1st International Space Forum
"Space Science and Academia for Global Challenges"
Trento, Monday 24 October 2016

Dear Minister Giannini,

Dear President Rossi (Trento province),

Dear Professor Collini (University of Trento),

Dear Colleagues of the IAF and IAA,

Dear Colleagues and friends, ladies and gentlemen,

Introduction

It is a privilege to be here with you today to provide the statement for France on space science and academia as fundamental pillars in response to the increasing challenges facing our environment and societies.

We've all been witnessing or contributing to new endeavours, disruptive ideas and game-changing initiatives in the last few years, and indeed, the world of space has evolved at a dazzling pace. It is an exciting era to live in: we've seen space applications becoming tools of our daily lives, private initiatives becoming self-sustaining economic realities and scientific discoveries pushing the boundaries of knowledge ever further.

But there would be no space activities without strong government support, notably for science and education: space is a difficult and complex technological domain that requires high levels of expertise, based on excellent science, technology, engineering and mathematics (STEM) education. In return, space can offer a unique showcase to get young people interested in science: the Rosetta mission to comet Churyumov-Gerasimenko, for instance, received enormous attention from the general public. We need to promote these kinds of exceptional results, involvement and effective communication to engage more students in STEM education.

First pillar: climate change as an immediate challenge concerning all

Space-based sensors are helping us to understand the complex Earth system, and climate change is the most critical aspect of the living nature of our planet and its impacts on our societies. The IPCC report revealing the acceleration of climate change would not have had the same precision or impact without the long record of data accumulated by a range of satellites over more than 40 years. Out of the 50 essential climate variables being monitored today, 26 can only be measured from space. Space and monitoring of climate change are deeply intertwined. This is the reason why the Heads of space agencies met first in Mexico City in 2015, then in New Delhi this year and are going to meet again in Marrakesh on 11 November, during the COP22, to coordinate and pursue their efforts to step up space's contribution to our understanding of and response to climate change.

Second pillar: cross-cutting technologies for Big Data, link to the GAFAs

It must be said that space-based sensors can only provide terabytes of data; to understand and use them, we need more science and scientists, not only in Earth sciences, but also in signal processing and data management. Exploiting these enormous amounts of data, as for the European GAIA mission charting a three-dimensional map of our Galaxy, calls for Big Data technologies: some, like Facebook, use them to manage data for a billion users; we use them to exploit data from a billion stars!

Third pillar: attractiveness of an international, global approach

All these initiatives can only be effective in attracting students to STEM disciplines if they are both local and global. National efforts must continue and a more long-term international effort will be needed. Next month, the first High Level Forum towards UNISPACE +50, organized jointly by the United Nations Office for Outer Space Affairs and the United Arab Emirates, will provide an excellent opportunity to think at a global scale. The space community will have a first forum to provide guidance and recommendations, which will shape and position space activities as drivers for innovation, socio-economic development and diplomacy.

Space is increasingly part of our lives and of the future of our planet. Its impact on sustainable development as a whole, the development of the use of NBIC (Nanotechnologies, Biotechnologies, Information technology and Cognitive science) technologies and an international approach are precious and attractive assets for the new generations that we should build on.

Thank you for your attention.