

Surveillance sorties in RAF Sentinel R1 aircraft from Cyprus are supporting the UN mission in Libya. Report by Ian Carr.

Stepping out of the Global Express, the aircraft of choice for Russian oligarchs and international rock stars, I have more than covered the distance from Heathrow to the east coast of America. I could be in Miami. Yet, after a 12-hour flight, I am in fact back exactly where I started, standing on the runway at RAF Akrotiri.

I have just had the privilege of accompanying the five-man crew of a Sentinel on a surveillance mission off the coast of Libya.

The Sentinel R1 is a modified version of the executive business jet manufactured by Bombardier. But instead of the gold taps and marble trimmings favoured by the rich and famous, the interior is stripped back to the bare essentials. The big money has been spent on radar pods and banks of computers.

Luxury items on this trip were confined to a warm Mars bar and a blocked toilet - a feature which may have dampened our feet but did nothing to dampen the spirits of the crew on board.

The only other luxury is the hyper-efficient air-conditioning, but that is for the benefit of the computer hardware, not the crew. It may be 38 degrees Celsius out on the pan, but at 40,000 feet (12km), when it's minus 50 degrees outside, and the air-conditioning is doing its thing, you really need to be wearing that thermal underwear.

The aircraft is designed to comfortably gobble up long distances at heights up to 49,000 feet (15km) on a regular basis; essential qualities for missions like the one I have just been on.

When it comes to getting a God's-eye view of the world, the closer to God you can fly, the greater the area you can see - and, in Sentinel's case, with extraordinary clarity:

"We can cover a large area," explained Flight Lieutenant Phill, the Air Mission Commander (AMC) - such is the security level of these sorties, only the crew's first names can be used.

"Surveillance using unmanned air vehicles [UAVs] is more like looking down a drinking straw. One of the things we can do is provide the information needed to deploy another asset like a UAV to take a closer look at something more specific."

As the AMC, Flight Lieutenant Phill is the tactical lead for the sortie. Based on what NATO and/or the MOD's Permanent Joint Headquarters want him to look at, he plans the mission, and it is the pilots' job to get him to those locations quickly and efficiently, and hold a pattern so he and his two image analysts, Sergeants Simon and Chris, can get eyes on the ground for as long as they need:

"We have a Synthetic Aperture Radar to take fixed imagery and a Ground Moving Target

Indicator to track ground movement of, well, whatever we need to," Flight Lieutenant Phill added.

After a couple of hours we enter the no-fly zone. Out of one of the small cabin windows the Libyan coastline can be seen thousands of feet below, through narrow wisps of cloud. Over the headsets we hear American voices asking for aircraft ID. That given, the crew carry on with the task in hand.

A large part of Sentinel's work is to build up, day after day, an understanding of the pattern of life below, so anything out of the ordinary can be spotted and investigated.

And it pays to take nothing for granted:

"People may think that if we see movement at night it must be Gaddafi's troops or the rebels," said Sergeant Chris, "but we're finding that life for the locals largely cracks on as normal, and it can be very busy at night. We need to know what's normal so we can spot the abnormal."

Because Sentinel can generate a persistent coverage of such a wide area, it provides NATO with a unique capability - which is crucial when you are dealing with a country the size of Libya.

Key logistic nodes and pro-regime forces can be identified, combat aircraft can be efficiently deployed, and the risk of misidentifying things on the ground is reduced.

During the sortie the analysts build up what they call a quick and dirty report of what they have seen. On landing, the massive amount of data amassed over the sortie is handed over to a team of analysts who produce a more detailed report.

But how do the crews manage to keep concentrating during these 12-hour stints?

"It helps to keep busy, and we've got reports to write while we go, and we have drills to follow every hour, so that helps," said Flight Lieutenant Phill.

And, Sergeant Chris added:

"You can be working like the proverbial one-armed paper-hanger, but if you are an analyst you tend to be the nosey type, so you don't want to miss anything."

For the pilots, the aircraft's superb automatic pilot system helps take the strain:

"It's a real godsend. When you've been flying for 11 hours, or through mucky weather, it takes the edge off, so you are fresh for the landing which is always the most difficult part of the flight," said the captain, Flight Lieutenant Neil. "That's what everyone judges you on."

"It may look like we are doing nothing when we are pootling round in loops, but we are constantly checking things, planning what we would do if there was a problem, so if something does happen, we have already thought that through and know what we are going to do."

"And when we are not doing that we imagine where we could be if we'd flown in a straight line; for example, we are half-way through the mission and let's see," he checks the instruments and makes a quick calculation, "yes, we could now be in Milan, or Bucharest."

But instead, Flight Lieutenant Neil has two more 'stops' to make before he can take us home, full-speed to Miami, or... well we can dream.

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