PROLIFERATED DRONES

A Perspective on Germany

By Ulrike Esther Franke

Introduction

Germany has a long history of drone development and use, reaching back to early drone trials and missile development during and between the world wars. Its first modern drone system, the Canadian-British-German CL-89, was introduced in 1971. Today, the German armed forces, the Bundeswehr, operate a range of unmanned aerial vehicles (UAVs), all of which have been fielded in Afghanistan as part of the German contribution to the ISAF mission. Together with the U.K. and France, Germany is one of the leading European drone users; its main strength as a manufacturer and user is in midsized reconnaissance drones for the army.

Because of its historically motivated anti-militarist attitude and because the German public largely equates armed drones with American extraterritorial targeted killings, the procurement of an armed drone system for Germany is a hotly debated topic. No final decision has been made, but acquisition of an armed drone appears likely in the medium term and different procurement models (leasing, off-the-shelf procurement from Israel or the United States, development of a European drone) have been discussed.

The Bundeswehr is likely to use drones (both intelligence, surveillance, and reconnaissance [ISR] and armed systems) in future military operations. It is not expected that the availability of drones will fundamentally change German operations, either in

terms of the types of operations Germany will participate in (never alone, always in cooperation with NATO allies, and – if at all possible – only with a U.N. mandate) or in how these operations will be fought. Because of its risk aversion, Germany is likely to welcome the possibility to send drones rather than troops in an allied operation and may be somewhat more likely to support a multinational operation if its only contribution will be drones.

Technology

The Bundeswehr has five drone types in use: Luftgestützte Unbemannte Nahaufklärungs-Ausstattung (LUNA), or airborne unmanned close reconnaissance system; Kleinfluggerät für Zielortung (KZO), or small target-locating drone; Abbildende luftgestützte Aufklärungsdrohne im Nächstbereich (ALADIN), or airborne reconnaissance drone for close area imaging; Mikroaufklärungsdrohne für den Ortsbereich (MIKADO), or micro local area reconnaissance drone; and Heron 1. These systems were put into service in 2000, 2005, 2006, 2009, and 2010, respectively. All drones are used only for ISR since the Bundeswehr does not have any armed drones.

Four of the five types of existing drones are army systems. They are small to midsize, ranging from the hand-launched, less-than-4-kilogram ALADIN to the 170-kilogram KZO. MIKADO is a vertical takeoff quadrocopter system; all other systems are fixed-wing aircraft. All army drones are German products: MIKADO is built by the small German manufacturer AirRobot, KZO by a Cassidian/Rheinmetall joint venture,[1] and LUNA and ALADIN are produced in southern Germany by EMT Penzberg. For now, German-built systems are used almost exclusively by the Bundeswehr.[2] However, considering Germany's leading position in machinery export, it is probable that the country's drone manufacturing and export sector will grow, though it will likely continue to focus on small to midsize drones.

As the difference in name suggests, the Heron 1 is the only Bundeswehr UAV in use that was not built by a German manufacturer. Germany leases its three Heron 1s for

operations in Afghanistan from the Israeli manufacturer IAI (in cooperation with Rheinmetall). Heron is Germany's only MALE UAV and the only UAV operated by the air force.

In May 2013 the Ministry of Defense canceled the procurement of five Euro Hawks, a variant of the Northrop Grumman Global Hawk – a high-altitude long-endurance (HALE) drone. The official reason for the cancellation was the difficulty to obtain clearance for operations in civilian airspace, a problem exacerbated by the U.S. company's reluctance to share technical data with the German partner.[3] Possible alternatives to the Euro Hawk are being discussed. A contender is – somewhat surprisingly – the Triton, another Global Hawk variant in use with the U.S. Navy.[4] Despite the problems with the Euro Hawk, Germany is one of 15 NATO countries that are funding the acquisition of five Global Hawk systems for NATO, to be based in Naval Air Station Sigonella in Sicily, Italy. Plans call for the systems to be operational in 2018 and to be used for and by all 28 NATO members.

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Strategic Implications

How Will Germany Use Drones?

Studying the Bundeswehr's use of drones in Afghanistan over the last 12 years can help to make predictions regarding possible future German drone use, even if such predictions are by nature speculative. In the Afghan theater, the German drones' main task was to accompany troops on patrol. Drones were also used to monitor hot spots such as known enemy positions, traffic choke points, control posts, etc. Drones provided security for bases and on rare occasions were used to identify and follow individuals. These kinds of missions will remain at the heart of future deployments.

Public protests notwithstanding, Germany is likely to procure armed UAVs in the future. These systems are likely to be used in similar ways as current ISR systems – troop escorts in particular will remain at the heart of their tasks. Targeted killings of high-level enemies by German armed drones are also possible, but exclusively in the context of an armed conflict (i.e., on a declared battlefield). At this time, it is inconceivable that Germany would follow the U.S. example of targeted killings outside official battlefields. These operations are seen very critically by the German public and within the political realm – so critically that the current government parties noted in their coalition agreement that they "categorically oppose extra-legal killings with drones," even though they chose not to mention the United States by name.[9] Such operations are also unlikely considering German rules for participating in military operations – never alone, always with allies, only if U.N.-mandated – as well as its self-image as a "civilian power." Last but not least, there is agreement that any military drone operation would have to be mandated by the German parliament, something Minister von der Leyen emphasized in a recent speech:

> There is no operation of the Bundeswehr without clear rules on the deployment of weapons. Hence, the deployment of drones by the Bundeswehr is only possible if all legal rules – international as well as national – are being

> respected, and only after the decision is made by the Bundestag. ...The decision about the use [of UAVs], whether in a weaponised role or not is a decision which lies with the German Bundestag.[10]

That the Bundestag would mandate targeted killings outside of declared battle zones appears inconceivable.

In What Operations Will Germany Use Drones?

Because of its location, Germany is unlikely to ever use military drones in its neighborhood for reasons other than joint training missions. The country is "surrounded by friends," as the famous dictum (first used by former Defense Minister Volker Rühe) states. Thus drones will be used for expeditionary operations and in the rather unlikely case of territorial defense.

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Germany is a risk- and casualty-averse country with a public critical of military engagement. Providing drones to an allied mission instead of troops or manned aircraft is likely to become a preferred way for German politicians to honor Germany's alliance commitments without risking too much political capital. Past drone deployment plans are a good indicator for this. In February 2003, Germany planned to field LUNAs in Iraq to support the U.N. weapon inspectors monitoring Saddam Hussein's weapon arsenal; however, the mission was canceled after the U.S. invasion in March 2003.[11] Germany had also discussed sending drones to Ukraine.[12] Considering these examples, it can be assumed that Germany would be more willing to use drones than manned aircraft for riskier missions and accept a higher danger of them being shot down. Turning this logic around, Germany is likely to see the deployment of drones by other powers as a sign of

lesser resolve compared with the sending of manned systems or troops (albeit this assessment would depend on the scale and context of the drone operation).

The regular use of German military drones within its own airspace is unlikely. Because of its historical experiences, the domestic deployment of the military is a contentious topic. Missions in very specific circumstances such as natural disasters are, however, possible. It should also be noted that the aforementioned NATO Global Hawks will, according to NATO, "be able to contribute to a range of missions such as protection of ground troops and civilian populations," including "border control and maritime safety, the fight against terrorism, crisis management, and humanitarian assistance in natural disasters."[13] Whether this means deployment of the drones within German airspace is unclear.

Impact of Other States'/Non-State Actors' Drone Use

The use of drones by other actors is a relevant issue for Germany, but not because the country faces any danger from other states' drones. Germany does not have serious geopolitical rivals or ongoing conflicts; there is hence no direct danger of attack. However, the country is closely monitoring how other states – particularly allies, and specifically the United States – use drones. Political decisionmakers and especially the public are highly critical of U.S. drone operations in Pakistan, Yemen, and Somalia. That these missions are being routed through Ramstein Air Base – and in fact would not be possible without the U.S. base in southwest Germany – is a crucial element of the debate. In May 2015, a Yemeni family that lost relatives in an attack on its village brought a case to court in Cologne, accusing the German government of complicity in the deaths because of the central role of Ramstein.[14] The case was dismissed, but it underlined once more the importance of U.S. drone operations for the German debate. It should be noted that while Germany is unlikely to carry out U.S.-type drone missions, the government – like most other European countries – has not officially denunciated the practice.[15] Anti-drone groups have furthermore criticized the German secret services for providing the United States with data that can be used for target acquisition.

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A foreign drone that intrudes in German airspace is likely to be shot down if deemed a threat and if its destruction would not risk causing harm to people on the ground. The shooting down of an intruding drone is somewhat more likely than the downing of a manned foreign system; both scenarios are, however, unlikely. In a contested territory – i.e., during an allied mission in which Germany participates – an enemy drone is likely to be shot down, but so are manned aircraft.

The reaction to the downing of a German drone by enemy anti-aircraft will depend mainly on the type of drone. The more expensive the drone, the stronger the public reaction is likely to be. Most important will be the question of whether the drone was armed – i.e., whether the enemy is likely to recover missiles carried by the drone and use them for its own operations. Germany may be the fourth-largest arms exporter, but it is terrified by the idea of having German-produced arms fall into the wrong hands and used against it or its allies. Nevertheless, the downing of a drone is unlikely to cause a reaction similar to the response that would follow the downing of a manned fighter and the killing or capturing of its pilot.

German authorities are aware of the danger of drones being used by non-state groups or individuals for terrorist attacks. The ease of using drones for these purposes was demonstrated at an event in 2013 when a member of the Pirate Party (a German opposition party) flew and crashed a commercially available Parrot drone directly in front of Chancellor Angela Merkel and then-Minister of Defense Thomas de Maizière.[16] The recent accidental crash of a hobbyist drone on the windshield of a car driving on a German autobahn is another case in point.[17] For the time being, there has been no terrorist attack carried out with the help of drones, but the risks are well-understood. Indeed, one of the explicit requirements for the recently procured Medium Extended Air Defense System (MEADS) was its ability to shoot down slow, small, low-flying aircraft – i.e., drones.

Constraints

German drone use faces three main constraints: a drone-critical public, financial limits, and technical challenges.

The main constraint posed on any future German drone operation and acquisition stems from the necessity for the political realm to justify its decisions in face of a very critical and largely pacifist public. This puts increased scrutiny on political leaders and makes U.S.-type targeted killing campaigns inconceivable. Furthermore, and even though allies have been calling on Germany to become more active in foreign policy, Germany's self-image as a civilian power and its weariness after Afghanistan mean that German military engagements will remain limited, thus constraining possible drone use. German military operations are thus unlikely to fundamentally change because of drones.

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Secondly, the German defense budget is comparatively small and the Bundeswehr is under severe financial pressure. After the financial debacle of the Euro Hawk, German politicians will be careful regarding major new defense projects, including drone acquisition.

Third, there are technical constraints. While Germany is known for machine manufacturing, it is currently leading only in the production of small and midsized drones. The development of larger, armed MALE or HALE drones is a challenge, and any indigenous development would take several years. Most importantly, questions remain regarding the infrastructure required for long-range UAV operations and whether Germany would rely on American command centers and satellites or use a European system whose suitability for such operations remains unclear.

Conclusion

Germany is likely to remain an active user and manufacturer of military UAVs. Its expertise will remain in smaller ISR UAVs for the time being, with armed UAVs eventually being added to the arsenal. On the world stage, Germany will continue to be a cautious and somewhat reticent military actor, even if recent debates point to the development of a more assertive German foreign policy. Even though drones will be increasingly used, they are unlikely to change the fundamental principles of German foreign and security policy in the near- to mid-future.

Response: United Kingdom Perspective

by Dr. David Hastings Dunn

The main focus of this assessment is to place the German national debate over drones in a strategic and historical context. The essay also describes the specific systems used by the German military, the roles in which drones are employed, and the manufacturing source of the technology involved.

The U.K. government views the development of drone technology for military purposes as

a positive development and wishes that Germany shared that view. Opposition to armed drone use and hesitancy on the part of the German government are not, however, considered obstacles to U.K. drone policy.

That the German aerospace industry is invested in this technology is viewed positively in the U.K. as a factor that will increase the likelihood of drones being produced and procured by the German military and as a potential source of an independent European drone industry.

The hyperbolic nature of the German drone debate and the equating of drones with "American extraterritorial targeted killings" is viewed with concern but not surprise by the U.K. as an obstacle to rational discussion of the procurement and use of any drones, armed or not, within Europe. The nature of this debate contributes to the sensitivity over armed drone use in the U.K. debate.

The assessment here that Germany is likely to procure armed drones for use in close air support and possible "targeted killings of high-level enemies by German armed drones … on a declared battlefield" would be very welcome in the U.K. So would the assessment that armed drone use might lower the threshold to the commitment of German forces to expeditionary conflicts given Berlin's casualty and risk aversions.

Drones have become lightning rods for critics of the use of armed force in general, and this is especially the case in Germany given its history and anti-military trajectory. Despite this, Germany's desire to avoid military casualties – without incurring unacceptable risks – is pushing Berlin in the direction of procuring armed drones, a move fully supported by London.

About the Authors

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Endnotes

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9. *Deutschlands Zukunft Gestalten: Koalitionsvertrag Zwischen CDU, CSU und SPD* (2013), 124.
10. Translated in Franke, "Armed Drones? Jein! Germany's Qualified Decision for Armed UAVs." Legal experts agree with this view. See Simon Gauseweg, "Der Konstitutive Parlamentsvorbehalt Beim Einsatz Bewaffneter Drohnen," in *Drohnen und das Recht*, ed. Robert Frau (Tübingen: Mohr Siebeck, 2014).
11. See "Unterrichtung Durch Die Bundesregierung, Bericht Der Bundesregierung Zum Stand Der Bemühungen Um Rüstungskontrolle, Abrüstung Und Nichtverbreitung Sowie Über Die Entwicklung Der Streitkräftepotenziale (Jahresabrüstungsbericht 2002)," ed. Deutscher Bundestag (Berlin: 2003), 17. See also Susanne Koelbl, "Deutsche Späher Bei Saddam," *Der Spiegel*, February 3, 2003.
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13. North Atlantic Treaty Organization, "Alliance Ground Surveillance (AGS)."
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Knowing what's out there, German recon flies the unfriendly skies 150610-A-FJ979-002: U.S. Army Photo by Sgt. James Avery, 16th Mobile Public Affairs Detachment via commons.wikimedia.com

LAGER AULENBACH, Germany — A German Army unmanned aerial vehicle, known as Luftunterstutzte Unbemannte Nahaufklaerungs Ausstattung (LUNA): Department of Defense photo by Army Sgt. 1st Class Brenda Benner via eucom.mil