



POLISH CHAMBER OF NATIONAL DEFENCE MANUFACTURERS

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# POLISH DEFENCE INDUSTRY

> 22

ONE VEHICLE – MANY POSSIBILITIES



> 10

PROTEUS PROJECT

> 18

WE HAVE WORLD-CLASS  
SOLUTIONS



## LIGHT COMMAND AND COMMUNICATIONS VEHICLE

### LAND ROVER DEFENDER 130 4x4

– SAFE INFORMATION

**INFORMATION IS A COMMODITY WHOSE PRICE IS UNLIMITED. THE HOLDER OF THE INFORMATION CREATES CONDITIONS WHICH VERY OFTEN CAN EXCEED THE CAPACITY OF THE ENEMY. THE DESIRE TO OBTAIN INFORMATION, AND THUS DOMINATING THE OTHERS DOES NOT KNOW MORAL OR EVEN MILITARY CONSTRAINTS.**

Light command and communications vehicle is the equipment that meets the requirements for transmitting information in a secure and unlimited manner. The vehicle was designed and manufactured by Szczęśniak Pojazdy Specjalne Sp. z o.o. Already in the first phase of the project, the

autonomy and very high mobility of the vehicle were important indicators. It turned out to be a good idea to combine Land Rover Defender 130 4x4 which meets the expectations of high mobility, and a special housing made of light metal alloys in the form of a container insulated with a filling made from materials that complement the main assumptions of the vehicle. In order to further reduce the weight of the vehicle, the housing was made without the use of additional structure, using only curved metal sheets. The housing contains an isolated compartment for a generator and an external command and communications equipment.





Hardware compartment allows operation with closed doors and in motion, thus allowing the operation of ICT equipment in all conditions. In order to ensure maximum comfort when stopped, the vehicle was equipped with a stabilizing supports. The design of the housing allows the roof to be used for transport and installation of additional equipment such as satellite and ground communications antenna. The housing is also equipped with an automatic retractable mast; depending on the configuration it can be an antenna mast, lighting mast, thermal imaging observation mast or detection mast. The operator compartment intended for two people is located in the center of the housing. Comfortable seats allow free access to the operating terminal.

The telecommunication equipment is provided by TELDAT company from Bydgoszcz and consists of on-board command and communication system that uses elements of JASMINE BMS (Battlefield Management System). One of the main components of this solution is the Tactical Computer Terminal - the only terminal in its class in Poland and one of the few in the world that meets the standards of defense in terms of mechanical, environmental and climate resistance. In this regard, among others, it provides fall and shock resistance. Thanks to the Command Support System software allows such C3IS JASMINE allows the creation and a significant increase in situational awareness of components and elements on the tactical level and their safety.



Communication inside the vehicle is available via Onboard Communication System VIS JASMINE, which is a component of the JASMINE BMS system, which is a multi-service network-centric hardware and software modular platform providing reliable communications and essential services that significantly improve the work of the crew. Terminals used in the VIS can be used to simultaneously transmit voice, data and handle alarms. Through the use of wireless communication it is easy to use Terminal VIS outside the vehicle, and the choice of available network connection (wired or wireless) is automatic. These terminals also provide: their own source of GPS positioning, magnetometer, accelerometer, backlight and temperature sensors, camera, built-in battery, the ability to connect external sensors.

Power for the vehicle and installed on-board IT devices is drawn from three independent and mutually complementary sources. Depending on the situation and the need for power, it can come from the battery located in the housing with a total rated power of 1 kW. Charging can be carried out both from the vehicle's own resources or external 230-240 V sources. The second source of power consists of a generator installed inside the technical compartment. Compartment in which the generator is placed is insulated to minimize the impact of its work on the crew working in operator compartment as well as to minimize any electromagnetic and mechanical interference. Power can also be

drawn from an external 230 V 50 Hz source. While connected to the 230 V source, the vehicle automatically charges the battery pack through the buffer charger.

In order to improve safety and comfort of the crew, the operator compartment is equipped with efficient air conditioning and ventilation system, which is controlled from inside the compartment. Conditioning unit maintains internal temperature in the range from 18 to 25°C at ambient temperatures from -30 to 50°C. The second task of the system is to protect the crew against biological, chemical and radiation weapons. Protection is achieved thanks to filtering devices that work with an absorber providing the sealed operator compartment with 200 Pa pressure at a 100m<sup>3</sup>/h flow rate of purified air. Light command and communications vehicle, with specially engineered design solutions, such as the housing design that functions as Faraday cage, using special mats to protect the operator compartment, the use of special seals and adequate ventilation openings, ensures an adequate level of electromagnetic protection necessary to protect the transmitted information.

The housing design and specification of the chassis allow adjustment of the chassis to be used as engineer reconnaissance vehicle, meteorological vehicle or even four-rail sanitary vehicle. ■

