

SPOT-5 Launched Successfully:

With the First Images Received Three Days Later!

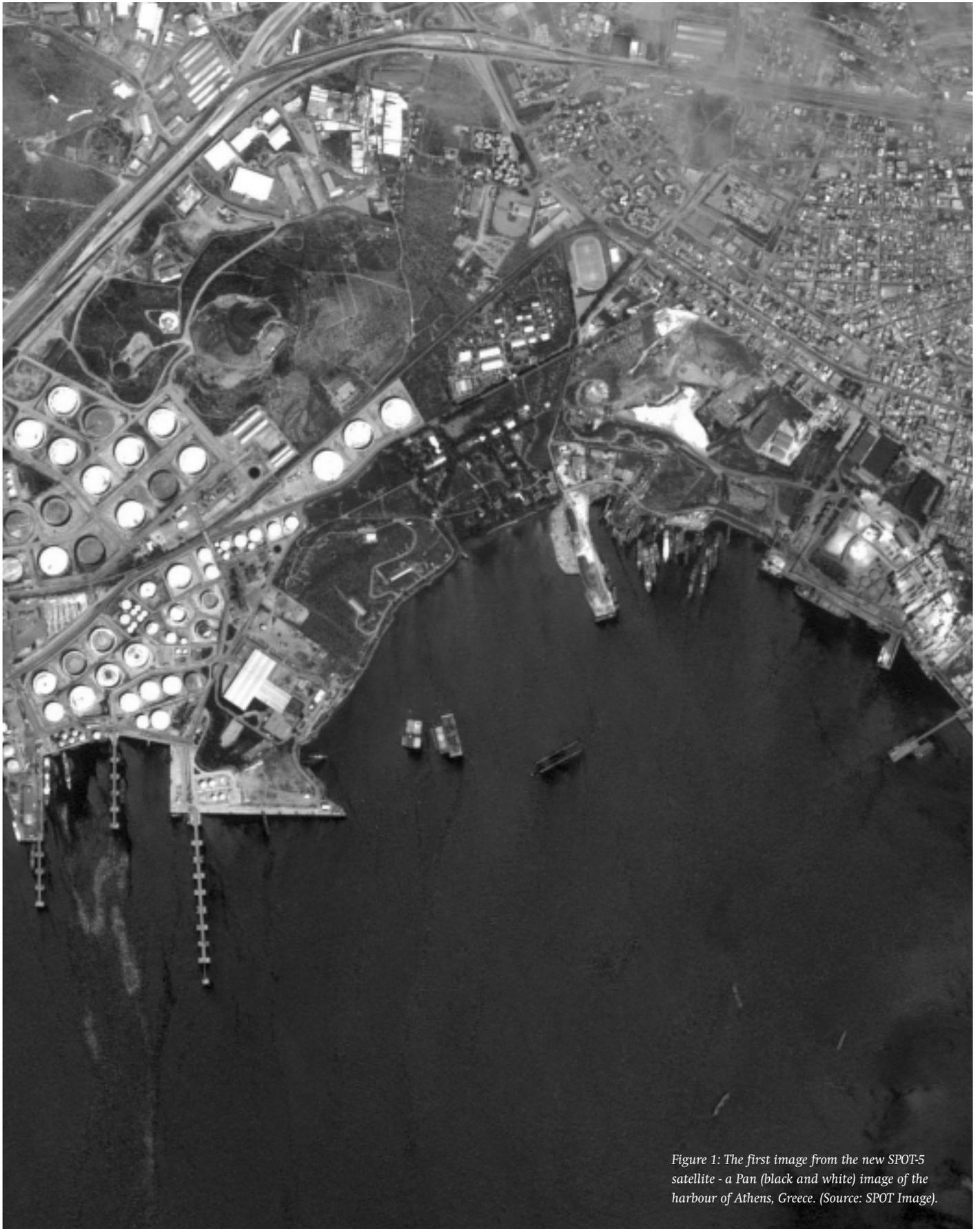


Figure 1: The first image from the new SPOT-5 satellite - a Pan (black and white) image of the harbour of Athens, Greece. (Source: SPOT Image).

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The French SPOT-5 satellite was launched safely by Arianespace from the Kourou Space Centre in French Guyana during the night of 3rd/4th May. The satellite utilized the Ariane-4 rocket for the launch - which marked the 70th consecutive successful launch of an Ariane-4 launcher since 1995. SPOT-5 had arrived in Cayenne, French Guyana on 21st February, 2002 on board an outsized Airbus Beluga freight aircraft, having had a short stop-over in the Cape Verde Islands en-route to Guyana. After its arrival, the full check out of the satellite; the fuelling and tank pressurization of the launcher; the encapsulation of the satellite into its fairing; and the final integration of the satellite with the launcher, all appear to have gone off smoothly and without any undue difficulties. Once successfully launched, the satellite was placed into its correct Sun-synchronous orbit. The satellite was then handed over to CNES, the French Space Agency, which will act as the satellite operator. It then became responsible for the orbit control and satellite operations of SPOT-5. As before, SPOT Image will be the commercial operator of SPOT-5, programming the satellite, processing the imagery that it acquires and distributing the products to customers.

By Prof. Gordon Petrie



First Images

Only three days later, after a very rapid commissioning of the satellite, SPOT-5 obtained its first image over Athens, Greece. This was a Pan (black-and-white) image with its 5m ground pixel size acquired by the satellite's High Resolution Geometry (HRG) pushbroom scanner. This image had been processed by SPOT Image using its enhanced Supermode procedure to produce a final image having a 2.5 to 3m ground pixel size. Since this first image, SPOT Image has released a whole series of other images, including both 2.5m and 5m Pan images of Munich and Stockholm and multi-spectral images of Naples and Stockholm having a 10m ground pixel size. These have twice the resolution (i.e. half the ground pixel size) as compared with the multi-spectral images generated by the earlier SPOT-1 to -4 imagers - while still retaining the same 60km swath width as before.

Future Images

The SPOT-5 satellite also carries the same low-resolution (1 x 1km ground pixel), wide swath (2,200km) Vegetation imager with four spectral bands (blue, green, NIR and SWIR), as has been used on the SPOT-4 satellite - which is still operational. However a major innovation will be the High Resolution Stereo (HRS) pushbroom scanner imager with its along-track stereoscopic capabilities, designed specifically to produce digital elevation models (DEMs) over a 120km wide swath. We look forward with great interest to the results that will be generated by the HRS imager. In particular, it will be very interesting to see how the market will react to SPOT Image's declared intention to only deliver value-added DEM products from the HRS stereo-imager to its customers.

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Figure 2: A multi-spectral, false-colour image of the city and port of Naples, Italy. The image was acquired with a 10m ground pixel size by the newly launched SPOT-5 satellite. (Source: SPOT Image).