STM Integrates EW Payload onto Kargu Drone for Stand-In Jamming

By Richard Scott

Türkiye's Savunma Teknolojileri Mühendislik ve Ticaret A.Ş. (STM) has demonstrated the ability of its Kargu rotary-wing loitering munition to perform stand-in jamming using the JINN [Jammer Integrated Nullification Node] electronic warfare (EW) payload developed by EHSİM.

Stand-in jamming is an EW technique designed to place an electronic attack payload close to the threat radar(s) to deliver highly effective jamming with minimal ERP. During field tests, the combination of Kargu and JINN successfully jammed hostile radar systems to establish a secure operational corridor for follow-on Kargu first-person view (FPV) strike drones.

Entering service with the Turkish Armed Forces in 2018, Kargu is a small quadcopter drone designed to support counter-terrorism, special operations and cross-border missions by various security forces. Man-portable and rapidly deployable within one minute in the operational area, the low radar cross section air vehicle has an endurance of more than 30 minutes and an operational range of 10 km. Kargu is able to operate in groups and, through STM-developed software, can perform missions independently of GNSS and within hostile EW environments.

Alongside standard electro-optical/infrared cameras. Kargu is typically configured with a kinetic payload (such as an anti-personnel charge or an armor-piercing warhead). STM has also developed a wideband radio frequency seeker head for passive electromagnetic surveillance.

EHSİM’s JINN payload is a compact DRFM-based stand-in jamming system designed to disrupt and deceive enemy radars, thereby creating a “blind spot” in the surveillance screen. “During the trials, the [Kargu] platform detected enemy air defense radars and utilized DRFM-based jamming techniques to blind them,” said STM. “As the radars’ tracking capabilities were suppressed, the armor-piercing Kargu FPVs successfully infiltrated the newly established security corridor to neutralize targets with pinpoint precision.”