

Leading Europe:

PORTUGAL Goes Global

What is the secret to running a successful presidency of the European Union? It is incomparable to leading the United States, for example, as a host nation does not hold complete power over other member states. For Prime Minister José Socrates, who presided over Portugal's recent EU presidency, it was essential to have three main priorities well established: the reform of the European Union Treaty (known as the Treaty of Lisbon); modernization of the European economy and society; and reinforcement of Europe's role in the world.

The first was likely the most important issue, as the European Union's competitiveness, confidence, and, to a certain extent, credibility depended on a reform that would finally be ratified by all member states. Signed on December 13, 2007, at a summit in Lisbon and due to come into force in 2009, the treaty will carry out the reforms previously proposed in the rejected European Constitution. In fact, the Union's future hinged on the treaty's acceptance, paving the way for Europe's modernization as a whole. "I have always considered and I continue to consider the European project as one of the most critical and generous projects of our time," commented Prime Minister Socrates at a presentation of the agenda in June last year. "Not only do the Europeans need a stronger Europe—it is the world that needs a Europe with a more present voice."

Solving the internal, institutional problems cleared the way for Europe to become a global political partner, a goal naturally befitting Portugal's experience. During its six-month term, Portugal hosted a series of important meetings with Brazilian, Russian, Chinese, Indian, and African delegates, forwarding relations between their countries and the EU. "Portugal was always ahead of others when we talk about connecting with foreign countries. It's part of our history," says Prime Minister Socrates. "One of our goals is to make Europe stronger in world relationships, with the richest countries in the world. We will be stronger if we work our links



Jose Socrates
Portugal's Prime Minister

with Africa, too." Socrates does however attest that there are topics in the political agenda between the two continents that simply cannot be solved without dialogue, including migration, environmental, and development issues.

For the country's private sector, the presidency marked "a moment of affirmation of Portugal's international prestige," as Socrates puts it. The political success "creates the will in our companies to compete in the global economy." To this end, the Economy Ministry set out a program called the "Plano Tecnológico." As Minister of Foreign Affairs Luis Amado explains, its initial aim is to deal with the root challenges of public administration at state level. "We are too dependent on a deep culture of state protection, bureaucracy, lack of entrepreneurship, and individualism, so we have to restructure the negative factors first and stimulate new dynamics at economical, social, and cultural levels."

The mobilization program revolves around three key words: knowledge, technology, and innovation. According to Finance Minister Fernando Teixeira dos Santos, applying them to an ambitious redesign of the educational system will foster a new culture of competitiveness. "We need to implement and appropriate social policy and basic needs for the future, boosting areas in which we can become more competitive. This is also the logic of the Lisbon agenda." It is through these efforts that the government aims to achieve the internationalization of Portugal's economy—not only by opening up to external markets and investors, but also by promoting a significant increase of Portuguese investments abroad. In doing so, Prime Minister Socrates says Portugal is becoming "the face of Europe," looking out onto the world from its welcoming Atlantic coastline. ■

A GLOBAL FACILITATOR:

New Presidency, New Priorities Pushing Forward the Treaty of Lisbon

Making international relations the main theme of its EU presidency was a natural choice for Portugal. Besides its historic ties stretching across the globe, the country's agenda for improved EU-African and EU-Brazilian ties was a prime necessity in an increasingly competitive, as well as environmentally and humanitarianism-challenged, world. "Portugal was a pioneer in the globalization movement. In the middle of the 17th century, the country anchored the destiny of Europe," comments Foreign Affairs Minister Luis Amado, referring to the country's seafaring traders who created outposts from South America all the way to Asia. With two Portuguese leaders at Europe's helm last year—Prime Minister Jose Socrates and incumbent European Commission President Jose Manuel Durao Barroso—Portugal pushed the Treaty of Lisbon agenda to highlight the EU's opportunities and responsibilities at home and abroad.

"This treaty brings two fundamental things to Europe," explains Socrates. "The first is more efficiency in decision making. Decisions will no longer be taken,



Socrates & Barroso at EU Portugal 2007 summit

in its majority, by consensus; these are more difficult now that the EU has twenty-seven members. Instead, they will be taken by a qualified majority. The second positive point is that there are institutional conditions to proceed with more active external policies." To Socrates, the treaty's signing is a strong indicator to the world that "Europe is on top." ■

Building Bridges to the BRICs, Africa on the Agenda

The greatest effect of globalization is the shifting of the world's wealth centers. Former developing countries are rapidly becoming richer through their use of natural resources, labor forces, and industrialization. An essay published by Goldman Sachs identified the core leaders in this category as Brazil, Russia, India, and China, and subsequently coined the term BRICs. Europe soon realized the vital necessity of building bridges with these emerging economic powers. Portugal saw an opportunity to utilize its historic and cultural ties with Brazil to bolster a strategic partnership with the EU.

Key issues of the EU-Africa summit included security, development, human rights—especially in Sudan and Zimbabwe—and migration. With over one million migrants per year, Europe is the primary destination for migrants worldwide. The EU is also concerned about growing Chinese investment in Africa displacing Europe as the continent's largest commercial partner, with trade totaling \$315.2 billion in 2006. However, Af-

rican nations were unwilling to replace expiring trade accords with Economic Partnership Agreements.

Miguel Monjardino, professor of political studies at the Catholic University of Portugal, says that the summit might not have changed policies, but it was instrumental in engaging seventy EU and African leaders in dialogue. "European leaders have to move forward. Let's forget colonialism and let's look at the future. As an African leader, once you turn the page on Africa, you have to accept that many political regimes have to go." Monjardino predicts the United States will seek EU assistance in dealing with missions of a military nature in Africa, to which "Portugal can make a contribution," as a member of NATO. "We have quite a good relationship with the U.S.," says Rui Machete of the Luso-American Development Foundation, an independent institution that promotes educational and business cooperation between the two nations. "We are trying to be a good bridge to connect them." ■

Portugal reactivates historic ties

Portuguese Companies Go Global

Portugal has been going global for centuries. Enjoying a heyday in the 18th century, when it invested in overseas interests and developments, Portugal's powerful colonial empire gradually waned until the monarchy's deposition in 1910 resulted in civil war, a military coup, and a right-wing dictatorship. But as Antonio Borges, Vice President of Goldman Sachs explains, it was in fact during this latter period that a revival took place. "The dictatorship actually introduced a lot of discipline in financial terms and oriented the economy towards the outside, towards exports, and that was very positive." Thanks to these exports, Borges says Portugal in the 1960s became one of the fastest growing economies in the world. However, the strict economic regime left little room for entrepreneurship, and that dependency on the government is something that has somehow lasted to the present day. But with EU membership came opportunity and competition. "We now have the human capital, entrepreneurial initiative, and an open economy to throw us forward."

One example of entrepreneurial prowess is Espirito Santo Resources, the non-financial investments hold-

ing of the Espirito Santo Group. In the past ten years it has seen its projects in Portugal, Brazil, Paraguay, Angola, and Congo-Brazzaville transform from small tourism ventures into real estate, civil construction, public works, and mining projects. "When we started to invest internationally we wanted to diversify the risks; that was one of our main reasons to invest," says Manuel Fernando Espirito Santo Silva. "We invested in areas more linked with necessities, transportation, and airlines." Through ESCOM, the company is the largest private investor in Angola. Espirito Santo Tourism is now in a position to increase its turnover by 14 percent until 2010, reaching almost \$975 million, and reinvesting in a unique, large-scale tourism village in Comporta, one hour from Lisbon. "We want to create a place where visitors from abroad can interact with local people, to help farmers create new biological products." According to lawyer and businessman Paulo Teixeira Pinto it is companies like these that will "create a culture of success," setting real examples for new generations. "Take risks, make decisions. Don't be afraid about challenging reality." ■

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ESCOM
Espirito Santo Group
Esg 7 Duarte Pacheco Pereira
Tower 1 Floor 12th
Phone: +351 213 815 130
Fax: 351 213 815 149
geral@escom.pt

ESCOM ANGOLA
Café de Pimenta Avenida 5 de Outubro
Nr 81 - 3rd floor 2
Phone: 00 244 222 390 506
222 390 579; 222 390 526;
222 390 579; 222 390 402;
Fax: 00 244 222 391 819
geral_@escom.co.ao

ESCOM Angola
geral_@escom.co.ao

ESCOM Mozambique
info@escom.mz

ESCOM Congo
info@escom.cd

ESCOM Africa de Sul
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Cementing Portugal's Global Footprint

The solid backbone of every economy is development, and development goes hand in hand with construction. Meshed into the fabric of modern life, therefore, is cement. Casting its imprint in the industry is CIMPOR: Cimentos de Portugal. With a leading presence in over 15 countries, CIMPOR has become one of the major world players in building materials, a market that is not without its challenges.

"When you look at a commodity like cement, you have to carefully balance the areas where you operate according to the level of development in those areas," says CIMPOR Chairman Ricardo Bayao Horta. "On the other hand, you have a very important limitation to the production in Europe, and that is the emission of CO₂. 44 percent of cement's basic raw material, limestone, is CO₂, or 660 kilograms per ton. So the strategy is North Africa, because it is the nearest backing, provided you have good training and logistics." In the long term, Horta says it is CIMPOR's intention to produce CO₂-free cement. "That is in fifteen, twenty years."

Most recently CIMPOR focused on China, which produces roughly half of the world's cement. With the Beijing 2008 Olympic Games and the Shanghai Expo 2010 coming up, it was a logical market for CIMPOR to approach. "We made an agreement with the Shanghai government and invested in China, with Chinese partners, of course. Without them you do not move. The prices are low and the margins lower, but the revenues are huge." Horta expects CIMPOR will be producing 50 million tons of cement by 2011.

According to AICEP Business Development Agency, Portuguese investment abroad is growing by 64 percent—or more than 2.3 billion euros. AICEP's president, Basilio Horta, says that besides facilitating large-scale foreign investments in Portugal, its focus now is on diversifying the export market, as 80 percent is intra-European, mainly to Spain. "We are going to open a new office in the United States," says Horta. "We have already opened a new office in Singapore and two in New Delhi and Bombay." ■



Our soundness is in your life

Creating a Trans-Atlantic Knowledge Network

Innovation may be a fashionable word in globalizing countries, but Portugal had already shifted the concept into a practical network even before the government's Plano Tecnológico initiative was drafted. During the early 1990s, just after the first steps were made in setting up the Internet in Portugal, Portuguese universities requested FCCN, a national private institution, to connect all academic and research centers in Portugal via a computing network based on Internet protocols. Recognizing the importance and increased use of the network known as RCTS, the government, the Ministry of Technology and Higher Education, and the Foundation for Science and Technology (FCT) decided to boost the funding allocated to FCCN, and full migration to a greater bandwidth followed in 1997. "8,000 schools are connected to our network," says Professor Pedro Veiga, President of FCCN, which also implemented an immense online library of 16,500 scientific journals. Nowadays the network connects knowledge centers in the country's major cities with fiber optic broadband cables as well as video conferencing and a virtual-campus project. "We have one of the world's largest coverage of campuses using a wireless network," tells Veiga.

In 2005, the Plano Tecnológico was introduced to bring the rest of Portugal's society up to speed with knowledge and technology, or as the strategy's director, Professor Carlos Zorrinho, puts it, "connecting the daily lives of people to innovation." This meant changing a nation's attitude towards ICT, and so Prime Minister Socrates' government set an example by bringing many public services online. This included improvements as part of the SIMPLEX program, which, for example, greatly eased procedures in order for companies to be created online in one hour, pre-filing of income tax declarations, a citizen and employment portal, as well as the 21st Century Police Station project and a system for making hospital appointments online. The strategy has already produced positive results. "We have very interesting signs of change in many sectors—the export



MIT Portugal Program: Minister Gago signs agreement with MIT's Chancellor Phillip Clay in October 2006

of technology, the creation of employment in services, and people using the Internet more frequently," reports Zorrinho.

The government also committed to a doubling of public investment in research and development (R&D). "For the first time, Portugal's public budget for R&D exceeded 1 percent of GDP in 2008," says Mariano Gago, Minister of Science, Technology and Higher Education. To promote the transfer of knowledge and stimulate internationalization, Gago forged partnerships between Portuguese universities and MIT, Carnegie Mellon, and Harvard Medical School, among others. "Public funding should be consistently allocated to research in a way that can foster the knowledge infrastructure of an information society." ■

A graphic with a blue background and light streaks. At the top is the FCCN logo in yellow. Below it, the text reads: "Fundação para a Computação Científica Nacional" and "Foundation for National Scientific Computing". Further down, it says "600 km of owned optical fiber" and "Public schools connected since 1997". At the bottom, it states "DELIVERING ADVANCED COMMUNICATIONS SERVICES TO THE PORTUGUESE RESEARCH AND EDUCATION COMMUNITY" and the website "www.fccn.pt".

PARTNERS IN POWER

Energy Companies Spark New Ties Abroad

The energy you put into making a country competitive is often reflected in the energy that comes out of it. It has to be sustainable, accessible, and most importantly nowadays, renewable. Kickstarting an economy begins with energy, and for this reason it is a key element of the Ministry of Economy and Innovation's portfolio. Minister Manuel Pinho admits that Portugal's innovation indicators might still be below EU average, but it is leapfrogging in the energy sector,



Renewable Energies in Motion:
Portugal aims to increase power generation by renewable energy by 45% until 2010

even achieving the second-highest growth rate of investments in wind parks.

"I believe we can take major steps at a European level," says Pinho. After the success of the single monetary market, he now sees the need for Europe to create an internal energy market. This would involve setting targets for the adoption and use of renewable energy within Europe, a field in which Portugal is well ahead. "We have already approved a policy that 35 percent of electricity in Portugal should stem from renewable sources by 2015. This is much more ambitious than the European target." In March 2007, EU leaders agreed that 20 percent of the bloc's energy be produced

from renewable fuels by 2020. Currently it stands at 7 percent.

The energy sector is instrumental in increasing Portugal's competitiveness, be it as a way to reduce overall energy costs, as a way to protect the environment in the face of climate change, or as a way to further modernize the technology used by influential economic agents and businesses.

The real difference can only be made by major energy companies. EDP Group, the third-largest operator in the Iberian Peninsula and the largest Portuguese industrial group, set up Nuevas Energias de Occidente (NEO) in 2005 to produce and operate its renewable energy and electricity production projects. NEO's goal is to achieve an installed capacity of 3,700 MW of electricity by the end of 2010 with a 2 billion (\$3 billion) investment by EDP in wind energy projects. In July 2007 EDP also acquired 100 percent of Horizon Wind Energy LLC, a leading U.S. wind power generation company. The expansion is necessary for EDP as Portugal's government is intent on reducing the country's dependency on natural gas, a core activity of the company. "Energy is the sector that will probably have the most influence on how countries will progress and how people's lives will be shaken," predicts EDP's CEO, Antonio Mexia. "Portugal is particularly relevant in the sense that we depend much more than anybody else in Europe on importing energy. We need to increase our own resources and efficiency." Mexia adds that the huge investments in renewable energy will give EDP bargaining power in years to come in the many markets where it operates, including France, Italy, and Brazil. "I believe that the next years will prove that renewables are the right bet, and we are very well adapted to this new world."

Business expansion into global markets is shared equally by Portugal's leading integrated oil and natural gas company, Galp Energia. It was formed in 1999 following the restructuring of the country's

energy sector, integrating the businesses of Petrogal and Gas de Portugal (GDP). Already maintaining a strong and growing presence in Spain, Galp Energia is actively exploring opportunities in countries with linguistic and cultural connections, such as Brazil, Angola, and Venezuela. "Particularly in the supply business we are playing at a global scale," comments Manuel Ferreira de Oliveira, CEO of Galp Energia. "We operate in totally open markets and if our horizons are what they are it's because we are able to serve customers in a competitive manner."

Even though the company is looking into renewable energy, de Oliveira says traditional business segments still show plentiful opportunities for growth. Exploration and production of gas, Portugal's two refineries, and distribution of its products through 1,060 service stations are at the core of its success. Galp Energia is even entering the field of gas-to-power through the planned construction of two plants at the port of Sines with a total capacity of 800 MW. From there it will be able to enter into the electricity-supply business, distributing to industrial and residential customers. In addition, the company is signing new partnership contracts for exploration and production "almost every day," most recently with PDVSA of Venezuela, in which Galp Energia stands to acquire almost 2 billion cubic meters of liquefied natural gas per year. "We buy and sell approximately fifteen to sixteen million tons of oil products and six billion cubic meters of natural gas with a revenue of close to \$19 billion, which for a small country is quite a lot," says de Oliveira.

Adaptability is, however, an invaluable asset in the energy sector, and even companies outside the sector are picking up on the potential posed by renewable energy. The main division of Portugal's Martifer Group is construction, but its Energy Equipments division has become the holding company's fastest-growing area since it started operations in 2004. Last year, Martifer joined Galp Energia in a consortium that won a government tender to develop a 400-MW wind park in Portugal. "We want to take advantage of the opportunities created by the Tokyo Treaty," reveals Martifer's Carlos Martins. "The demand for cleaner electricity together with a favorable political and economic climate makes electricity generation from renewable resources a business area that is both sustainable and profitable." ■

Do you know this Company?



galp energia



WINDS OF CHANGE

Portugal Goes Green

The countries of the European Union are currently the global leaders in the development and application of renewable energy. Promoting the use of renewable energy sources is important both for the reduction of the EU's dependence on foreign energy imports and for meeting targets to combat global warming. Most members of the EU are however yet to come on track to achieve the Kyoto Protocol objectives.

For Portugal, and many other countries, the only way to effectively reduce the emission of atmospheric pollutants is through the development of a unified energy and environmental consciousness. As a result, the government's National Energy Strategy is not only committed to securing energy efficiency, but fervently stimulates and favors sector competition as a way to promote consumer protection as well as competitiveness and responsibility among companies. Portugal's limited fossil fuel resources, and therefore its dependency on oil importation and price hikes, may on the other hand make its transition to renewable energy sources an easier choice. With over 1,000 miles of coastline facing the Atlantic Ocean, the country has abundant wind, waves, and sunshine at its disposal to make a viable switch.

In 2006, the world's largest solar power plant began operating at Moura in Portugal's sunny south, while the world's first commercial wave-power farm opened in the Norte region. In 2007, aeolian parks contributed to satisfy 21 percent of electricity de-

mand in days of higher electric consumption. Of each hour of electricity consumed by Portugal's 10 million citizens, five minutes had their origin in wind farms. In the field of biofuels, a goal is set for 10 percent of land-based vehicle use, anticipating the ten-year EU objective. The first biofuel refinery is being built in Sines by GreenCyber, one of the first Portuguese companies specialized in this field, at an estimated cost of \$85 million. A further \$29 million will be used for the purchase of raw materials from Brazil, Mozambique, and Angola.

Galp Energia has made an equally big step into the biofuels market, having recently signed a partnership with Brazil's Petrobras and invested \$300 million on the production of second generation biofuel. "I think that strategically we are ahead of most European companies," boasts Galp's CEO, Manuel Ferreira de Oliveira. "We are at the frontier of technology, we know the markets are willing to work and invest."

Antonio Sa da Costa of the Association for Renewable Energy (APREN) says the wind sector is so well subscribed to in Portugal that demand for equipment has already outstripped supply. "Nowadays we can't go faster in the development of wind farms—not because of licensing, but because there are no machines available." But ENEOP, the consortium licensed to generate 1200 MW of new wind capacity from 28 wind farms throughout the country, is using its global reach, through stakeholders EDP and Endesa, to meet the target by 2010. One of the most



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important projects in Portugal of the last decade, it is expected to create 1,800 direct jobs and 5,500 indirectly, with exports reaching \$290 million per year.

Wind and Wave Portfolio

The government's supportive regime for renewables in Portugal has created a real buzz globally for the future prospects of the sector. Not surprisingly, major international investment and asset management groups have started to make bold steps in funding such projects, adding wind and wave power to their portfolios. In 2005, Australian-listed Babcock & Brown bought Portugal's Enersis, one of the largest and most successful integrated renewable energy companies in Europe. Through the acquisition, Babcock & Brown now has approximately 3,000 megawatts of aggregate wind energy capacity under development in Europe, the United States, and Australia.

Enersis, with the capital clout of its parent company, now wants to build out its experience in the field by going to sea, creating wave-power farms with up to 500 MW of generating capacity. The concept of wave power is in essence very simple. Originally conceived by Scottish professor Stephen Salter in 1973, the system works by placing floating power generators off the coast that use wave motion to produce electricity by pumping high-pressure fluids to on-shore motors. A first phase of three Pelamis P-750 wave-power generators produced by an Enersis-headed consortium would generate 2.25 MW of electricity, enough to supply 1,500 Portuguese homes. The same amount of energy produced in a conventional fossil fuel plant would emit 6,000 tons of harmful carbon dioxide. "We think that Portugal has the opportunity to do with wave power what Denmark did with wind," says Ian Sharpe, senior executive at Babcock & Brown, referring to the potential of becoming the world's leading manufacturer of wave-generation systems. "The main difference between renewable energies and non-renewable energies is that they exist everywhere. They are not like oil in the Middle East or Nigeria. What we are doing is taking one or two steps ahead by looking to the sea. Portugal has a great history and tradition developing its economy on the back of the sea." ■

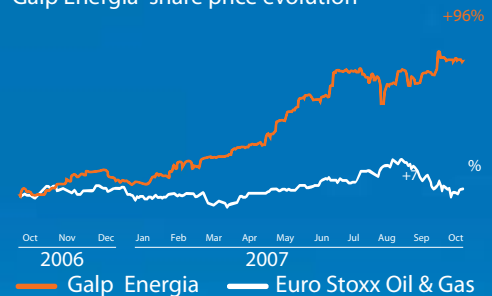
Well, you should.

Galp Energia is Portugal's leading operator in oil products and natural gas markets. On top of its leadership of the Portuguese market, Galp Energia operates also in Spain, Cape Verde, Mozambique, Guinea-Bissau, Angola and Brazil. Galp Energia's operations cover primarily three business segments: Exploration & Production, Refining & Marketing and Gas & Power. Exploration & Production is responsible for supervising and carrying out all activities related to the exploration, appraisal, evaluation, development and production of crude oil and natural gas. Our upstream portfolio consists of interests in five blocks in Angola, 54 blocks in Brazil, seven blocks in Portugal, five blocks in East Timor and one in Mozambique. As of 31 December 2006, our net entitlement share of proved and probable reserves corresponded to 50.4 million barrels of oil. Refining & Marketing includes all procurement, refining, logistics and marketing activities. Galp Energia's refining apparatus consists of the Sines and Oporto refineries, which ensure a total distillation capacity of 15.2 million tonnes per year. This business segment also includes all of our retail and wholesale marketing of refined petroleum products, including LPG activities, and manages most of the Portuguese oil storage and transportation facilities. As of 31 December 2006, we had an Iberian retail network of 1,045 service stations and 204 convenience stores.

Gas & Power is responsible for sourcing, commercialisation and distribution of natural gas and power generation. In the natural gas business Galp Energia sells the natural gas it buys under longterm supply contracts of 5.7 billion cubic meters from Algeria and Nigeria. In addition, the Company has a stake in natural gas distribution through its equity holdings in five local distribution companies and four autonomous natural gas distributors. In the power business electric and thermal energy are generated to supply large industrial customers. Galp Energia currently owns equity participations in three cogeneration plants with a total installed capacity of 80 MW. On 23 October 2006, Galp Energia completed the initial public offering of 23% of its shares, which started trading on that date on Euronext Lisbon. Galp Energia's market capitalization increased from 4.8 billion euros as of 23 October 2006 to 9.5 billion euros on 23 October 2007, representing an increase of 96%.

Find out more at www.galpennergia.com

Galp Energia share price evolution



MAKING IT HAPPEN:

"Innovation is made by taking small steps." Sergio Parreira de Campos should know. As President of Edisoft, de Campos has seen his company gradually grow from provider of local military software solutions to creator of internationally revered Aerospace systems integrations. "Progress is a sum of all those small daily steps." His company belongs to the promising elite of enterprises that ventured beyond its horizons to become a model of applied innovation in technology, an area in which Portugal is now gaining global recognition. It is joined in this league by companies such as Chipidea Microelectronica, user and interface technology provider YDreams, and NASA partner Critical Software.

Over the past twelve years, the Portuguese private sector has mobilized its priorities towards cutting edge technologies. According to the Ministry of Science, Technology, and Higher Education,

the business share of the gross expenditure on research and development grew 71 percent from 1995 to 2005. "It is estimated that it has exceeded \$700 million from 2006 onwards," says Minister Mariano Gago. The investments are clearly start-

"Innovation is about knowledge, creativity, the capacity to put in place an idea, and to develop something that can support that idea."

Gonçalo Quadros,
CEO of Critical Software

ing to pay off. As Plano Tecnológico Director Carlos Zorrinho observes, the technological solutions forwarded by Portuguese companies add a higher commercialization value to their research. "Portugal has great opportunities in information technologies, especially in the integration sector. We

Brave New Binary World

Since time immemorial, space has always enchanted humans. From the ancient Egyptian architects of pyramids to Christopher Columbus' maiden voyage across the Atlantic and Neil Armstrong's first small step on the moon, stars and planets have guided mankind into historic developments and discoveries. However many unknowns and mysteries space holds, the answers have always come in the same format: numbers. Since mathematics are universal, they can be applied anywhere in the cosmos.

The great advantage of software is its binary foundation. It only requires man's imagination and insight to engage it for far-reaching projects. Hence when Portuguese software company Edisoft was given the oppor-

tunity to apply its expertise in defense systems towards discovering a brave new world outside our atmosphere, the decision was far from cosmic. "We have a persistent attitude of challenging the things we haven't achieved yet," reveals company President Sergio Parreira de Campos of Edisoft's ethos. Celebrating its 20th anniversary this year, Edisoft's competitive and qualitative experience has been gained by the devoted work of its engineers. "Innovation is a daily process," says Campos, "and progress is a sum of all those small daily steps."

Having started out by producing command and control systems for naval defense ships, Edisoft realized its technologies could be applied horizontally to other systems, including

civilian uses. "We look at technologies we control and try to find different applications." This mentality led the company to become highly involved in space systems. "We started to specialize ourselves in the area of navigation by satellite. Edisoft is one of the European companies with the most experience in this area." Besides its involvement in Galileo, Europe's answer to the American GPS navigation system, Edisoft is a major project partner of the European Space Agency (ESA) and the European Meteorological Agency (EUMETSAT). In recognition of its expertise, the European Commission recently awarded Edisoft the development of the entire Emergency and Civil Protection System for the European Union.

By spending more than 10 percent of its sales on research and development, the company has been able to venture even further into space. Not only is it observing earth as part of the SANARIS Satellite Network for Natural Risks Monitoring, but is also collaborating with scientists of the University of Porto on ExoMars, a project to study the subsoil of the red planet. As of the first quarter of 2008, Edisoft's satellite station in the Azores will also be partnering with NASA. As such Edisoft has been growing 30 percent per year, and is now transforming into a holding company. "We know in which direction we must go because we have the know-how," says Campos. "We grow, we stabilize, and we consolidate." Clearly, the sky is no longer a limit.



Portugal Innovates through Technology

may not have the dimension or investigation basis to become great creators in terms of fundamental science, but we are very good problem solvers. Nowadays, many Portuguese companies have entered the international market with products that were integrated with technologies from China, the United States, Finland, England, and France."

But Portugal is also a laboratory for adopting new technologies at home. Its conviction and ambition has attracted major electronics companies such as Apple, Nokia, and Siemens. The trick has been to facilitate the interaction between research and the private sector in specially developed science and technology centers such as Taguspark in the greater Lisbon area. Americo Thomati, president of managing company Tagusparque S.A., says its mission is to create a platform where universities, engineers, and enterprises can communicate by offering attractive conditions for companies

to establish themselves in the park. In turn, affiliated universities and researchers then gain access to financial support needed to develop their ideas. "Sometimes academics have a strange relationship with money, so it takes more practical people to make this synergy happen. That is what we are trying to do here in Taguspark." Currently Thomati is engaged in a project with Professor Carlos Zorrinho to create a specialized biotechnology sector on the park's 300-acre grounds. This way, Taguspark is becoming a true "incubator of ideas" for future products ranging from next generation mobile phones to cancer detection systems.

"I hope that Portugal stays in the group of innovation and creativity," says Zorrinho. "Then it can help Africa or Asia gain access to those technologies, so that the divisions between continents can be smaller. We are a platform country, a network country." ■

Critical Software CEO: "Open up knowledge"

"In order to become more effective in innovation," says Gonçalo Quadros, CEO of Critical Software, "the most important idea is to share knowledge." The fast growing company was quick to apply its vision and expertise to multiple engineering sectors, from mass-market network solutions (Critical Links' EdgeBox) to aeronautics systems. To date it has secured 70 percent of its business overseas with acclaimed clients, including NASA and IBM. "Technology is evolving at a fast pace. Open standards and open technologies are playing a huge role so we have to move further and open issues related to Intellectual Property." Critical Software is pioneering Portugal's technology edge by stimulating collaboration, both between and within companies, and phasing the solutions into a commercialization process it calls Ideas to Income. The U.S. constitutes a major focus in which Critical, reinvesting its privately generated wealth, aims to break through in the Aeronautic, Space, Defense and Security fields. But will new American customers be receptive of the new mentality? CEO Quadros is up for the challenge. "We need to provide good solutions and deliver sophisticated technology to change people's minds. If we are successful in the U.S. then we can also make a difference in other markets."

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Tagusparque S.A., Nucleo Central, 100
2740-122 Oeiras PORTUGAL (EUJ)
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Cutting-edge Research Brings Breakthrough Solutions

What is the minimum volume of bone one needs to place a bridge with twelve teeth?

This is the question Dr. Paulo Malo asked himself in 1993 to find an alternative to the aggressive bone transplant surgery required in some cases of tooth implantation. The answer led to the foundation of what is today's leading center for implantology and fixed oral rehabilitation, Malo Clinics. When results of the 100-percent-successful clinical trials were made public (after four years of follow-up), the team's breakthrough procedure of using only four implants—at a considerably lower cost and with immediate results—was such an achievement that Malo Clinics became the world's largest education and research center for the dental community.

"There are 500 million people in need of this surgery in the world," says Malo, winner of the INSEAD Entrepreneur of the Year award. "In the next four years we will have 25 megaclinics and medical spa centers in the most important countries."

Malo managed to bridge the crucial gap between cutting-edge research and suc-

cessful commercialization, an area in which many great minds still need support. "Clinical research has a lack of people who can really do it," says Leonor Bezeza, president of the Champalinaud Foundation, which supports research in oncology and neurology worldwide. "Very often we know lots of things from basic research which are not yet translated in what you actually do with patients." Hence, for Portuguese medical minds to excel, they need to be given an environment in which to do so. "I'm convinced Portugal can make a difference in the scientific world," says Professor Antonio Coutinho of the Gulbenkian Science Institute. It acts as a facilitator for researchers in genetics and life sciences. "We offer them full autonomy, not only scientifically but also from the administrative and financial point of view."

A similar function is served by the Biocant Park, Portugal's first biotechnology park. "Biocant assists the scientific validation of innovative ideas and business projects in biotechnology and life sciences by granting access to laboratorial space and advanced scientific consultancy," clarifies Carlos Faro, Scientific Director of Biocant. By forming partnerships with pharmaceutical multinationals such as AstraZeneca and America's Biogen, Biocant opens new gates to the global market, setting yet another standard for the advancement of innovation in Portugal. ■

MALO CLINIC

Lisbon by numbers

nr. 1

in Implantology and Fixed Oral Rehabilitation worldwide

nr. 1

in Health Tourism in Europe

12

centers around the world

60%

of complex cases treated come from abroad

300

new patients per month

7.000

appointments per month



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BETTER HEALTH

Pushing Medical Research into the Marketplace

Portugal is making a name for itself in molecular and human genome research. The Institute of Molecular Medicine (IMM) is at the forefront of this sector, attracting top Portuguese and international minds to carry out innovative research. "It is our priority to recruit excellent, young people, as they have the greatest potential," says Professor Carmo-Fonseca, the Institute's executive director. "As pioneers in Portugal, we have already put together a team of oncologists, molecular biologists, genetic councilors, and surgeons." One of its programs is run by Professor Maria Mota, who joined IMM in its early days feeling it provided the dynamic atmosphere necessary to carry out her research on Malaria and its basic molecular interactions with human hosts. "We have identified several host molecules that constitute potential targets for intervention," explains Mota, whose work is partially funded by the Howard Hughes Medical Institute. Two of these have recently been patented and collaborations with industry and research partners are underway to test their relevance in field trials. "We are hoping to allow the knowledge gained through research to proceed from the bench to the bedside."

"To be competitive in this field you have to be outstanding," says Professor Lobo Antunes, IMM's chairman. "Because a small country cannot compete in num-

bers, we have to compete in excellence. The fact that we are closely related to major universities and clinics has been one of the reasons for our success, but we want to open more. We have to go to the marketplace."

One pharmaceutical research company already making headway is Alfama. Its groundbreaking research into carbon monoxide-releasing molecules (CORMs) has caught the attention of scientists, venture capitalists, and investors worldwide. "We are still at the pre-clinical stage," says CEO Nuno Arantes-Oliveira, "but what makes us unique is that our potential is extremely big, because we have a completely new technology that can treat many different diseases." In a synergy with IMM's animal-testing laboratories, Alfama is currently working on applications for diseases such as multiple sclerosis, rheumatoid arthritis, and acute hepatitis. Arantes says the international business community is already recognizing Alfama's endeavors as commercially viable. "One of the most obvious financial goals for our investors is to go to the stock market. If things go well, possibly in four years." ■

Pioneering Pharmaceutical Firm Creates Drug of the Future

With roots in Portugal's finest research laboratories, Alfama Inc is now a US company with international operations and allied with some of the world's top researchers and businesses. The potential to treat a wide range of inflammatory diseases with a novel and proprietary technology - Carbon Monoxide Releasing Molecules or CORMs - has made Alfama one of the most promising young companies in the global pharmaceutical arena. This year Alfama will be raising funds for the clinical development of its lead compounds.



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Breathing New Life Into the Portuguese Health Sector

As the European Union compiles a health strategy titled, "Together for Health," aimed at investing common guidelines in healthcare, Portugal has taken steps to streamline its own National Health Service. Over the past 30 years the country made itself capable of significantly increasing health indicators through investment in its network of well-equipped hospitals and clinics. No less than 6,000 doctors cover the Portuguese public health territory, so the government turned to improving the service's management. "A long time ago innovation only came from the private sector, but step by step we built new hospitals and nowadays we have the most important technologies in the public sector," explains Minister of Health Antonio Correia Campos.

One of the main projects implemented was the Family Health Units, transforming the public perception of the primary care system: "Before, a patient would have to wait in long lines outside a health center. In new Family Health Units the medical appointment is scheduled by phone, text message, or even by Internet, which reveals a big improvement in the access to public healthcare," explains Manuel Teixeira, president of ACSS, the institute responsible for evaluating the effectiveness and progress of the public health system in Portugal.

Automation became a cure for red tape and the paper mill, with 133 hospitals and 436 primary care centers adopting the medical data suite of Alert Life Sciences. In order to implement new opportunities in innovation, the Health Minister called on Fernando Belo of the National Institute of Pharmaceuticals and Medicines (INFARMED). "The idea," says Belo, "is to develop an alliance between the Ministry of Health, Ministry of Science, and Ministry of Economy to come up with reliable and sustainable innovation for the future." That doesn't mean that the private sector is lagging. The state-of-the-art Hospital Da Luz, completed in three years, has already become a reference for private health groups around the world. Whether public or private, Portugal is breathing new life into European health care. ■

Strategic Media

Directors: Maja Lapcevic, Elodie Piat, Stephen de Vasconcellos-Sharpe

Project Director: Clementine Mauleverer

Project Coordinator: Andre Murakawa Carbonieri

Chief Editor: Mark Riley

Project Assistants: Eva Muchova and Amelie Bavetta

Creative Director: Branko Bobic

For more information contact: info@smlstrategicmedia.com

Curing the State of Health Care

With health care having become a hot issue of the US Presidential campaign, other nations are setting an example of how to successfully transform the Public Healthcare System. For the Portuguese Government the modernization of the healthcare sector is a core objective and one of the main priorities presented to the recently created ACSS - Administração Central do Sistema de Saúde. The role of this health authority is to conceive and implement innovative operating strategies to obtain healthcare gains for the population, better service and patient satisfaction levels and ensure the financial sustainability of the system.

As a result of strong investment in the sector during the last 10 years, Portugal has high standards of quality, coverage and access. As an example of this effort, almost 90 percent of the Portuguese population lives within 30 minutes from a health facility or central hospital. Portugal is also one of the few countries offering free treatment to patients with HIV AIDS. In the future, ACSS aims to improve efficiency through an optimization of its financial assets, promoting new management models and in-

novation, as well as disseminating the latest technology needed to provide better health services.

Another major change introduced with the creation of ACSS was an integrated approach to the production and financial planning and controlling within the public hospitals network. Each unit works on a 3 year business plan which is centrally integrated by ACSS using an intranet database system named PULSAR, and every month a balanced scorecard is produced identifying the major problems in terms of results and spending targets. With the information produced ACSS also identifies best practices and promotes new business approaches like integrated purchasing and the dissimulation of technology towards a paper free hospital network. According to ACSS President Manuel Teixeira, this deep strategic mutation has the aim of creating a strong symbiosis between the public and private sectors, both profit and non-profit, towards a new vision for the Portuguese healthcare system. "We believe that the state must promote associations and regulate the market. It is vital to keep the dynamics."

ACSS Administração Central
do Sistema de Saúde, IP

CONNECTING EUROPE: Logistic Lisbon

For over a thousand years, Portugal's capital, Lisbon, has been a point of confluence in the world. Located at the western-most point of the European continent, Lisbon has been a port of departure since the Age of Discovery, as well as the first place to welcome back Christopher Columbus from his first trip to the New World. But in the 21st century, the city and Portugal as a whole are rediscovering their roles within Europe and a globalized economy by way of a government plan titled, "Portugal Logístico." By developing a multimodal transportation and logistics network, the plan intends to forward Portugal's enviable central position in relation to transcontinental routes, in a shift from the more peripheral status it had acquired in previous decades.

"We have to find a set of infrastructure that enables interoperability," says Mario Lino, Minister of Transport, Communication, and Public Works. "It is a program for the creation of thirteen logistics platforms in Portugal, which has a very good set of ports, airports, modern railways, and roads that link us with Europe. We must put Portugal in the center of Europe, whether through physical links or electronic connections." Lino adds that Lisbon will greatly benefit from a new airport, to be built at Alcochete for \$7 billion, as the existing one in the center of the city has almost reached top capacity. Traffic at Portugal's airports has been growing above European averages, particularly due to attractive tourism features.

Greatly contributing to Lisbon's mobility is its expanding Metro system, operated by state-owned Metropolitano de Lisboa. Offering comfort and rapidity to the capital's commuters and visitors, the network

will have grown from 4.3 miles in 1989 to 25 miles in 2010. A more client-centered service has not only raised revenues by 10 percent last year, but is playing a part in making the city a more attractive destination for investors, as the company's president, Joaquim Reis, explains. "What we are dealing with here is re-shaping the entire region. We've been improving our quality of service, convincing people that going by public transport is civilized and modern. People are our goal, and Lisbon, with accessibility to railways and the airport, has all the resources to attract people." A proposed high-speed rail link with Madrid will also connect Lisbon to the expanding Western European TGV and Eurostar networks.

But Portugal's most valuable asset, especially in terms of international trade, remains its port. Handling close to 13 million tons of waterborne cargo annually, Lisbon's port has built up a steady trade with direct services to Canada, the U.S., Brazil, Uruguay, South Africa, Senegal, Australia, New Zealand, Israel, and many European ports. For Manuel Frasquilho, president of the Lisbon Port Authority, the aim now is to reinvigorate its geostrategic position by capturing a very promising market. "I'm convinced that in ten years a new movement will appear related to Africa," predicts Fraquilho. "There is a lot of potential in Africa—that's why we started working together with Angola and Cape Verde. The objective is to try and integrate with them. Luanda in Angola wants to set up a new port, and we will support them." In the first six months of 2007, the traffic of containers rose 80 percent compared to the same period in 2006. Lisbon's vision of transcontinental connectivity is evidently starting to pay off. ■



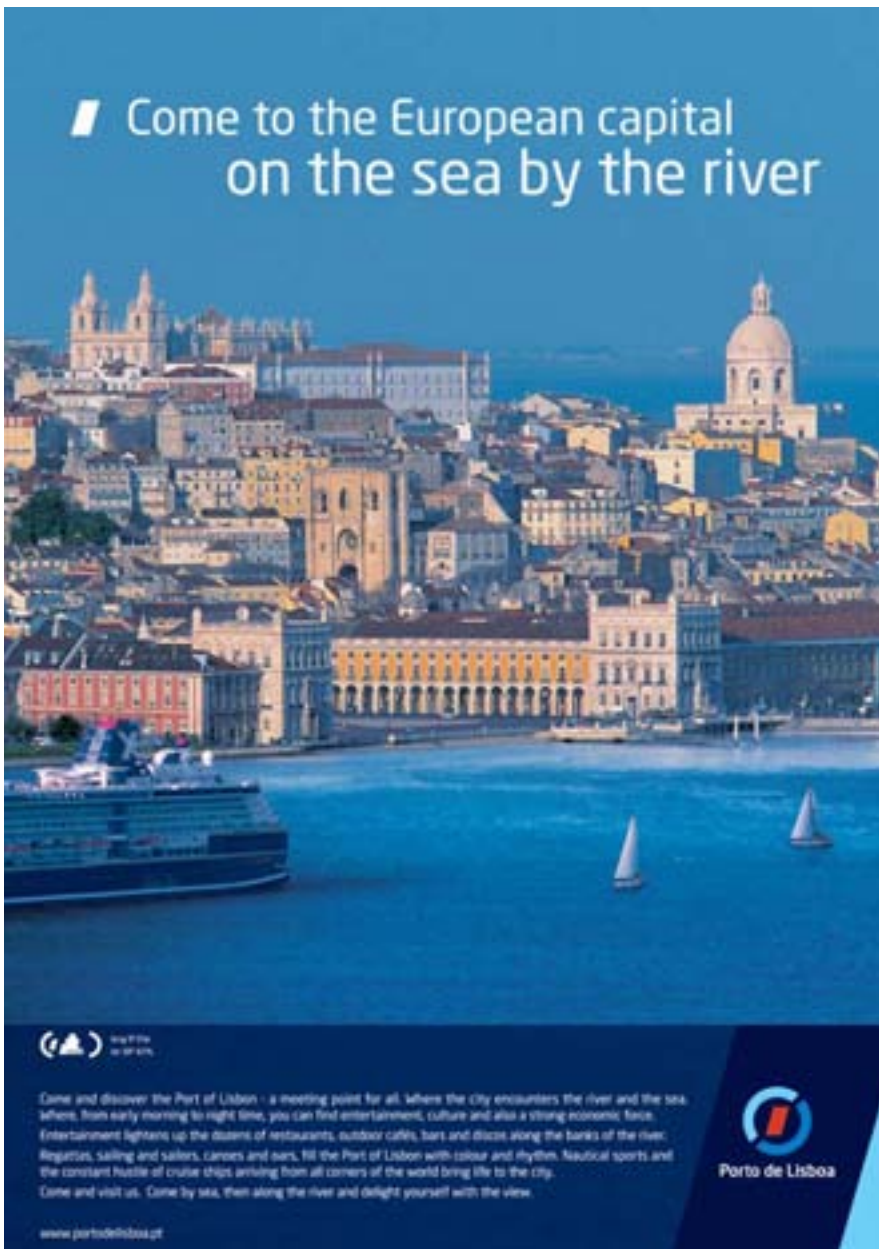
The West Coast of Europe

Accessibility also plays a major factor in Portugal's tourism industry. For many Europeans, Portugal is a prime tourist destination due to its warm weather, outstanding cuisine, and laid-back lifestyle. Lisbon receives around 300 cruise ships per year. From the moment the ship enters the Tagus River estuary, the passenger is held captive by the first glimpse of the city and its riverside landmarks. The Port of

Lisbon's three cruise terminals are located right in the heart of the city, making for easy walking excursions to the city's main tourist sites.

"Tourism revenues in Portugal are growing by 12 percent," says Secretary of Tourism Bernardo Trindade, "which is amazing compared with our neighbor Spain, which is growing at 2 percent." The country pursues a sustainable tourism development with an economic, social, and environmental

perspective. Currently \$10 billion in private investments are lined up in the sector. The ambitious goal is for the tourism to represent 15 percent of GDP by 2015, without, however, falling into the mass-tourism trap. "Nowadays, hotels not only have to present a creative architecture but also the best environmental practices. Innovation means having an exacting requalification of our touristic supply: hotels, air accessibility, the enveloping of the municipalities." As an example, Trindade mentions that the Algarve, Portugal's most important touristic region, underwent an image change "based not only on sun, sea, and golf, but also contemporary art, musical shows, and gastronomy. It is a sustainable development all year long." ■



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