1 INTRODUCTION

Sophisticated military aerial reconnaissance systems will not be required to participate in Open Skies. Civilian systems have the ability to produce valuable data when operated under the cooperative measures envisioned for the Open Skies regime.

All of the imagery used for this report has been collected using civilian sensor systems. All cost figures are given in US dollars. The figures are approximate and provided for general comparison purposes only.

2 THE SENSORS

It should be possible to use exclusively off-the-shelf, commercially-available sensors for Open Skies. Sensors for Open Skies will include photographic cameras, thermal infrared systems and imaging radars. Table 1 outlines some of the main features of each type of sensor.

Photographic systems will be the primary sensor. They can provide fine spatial resolution but have limited spectral characteristics.[1] They require photographic processing and therefore cannot provide real-time data. Finally, they are restricted to daytime use.

Thermal infrared systems produce images by sensing radiation which is emitted by all surfaces according to their temperatures. They can be used during the night as well as the day, and are better than photographic systems for penetrating haze and smog.

---

[1] Spatial resolution defines the minimum sized object on the earth's surface which is "seen" by the sensor as being separate from its surroundings. The spectral characteristics of a sensor refers to what wavelengths of electromagnetic radiation the sensor is sensitive to and how finely it can distinguish between different wavelengths.