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## New and Emerging Satellite Imaging Capabilities in Support of Safeguards

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This abstract is focused on new and emerging commercial satellite imagery (CSI) capabilities. For more than a decade, experienced imagery analysts have been exploiting and analysing CSI in support of the Department of Safeguards. As the remote sensing industry continues to evolve, additional CSI imagery types are becoming available that could enhance our ability to evaluate and verify States' declarations and to investigate the possible presence of undeclared activities. A newly available and promising CSI capability that may have a Safeguards application is Full Motion Video (FMV) imagery collection from satellites. For quite some time, FMV imagery has been collected from airborne platforms, but now FMV sensors are being deployed into space. Like its airborne counterpart, satellite FMV imagery could provide analysts with a great deal of information, including insight into the operational status of facilities and patterns of activity. From a Safeguards perspective, FMV imagery could help the Agency in the evaluation and verification of States' declared facilities and activities. There are advantages of FMV imaging capabilities that cannot be duplicated with other CSI capabilities, including the ability to loiter over areas of interest and the potential to revisit sites multiple times per day.

Additional sensor capabilities applicable to the Safeguards mission include, but are not limited to, the following sensors:

- Thermal Infrared imaging sensors will be launched in late 2014 to monitor operational status, e.g., heat from a transformer.
- High resolution Short Wave Infrared sensors able to characterize materials that could support verification of Additional Protocol declarations under Article 2.a(v).
- Unmanned Aerial Vehicles with individual sensors or specific sensor combinations.

The Safeguards Symposium provides a forum to showcase and demonstrate safeguards applications for these emerging satellite imaging capabilities.

### Country or International Organization

International Atomic Energy Agency - Safeguards Information Management

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