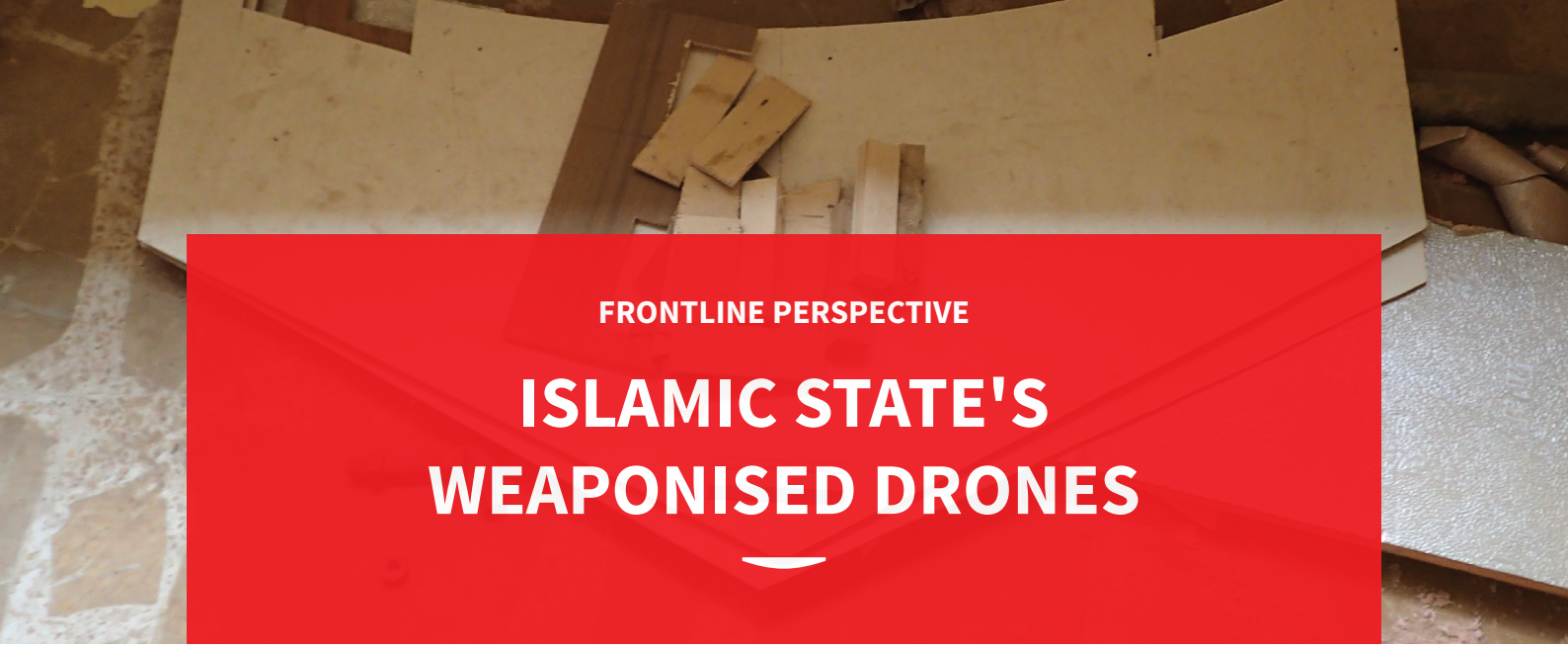


FRONTLINE PERSPECTIVE

ISLAMIC STATE'S WEAPONISED DRONES

CONTEXT

On 2 October 2016, a drone rigged with explosives and controlled by a group linked to Islamic State (IS) forces killed two Peshmerga fighters, and badly wounded two French soldiers in the Kurdistan Region of Iraq. The story, which the French newspaper Le Monde initially broke, has since been widely reported across the international news media.[1] While the exact circumstances of the incident are still unknown, the attack underlines the potential for IS forces to weaponise drones.

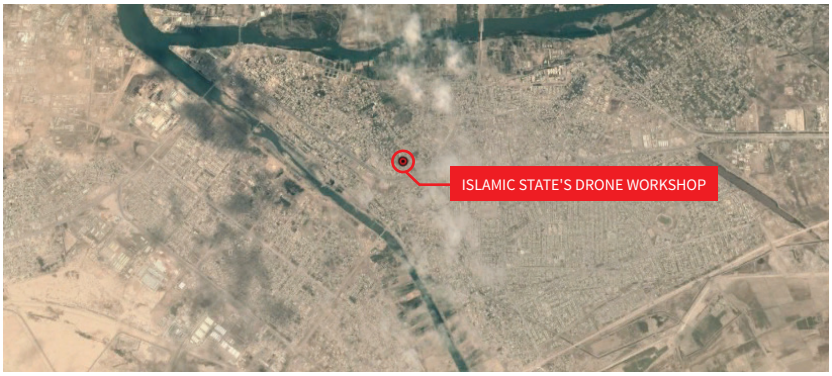
DOCUMENTATION

The co-discovery of drone construction and attempts to repurpose missile components plausibly suggests attempts by IS forces to develop some form of weaponised drone.

International attention to the potential use of drones by terrorist and insurgent forces is arguably growing, but has so far focused on commercial, off-the-shelf models, which have largely been used for surveillance purposes. IS forces have a history of constructing surveillance drones. For example, on 28 February 2016, a CAR field investigation team documented a drone manufactured by IS forces, which was constructed from Styrofoam, employed model aircraft components, and had been fitted with a commercial video camera. IS forces had employed the aircraft near Daquq, Kirkuk Governorate, Iraq. The drone was too light to carry explosives or other weapons.

However, on 21 February 2016, a CAR field investigation team documented a drone workshop operated by IS forces in Ramadi, Iraq (GPS: 33.4265970066, 43.2900070120), two weeks after the liberation of the city.

Map 1
Satellite view of Ramadi showing Islamic State's drone workshop location.



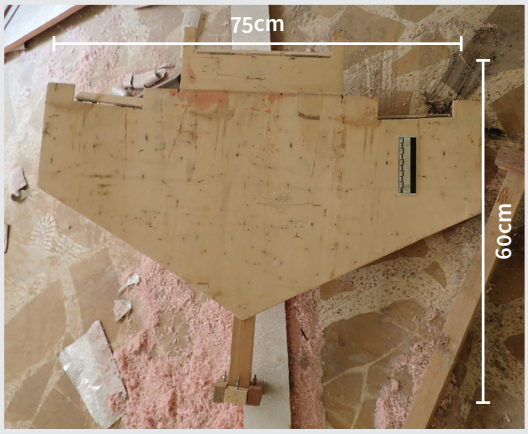
Map data: Google, DigitalGlobe

itrace
European Union Funded

CONFLICT ARMAMENT RESEARCH

german cooperation

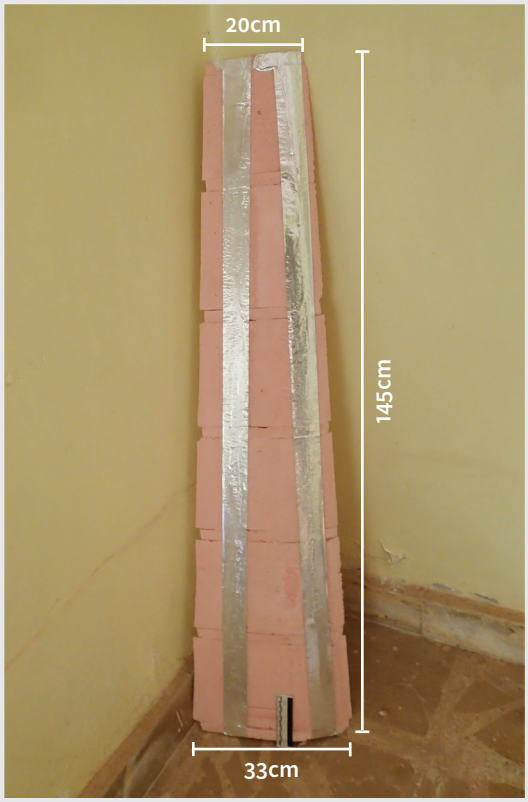
Photographic evidence from the workshop shows attempts to manufacture much larger drones from scratch, with a range of component parts under construction, including fuselages and wings, and avionics, such as camera controllers and gyro sensors, which are used to control an aircraft in flight.



A plywood fuselage.

CAR observed no evidence of a propulsion/traction system in the workshop.

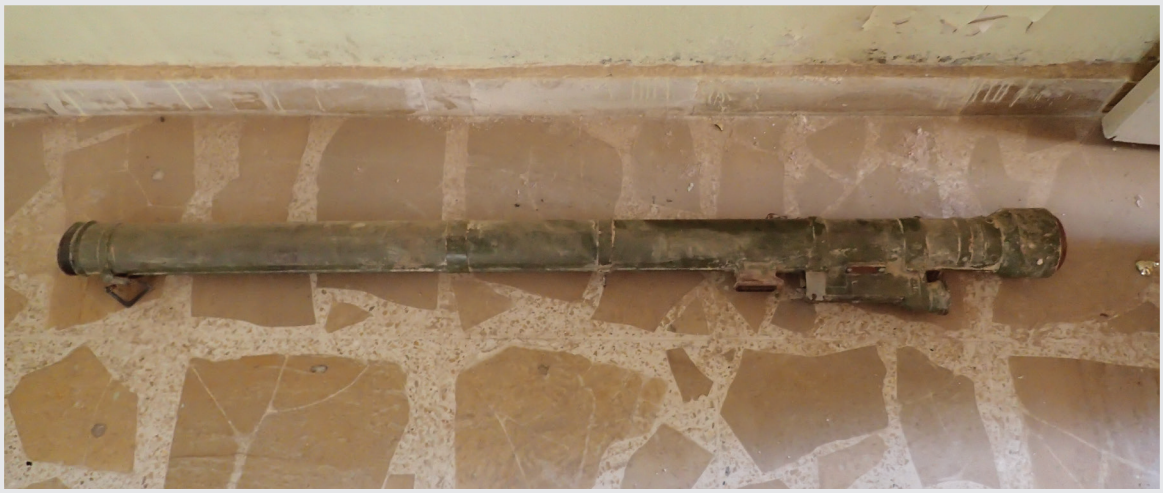
Ramadi, Iraq, February 2016



A wing in extruded polystyrene foam (used in insulation boards)

Ramadi, Iraq, February 2016

The investigation team also discovered an incomplete 9K32M 'Strela-2M' (SA-7b) man-portable air defence system (MANPADS) in the workshop and the disassembled components of a 9M32M MANPADS missile—notably the warhead section and the missile's steering unit. The co-discovery of drone construction and attempts to repurpose missile components plausibly suggests attempts by IS forces to develop some form of weaponised drone.

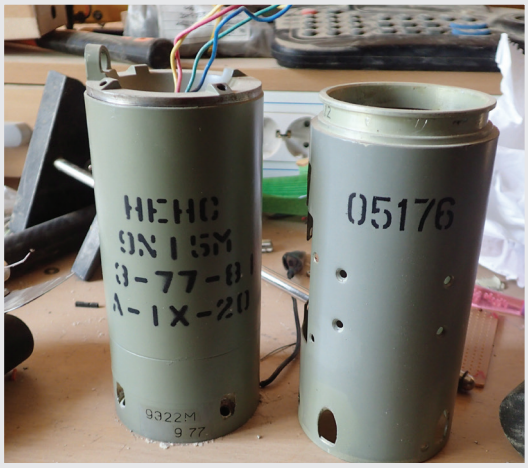


A 9K32M 'Strela-2M' (SA-7b) man-portable air defence system (MANPADS)

Ramadi, Iraq, February 2016

"THE USE OF DRONES BY TERRORIST AND INSURGENT FORCES IS A GROWING ISSUE OF INTERNATIONAL CONCERN. THE CAPACITY TO WEAPONISE THESE REMOTELY OPERATED VEHICLES WOULD BE A SIGNIFICANT ADDITION TO ISLAMIC STATE'S GROWING ARSENAL OF IMPROVISED WEAPONS."

JAMES BEVAN, EXECUTIVE DIRECTOR, CONFLICT ARMAMENT RESEARCH



The 9N15M warhead section of a 9M32M missile made in 1981 by Factory 518, Russia. The explosive charge weighs 370 grams and is a mixture of 78% RDX, 19% aluminium and 3% wax.

Ramadi, Iraq, February 2016

The field investigation team also documented bulk supplies of resistors, transistors, and signal relays, which are packaged and marked to indicate South Korean and Japanese production. The signal relays are identical to others that, since 2014, CAR has consistently documented in radio-controlled improvised explosive devices manufactured by IS forces.[2] Markings on the signal relays indicate production between 16 and 22 December 2013, and 21 and 27 April 2014, respectively.

Since its entry into the facility, CAR has traced one 3-axis controller gyro sensor documented in the workshop. In its response to a formal trace request issued by CAR on 22 April 2016, the Turkish company Bomec Robot Teknolojileri confirmed selling around 50 such items annually, and exclusively to the Turkish domestic market. The company was unable to identify specific customers, but confirmed that the item's packaging indicated sale before July 2015.[3]

ENDNOTES

1 "Irak : Paris confirme qu'un drone piégé a blessé deux membres des forces spéciales françaises à Erbil" http://www.lemonde.fr/proche-orient/article/2016/10/11/irak-deux-commandos-francais-gravement-blesses-a-erbil-par-un-drone-piege_5011751_3218.html

2 "Tracing the Supply of Components Used in Islamic State IEDs," Conflict Armament Research, February 2016.

3 On 13 July 2016, the Turkish company Bomec Robot Teknolojileri responded to a formal trace request issued by CAR on 22 April 2016. In its response, Bomec Robot Teknolojileri stated that: 1) Bomec Robot Teknolohileri imports 3-axis controller gyro sensors from the United States company, Pololu; 2) Bomec Robot Teknolohileri sells this type of product in its shop and via its website; 3) the product is not sold internationally but only to the domestic market; 4) the company sells around 50 pcs per year and cannot determine the particular customer of the item that CAR documented; and 5) Bomec Robot Teknolohileri has not attached stickers to the packaging of the 3-axis controller gyro sensors for more than a year and therefore, the item subject to CAR's request must have been purchased more than one year ago.

CAR would like to express its appreciation to Alexander Diehl for his assistance on this publication.