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## INFOS ECO

### The High Alps and the secure communicating solutions: the ascent in power

Ideally placed at the junction between two world poles of competitiveness, that of Secure Communicating Solutions (microelectronics and telecommunications) in the Provence Alpes Côte d'Azur region, and Minalogic Grenoble-Isère (nanotechnologies and components) in the Rhone-Alps region, since two years the High Alps has assumed a particular position in the development of innovative communicating solutions, notably by co-organizing and hosting the OCOVA Forum. This dynamic is based on three complementary initiatives: ASTEP, a unique tool of research on the characterization of components taking advantage of particular geographic characteristics of the High Alpine territory, OCOVA, a place of exchange and a hub conceived to stimulate business relations between the actors, in particular the small and medium sized firms of the sector, characterized by a very high level of technological innovation and a strong international presence, and finally the Centre of Evaluation of the Innovative Communicating Solutions dedicated to the evaluation of the acceptance and the use of innovative communicating solutions by the users.

#### **ASTEP : the strategic importance of testing silicon nanometre components in altitude**

The decrease of the size of microelectronic components towards nanometre dimensions encounters an obstacle that has only been revealed recently. The quantity of electric charges used in the logical functioning of nanometre sized integrated circuits is so weak (near to the femtocoulomb) that when the natural atmospheric rays strike the ground (produced by the activity of the sun, or coming from the cosmos) they generate several dozens of femtocoulombs in the volume of the silicon and can perturb the electric functioning of the sophisticated systems.

We encounter these systems in different critical operations such as bank transactions, routing telephone communications in the exchange centres, the follow-up and assistance of medical patients, the control of the transport vehicles (motorcars, trains, planes), etc. ... The consequences of such disturbances can be the death of a patient, a transport accident, an error of routing of a large number of messages, a financial fiasco ...



Consequently, it is necessary to better study, understand and master these phenomena. That is the objective of the " ASTEP characterization platform ", of these components implemented on the "Pic de Bure" mountain (Dévoluy), which will enable testing components and electronic systems more quickly (ten times faster than at sea level) because the density of brilliance increases with the height. This acceleration of the test is indispensable to be competitive on the market (" time to market "). This characterization platform will make it possible to validate the technologies, the components and the systems in relation to the aggressions of the natural environment and to study counter action at all the evoked levels.

Two experiments are scheduled between now and the end of the year 2005, one on components produced in Europe by ST MICROELECTRONICS, the other one on a system conceived and made in the United States. This platform will support the characterization of the projects developed within the SCS Pole of Competitiveness, which will be particularly sensitive to these effects because they correspond to weak consumption portable objects.

#### **Ocova: a forum and a business to business platform**

The OCOVA (Communicating Objects and Valuation) Forum is held every year in September in Gap. Organized jointly by ARCSIS, Mediterranean Technologies, High Alps Development, Micropolis (the technopole of the town of Gap) and the Secure Communicating Solutions pole, this event gathers together the actors of the field of secure communicating solutions to review the technological innovations and the evolution of the applications in order to favour the development of market opportunities and valorise this field of activity by exchanging and diffusing information and increasing contacts between the various actors.



*J.-P. Gloton, Laurent Roux, Henri Boccia à OCOVA*

The 2005 edition of OCOVA took place on September 22nd of this year, under the leadership of Pierre Vollaire, in the presence of the State Minister of regional development, Christian ESTROSI. The participants, stemming largely from the PACA and Rhone-Alps regions and representing the whole chain of activities discussed the development of the secure communicating solutions applied to everyday life. We noted in particular the presence of the major manufacturers of microelectronics and communications (Amadeus, Atmel, Gemplus, France Telecom R&D, IBM, Philips, Schneider Electric, STMicroelectronics), laboratories and public/private joint platforms of research and development (CEA-Leti, CIM PACA, CMP Gardanne, CNRS L2MP, the SCS pole, Minalogic), the most innovative small and medium sized firms of the sector (ABC SMARTCARD, ARD, ASK, Europe Technologies, I2E, Inside Contactless, Innovacard, MicroBE, ONE-RF, Ski Date, Silios, SPS, Tagsys...), telecommunication operators (Bouygues Telecom, France Telecom), the majors of the transport, tourism and monetary sectors (CONNEX, Rémy Loisirs, BMS/Monéo, Mastercard), capital riskers and financial assistance bodies for innovation (Innovacom, OSEO-ANVAR), structures of support for the development of the field (ARCSIS, DRIRE, Mediterranean Technologies), as well as representatives of the consular chambers and start-up incubators.

The OCOVA Forum also represents the opportunity for opening to international horizons thanks to the participation by video conference of the leading actors (MIT Medialab in the USA - a vision of the applications of the future, Octopus Ltd. in Hong-Kong - the greatest range known today of contactless solutions linking transport, electronic purses, access to the services and public services and premises with 8 million transactions per day). The Internet site <http://www.ocova.com>, tool of communication for the forum and the place of meetings and exchanges of opportunities between actors, evolves towards a business to business platform to prolong the debates, facilitate the development of alliances and contacts between actors, and generate a real turnover while offering a shop window of the regional competence accessible to all the large account users.

### **An Evaluation Centre of the Innovative Communicating Solutions**

In continuation of the works of OCOVA, benefiting from its privileged situation in the High Alps between the SCS and Minalogic poles as well as from the presence of companies and experts implicated in communicating solutions, the information and monetary technologies, a centre of evaluation of the innovative communicating solutions has set up. It will gather together research laboratories, manufacturers and user accounts on experimental projects of significant but limited scale (Gap, 40 000 inhabitants - the High Alps, 110 000 inhabitants) to test the conditions of application, acceptance by the users and implementation of such innovative solutions.

The centre supplies the necessary stage of validation study between the research works on new uses and on the innovations in components and integrated systems, which enable the development of an adapted solution on the one hand, and their diffusion to conquer new markets on the other hand. It therefore integrates the approach of the poles of competitiveness and is obviously complementary to the other initiatives such as CIM PACA, the works of the CEA-Leti or the CNRT Telius.

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