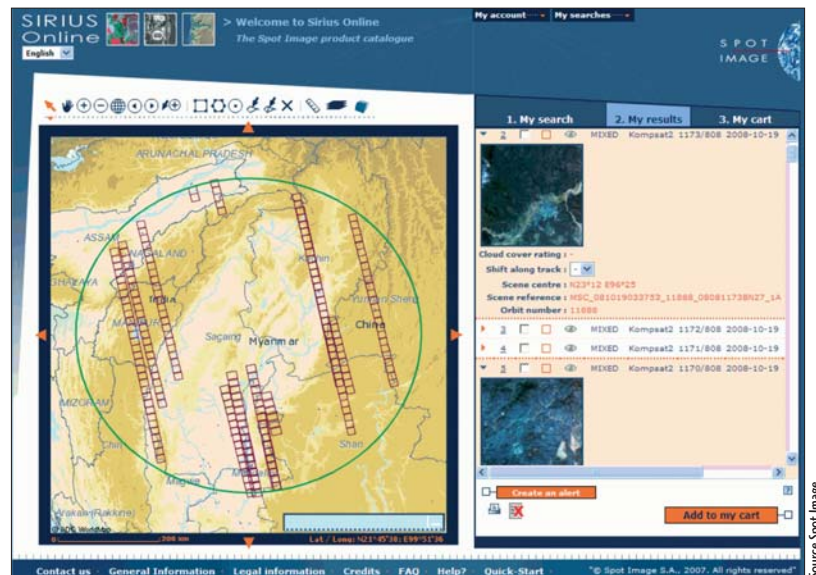


## SPOT IMAGE ON THE ROAD IN BRAZIL

► Spot Image's Brazil office recently organized its second "SPOT Days" in several states with local partners Engemap, Gaiasat, Hiparc and Tecnomapas. Seven events attracted more than 350 participants, showcasing new products, particularly the new SPOTMaps mosaic covering two million sq.km. in the south of Brazil and new services such as sugar cane plantation monitoring, as well as the forthcoming Pleiades satellite constellation. Exhibits focused on applications like environmental monitoring of the Amazon forest, biofuel crop production, cadastral mapping and mineral exploration, which all make extensive use of satellite imagery. Certain customers, for example the environmental agency of the State of Mato Grosso, also took the opportunity to present their projects. With this event's huge success, we can look ahead to the next roadshow in 2009.

## KOMPSAT-2 sets up shop at Spot Image



Source: Spot Image

► KOMPSAT-2 products are now available from the Sirius Online catalogue alongside the SPOT product portfolio. Users can access the global KOMPSAT-2 archive 24/7 and receive updates of newly acquired imagery of their areas of interest.

KOMPSAT-2 is the ideal tool for acquiring 1-metre B&W or colour imagery.

► KOMPSAT-2 data production is now up and running at Spot Image headquarters in Toulouse, France. Designed to bring you a more efficient service, the new production centre captures all imagery acquired by KOMPSAT-2 and received at the station in Svalbard, Norway. Data reception at this northern station shortens the time between image acquisition and catalogue updating to two hours while maintaining maximum tasking flexibility (a work plan is uploaded to the satellite on each orbit). Production at Spot Image in Toulouse enables data to be quickly posted to an FTP site and benefits from the full weight of our experience acquired with SPOT products over more than 20 years.

© Cnes 2006 - Distribution Spot Image



Sugar cane fields in the State of Sao Paulo, Brazil. Subscene of a SPOT 5 image.

## SUGAR CANE PLANTATION MONITORING IN BRAZIL

► Starting in December, a new service co-produced with Infoterra France will give sugar cane distillery managers in the State of Sao Paulo, Brazil, a dedicated Web-based tool for monitoring plantations and optimizing yields for ethanol production.

Subscribers will be able to request products covering approximately 325 sq.km.:

- SPOT 4 or SPOT 5 10-metre orthorectified colour images
- green vegetation density maps and dry vegetation maps

The main advantage of this service to users is the ability to target acquisitions around production facilities, since sugar cane quality is reduced if the crop is transported more than 20 kilometres.

A yearly subscription service will cover the period from the start of December to end April and enable subscribers to visualize available data, consult sales terms and conditions and so on.

Spot Image already envisages extending this service to agro-environmental applications focusing on natural habitat conservation.



© M. Lellouch

## CSTARS selects Spot Image Corp. turnkey solution based on Google Earth Enterprise



### SPECIAL OPERATING SET-UP FOR LIBYAN RECEIVING STATION

► The receiving station operated by the Libyan Center for Remote Sensing and Space Sciences (LCRSSS) is located at two remote sites, at Murzuk in the south and in the capital Tripoli. The 5.4-metre multimission antenna, protected from the sand and intense heat inside an air-conditioned radome, is in Murzuk with the data reception and production facilities, while image-processing facilities are in Tripoli. A very small aperture terminal (VSAT) system enables the two sites to communicate, operating through three antennas in Murzuk, in Tripoli on LCRSSS premises and in France at Astrium in Toulouse. The Toulouse antenna routes operations securely via the Internet between the station and sites in Europe: with Spot Image, to retrieve files from SPOT satellite passes and update the catalogue; with ESA for files from Envisat passes; and with ACS in Italy, where the online catalogue of Envisat data acquired at the Libyan station is located. The VSAT links also allow project subcontractors to perform remote maintenance tasks. The system has successfully completed site acceptance testing and is capable of receiving data from SPOT 2, SPOT 4, SPOT 5 and Envisat's ASAR instrument.

► The Center for Southeastern Tropical Advanced Remote Sensing (CSTARS) at Miami University, Florida, has selected Spot Image Corporation's turnkey decision-support solution for a maritime security project with the US Department of Homeland Security (DHS). The solution consists of a set of services built around the Google Earth Enterprise platform and is designed to make important satellite data available to government agencies in charge of managing traffic at some of the nation's busiest ports.

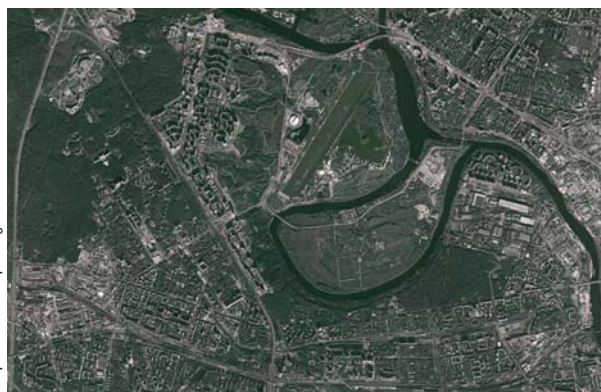
Spot Image became a Google Earth Enterprise Partner early in 2008. CSTARS is the first Spot Image receiving station to install this turnkey Google Earth Enterprise solution. The solution includes Google Earth Enterprise installation and training, delivery of a "SPOT Globe" including SPOTMaps data and aerial imagery within the Google Earth Enterprise environment. It also combines access

and display of real-time information of ships and video feeds of the main ports of New York and New Jersey. In addition, Spot Image Corporation will provide a daily monitoring service of the port of New York using FORMOSAT-2 imagery with visualization in Google Earth Enterprise. Data will be available as both 3D Globe and 2D Maps.

CSTARS is a key partner with the Stevens Institute of Technology and Rutgers University in the DHS Center of Excellence for Maritime Security launched in May 2008 to conduct multidisciplinary research and create innovative training environments to enhance port security and knowledge of the maritime domain.

The Google Earth Enterprise solution will be installed before the end of 2008 on CSTARS' premises, where it will be used with SPOT and SAR imagery received at the station. CSTARS will also use this solution for other US government projects.

### FORMOSAT-2 AND SPOT 5 RECEPTION IN RUSSIA



© Nppo - Distribution Spot Image

Subscene of a FORMOSAT-2 image of Moscow, Russia

► Two Russian receiving stations, in Irkutsk and Moscow, have been receiving FORMOSAT-2 data since August under a virtual data reception agreement enabling the customer ScanEx to significantly increase data volumes while freeing up memory on the satellite. Three of ScanEx's 10 stations that have been receiving SPOT 4 data since 2005 are now also receiving SPOT 5 data since July. These stations in Magadan, Irkutsk and Moscow will be equipped with a new-generation Spot-On terminal by year-end to receive both SPOT 5 and FORMOSAT-2 data.



## PLANET ACTION AT ESRI CONFERENCE IN SAN DIEGO

> The ESRI International User Conference in San Diego in August attracted more than 15,000 attendees. Planet Action was there with an exhibition space in the Conservation Hall to showcase the initiative and a number of projects it is sponsoring. A Planet Action day also gave organizations the opportunity to present field projects supported by Planet Action, for example IMAZON in Brazil, the World Resource Institute (WRI) in Indonesia, Woods Hole Research Center (WHRC) in Alaska and Africa, UNESCO and Orangutan Foundation International (OFI) in Indonesia. Planet Action made a lot of contacts and the conference was a great success, thanks to ESRI's active support.



Source: Spot Image

## IUCN CONGRESS FOCUSES ON NATURE CONSERVATION AND GLOBAL WARMING

> In October, the Congress of the International Union for Conservation of Nature (IUCN) was held in Barcelona, Spain. More than 8,000 delegates from government, the public sector, environmental NGOs, UN agencies and private firms came together to work on the most pressing issues facing conservation, the environment and sustainable development.

Climate change was one of the main issues discussed. For the first time, a report was presented identifying 90 specific biological traits which are believed to make species most susceptible to climate change. It found that 3,438 of the world's 9,856 bird species have at least one out of 11 such traits.

The Planet Action initiative was on show at a number of events, including the French-speaking members' evening and on a stand shared with ESRI and Pro-Natura International (PNI), an organization that is tackling the social, economic and environmental problems that face rural communities in the developing world.

Many contacts were made at the congress with NGOs from all over the world that could potentially use satellite imagery and geoinformation to support their causes.

Closer ties were also forged with potential partner organizations for Planet Action, in education, in innovative information and communication technologies, from the world of finance or simply pursuing philanthropic goals.



Courtesy of Sagax Expeditions



© Nipo 2007 - Distribution Spot Image

## Pax Arctica, Canada

Nunavut, Canadian Arctic

> Sagax Expeditions, in association with Green Cross International and Global Green USA, is leading the three-year Pax Arctica initiative, scheduled to last from summer 2008 to summer 2010. Its latest expedition in July was to the north of the Canadian Arctic Archipelago. Explorers accompanied by Young Ambassadors of the Arctic aged 10 to 17 joined climatologists, geologists, biologists and other members of the science team there to witness the calving of the Ward Hunt Island ice shelf.

The ice shelf is undergoing big changes that are being closely watched:

- On the ground: the expedition was able to approach and study large cracks in the ice, which led to several icebergs breaking away and drifting out to sea.

- By satellite: satellite imagery is being used to regularly monitor glacier cracking, movements and other consequences of ice melt. Planet Action contributed to the project by quickly delivering images acquired at different dates by the Taiwanese FORMOSAT-2 satellite operated by NSPO. Expedition co-leader Luc Hardy said: "On Tuesday, 22 July an international coalition of children witnessed firsthand as a huge chunk of ice was observed drifting off the Ward Hunt Island main ice shelf, forming two 'ice islands' totalling 20 square kilometres. After a four-hour hike in slushy ice, we stumbled upon a major break in the shelf. It was so large that we could not have imagined the crack to be in fact developing before our very eyes. We were essentially the first to witness this dramatic development, which is another threat to the Ward Hunt ice shelf, the largest, oldest and thickest remaining ice shelf in the Arctic."

According to Derek Mueller, a polar scientist at Trent University in Peterborough, Ontario, and the first to report the cracking of the Ward Hunt ice shelf in 2002, what was witnessed is the consequence of gradually warming temperatures, especially in the North.

# A step nearer to Pleiades



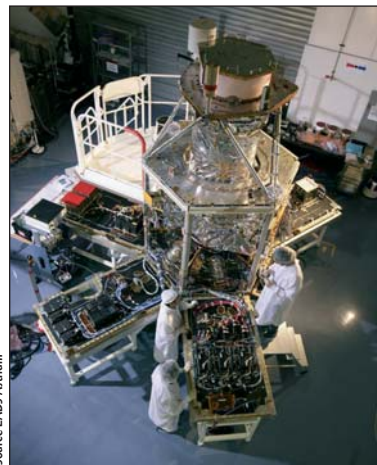
Source: Spot Image

## DIRECT TASKING

> At the October meeting of the Pleiades steering committee, it was decided to initiate actions to support direct tasking. This will require changes to the flight and ground software so that direct tasking requests may be submitted less than one hour before each satellite pass.

This additional satellite programming option will make it easier to:

- task imaging in cloud-free conditions, since it will be possible to adapt to weather parameters a few hours before acquisition;



Source: EADS Astrium

Pleiades undergoing integration

- submit programming requests for new areas of interest at the last minute.

### How direct tasking works

For direct tasking, the receiving station must have a 2-GHz uplink to send commands to the satellite. Here's how it works:

- The station reserves a slot about 48 hours before the satellite pass.
  - On the day of the pass, the station prepares and validates its direct tasking plan and sends it to CNES in Toulouse, France, no later than 40 minutes before the pass.
  - CNES's dual-use Pleiades Programming Centre prepares the satellite work plan accordingly and sends it to the station, which uplinks it to the satellite in the first minutes of the pass.
- All transmissions are fully automatic and protected over a leased line.

## GROUND EQUIPMENT

► The Pleiades civil operating centre currently being integrated at Spot Image's facility in Toulouse will interface with the company's information system. This centre will enable Spot Image to task the PHR satellites to meet customers' requests, receive, process and archive data, generate imagery products and give users access to Pleiades services.

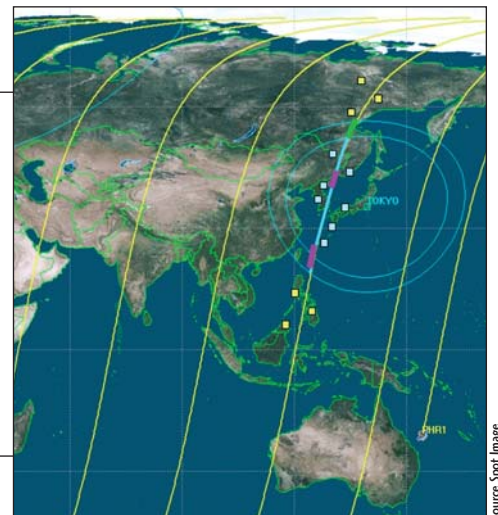
Functional systems developed with oversight from the French space agency CNES as prime contractor are being integrated at Spot Image by a consortium made up of EADS Astrium, CS-SI, Cap Gemini and Thales Services. Site acceptance of the Pleiades centre at Spot Image is scheduled in mid-2009, followed by operational qualification tests leading up to the launch of the first satellite.

The receiving antenna has been up and running since July and Spot Image will be ready to operate the first Pleiades satellite as soon as it reaches orbit in early 2010.

The Pleiades receiving and image-processing station in Kiruna, Sweden, is also readying for the launch. A new ground segment is being installed and site acceptance is scheduled for the second half of 2009.

### DIRECT TASKING SEQUENCE

- Direct tasking slot reserved
- Nominal programming execution
- DT plan uploaded
- Uploaded DT plan executed
- DT imaging
- Telemetry downloaded
- Nominal programming resumed



Source: Spot Image