DefenceUK Discussion Paper – August 2026

Britain needs an 'Iron Dome' – urgently!

This statement is a rather sloppy usage of the term 'Iron Dome'. Israel's actual Iron Dome missile system is a relatively inexpensive short-range surface-to-air missile system developed to counter Hamas's cheap rockets which were bombarding Israel. However, the term 'Iron Dome' has now taken on a generic meaning, like 'Biro' or 'Hoover', to mean Integrated Air and Missile Defence systems (IAMD) in general. Why do we need one? Because we are seriously antagonising the Russians. Whether we regard ourselves as waging proxy war against Russia is not the point. It would be no surprise to learn that many in Russia see it that way, and so will want to retaliate. Such retaliation has taken the form of cyber warfare or deniable acts of sabotage but in general enemies look to exploit each other's weaknesses and one of the UK's many military weaknesses is the lack of a proper IAMD. If the Russians were to fire (conventionally armed) cruise missile at the UK we have some very limited ability to shoot them down but against ballistic missiles we have almost no defence at all. The UK's nuclear deterrent is not a universal panacea. Hopefully it will deter a nuclear strike from Russia, but it certainly won't deter these lesser threats. The arguments are set out below in four parts. Part 1 the threat from Russia, Part 2 a summary of what the Scandinavian countries have got, Part 3 described what the UK has (and lacks) and Part 4 describes what we need to defend. These are followed by a summary.

1. What is the missile and drone threat from Russia?

Cruise missiles:

Kalibr land attack cruise missile, Max Range: 2,500 km, Launch Platform: Submarines and surface ships - including from the Club-K shipping container missile launcher. Propulsion: Turbojet (subsonic). The missile flies at very low altitude, hugging the sea surface or terrain to stay beneath radar, and could be fired from anywhere in the North Atlantic or Norwegian Sea. British cities are well within range.

Kh-101, air-launched from Fighter-Bombers, Max Range: 5,000 km, Propulsion: Turbojet (subsonic), could be fired at any part of the UK from outside European allied airspace.

Novator (SSC-8) road-mobile, range: 2,500 km, propulsion: Turbojet (subsonic), could be fired at London/East UK from very western parts of Russia, Kaliningrad, or Belarus.

All these missiles have high explosive warheads around 450 kg, although there is a nuclear-armed version of the Kh-101 called the Kh-102. If these missiles are fired at the UK from western Russia,

they would overfly our Scandinavian and Baltic allies who would probably shoot some of them down *en route* to us.

Ballistic Missiles

Kinzhal Air-launched Ballistic Missile, Max Range: 1,500-2,000 km, Launch Platform: Fighter-Bombers, Propulsion: Solid Rocket Motor (high supersonic end-game - hypersonic mid-course), Warhead: 480kg (high explosive or nuclear). Could just about reach the UK when launched from Russian airspace but might require NATO airspace incursion.

Iskander – Russia has a number of shorter-range missiles such as the Iskander ballistic missile, road-mobile, max range 500-1000 km, various conventional warheads as well as nuclear. Insufficient range to hit the UK from Russian soil but a threat to UK forces deployed overseas and a threat to the UK if allied territory were to be overrun by Russia.

Drones

Geran (Shahed) one way attack drone, Max Range: 2,500km, Land Launched, Propulsion: Turboprop, Warhead 50kg, low cost of manufacture – very successful in both Ukraine and US-Iran war due to large numbers of these drones saturating air defence systems. Could be fired at London/East UK from very western parts of Russia, Kaliningrad, or Belarus. Some (many?) would be spotted and shot down by NATO countries on the way to the UK.

Short-range drones: we cannot ignore the possibility that Russia might smuggle short-range drones into the UK, after all the Ukrainians did exactly that when they attacked Russian AF bases in Siberia. A further risk might be cheap one-way attack drones launched clandestinely from the sea.

DefenceUK has no information about Russian stockpiles or production rates except reports from the Ukrainians who have examined the remains of missiles fired at them and concluded that those missiles were of very recent production, suggesting that (a year or so ago) Russia didn't have a big stockpile but was firing missiles as fast as they could make them. This situation could change, of course.

2. What missile defences do our Scandinavian allies possess?

There was once an unkind joke made at Norway's expense: *Q – What is Norway's defence strategy? A – Hide behind Sweden*. Not justified now (if it ever was) but it is relevant in that missiles fired at the British Isles from western Russia would have to pass over Scandinavia so to what extent then is the UK's strategy to hide behind Scandinavia? What sort of missile defences have our allies got?

Norway: Norway's principle surface-to-air missiles system is called NASAMS and is the ground-launched version of the US AIM-120 air-to-air missile. It has a range of about 40km (a longer-range missile is now available) making the system comparable with the UK's Sky Sabre. It is a short-medium range system for defending point targets, it is not an area-defence weapon. Norway does not operate any longer-range area-defence weapons so any Russian cruise missiles *en route* to the UK could only be shot down by the Norwegians if they happen to come within range.

In addition, the Norwegian Navy has four Fridtjof Nansen Class frigates each armed with 32 ESSM short-medium range missiles. It is unlikely all four would be operational at the same time and might be located anywhere in the northern waters.

Sweden: Sweden does operate the longer-range Patriot system. Four units with twelve launchers. They have both the PAC-2 and 3 versions which have capability against tactical ballistic missiles as well as cruise missiles and aircraft. Patriot has a range of 160km against cruise missiles and aircraft but less than half that against ballistic missiles. Sweden is the only country in Scandinavia to operate this area defence system.

Denmark: Patriot's European equivalent is the Aster SAMP/T, on order for Denmark for delivery from 2028. Approximately a hundred Aster missiles are manufactured per year but this is being ramped up to about 300. Denmark also operates the same NASAMS short range system but in between these they also have the IRIS-T and MICA systems, with ranges in the region of 25-80 km depending on type.

The Royal Danish Navy also operates three *Iver Huitfeldt*-class frigates each armed with 32 Standard SM-2 missiles. Some, but not all SM-2s have anti-ballistic missile capability. As in the case of Norway, these ships may or may not be able to protect the UK depending on where they are located.

Finland: Also operates NASAMS, eight batteries with 24 launchers. Most notably though Finland has ordered, from Israel, the David's Sling missile system, orders so far to the value of over 500million euros. Israel intends this system to replace Patriot as the second tier of their defences (Israel's first tier being Arrow 3).

In all these missile systems, a battery will consist of a command vehicle, a radar vehicle and anything from three to six missile launcher vehicles, or some variation on this arrangement.

So, at present all four Scandinavian nations are armed with modern surface-to-air missile systems but only Sweden (so far) has any anti-ballistic missile capability. Common sense says that these missiles cannot cover 100% of Scandinavia's territory, so some Russian missiles will inevitably evade interception *en route* to the UK. There is also a dilemma for the governments of these four countries. Interceptor missiles such as Patriot and NASAMS are in limited supply and can easily be expended in war much faster than stockpiles can be replenished. How many of their missiles can these four governments justify expending in defence of the UK? They will inevitably want to prioritise the defence of their own critical infrastructure.

If Russian missiles are fired at us from the north and/or west, then what Scandinavia has is irrelevant and clandestine attacks from within the UK are also possible, as the Ukrainians have demonstrated.

3. What air and missile defences does the UK have?

"*Your constituent can be assured that we maintain a flexible, capable and multi-layered posture across defence*" – a Minister of State's rather vague response (2022) to this writer's concerns about the nation's defence.

So, what defences does the UK have against a missile attack against our home soil?

Airborne Early Warning aircraft? The RAF operated seven E-3 AWACS aircraft now replaced by just three E-7 Wedgetails. The Russian Air Force has lost one or two of their AWACS aircraft shot down and another one or two destroyed or damaged on the ground so it would be naïve to think they would not try and attack our precious three E-7s and naïve to think they might not succeed. Three is surely not enough and the Lossiemouth airbase has little or no air defences.

Long-range Anti-ballistic missiles? Nothing. Israel has the Arrow 3 and 3 batteries were purchased by Germany in 2023 and now (2026) being delivered, costing $6.5 billion. The USA has THAAD (Terminal High Altitude Area Defense) a system that can shoot down even Intermediate Range Ballistic missiles, as well as shorter range ones. The outer layer of our "multi-layered posture" is entirely missing.

Medium-long range missiles? This includes Patriot, Israel's David's Sling and the European Aster. The UK has nothing in this category except the Royal Navy's six Type 45 destroyers each armed with 48 Asters (and, in future, 24 CAMM short-range missiles). Unfortunately, the Type 45 has a poor record for availability, only one being ready for deployment recently. Type 45s apart, the middle layer of our "multi-layered posture" is also entirely missing.

Short-range missiles? The Army has Sky Sabre, a modern system which launches the short range CAMM missile. It has proved difficult to establish just how many systems they have got but the number of systems is thought to be less than ten, including one system in the Falklands. Short range systems are intended to defend particular high-value targets – they cannot cover a wide area, so just how many high value targets does the UK have that might need defending? This is addressed in section 4. The Royal Navy's elderly Type 23 frigates are armed with CAMM as will be the future Types 26 and 31.

Very short-range weapons? The Army and RAF have two very short-range missiles called Martlet and Starstreak, used in the Ukraine to shoot down Russian aircraft and drones. They are mainly intended for the defence of Army units on the battlefield rather than the strategic defence of the UK as a whole. One very short-range weapon type entirely absent from the UK's armoury are anti-aircraft guns. Despite them being widely used by other countries, the UK has none.

4. What assets does the UK need to defend?

These are listed in the Appendix below, but the list is surely incomplete. Most of our military and naval bases and RAF airfields have no specific defence apart from MoD police and RAF Regiment soldiers patrolling the perimeter fences. We have a host of defence-related factories making aircraft, vehicles, drones and other equipment – far too many for each to be given a dedicated defence. What is needed is area defence, and area defence is entirely lacking. Russia also has a track record, in Syria, Ukraine and elsewhere, of attacking civilian targets with the aim of breaking civilian morale. Hospitals have been their targets in the past including the infamous 'double-tap' wherein a second strike is timed to kill the rescue workers who attend the site of the first strike. Stories have come out of Ukraine of attacks on cultural targets, again with the intention of damaging civilian morale. How would we feel if Russia demolished Salisbury cathedral?

SUMMARY

In 1940 one of Europe's principle military powers was forced to surrender after just 8 weeks fighting. No-one predicted such an outcome, but a similar outcome is not unimaginable in the near future. The UK is horribly vulnerable to missile attack from Russia. Not right now perhaps, President Putin has enough on his plate, but if the Ukraine conflict is ended it will give Russia a chance to recover and take revenge on the ally of Ukraine that has caused Russia so much pain. Even if orders were placed now for the surface-to-air missiles we should already have (and no indication that any such orders are likely) it would be years before the missiles, radars and launchers are delivered.

Not only is the UK unable to defend itself against Russian missiles, we have only one ally (the USA) who might be able to meaningfully help us. We cannot ask our (mostly smaller) European allies to transfer their air defences to the UK or deplete their limited missile stocks to help us. Their principal responsibilities will always be to their own citizens. Help from the USA cannot be taken for granted. They may be distracted by conflicts elsewhere, their own missile stocks have been seriously depleted, the US President may not be inclined to help us.

Our position is quite precarious. If we are attacked, just consider the position from the point of view of the Prime Minister. He or she will be told we cannot stop the attacks and there will be no prospect of stopping them. Our critical national infrastructure, civilian and military, perhaps even our cultural heritage, will be systematically demolished, week after week, month after month, perhaps year after year. We will be unable to stop the attacks and have very limited ability to retaliate (a nuclear retaliation is not a realistic option) so, unless the USA comes to our rescue, the PM will have little option except to pick up the phone and talk to the President of Russia.

APPENDIX – Target List:

(1) ENERGY-related targets:

Gas terminals – landfall of gas pipelines – 6 in the UK.

- Bacton (Norfolk) (up to 1/3rd of the UK gas supply!)
- Easington (Yorkshire)
- St Fergus (Aberdeenshire)
- Teeside
- Theddlethorpe (Lincs)
- Rampside (Barrow-in-Furness)

Liquefied Natural Gas (LNG) terminals – receives imports of LNG from USA, Australia and Qatar.

- Isle of Grain (Thames estuary)
- South Hook (Milford Haven)
- Dragon (Milford Haven)

Gas-fired power stations. There are 32 gas fired combined cycle power plants operating in the UK, which have a total generating capacity of 28.0 GW. They vary in power output from 0.4GW to 2.2 GW.

Electricity Interconnectors: The UK has connectors to France (1 + 2 GW), Netherlands (1 GW), Belgium (1 GW), Republic of Ireland (0.5GW) and Denmark (1.4GW). There is also a 0.5GW connection between mainland Britain and Northern Ireland. The Denmark link has a substation in Lincolnshire and it is reasonable to assume that Russian intelligence can (has already?) pinpointed all the others substations. 6 missiles will cut these connections.

Wind Farms. One might suppose that wind farms are diffuse targets and so difficult to attack but the cables from each offshore turbine go to an off-shore sub-station and thence to an on-shore substation. Should either substation be put out of action the wind farm will be isolated from the National Grid. Wind Energy (off- and on-shore) supplies about 30% of the UK's total electricity requirement.

Nuclear Power stations. Reasonable (or hopeful?) to assume these will not be targeted by Russia as they might fear retribution in kind. A precise strike might, however, cut the nuclear stations from the National Grid without causing a radiation leak.

(2) <u>DEFENCE-related targets</u>:

RAF Wyton (Cambs) – HQ of Defence Intelligence.

Barrow Shipyard (2+ nuclear submarines in building at any one time)

Rosyth Shipyard (Type 31 frigates under construction)

Yarrow & Scotstoun Shipyards (Type 26 frigates under construction)

Faslane Naval Base (base for 3 SSBNs and several SSNs)

Devonport dockyard (typically 1 SSBN and 1 or 2 SSNs being re-fitted and home base for other warships)

Portsmouth Dockyard (home base for aircraft carriers and other warships)

Navy Command HQ, Whale Island, Hampshire

NATO Headquarters, Northwood (NW London)

RAF Fylingdales, Yorkshire

Northern Area Radar Station, Island of Unst, Shetland

RAF Lossiemouth, Moray

RAF Coningsby, Lincolnshire

RAF Marham, Norfolk.

RAF HQ, High Wycombe, Buckinghamshire

Army HQ, Andover, Hampshire

GCHQ, Cheltenham, Gloucestershire

(3) <u>OTHER targets:</u>

Houses of Parliament.

10 & 11 Downing Street

HM Treasury, London.

Control towers of the following airports: Heathrow, Gatwick, Stanstead, Luton, Birmingham, Manchester, Prestwick, Glasgow, Edinburgh.

London Stock Exchange, 1 Earl St, London EC2A 2EP

Lloyds Insurance Building, 1 Lime St, London EC3M 7HA

Lloyds Secondary Operating Building, Fidentia House, Walter Burke Way, Chatham.

London Baltic Exchange, 77 Leadenhall St.

Thames Barrage

SS Richard Montgomery (Ammunition ship) Thames Estuary.

Alderhay Children's hospital.

Cultural targets.