

Climate of change for ESA

The Director General of the European Space Agency talks to *Spaceflight* Editor, Clive Simpson

Jean-Jacques Dordain is a man with a mission. Now a year into his four year tenure as the director general of the European Space Agency (ESA) he is in a buoyant and optimistic mood as I am ushered into his Paris office on a sunny, early summer morning.

Dordain joined ESA at a watershed time for the agency – a time that will see unprecedented changes in the coming years as ESA enhances and broadens its role and responsibilities for driving forward space technology on the 'old continent', as well as taking up the mantle of inspiring the young people of today.

By his own admission, Dordain is a big fan of space. "I am a true product of the space age," says the man who entered high school at the time of Sputnik and graduated to the voices of men walking on the Moon. "I am trying to use my experience in the best way possible – space should not be a closed world," he said.

"The future of space is bright and the importance and influence of space activities will continue to grow. But this is a period of transition and my objective is to put space at the service of the citizens, scientists and young people of Europe."

Dordain believes that space is now less of an exclusive field for top flight specialists because success has developed a dependency within society at large on space systems of many different kinds.

"This means the space sector, and all those who work within it, have a new responsibility," he says. "Now we are working for the real world and we are at the beginning of a significant re-shaping of ESA. Importantly, we must identify the problems first and then find solutions, rather than the other way round as may have been the



Jean-Jacques Dordain, now into his second year as ESA Director General.

tendency until now. This is a change in ESA culture.

"We also have to make ESA more efficient in terms of management. It is already a very, very good organisation. But in the future a significant part will be to carefully assess the risks we are taking in developing new missions – at the same time as remembering there is no progress without risk.

ESA's role in education has also taken a much higher profile in recent years and Dordain admits that he is "scared" by the fact that interest in science is declining in most developed countries.

Dordain said that "inspiration" would always be the key to unlocking the future. "Space can contribute to restoring the interest in science and technology amongst our young people that has been lost in almost every country."

"In 20 years from now this could really become a bottleneck and ESA cannot wait until then – we have to address this problem as soon as possible. Tomorrow's engineers are still at school and, although ESA does not have a formal responsibility, we can certainly provide space-related tools to educators in Europe that could contribute to reviving the attractiveness of science and engineering.

"Every schoolgirl and boy is interested in space – astronauts, rockets and satellites, parabolic flights, everything – and we have to make sure that we provide a knowledge base so that we do not find ourselves without a skilled workforce two decades from now."

Much has been reported recently about the possibility of Russia becoming a member of ESA and Dordain admitted that he was disappointed that much of the focus had been on the legal aspects of such a union – namely whether Russia could become an 'associate' or 'full' ESA member.

"I am much more interested in the context of our relationship. Russia is a neighbour with a fantastic space capability. One of our priorities is to see how we can cooperate with Russia more," he said.

"The best way would be to have Russia sitting round the table on the ESA council. I certainly want to see us develop our relationship with Russia in as many different fields as possible. I would like to build up cooperation."

In Agenda 2007 (Dordain's four year plan on the future of ESA, issued last September) he proposes that Russia becomes an Associate Member of ESA. "There is so much potential in all areas of spaceflight and technology and its high time for us to have a closer relationship with them.

"A concrete example of that cooperation could be launching Soyuz from Kourou – but I personally think we need to go beyond mere cooperation and work together on an institutional basis."

The Space Shuttle Columbia tragedy of February 2003 and subsequent delays to completion of the International Space Station (ISS) has thrown up a number of issues for ESA and, according to Dordain, led to a re-thinking of strategy for future such cooperative projects.

"The nature of our cooperation on the ISS has been one of dependence – the launch of the Columbus laboratory, for example, relies on the Space Shuttle," he said. "We have no intention of not being a good partner – but we are taking on board the lessons learnt to make sure that in the future any cooperation for ESA in a worldwide programme would be designed in such a way that our contribution is not fully dependent on what happens to our partners.

"It has been a very useful lesson and we certainly don't want to get stuck again because



Artistic interpretation of ESA's future exploration programme.

ESA

one of our partners has a major problem.”

Dordain also sees cooperation possibilities with the emerging space power – China. “They have an impressive space capability and at the same time are a good customer for space infrastructure,” he said.

“In a country of that size and with such a population, huge economic growth and little ground infrastructure, there is certainly high potential demand. We definitely cannot ignore them and although cooperation might be more difficult than with our long-standing partners the USA and Russia, I do see possibilities, certainly within the Scientific Programme.”

Cooperation is certainly a buzz word in today's corridors of space power and nowhere is this more apparent than with ESA's increasing links with the European Union (EU). Although ESA is an independent agency and not part of the EU there are growing ties between the two organisations.

“At the moment we have the paradoxical situation in the space sector that the requirement for space systems is going up while the public budget declines,” Dordain explained.

“The demand for systems is increasing and the European Union is enlarging its borders as well as widening its scope in the security domain. On the other hand, public budgets dedicated to space are decreasing and space industry is in a crisis with its capability decreasing by around 30 percent.

“There is a clear discrepancy between increasing demand and decreasing supply and we have to close that gap. This largely

depends on the relationship between ESA and the EU, and a key objective here is to increase resources for space and reconcile the supply with demand. Our respective roles are clear – the EU is in charge of demand while ESA provides the solutions.”

A Framework Agreement between ESA and the European Commission was adopted by ESA's Council on 12 November 2003, after the EU Council had adopted it on 20 October. It was formally signed on 25 November and provides an institutional framework to work on new programmes.

“Increasing resources dedicated to space implies that we have to reinforce Europe's industrial capability and size it according to the demand but unfortunately space is only a small element in a much wider context, comprising aeronautics and the defence sector, and restructuring is not driven only by space,” said Dordain.

“ESA has to make sure that future restructuring will not destroy capabilities that are necessary for developing and operating space systems, and we have to ensure that industry is able to respond to the existing demands.”

According to Dordain, the question is not whether a planned increase in activities is realistic, but what is demanded. “I think 30 percent is the right order of magnitude and we need to take the increase step-by-step because more solutions mean more industrial capability and more competences, and we cannot increase these in one day.

“I believe such an increase is realistic in

technical terms. As far as the budget is concerned, it really corresponds to the perceived demand.”

The issue of European manned spaceflight and the possible involvement in future missions to the Moon and Mars is more tricky. Delays to the launch of ESA's Columbus laboratory to the ISS – now unlikely before the autumn of 2006 at the earliest – have left European astronauts with few real flight opportunities.

Dordain admits that at present Europe is dependent on either US and Russian flights which means human spaceflight “cannot be our number one priority”.

“Because we have a lot to do to respond to the demands on Earth, I am doubtful that we can become independent of our partners soon. This does not mean, however, we will stop activities – on the contrary, I am convinced that human spaceflight is still at a very early stage and that we will never stop exploring.”

Dordain is indeed a man who knows where he is going. His enthusiasm to go on talking about the tasks to hand and the challenges that lie ahead for ESA is tempered only by an efficient PA who limits our time together to a strict slot in a busy schedule.

I am whisked out of the office with handshakes and smiles – and can't help thinking that Dordain was a shrewd and significant choice as the man to head up Europe's space programme at such a crucial time.

Thanks to Franco Bonacina and ESA headquarters staff for coordinating the interview with Mr Dordain.