

## NEXTER'S LIGHT HOWITZER TESTED IN USTKA [VIDEO]

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**The Central Air Force Training Range in Ustka was the venue where the capabilities of the 105 mm 105 LG1 Mk III light howitzer were showcased. The cannon in question, weighing around 1500 kilograms, achieved a range of 17 kilometers and good accuracy, despite the strong wind. The crew was also able to fire six rounds in less than 15 seconds.**

The French howitzer system was tested for many days in Ustka in May, in a variety of weather conditions present on the Polish coast during that period. Works 11 company was the organizer of the activities and presentation for the representatives of the military branches that could be potentially interested in the product. Works 11 is representing the French Nexter Systems entity in Poland.

It was on 29th May when an official presentation took place, involving officers working at different levels in the Polish military and representatives of units that could potentially be interested in acquisition of a light, highly mobile howitzer weighing just 1550 kilograms. The weapon in question may be towed by a HMMVW or be parachute-dropped. The demonstration involved representatives of the General Command of the Armed Forces and of the 18th Mechanized Division that includes the 21st Highland Brigade, the 6th Airborne Brigade and certain Special Operations units.

### **Easy-to-transport Artillery**

As noted by Lt. Col. (res.) Marek Fordon who was acting the host of the demonstration on behalf of Works 11, the towed howitzers have been withdrawn from the inventory of the Polish military 2 decades ago, as quantitative cuts were being introduced with simultaneous enhancement of mobility of the artillery units. Even though formally no necessity to acquire equipment as such has been expressed in the operational requirements, in some situations a light, mobile towed howitzer is still an optimal solution. This pertains to the highly-mobile elements in particular. Here the 105 LG1 Mk. III howitzer has some relevant advantages.

*The Nexter Systems 105 mm LG1 Mk 3 towed howitzer is, according to the information we have managed to obtain, the lightest system of this kind around the world. It weighs less than 1600 kilograms.*

*Lt. Col. (Res.) Marek Fordon, Works 11*

It is a feature that remains decisive for presence of such armament in the inventory of units

operating in tough terrain conditions or airborne elements. Considering its low weight, LG Mk III may be transported by multi-role helicopter platforms, including Black Hawk, Puma or Venom. Four LG1 howitzers fit inside the C-130. They may be dropped from high and low altitudes. In a transport setting, with the barrel set rearwards, the cannon is 1400 mm tall and 5320 mm long. 200 kilograms is the maximum load that may be imposed on the hook in that setting.

In rough terrain, mountains or swamps/forests, the compact design and low weight make it easier to operate the cannon in question as well. Toyota Hilux, meanwhile, is sufficient to tow the cannon. Same applies to a military HMMVW vehicle. The howitzer can be towed on the road at speed of more than 120 kilometers per hour, and 40 kilometers per hour offroad. The speeds are very much dependent on the performance of the towing vehicle.

### Light Howitzer Fires

Considering the time constraints and conditions at the range, as well as the safety conditions, no option existed to present the LG Mk III howitzer on the move. However, the cannon had been fired at the Ustka range for some time before, in a variety of weather conditions. On the date of the official demonstration the weather was good. Despite the strong wind, the sky was cloudless and the day was sunny, without any heavy rain that had been the case on the day before.

Nexter 105 mm HH ER G3 ammunition with a base-bleed unit was used, making it possible to achieve the best performance, accuracy- and range-wise. However, the LG1 Mark III howitzer can fire any NATO compliant 105 mm round, including the US-made M1 rounds.



105 mm LG1 Mk III computer screen. Image Credit: J.Sabak

The LG1 howitzer itself has been operated since the 1990s. Mark III is the latest digitized variant, it features a firing solutions computer and an INS/GPS positioning system. Thanks to the use of weather data and precise positioning for the gun and for the cannon it remains possible to lay down accurate fire at distances of up to 17 kilometers. Ranges exceeding 17.2 km were reached during the tests in Ustka.

Nexter Systems offers its LG1 Mk III howitzer in a number of configurations, when it comes to the digital systems and software. According to the user requirements, the configuration may be tailored to work with specific fire control and battle management solutions. Topaz system is used for that purpose by the Polish artillery units. It may be integrated on the Nexter's offering as well.

In case of LG1 the positioning data may be downloaded from the integrated positioning module, but the coordinates could also be entered manually. Using the ballistic data stored in the memory of the device, for the given type of ammunition, after entering the target coordinates one can rapidly obtain data for laying down accurate fire. The firing solution is provided in a comprehensible form on a screen placed left of the breech. During transport the screen is protected with a removable cover.

### **Pocket Howitzer for the Infantry**

The Nexter's howitzer is very easy to use. The five-man crew can go from transport to combat setting and fire the howitzer in less than 30 seconds. 30 seconds are also needed to fire the first 5 rounds. Theoretical rate of fire is defined as 12 rounds per minute, however, as the movie clip recorded at the range shows, it is possible to fire 6 rounds in less than 15 seconds. This allows the howitzer to cover the target area with many rounds in a rapid manner.

Despite the relatively short barrel (30 calibres long) LG1 Mk III allows the user to act against targets at distances exceeding 17 kilometers which has been confirmed many times, also during the tests in Ustka. To achieve the maximum range, Nexter HE ER G3 shell was being used, fitted with a base bleed unit. The manufacturer offers a wide range of specialist rounds, including smoke, illumination or HE-Fragmentation rounds. It is, however, possible to use any type of NATO-compliant 105 mm round. Nevertheless, the range and accuracy would be adequately less impressive.



Nexter 105 mm gun, after the demonstration. Image Credit: J. Sabak

The Ustka range demonstration, apart from showcasing the indirect fire capability, was also used as an opportunity to show the howitzer's direct fire performance. Considering the terrain conditions and lack of an option to use a boat, the target was placed in the water, 900 meters from the gun, with the

use of the PTS-M amphibious vehicle. For the target that was 2.5 meters high the maximum range for direct fire is defined as 2 kilometers. The target was hit directly during the test, despite the sea being quite rough. LG Mk III offers 36 degrees of azimuthal aiming (18 left and right) and elevation range between -3 up to 70 degrees.

The manufacturer suggests that the design can withstand more than 20 years of service and its endurance, without failure, is defined as 1500 shots. Meanwhile, the barrel offers EFC life of up to 7000 shots. Legacy models of the gun are operated by the French, Belgian and Canadian armies and 5 non-NATO states all around the world. They are used by air-mobile units primarily, or by light infantry units that are forced to work in rough terrain conditions.