DEBATE

Thierry de MONTBRIAL, Founder and Chairman of the WPC

I will take three questions of people who have not spoken yet; Minister Jankowitsch, Marcelo Sanchez Sorondo and Michel Foucher.

Peter JANKOWITSCH, Member of the Directorate of the Austro-French Centre for Rapprochement in Europe. Former Federal Minister of Foreign Affairs, Austria

The wonderful work that Mr Le Gall described with the rapid change of technology and science has one serious shortcoming. There has been no similar development of an international regulatory framework to canalise and to protect all the progress we have made in outer space. The Outer Space Treaty of 1967 is now 50 years old. It has never been adapted to present conditions. It talks about the time when there was only the Soviet Union and United States in space. There is no talk about the role of space actors. The most serious shortcomings are that there are no regulations of the militarisation of space, except the prohibition of weapons of mass destruction.

We have an enormous problem of space traffic management. More and more satellites are now going into space. There is no space traffic management. There is an even more serious problem talking about climate change. There is also a pollution problem in space and space debris. There is so far virtually no international regulation of that. I think there are threats over this wonderful world that has just been described. I think the international community has a lot to do correct these shortcomings.

Marcelo SANCHEZ SORONDO, Chancellor, Pontifical Academy of Sciences and Pontifical Academy of Social Sciences

My compliments on your speech. My question is somewhat related. What are the criteria, the rules to determine the property of space, as it is not land? Do you have any ideas to solve this important problem?

Michel FOUCHER, Chair of applied Geopolitics at College of World Studies (FMSH-ENS), former Director of the policy planning staff of the French Foreign Ministry

Une question liée à mon ignorance - j'espère que vous la pardonnerez - est-ce qu'on ne peut pas imaginer une première mission sur Mars avec des robots plutôt que des hommes, à moins que l'aventure soit aussi humaine que technologique ?

Laurence NARDON, Head of the Ifri program on North America, former Visiting Fellow at the Center for Strategic and International Studies (CSIS) in Washington

Dans ce projet martien que vous nous décrivez - on connaît bien les coopérations anciennes du CNES avec les autres pays européens et avec les États-Unis - y a-t-il d'autres pays impliqués comme l'Inde, la Chine, d'autres partenaires habituels du CNES ? Merci.

Mayankote Kelath NARAYANAN, Former Governor of West Bengal, The Raj Bhavan, Former Senior Advisor and National Security Advisor to the Prime Minister of India

I must congratulate you on a very illuminating talk. In my previous capacity as a national security advisor, I had a lot to do with the Indian Space programme. Is it possible to give us an idea about the collaboration that is taking place between different space agencies in the exploration of space? I know we have our Mars mission but particularly between Indian Space Research Organisation (ISRO) and the CNES there has been a lot of association but is it possible to give us a bigger picture of what is going on?

Jean-Yves LE GALL, President of the Centre National d'Etudes Spatiales (CNES), President of the International Astronautical Federation (IAF), co-Chair of the Council of the European Space Agency

Very quickly, on the regulation of space, of course there are some pieces of regulation already in place. We are continuing to permanently adapt these regulations, according to technological developments. This is why it is important to have a discussion about space in front of such a distinguished audience. I think it is important to exchange ideas.

The second question was about robots on Mars. We already have robots on Mars. We already have many robots on Mars, sent mainly by the US. It is not that easy to land on Mars, but we do have rovers and we have French instruments on these rovers.

The idea is to send humans because humans can do things that robots cannot. For example, on the Moon, the last Apollo mission, Apollo 17, was probably the most fruitful because one astronaut was the geologist Harrison Schmidt. He took exactly the right rocks he had to take. All his colleagues did different things.

About the Mars mission and cooperation, it is clear in my view that the three keywords for space are innovation, inspiration and cooperation. We need young people to have a real space programme and you need to have excellent engineers because space really is on the cutting edge of technology. We need excellent engineers, so the second keyword is inspiration. The third keyword, however, is probably the most important: cooperation.

Today, we have the International Space Station, which is a partnership of all the international space powers on the planet, except China and India. We have cooperation with India and China. I am sure the mission to Mars will probably be the ultimate mission. For that we will have to associate all the space powers of the International Space Station, plus very certainly China and India.

Thierry de MONTBRIAL, Founder and Chairman of the WPC

Quand on commence à parler de l'espace, on a envie de continuer parce qu'encore une fois cela fait rêver.

However, I think there is no doubt that space activities and human space activities will play a major role in the next decade if only because humanity needs adventure. This is probably one of the most exciting sources of adventure and also technological progress with totally unforeseeable applications. For example, for people even like me who have studied general relativity three or four decades ago. When we were taught fields like that we could not have had the slightest idea that even general relativity would have concrete implications. It was thought to be only a theory to understand cosmology and these sorts of subjects. Today, GPS would not work without general relativity behind it.

Thank you very much, Jean-Yves.