



KAPLAN HYBRID Technical Specifications

Data subject to change without notice.

GENERAL	
Power-to-weight Ratio	22-35 Hp/ton (continuous - peak)
Crew	5 (Commander, Driver, Gunner, Assistant Gunner and Additional Personnel)
Length	5.6 m
Width	3 m
Height Overall	2.4 m
Combat Loaded Weight	17.500 kg
Operating Temperature Range	-32°C / +49°C
MOBILITY	
Electric Motors	PMSM Motors x 2 (397 HP continuous - 617 HP peak)
Generator Engine	400HP Diesel
Transmission	Two Speed Gearbox
Max. Road Speed	> 65 km/h
0-32 km/s Acceleration	< 6 Seconds
Range	> 525 km
Gradient	70%
Side Slope	40%
Vertical Obstacle	0.75 m
Trench Crossing	1.8 m
Suspension System	Torsion Bar

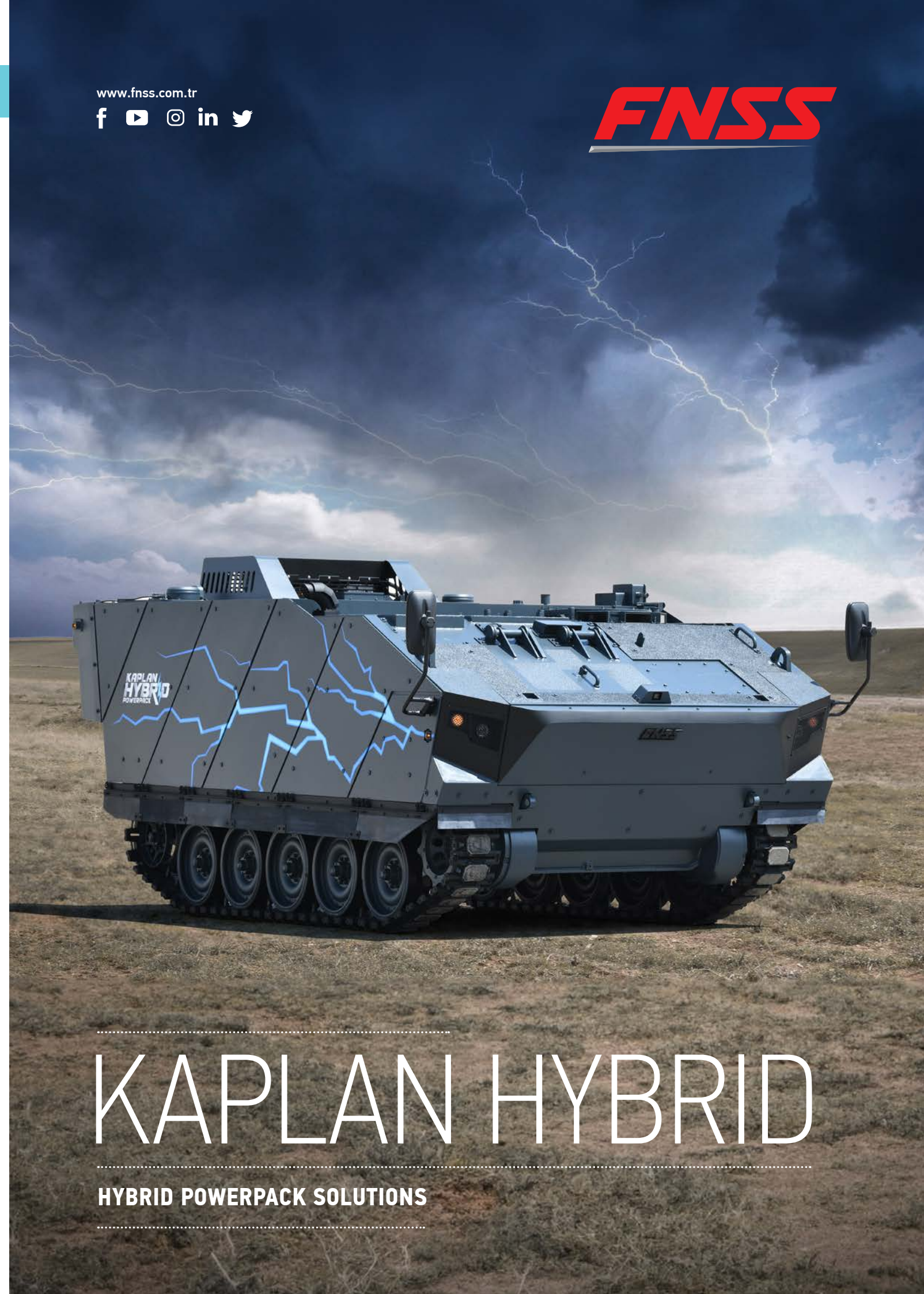
HYBRID POWERTRAIN CAPABILITIES	
Battery Capacity	800V 56 kWh Lithium Ion Battery
Silent Operation Mode	20km, with Constant Speed of 10km/s
External Electrical Power Output	220-380 V, up to 200kW
Service Brake System	Hydraulic Activated Disc Brake
Parking Brake System	Regenerative Braking System
Silent Surveillance Mode	with Mechanical Activations
Silent Surveillance Mode (with A/C on)	48 hours
Power Output for Mission Equipment	14 hours
Power Output for Mission Equipment	28V 1,5kW
ARMAMENT	
Type	Manned and Remote Controlled Turrets, New Generation Laser Turrets Powered by High Voltage, Mortar and/or Missile Systems from Various Types and Origin Can be Integrated



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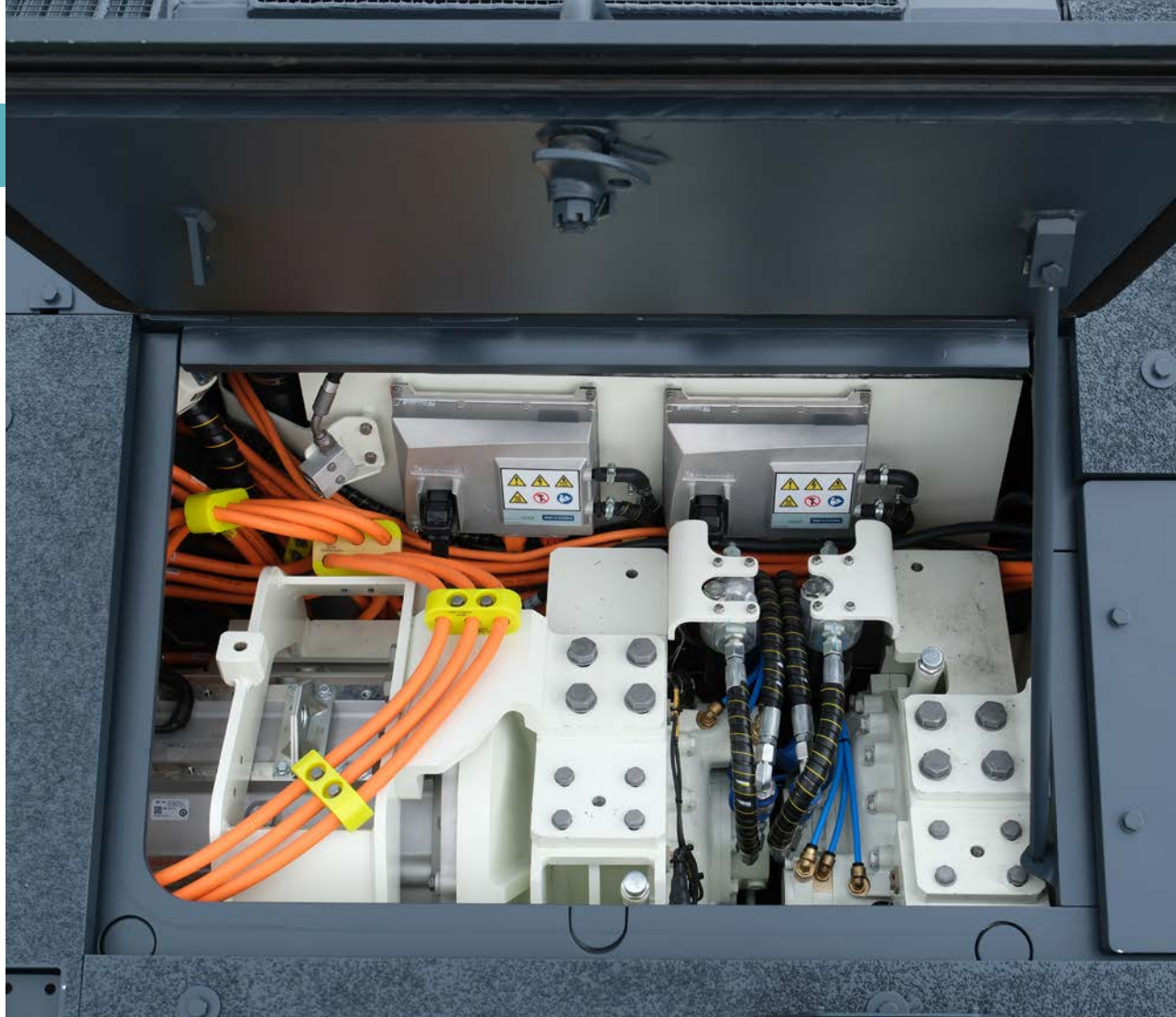
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KAPLAN HYBRID

HYBRID POWERPACK SOLUTIONS



KAPLAN HYBRID

HYBRID POWERPACK SOLUTIONS

The KAPLAN Hybrid Vehicle offers extreme off-road performance of a tracked vehicle with the addition of silent drive, extended silent watch, enhanced fuel economy, and increased exportable power that enables it to be used in combat and reconnaissance scenarios thanks to the new hybrid diesel-electric tracked vehicle powertrain system developed by FNSS.

Hybrid powertrain integrated platform impressively demonstrates the company's know-how in the fields of hybrid drive technology, software development and electronic control. These features include but not limited to, high mobility, silent operation, fuel efficiency, high electric power supply to the field, operation flexibility, ease of maintenance and design flexibility for mobility sub-systems.

Thanks to the high torque output of the electric motors at low speeds, new hybrid powertrain provides superior acceleration to KAPLAN Hybrid Vehicle in comparison to other tracked platforms. This brings critical advantage in battlefield by quick response to the threats and evacuation of the field.

Another advantage of the hybrid powertrain is the silent operation of the vehicle. Serial hybrid configuration, in electric only mode all powered by batteries, allows almost silent driving or operation of the on-board systems for reconnaissance and communication with no internal combustion engine operation. This silent operation feature will drastically reduce the amount of acoustic and thermal signature of the vehicle and make it harder to detect the vehicle.

Electric traction system of the new hybrid powertrain has an efficiency value more than 95%. This feature reduces heat and noise emission to the environment and together with the fuel efficient diesel generator set and battery pack, they provide an extended cruising range to the vehicle.

OVERVIEW



The energy recuperation feature of the electric motors, while braking, kinetic energy of the vehicle is recovered. In other platforms, the energy is lost as heat through brakes to the environment while KAPLAN Hybrid Vehicle recharges the battery pack utilizing the recovered energy. As a result of these features, burden of liquid fuel logistics to the field can be reduced.

Generator of the new hybrid tracked vehicle powertrain enable platform to operate using only diesel fuel without requiring a charging infrastructure. Generator provides electric power to the traction motors while cruising. When the vehicle is stationary, this time, generator can export power source to a commander post or other units on the field. High energy generation capability of the generator also enables onboard integration of focused energy weapons, anti-drone systems and other high power mission equipments.

Energy generation, energy storage and silent operation features of the hybrid powertrain brings operational flexibility to Kaplan Hybrid Vehicle on the field. Integration of new high power mission systems and high tech weapon systems is enabled to increase lethality. Longer stationary operation and scouting without being detected is possible due to energy storage and silent operation features.

Hybrid vehicle design architecture also brings flexibility to internal layout for better response to the mission profile requirements. Shafts and other mechanic powertrain and steering parts are replaced with cables, which enables different layout options and enhances maintainability. The use of a complex cross drive transmission is avoided, instead the vehicle is driven by electric motors and simplified e-drive gearboxes.

The new hybrid tracked vehicle powertrain system is applicable to vehicles up to 20 tonnes GVW. Depending on customer requirements, it can be adapted to new tracked vehicle production programs as well as modernisation programs. 40 tonnes version of the hybrid powertrain is under development.

Hybrid KAPLAN vehicle, with the new hybrid powertrain, opens up a new era on military vehicles for future requirements of military operations around the world.

