

## **New ! Brochure dedicated to the Space market**

In the next decade, more than 100 satellites will be launched every year for various missions: Scientific (Astronomy, Altimetry, Biosphere & Geodesy study,...), Telecommunication (Telephone Television, Data transfer,...), Observation / Remote sensing (Meteorology, Ecology,...), Navigation / Location (GPS), Military (Intelligence).

The challenge lies on the technological evolutions for both launchers (capacity payload increase, re-use, propulsion systems,...) and satellites (duration increase, lightness, performance improvement,...) to satisfy this greediness for Space.

### **A market which will grow by 50% in the coming decade**

While more than 50 countries do make satellites, the launchers market is a very oligopolistic one.

4 big makers overwhelm the market

- **Arianespace**, controlled by the European Space Agency (ESA), which has just celebrated its 30 years. So far they have mainly used Ariane 5 as a launcher, but, in 2010 they also plan to use Soyuz and Vega modules.
- **Sea Launch** (commercial) and **Boeing** (mainly defense) in the USA : Zenit-3SL, Atlas V, Delta II & IV
- **Kruchinev-ILS** , in Russia, with the Proton

These 4 leaders are challenged by 3 'emerging' contenders, who are slashing prices down to attract satellites from all origins :

- **CASC** in China, with its CZ-3
- **ISRO** in India with the GSLV Mk-II
- **JAXA** in Japan (MHI-IHI cooperation) with the H-II

Putting a satellite into space is costly and technically challenging, with plenty that can go wrong. Replacement values can be in excess of \$300m and failed launches, problems with deployment or mechanical failure or with power systems can lead to the total or partial loss of the satellite. And once in space there is no possible maintenance. Therefore the 'Emerging 3' need to establish they are flight proven.

Several other countries, including Korea, Brazil, Pakistan, Romania, Taiwan, Indonesia, Kazakhstan, Australia, Malaysia and Turkey, are at various stages of development of their own small-scale launcher capabilities.

If we add to this satellite and launchers markets – not affected by the current business downturn – the fact that many modules (engines, fuel tanks, casings, etc) are subcontracted, there are hundreds of companies involved in this technology, creating a potential for all Aubert & Duval sales network.

## **Aubert & Duval has a unique position**

Aubert & Duval has been deeply involved in the Space Industry for more than 20 years, mainly with European countries (Ariane 4 & 5 and a few satellite programs) but also with India (PSLV/GSLV) by providing – amongst others - domes, structural parts and long products.

We now need to extend our presence to other countries, like Russia, USA, China, Japan and Korea - but not only. Remote countries with protected economies, different cultures and in a rather confidential market will make the challenge even more ambitious but, nevertheless, more interesting for Aubert & Duval !

A detailed market survey is underway, for which your contribution is expected. This should result in promotion actions at the makers of interest.

The Space brochure has been specifically designed to introduce Aubert & Duval as a current and reliable actor of the Space Industry and to present its products and validated expertise. This in order to develop our sales for existing but also for new products.

You will find, attached, a .pdf version of the brochure, for your own use only. Customers' copies can be ordered at the following e-mail address [documentation-ad@eramet-aubertduval.com](mailto:documentation-ad@eramet-aubertduval.com).

Magali CHAMBEYRON

