 m² building area
- 1'718'894 m² test area



Competence

Development and production of armored tracked vehicles and artillery systems. CoE for tracked vehicles.



Mission Profile

- Armored Personal Carrier
- Infantry Fighting Vehicle
- Mobile Gun System (up to 120 mm)
- Command and Engineering Vehicle
- Bridge Layer
- Ambulance Vehicle
- Mortar Carrier (up to 120 mm)



Main Features & Characteristics

- Tracked Vehicle
- 25+ Years in Service
- Best Growth Potential for Future Upgrades
- GVW 32-42 t
- Payload 19 t
- Seating up to 2 + 9

Tracked Vehicles – ASCOD: One Platform for all Missions

32-42 t GVW

19 t Payload

11 PAX



ASCOD 42



Base Vehicle Light



IFV - MMBT



AEV - RCV



IFV 30-40mm



ASCOD



Base Vehicle Heavy



IFV 30-40mm

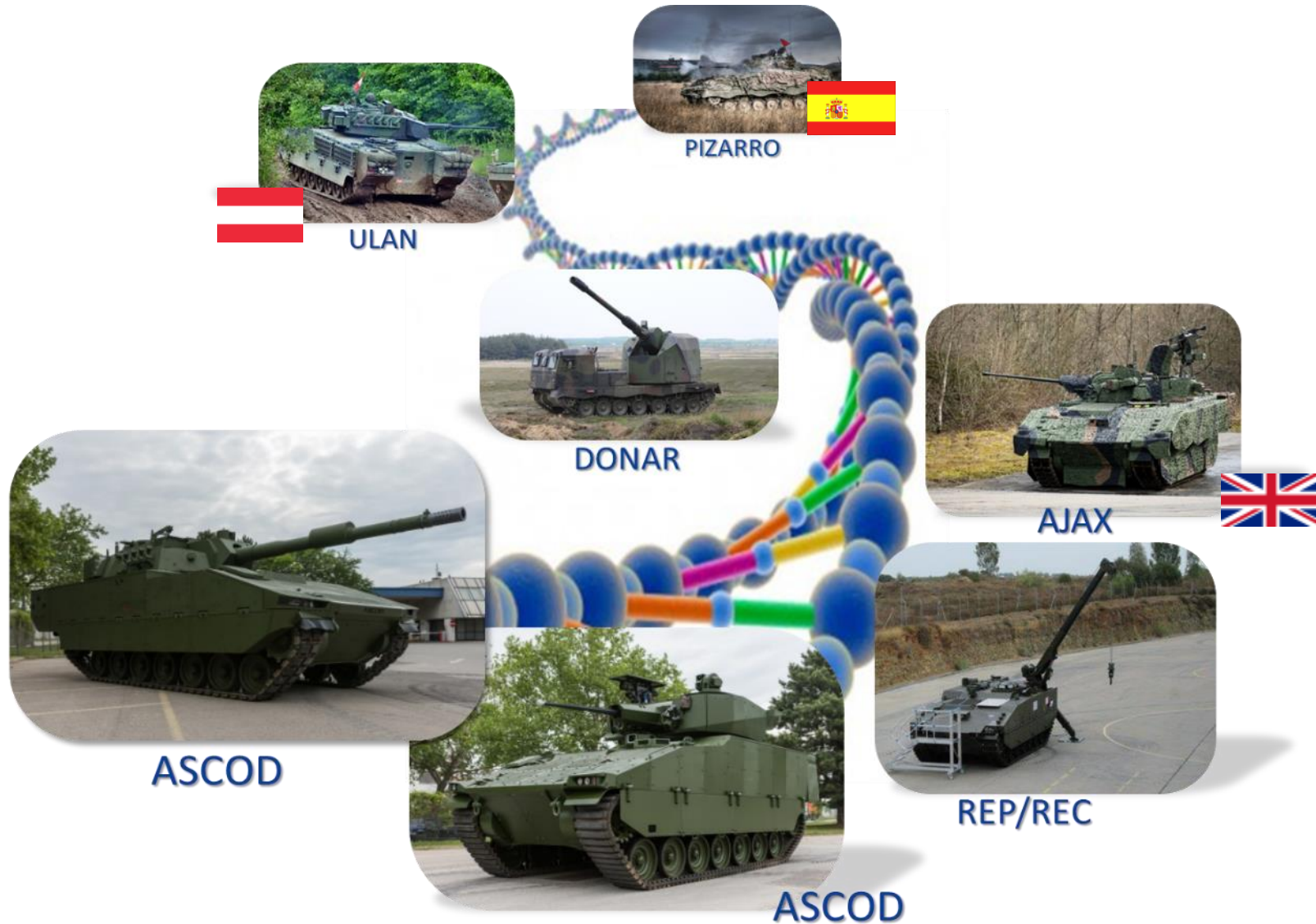


MMBT 120mm



Artillery 155mm

Tracked Vehicles – ASCOD DNA: Heritage & Evolution



Artillery Systems – wheelend and tracked Vehicle Solutions

Towed Gun

155 mm / L52

Up to 56 km Firing Range

2 Rounds / Minute

Semi-Automatic

Crew: 6



SIAC

Self Propelled Gun

155 mm / L52

Up to 56 km Firing Range

6 Rounds / Minute

Fully Automatic

Crew: 2



DONAR



Mission Profile

- Coastal Defense & Field Artillery

Main Features & Characteristics

- Towed Gun
- 155 mm / L52
- Up to 56 km Firing Range
- Burst Rate of Fire 10 rds / min
- Sustained Rate of Fire 2 rds / min
- Semi-automatic Loading
- Crew 1+ 5
- Combat proven



Mission Profile

- Non Line-of-Sight Fire

Main Features & Characteristics

- Self Propelled Gun
- 155 mm / L52
- Up to 56 km Firing Range
- Rate of Fire 6 rds / min
- Fully automatic Loading
- Crew 1+ 1
- GVW 33 t
- ASCOD Chassis

<p>Founded 2018 2018 GENERAL DYNAMICS Employees 615</p>	
<p>Deutschland Berlin</p>	<p>Liaison Office</p>
<p>Bridge Systems Founded 1864 Employees 450 Kaiserslautern</p>	<p>Headquarters & Plant 1</p> <ul style="list-style-type: none"> • 42'000 m² building area • Bridge development and production • CoE for aluminum welding • Welding academy and training center
<p>Bridge Systems Sembach</p>	<p>Plant 2</p> <ul style="list-style-type: none"> • 2'700 m² building area • Maintenance and service center • Bridge and vehicle proofing ground
<p>FWW Founded 2001 Employees 165 Neubrandenburg</p>	<p>Headquarters (Plant 1)</p> <ul style="list-style-type: none"> • 11'400 m² building area • 70'000 m² total area • Military maintenance and overhaul
<p>FWW Neubrandenburg</p>	<p>Plant 2</p> <ul style="list-style-type: none"> • 29'800 m² building area • 152'000 m² total area • Military maintenance and overhaul
<p>EuroTrophy Frankfurt</p>	<p>JV company together with KMW and RAFAEL for marketing, production and sale of APS Trophy in Europe</p>





Competence

Development and manufacturing of amphibious vehicles and bridge systems. Vehicle production. Certified maintenance, repair & service sites for military vehicles and equipment.

Bridge Systems – from 172 kg to MLC 85





Mission Profile

Assault and Support Asset for Infantry

Main Features & Characteristics

Free Span: max. 30 m

Max. Length: Length not limited

Module Weight: 55.5 kg

Assembly time: approx. 6 min (30 m Bridge)

Gap Crossing: wet & dry Obstacles





Mission Profile

Maneuver Support Asset for light & medium Forces

Main Features & Characteristics

Payload (max): MLC 40-50

Operative Length: 4, 6 or 9 m
(Modular Bridge System)

Launching Time: approx. 5 min (5 m Bridge)



PYTHON



Mission Profile

Assault & Maneuver Support Asset for light and medium Forces

Main Features & Characteristics

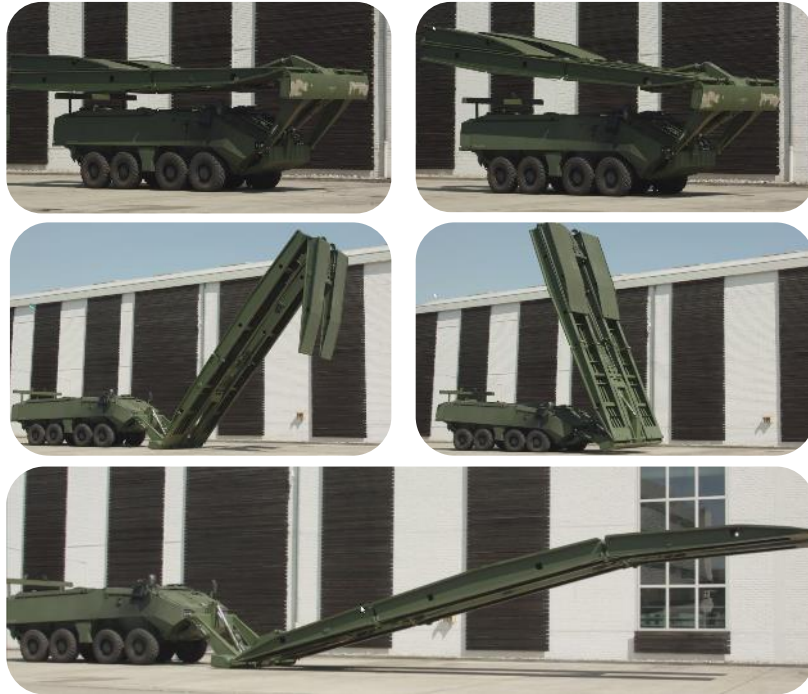
Payload (max): MLC 50

Effective Length: 13 m

Launching Time: approx. 5 min (Mounted on PLS-Truck)
approx. 2 min
(Mounted on Armored Fighting Vehicle)



COBRA



Mission Profile

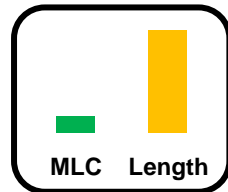
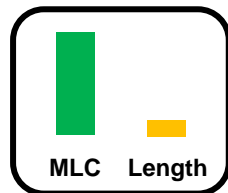
Tactical modular Vehicle launched Bridge

Main Features & Characteristics

Payload: MLC 50 @15 m

Launching: ca. 3 min

Temporary or permanent adaptable Bridge module for 8x8 and tracked Vehicles



Tracked



BEAVER (ANACONDA)



Mission Profile

Assault & Maneuver Support Asset for Light, medium and heavy Forces

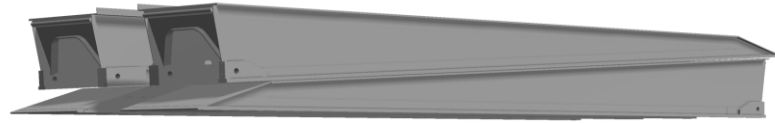
Main Features & Characteristics

- Payload (max): MLC 80
- Total Length: 22 m
- Launching Time: approx.: 2 min
- Customer: more than 10 Users worldwide (Standard Version)

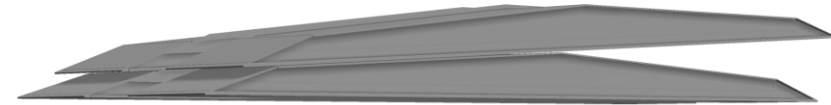


ANACONDA

A combat-proven Solution based on the former BEAVER Concept

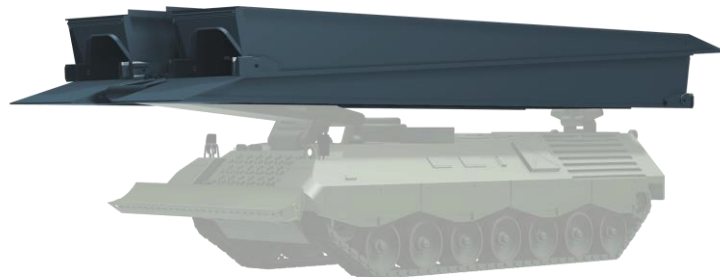


ANACONDA (bridging Length: 22 m)



ANACONDA (bridging Length: 2 x 12 m)

ANACONDA (LEOPARD 1)



BEAVER (MLC 50) and/or new ANACONDA
Bridge (MLC 80+) on a LEOPARD 1

ANACONDA (8x8 truck)



New ANACONDA and/or old BEAVER
Bridges on an 8x8 Truck



Mission Profile

Assault & Maneuver Support Asset for Light, medium and heavy Forces

Main Features & Characteristics

Modularity & Interoperability with FSB, SRB

Transportability & Operation with standard PLS-Trucks

Payload (max): MLC 80 T / 96 W

Launching Time: approx. 30 min (100m Bridge)
approx. 15 min (5 Bay Ferries)





Mission Profile

- Assault & Maneuver Support Asset for Light, medium and heavy Forces
- World-Record River Crossing (350m/22 Bays/2 Countries/35 min.)

Main Features & Characteristics

Amphibious System

Payload (max): MLC 85 T / 132W

Launching Time: approx. 10 min (100 m Bridge)
approx. 2 min (2 Bay Ferries)



Founded 1864 (Josef & Franz Werndl)
2003 GENERAL DYNAMICS
Employees 190

Vienna

Headquarters

- 53'500 m² building area
- 25'800 m² test area
- Basic development and R&D
- Testing and verification
- Production and final assembly line armored wheeled vehicles



Competence

Development and small rate production of wheeled and tracked armored vehicles. Certified maintenance, repair and service center for PANDUR and ASCOD.

PANDUR 6x6



Mission Profile

- Armored Personal Carrier
- Infantry Fighting Vehicle
- Mortar Carrier (up to 81 mm)
- Ambulance Vehicle
- Repair & Recovery

Main Features & Characteristics

- Wheeled Armored Vehicle
- 30+ Years in Service & Combat proven
- Small tactical Vehicle Silhouette & best Air Transportability
- GVW 18 t
- Payload 6 t
- Seating up to 2 + 9

PANDUR 8x8



Mission Profile

- Armored Personal Carrier
- Infantry Fighting Vehicle
- Mobile Gun System (up to 105 mm)
- Command Vehicle
- Reconnaissance Vehicle
- Ambulance Vehicle
- Repair & Recovery Vehicle

Main Features & Characteristics

- Wheeled Armored Vehicle
- 15+ Years in Service & Combat proven
- Automotive Components protected inside the Armor Steel Hull
- GVW 24 t
- Payload 9.5 t
- Seating up to 2 + 10



Founded 1950 (Walter Ruf)
2003 **GENERAL DYNAMICS**
Employees 825

Tägerwilen

Headquarters & Plant 1

- 13'020 m² building area
- 19'938 m² total area
- Welding center
- Paint shop and sand blasting
- Vehicle assembly line

Kreuzlingen

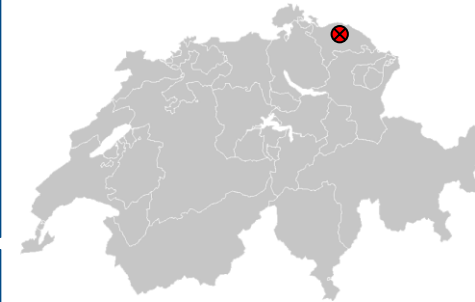
Plant 2

- 27'271 m² building area
- 38'901 m² total area
- Engineering center
- Driveline production
- Prototyping
- Comp production and pre-assembly
- Training academy
- Customer service center

Bürglen

Vehicle Proofing Ground

- 1'088 m² building area
- 106'198 m² total area
- Shooting channel



Competence

Development and production of light tactical and wheeled armored vehicles. GD CoE for driveline technologies. Certified maintenance, repair and service center.

DURO 4x4



Mission Profile

- Troop Carrier
- Logistic & Support Vehicle
- Repair Vehicle



Main Features & Characteristics

- Unprotected Light Tactical Vehicle
- 20+ Years in Service & Combat proven
- Unique on- & off-road Capabilities for tactical all-terrain Operations
- GVW 7.5 t
- Payload 3.9 t
- Seating up to 2 + 14

DURO 6x6



Mission Profile

- Armored Personal Carrier
- Ambulance Vehicle
- Command Vehicle
- Communication Vehicle
- CBRN Laboratory Vehicle
- EOD Vehicle
- Military Police Vehicle

Main Features & Characteristics

- Un-/Protected Light Tactical Vehicle
- 20+ Years in Service & Combat proven
- Benchmark for Mobility with a unique internal Volume up to 14 m³
- GVW up to 14 t
- Payload up to 6.5 t
- Seating up to 2 + 12

EAGLE 4x4



Mission Profile

- Patrol Vehicle
- Command Vehicle
- Reconnaissance Vehicle
- Ambulance Vehicle
- Special Operations Vehicle
- EOR Vehicle
- Support Vehicle

Main Features & Characteristics

- Protected Light Tactical Vehicle
- 20+ Years in Service & Combat proven
- Highest ballistic & best Mine Protection in its Class
- GVW 10 t
- Payload 3 t
- Seating up to 2 + 6

EAGLE 6x6



Mission Profile

- Armored Personal Carrier
- Ambulance Vehicle
- Command Vehicle
- Reconnaissance Vehicle
- Support Vehicle

Main Features & Characteristics

- Protected Light Tactical Vehicle
- 15+ years in Service
- EAGLE Family provides unique Benefits in Operation, Training & Maintenance
- GVW 15 t
- Payload 7.3 t
- Seating up to 2 + 12

MERLIN 4x4



DURO
Proven Technology
EAGLE



	MERLIN
Length:	5.05 m
Width:	1.96 m
Height:	2.25 m (variable)
Engine Power:	129 kW
Transmission:	ZF 8HP-90 Automatic
Max. Speed:	90 km/h
Tyres:	275 / 80 R 20
Ballistic Protection:	Yes
Mine Protection:	Yes
Max. PAX	10
Max. Payload	2.6 t
Max. GVW:	6.3 t

PIRANHA 3 8x8



Mission Profile

- Armored Personal Carrier
- Infantry Fighting Vehicle
- Mortar Carrier (up to 120 mm)
- CBRN Reconnaissance Vehicle
- Command Vehicle
- Ambulance Vehicle
- Engineering Vehicle

Main Features & Characteristics

- Wheeled Armored Vehicle
- 40+ Years in Service & Combat proven
- 12'000 PIRANHAs in Service (including LAV & Stryker)
- GVW 27 t
- Payload 9 t
- Seating up to 2 + 10

PIRANHA 5 8x8



Mission Profile

- Armored Personal Carrier
- Infantry Fighting Vehicle
- Mobile Gun System (up to 120 mm)
- Command Vehicle
- Reconnaissance Vehicle
- Ambulance Vehicle
- Engineering Vehicle



Main Features & Characteristics

- Wheeled Armored Vehicle
- 40+ Years in Service & Combat proven
- Best Growth Potential for Future Upgrades
- GVW 33 t
- Payload 15 t
- Seating up to 2 + 10



PIRANHA Family: 40 Years of Combat Mobility

...12,000 Vehicles in service with 20 Armies worldwide.



Certified* Maintenance & Services



* German Army, HIL, BAABw, NSPA

ILS Competences



Maintenance & Services



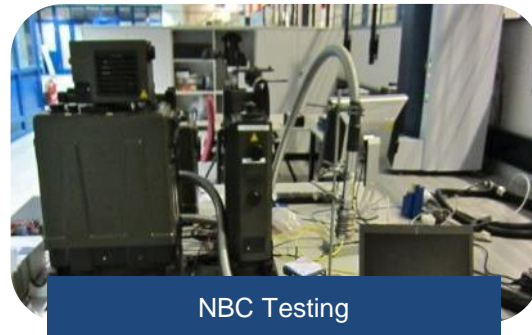
Repair & Overhaul



Components Repair



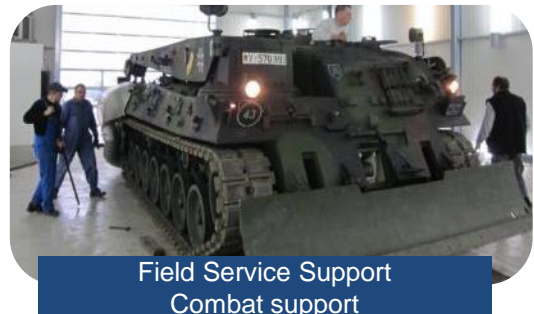
Technical Industry Support



NBC Testing



Upgrades



Field Service Support
Combat support



Training



Spare Parts & Logistics

Full-Spectrum & Long-Term Support Solutions

Fleet Management & Field Service

- Technical Assessments
- Performance Management
- Ammunition Management
- Inventory Management
- Re-Role / Upgrade
- Coordination



Supply Support

- Quoting
- Procurement
- Repair & Overhaul
- Delivery & Transport
- Vendor Management
- Planning / Forecasting
- Inventory Management

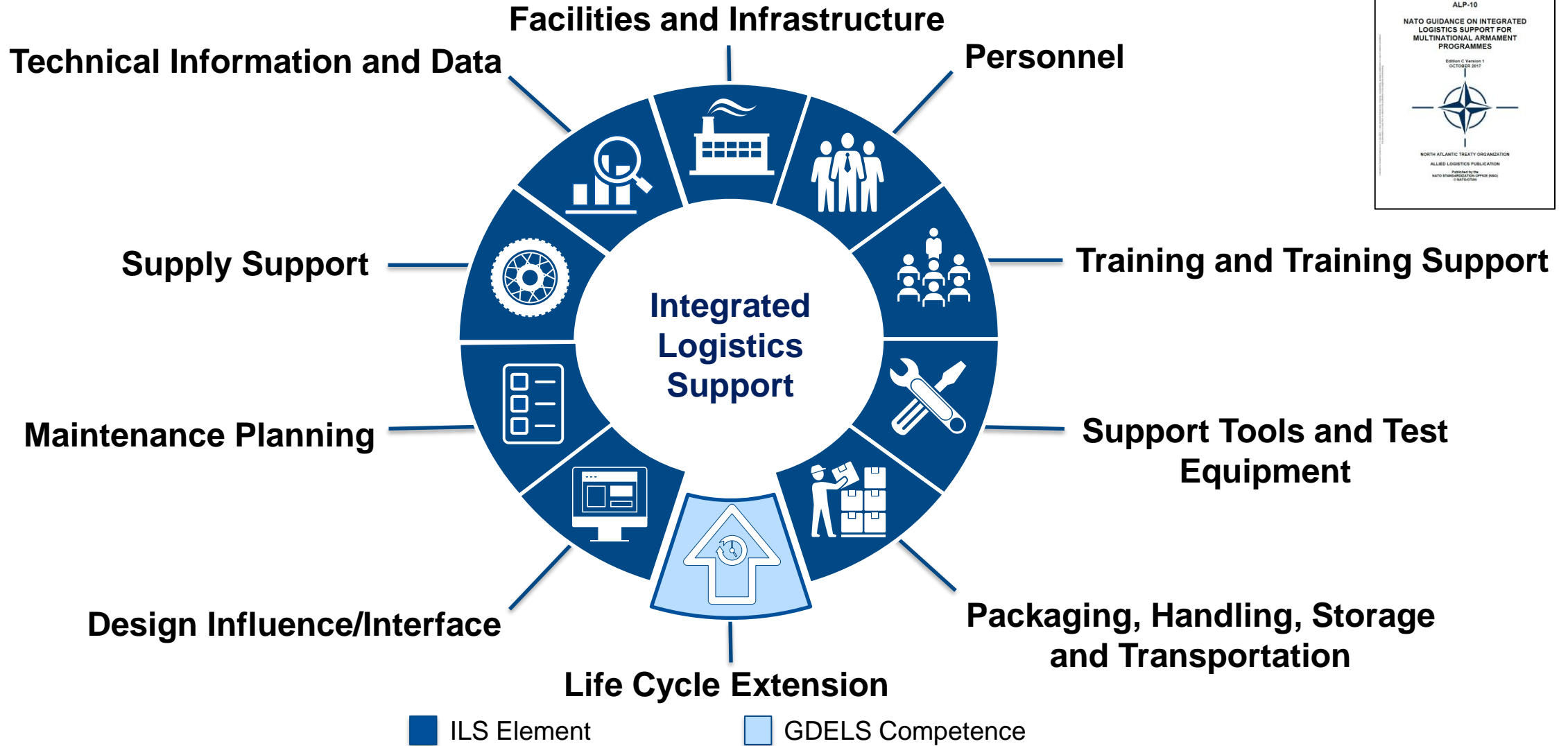
Logistic Products

- Reliability & Maintainability System Engineering
- Failure Mode & Criticality Analysis
- Technical Support
- Logistic Support Analysis
- Supply Chain Management
- Level of Repair Analysis
- STTE
- Technical Documentation

Training & Technical Solutions

- Operator Training
- Maintenance Training
- Mobile Container Solutions
- Hotline
- Training Aids
- Repair & Overhaul Training

GDELS Customer Service according to NATO Standard ALP-10



GENERAL DYNAMICS

European Land Systems



Company Presentation

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