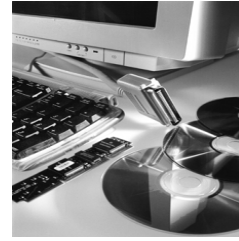
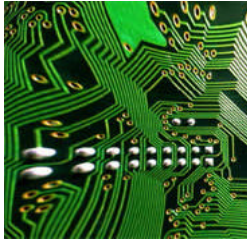


# BRAINS AT WORK

Cutting edge technology from Portugal



**Interview with  
Prof. Jorge Braga de Macedo  
President of I ICT  
Tropical Research Institute of Portugal  
19. 10. 2006**

**Vegamedia:**

**The minister of Science, Technology and Higher Education is a core ingredient in making the Technology Plan a reality. Several of the entities are already on a global level in science and technology and now through the MIT cooperation contract with re-organization of the national institute it will be reinforced. The science world in Portugal is changing.**

**How do you evaluate the importance of the Technology Plan, of the cooperation contracts and the restructuring of the national institutes for the science landscape in Portugal?**

**Prof. Jorge Braga de Macedo:**

I think the important point is that this Government and the previous Government have understood that Portugal must be in the map somehow, both in terms of its financial reputation and with credit on terms that are no longer those prevailing in emerging markets but rather those in the mature economies of the Eurozone. And this convergence process would not be completed, and would likely be reversed, if it was not coupled with complementary, broad based, reforms that improve productivity in a sustained manner.

This whole process has begun in the early 90's, it was interrupted shortly after entering in the Eurozone, in this time the reforms stopped and now this Government and the President of Republic are cooperating to create a reform momentum once again. That is very good news especially because positioning campaigns without underlying innovation and changes in the way it is appropriated by society are great for advertisement agencies but they do not really change anything.

The Technology Plan is one instrument of this strategy which can not be implemented in a top-down way. The Lisbon Agenda which of course launched innovation policy across the European Union was initially very top-down but it has changed after a failed midterm review. Member States are now more responsible. One of the instruments of this strategy is to improve productivity in State Laboratories. We are talking about three very different levels. Now there are conditions for what I could call strategic cooperation between the head of State and the Government. And this was not the case fifteen years ago, when the deep mistrust between the President of Republic and the Prime-Minister derailed reforms. How does this affect the position of the Technology Plan? Well, there are many things that the Government can do but companies must start innovating themselves. I mean it is not public research that is missing in Europe, it is private research. We need results and we need a momentum and that is where the companies come in. State Labs therefore cannot exist in a private research vacuum – they require great cooperation between the end users and the companies. This is our specificity. Whether we agree with the manner in which this is presented or not, the reform of State Labs will happen in Portugal, as it has happened in other European countries.

**Vegamedia:**

**How do you evaluate the restructuring of the State Laboratories in terms of speed of change and in terms of the choice of the scientific disciplines or the Observatories? Do you agree with that or do you have a quite different opinion?**

**Prof. Jorge Braga de Macedo:**

I have a very high regard for the team of evaluation. It is important to know that they work on two different processes at the same time, one was to find out what were the resources that were being used by the State Lab and the other one was an evaluation of the State Laboratory system that was done by a group of international scientists and led by the same man who did the evaluation ten years ago, so he could see exactly what changed. It is a very good idea. I knew the Minister wanted to do it and he wanted to do it specially for IICT, because IICT did miserably in the previous evaluation, they said it was a dead institution, with old people, uninteresting. Now we passed with flying colors, so we must be doing something right.

However the evaluation was discussed only two months ago and the new statutes are far from being completed, public administration reform is proceeding slowly because of vested interests. So we can not evaluate the evaluation yet. But what I can tell you, and this is very easy to check through our website, is that we really went through the motions! Management has been saying for over one year that the evaluation is coming and that it concerns the entire staff, not just representatives elected by the researchers. This year, we had two staff meetings. I'm told the previous staff meeting was in the aftermath of the 1974 revolution! This initiative allowed management to reach out to everybody, we are talking about more than 200 people, whereas previously meetings only involved researchers or managers. And I took the chance. The first general meeting was about the new forms of evaluating the staff and the second one about the international evaluation. Both meetings are described in our website. They were so successful that we may actually have a third one this year.

Another aspect also makes our institute different from the others in the system of State Labs: the statute is explicit about internal and external bodies whereas right before I took office the Scientific Council ruled the institute almost single handedly. It is not of course an executive body, that is the Presidency (myself and a vice-president) and two Committees which include managers drawn from research and other staff. In addition, there are two external boards, a Steering Committee and a Monitoring Unit with representatives of users, Ministries, International Organizations and private bodies. The two boards have met together as the difference between them suggests they should: the former tells us what to do in the future, the latter checks whether we did it or not.

We are the only State Lab where external boards are functioning. Of course if these were useless this would be a disadvantage for us, but so far their contribution has been very important. In particular, after a few get acquainted meetings, in May the two bodies together recommended that our work plan be devoted to the Community of Portuguese Speaking Countries - which is known as CPLP. And that makes us unique again because first we have a very special link with the Minister of Foreign Affairs, he is the one who oversees the CPLP and second it makes us accountable beyond Portuguese borders. In other words, we remain a Portuguese State Lab but we are no longer working on Portugal. This was one of the conclusions of the evaluation that I welcomed the most.

At the level of the institute we are finding exactly what happens when there is innovation, there are gainers of course but there are also losers, and we like to think that there are more winners than losers, including people who think that they are going to lose because the changes threaten their vested interests. There are people who still equate change with turmoil and say: "great you innovate - but start the revolution without me!". There is a lot of this especially with the older researchers. So a great part of my management time, unfortunately, has been spent saying "this is not an option for the future, this is going to happen earlier than you think". It is true for all State Labs, it is true for Universities and it is true for public administration as a whole.

Why is it harder in a State Lab? Because not everybody is able to change their ways and we can not be very hard on people but equally we can not let them be and wait for their retirement. We have that problem especially for the researchers who are not working on tropical issues of interest to the Portuguese speaking science community. In this regard, Portugal accepted an obligation in 2003 at a CPLP Ministerial to make the scientific collections of IICT available to researchers from Portuguese speaking countries. This is another reason why we are purely tropical, and not domestically oriented: we want to open up to all other members of CPLP, including Brazil and Angola - countries used to have everybody at their doorstep. We need to convince them that we mean business and this is the culture that I am trying to bring to the institute. I have had more success with the younger researchers that accept, for example, not to have assistants or secretaries doing "administrative" tasks for them, but this is of course a slow and difficult process.

If it does not change, the current system of the State Lab may hinder innovation by the companies because they get the money and then that is used to pay bills to people who are not so innovative and the companies do not innovate. So I come back to the Lisbon Agenda, which is got to be done by those who actually do the innovation and the

investment. And the State Labs must help and they need to be in a position to help. That is why I am trying to do. It takes a lot of work and very little pay because people still say: "Why are you telling me to change everything?, Could we not go on like before?"

**Vegamedia:**

**How is your rate your involvement in the business tissue and your capability to cooperate with companies?**

**Prof. Jorge Braga de Macedo:**

That is one of the things I was most keen on doing. We have two, three, maybe even more business type entities sitting on our boards. We have the Association of Portuguese Companies that are export oriented, that is called ELO and they are very keen on showing that the companies that export to risky markets should not be forgotten with, what they call sometimes an obsession with Europe. We have UCCLA in our monitoring unit which is the Union of Capital Cities of Portuguese Language (including Macau, China) and that is an organization that is now led by a former Wall Street banker who is trying to make it into a facilitator for the access of the large Portuguese speaking cities to international financing. The conclusion of a study IICT published with ELO is that the money is there. You just need to know how to grab it, so it is knowledge. And that is exactly what we can provide. We have done a lot of presentations of this material, claiming that it is incomprehensible that medium and large Portuguese companies do not take more advantage of that money.

For example, right now we are in conversations with the African Development Bank. We showed them this book and we may do projects with them, as indeed with the European Commission (which is represented in our monitoring unit). We do not have a procedure to see if whether, as a result of the book, more companies get access to international financing. But it is not a problem of money. It is a problem of being able to carry out a project, exactly what UCCLA wants to do for member cities.

This morning I was at the Portuguese Development Agency to comment on a publication along the same lines done by the OECD and the interest there was how we explain to the business community what those Portuguese speaking economies are. In my comment, I quoted from one of our publications figures drawing on previous editions of the OECD report to present a comparison of governance and corruption indicators in fragile states. This is not new but the presentation for the 8 CPLP countries comparing, benchmarks, as the OECD does, that is new. And that is what we do for the private sector.

**Vegamedia:**

**Beyond CPLP, what are your cooperation with other institutes in tropical science and how do you rate your research work compared with others?**

**Prof. Jorge Braga de Macedo:**

We are part since the foundation of the European Consortium for Agricultural Research in the Tropics – ECART. This includes similar institutes from Britain, Netherlands, Italy and France. We are also part of the CGIAR, Consultative Group for International Agricultural Research due to IICT reputation in this area.

This institute was founded in 1883 when we were a monarchy. Our king Charles established the Cartography Commission to promote the production of maps and look up the soil of overseas territories. So there is this tradition which is of course important. What have I done in this regard is to place our tropical research squarely under the Millennium Development Goals umbrella, as called for by the external boards. The Goals are an aggregator. They make it easy to access whether the research is relevant for the global agenda or not. And that of course it goes beyond the CPLP.

We are very small comparing to other institutes and especially to our French equivalent in ECART, the *Institut de Recherche pour le Développement*, which is ten times larger. We are already so inter-disciplinary that I sometimes say that in tropical research we do "everything but health"! On the other hand, we are the only State Lab having historians!

I already mentioned the so called *Portuguese Initiative* taken in 2003 by CPLP in connection with IICT historical archives and scientific collections. Well it has a bearing on common history of CPLP countries and not just before the independence of Brazil. Some of these countries have been divided from Portugal due to the Colonial War but CPLP is

based on “mutual friendship”. Like the French and the Germans, who are completing the ambitious project of having a history that looks at both sides together.

I would like to see if we can have a **lusophone** history with counterpart institutes in CPLP. For the moment it is just a blog at IICT. That is something where I think where we are rather unique. Other institutes in Europe understand the role of history, of memory, of conservation, of preservation. And even though this is new in our institute, just like the Millennium Development Goals are new, I believe they are catalysts for innovation and for greater network with institutions all over the world. Even the history of Macau is difficult to write, because there are different sensitivities from the Portuguese and Chinese cultures. That is how I see our uniqueness.

**Vegamedia:**

**You have mentioned the inter-disciplinarity. Looking at the list we see research programs in natural resource, environment, earth science, sustainable agriculture, history and cartography, tropical society and cultures. Can you clarify for the readers what would be the main focus?**

**Prof. Jorge Braga de Macedo:**

Part of this is the “accordion principle”: you compact some of the programs and you divide others. When I arrived there were 23 research centers at 26 addresses, one of which I had been appointed director of upon my return from the US.

During twenty years I did my work in economics, with the World Bank and other research institutions and the Institute was like a galaxy far away. There were three researchers and a few other staff in that center, and it was not the smallest in IICT – by any means.

So the first thing I did was extinguish those centers including of course the one I used to run. I became directly responsible for the inter-disciplinary program on global development that took its place. This may be one of our strong areas because we do support adjustment programs, social impact, the tropical society program is now merged with the global development. We are helping the Millennium Development Goals to be achieved in the target countries, which are essentially the five lusophone countries in Africa and Timor and we hope to do this in an association with Brazil. That is a very important area but it can not be done for all the objectives. And it is essentially Goal number one which is increasing agriculture productivity to fight hunger and Goal number eight which is creating a global partnership for development.

In this regard we have some areas of excellence: diseases of tropical plants, especially coffee, botanical collections, a certification for tropical wood products, the maps of the soils etc. The difficult part is that there are a lot of heritage collections that are not yet accessible through a catalogue. And so either you have been there all your life or it did not exist. And that has been an area where I think we have improved a lot in the last few years. As the evaluators said we have a lot younger people around. So I think scientific collections represent an area where our uniqueness will be appreciated in the future.

**Vegamedia:**

**What are the links established with the US and with what other entities would you be interested in collaborating?**

**Prof. Jorge Braga de Macedo:**

I lived in the US for ten years, I taught in the US and I am invited in connection with my own economic research several times a year. This allows me to do networking for the institute. It is not easy to get academic interest in area studies. In a certain way, we have a lot of collaboration with various US institutions but in my field, the kind of work I do that is interesting in the US has to be comparative, it can not be a single country or group of countries. But the US is home to several important international organizations with which I have a lot of familiarity, I have consulted with them in the past and I am going to Washington later this year for the annual meeting of CGIAR.

In terms of US companies, I think the Business Council of CPLP and something that we are doing with Macau and the Forum for China and CPLP collaboration can be of interest to the US, especially to the Chambers of Commerce. I have to say that with respect to the US, it is more the fact that I was trained there, that I taught there, that I lived long time there with my family that makes the difference more than the specificity of the institute.

But we have a lot outside Europe, beginning with Brazil, a key player in CPLP. I think we see the interest of the US as coming more in specific instances for example, in Angola or Mozambique, I think there is a lot of interest at the moment. Indeed, one reason why I am so happy to talk with you is precisely because I was aware that "Business Week" is an international magazine with strong readership in the US.

So the idea for me is that the Portuguese technology emphasis in innovative culture is not purely European plus the southern countries but but rather should involve cooperation with the US. This is very good it is not something where we can expect to see immediate results. At the moment say more would be wishful thinking.

**Vegamedia:**

**Let us look a little bit into the future. What are your visions and plans for IICT? We heard of the doubling of the R&D budget, we heard of the restructuring of the national institutes, of the national laboratories. Where do you see IICT on a mid-term level?**

**Prof. Jorge Braga de Macedo:**

We have three indicators that we are using.

The first one is we want to double the percentage of externally funding research. At the moment it is 16%. In 2010 we want to be close to 40%. It is something that it is a little bit ambitious but it is not too wild. We cannot count on the State budget to pay the salaries.

The second one is that only two thirds of the time spent by all the staff is on science and technology activities. And we want to push that to three fourths. That is going to be tough, because researchers want assistants, and that does not happen in a private company. There is a cultural change involved but it has to be a priority objective.

And finally: the publications in refereed journals. The publications from the staff are ok, they are not embarrassing but we want to double the number of publications per researcher per year. They are about 1.5 and we want to make them 3 in 2010. These things take time. This is true in all labs.

The governance of these State Labs, the governance of the Universities, the governance of the research departments of large firms, this is where the problem lies. If the State, by throwing money, or giving ideas, or creating partnerships with MIT and others, can change that, then innovation will be self-sustained. If not, it will not. Given the governance scheme that is in place, defensive behavior is rational. People are very dedicated to their research. But they have acquired positions of influence through simply seating on a escalator for so many years. A culture of innovation can not spread through authority alone but there can be no accountability without authority either.

**Vegamedia:**

**As a final question, what would be a direct message to the readers of "Business Week", to the technology specialists as well as to the investors?**

**Prof. Jorge Braga de Macedo:**

My direct message is that Portugal is in a unique position to have a change that has an impact beyond its small size. And I would use two very simple arguments to reinforce this point.

First, within the European Union it is a new comer but it has done well, it has been at the forefront of all changes. The fact is we have ideas, we are in the Eurozone, we are a Schengen border, so this has been good. This external pressure has been good for us. And when it stopped, it has been bad. Reforms must come back and that has been very well understood by the companies, by the investors, certainly by the people that read your magazine.

I think there is another dimension that at the moment is a little bit hidden. And it is a riskier, almost contrarian strategy for Portugal, involving Portuguese speaking countries, a market that is large but dispersed geographically, so that a platform offers enormous potential but also requires tropical knowledge. The Portuguese companies are shy but if you establish a company here you can have advantages penetrating this market, especially in knowledge-intensive goods, services and tasks.

Then this is an area where the intermediate nature of Portugal development can be an asset. And what led me to take this job is that I think it is through knowledge that you can do that. Deals are important and money is there but you need knowledge, business friendly knowledge and we have business friendly knowledge for lusophone countries. Of course we are small. But we are not alone. It is no accident that this is happening in Portugal, that the CPLP is established here. I would say to US investors: this is a European country but it can reach out through technology, through human resources, through risk taking in a much greater way that is generally assumed. This is like the risk I taking with this job!

**Vegamedia:**

**Thank you very much for this interview.**