

Diversity of Tasks

The jobs that we do within DFAIT are as diverse as the people doing them. In this article, *Our World* canvasses employees whose work is particularly unusual or creative.



Thomas Gillon (second from left) and his team from the Remote Sensing Section: Svitozar Ormelko, Estelle Chou and Bruce Mann

Fourteen times each day, Canada's RADARSAT-2 earth observation satellite completes its orbit, constantly taking radar images of the planet's surface. These images help determine the extent of the damage when an earthquake happens or assist foresters in determining the density of biomass in a forest. However, they could equally reveal where Canadian forces are at a given moment in Afghanistan or the location of ships in the pirate-ridden seas off the Horn of Africa. Government regulation of the release of these images is imperative.

That regulatory function is handled by a small but growing team within DFAIT's Non-Proliferation and Disarmament Division known as the Remote Sensing Space Systems Section. This section determines what images and data can be released to governments and non-governmental organizations (NGOs) around the world.

"Most uses of these images are completely benign," says Thomas Gillon, deputy director of the section. "That said, there are security implications

associated with the distribution of satellite imagery. Technically speaking, customers purchase a licence to use the images, that stipulates the parameters of their use. Our role is to work with the industry to ensure that commercial interests and security concerns are balanced."

Public availability of such imagery represents a notable break with the past. We are moving from an era in which only a handful of governments had access to high-resolution imagery to one in which every government—as well as businesses, NGOs and other non-state actors—will potentially have access. Where non-proliferation once referred to nuclear, chemical, biological and conventional weapons, in the 21st century it also includes high-resolution satellite imagery.

The Remote Sensing Section licenses satellite systems that are controlled from Canada or by Canadians operating outside the country. For example, the commercial licence for RADARSAT-2 belongs to MacDonald Dettwiler and Associates Geospatial Services Inc. of Richmond, B.C. However, the section also licenses more than 20 system participants who work with MacDonald Dettwiler and who are, for the most part, outside Canada—companies performing such activities as receiving, processing, storing and distributing data. The section has also licensed an experimental satellite owned by the University of Toronto and a satellite reception facility in the Northwest Territories.

"Travel is a great part of the job," says Gillon. "Our staff, in inspecting the licensees, go to remote regions in countries like Thailand, China, France and Norway—and they may have to take back roads or fly in small planes to get to some of these locations."

This licensing would achieve little if Canada alone were doing it, but other governments operate similar licensing agencies. Through the Remote Sensing Section, Canada regularly coordinates with other regulating states. As more states develop similar regulations, the section will take on an increasingly important role representing the Canadian position and helping to shape the international regulatory environment.

The detail of the RADARSAT-2 images is astonishing. As Gillon says, "Commercial satellites can see a bungalow or a Winnebago, but maybe not a cowboy hat." Given that the images are taken from a height of 800 kilometres, that definition is impressive.

The section's work is expected to grow steadily over the coming years. In 2014 and 2015, the RADARSAT Constellation Mission—a group of three satellites working in conjunction with each other—will begin orbiting the earth, and other satellite systems are currently under review for licensing.

The section cooperates regularly with the Canadian Space Agency, the Department of National Defence, Industry Canada and other departments.