



123 APRIL 2006  
AVRIL

# ON COURSE

PIANC *magazine* AIPCN



***Special issue on Portugal,  
at the occasion of AGA 2006  
and the 31st PIANC  
World Congress***

INTERNATIONAL NAVIGATION ASSOCIATION  
ASSOCIATION INTERNATIONALE DE NAVIGATION





Manuel Marcos Rita

## MANUEL MARCOS RITA: APPLIED TECHNOLOGY IS A DRIVER FOR PROGRESS

*'The PIANC Working Group reports are our bible'*

*In the land of Henry the Navigator, the International Navigation Association (PIANC) is holding its 31<sup>st</sup> World Congress. Beyond the rich tradition of this seafaring nation, there is more to discover in early-21<sup>st</sup> century Portugal – as the content of this special Magazine and this interview with Manuel Marcos Rita well illustrate. In a country with 943 km of coastline on the European continent, authority over two archipelagos, and close links with countries in South America, sub-Sahara Africa and the Far East, the navigation community may benefit from the know-how and the experience of the Portuguese heritage.*

The opening line of *Os Lusíadas*, the epic work of Portugal's greatest poet Luís de Camões, may be the catchword for the PIANC Congress: *Onde a terra acaba e o mar começa* – where the earth ends and the sea begins... It is a feeling that permeates Portuguese identity – whether one stands at the

Belém Tower, the departure point of the explorers in the 15<sup>th</sup> and 16<sup>th</sup> centuries, or at the windy Cabo da Roca, 140 metres above the gaping Atlantic and the westernmost point of continental Europe where Camões' words are engraved.

From the place where the earth ends and the sea begins, the Portuguese have set sail for the discovery of the world. But these courageous men could only succeed by relying on scholarly knowledge and patiently acquired technology, brought together in the Sagres *Vila do Infante* of Prince Henry the Navigator: applied science as the driving force of progress and history – or so the PIANC mission statement might have been phrased six hundred years ago. May one add that many of today's PIANC members are also working on the edge 'where the earth ends and the sea begins'?

### Portugal: the facts

Portugal is a country of 10.6 million people, of which a quarter live in the Greater Lisbon Metropolitan Area. Total surface of 92,391 km<sup>2</sup> includes the archipelagos of Madeira and the Azores. GDP per capita was estimated at USD 18,503 in 2004. Since the escudo was taken out of circulation in 2002, the euro is the official currency. Portugal is a founding member of NATO, OECD and EFTA and joined the European Community (now the European Union) in 1986.

With historical ties from Timor Leste (formerly known as East-Timor) over Mozambique and Angola to Brazil, Portugal's sphere of interest far exceeds its relative importance in terms of surface area and population. Due to the vastness of the Azores in particular, the Exclusive Economic Zone (EEZ) of Portugal even today far exceeds 1 million km<sup>2</sup>.

The history of Portugal is that of an ancient European nation, whose present origins go back to the early Middle Ages. The country ascended to a great world power in the Age

of Discoveries with its vast empire. Following its heyday as a world power during the 15th and 16th centuries, Portugal lost much of its wealth and status with the destruction of Lisbon in a 1755 earthquake, occupation during the Napoleonic Wars, and the independence in 1822 of Brazil as a colony. A 1910 revolution deposed the monarchy, however, the republic was unable to solve the country's problems – amid corruption, repression of the church and near-bankruptcy of state. In 1926 a military coup installed a dictatorship that would only finish in 1974, when a left-wing military coup installed broad democratic reforms. The following year, Portugal granted independence to all of its African colonies.

Elected on 22nd January 2006 by an absolute majority in the first vote, president Aníbal Cavaco Silva (a former prime-minister and president of the Social Democratic Party) has been asked to preside over the opening session of the 31st PIANC World Congress.





Picture 1: Panorama of Lisbon, along the Tagus river (APL © 2003)

The love of home and the desire for adventure even today inspire the lyrics about the sea that can still be heard in the fado-bars of Alfama. They gave a voice to the uniquely Portuguese feeling of *saudade*: the longing for a person who will most probably never return, a mixture between happiness and pain, love and sadness, suffering and a never fading sense of a deep missing. It can be no co-incidence that such lyrics came to life in a country from where the great explorers have set off to unknown seas.

Whether it was by accident or intentionally that Pedro Álvares Cabral discovered Brazil in 1500, it is a fact of history that groundwork at the nautical school in Sagres was of paramount importance in the Age of Discoveries. The navigation skills and the superb map making in early 15<sup>th</sup> century Portugal resulted in Bartolomeu Dias' rounding of the Cape of Good Hope in 1488. And when Vasco da Gama finally arrived in India's 'pepper capital' Calicut (today's Kozhikode) ten years later, the 'Admiral of the Indian Ocean' was much indebted to a full century

of research and teaching in the nautical school of Infante D. Henrique.

Is it an overstatement to point to a continuity between this 15<sup>th</sup> and 16<sup>th</sup> century heritage and Portugal's current record in the field of shipbuilding and repair industry, hydrographic and cartographic surveys, and applied research activities in the Laboratório Nacional de Engenharia Civil (LNEC)? For Manuel Marcos Rita, chairman of the Organizing Committee of the 31<sup>st</sup> PIANC World Congress, the four days at Estoril will provide an excellent opportunity for all participants to answer that question.

*Navigation experts from all over the world will gather in Estoril next month. What can PIANC members learn from your country?*

The country has opened to the modern world since the 1974 Carnation revolution. For twenty years, we have been a member of the European Union. Yet, our long tradition in maritime knowledge and coastal and hydraulic engineering has been established in



contacts that went well beyond European borders. Portugal enjoys a unique location along almost 1000 km of coastline, at the edge of continental Europe and at the doorstep of the Maghreb countries and Africa. All major sea lanes from the Middle East and Asia to Western Europe pass through our waters. In addition, the archipelagos of Madeira and the Azores very considerably extend the Portuguese sphere of interest – and the Exclusive Economic Zone (EEZ) for that matter. These conditions have forged our national identity, and they continue to inspire our engineers. In this issue of the PIANC Magazine, we present recent developments in shipbuilding and –repair, cartography and hydrographical research, coastal engineering and port construction. Besides the construction of artificial ports such as Leixões and Sines, we have extensive experience in dealing with lagoons and estuaries – where most of our towns and ports are to be found. Furthermore, we are eager to present some fine examples of pleasure navigation facilities.

*For all the merits of the past, the world is changing and countries and people have to adapt. How do new developments in freight transport, as well as global trends such as globalization affect business – from a Portuguese point of view?*

The time when the *naus* and the *caravels* sailed the seas is far behind indeed. Bartolomeu Dias sailed to the Cape of Good Hope in a 50 ton light caravel. Vasco da Gama's flag ship, the 27 metre *São Gabriel*, measured only 178 ton. The ever increasing size of today's vessels requires a continuous improvement of the harbour infrastructures, as can be witnessed at terminal enlargements in Leixões, Aveiro, Lisbon and Setúbal. With the emergence of China and India, international trade will increase and intercontinental flows will strengthen. On a regional level, feeder traffic in Portuguese ports is on the rise and the country remains strongly dependent on imported energy sources. Sea transport plays a very important role in provisioning oil, coal and natural gas. Let me just recall the port of Sines in the Southwest of the country, the major port in Portugal, where crude carriers of up to 350,000 dwt unload and a major LNG regasification plant is in operation. The port of Sines is just one destination in our tour of technical visits. All these trends require the commitment of engineers. Against the background of these developments, one should not fear to be out of work in our profession.

*Professionals with very different backgrounds sometimes seem to take over from engineers. A few decades ago, port authorities were managed by engineers; nowadays we see lawyers, economists,*

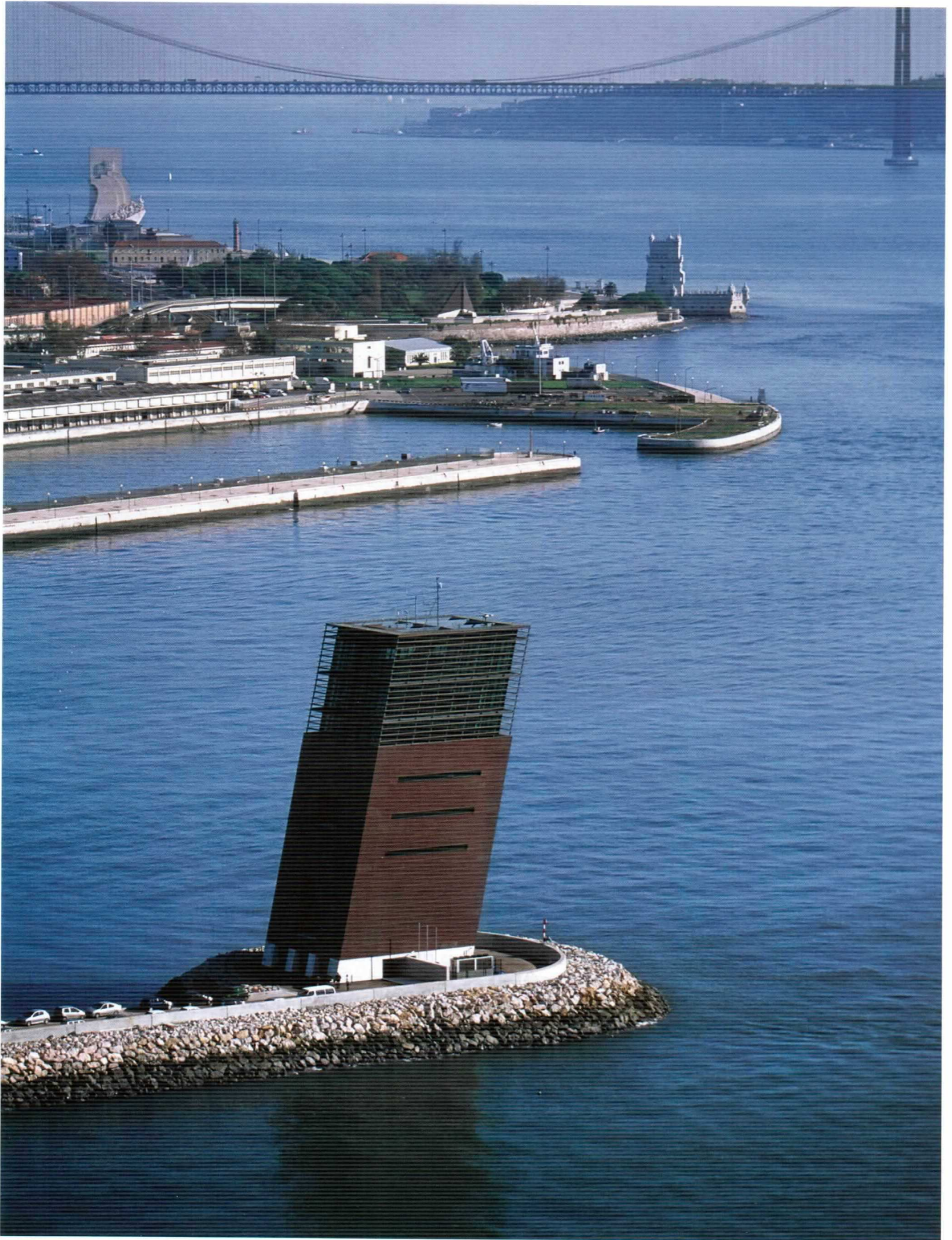
*marketing people or other professionals who are in charge. Should the engineering profession stick to traditional activities such as design and construction of infrastructure, or should engineers become managers in their own right?*

Every profession is subject to change and should adapt to new circumstances. In the past decade, port management has evolved from the tool-port model to the landlord model. This transition has practically been achieved in all main ports, in which the state kept the property of the land but transferred port management to the private sector by way of long-term concessions. Harbour authorities function as regulatory commissions, enforcing public service obligations of the concession holders. At the same time, there is a trend for vertical consolidation, both for shipping and terminal operations. This trend leads to an increase in the number of jobs in the global market, and it favours mobility: people no longer have a particular advantage in seeking jobs in their own country. Also, the complex logistic systems based on just-in-time operations demand the development of modern information systems. This opens new professional fields and shows that this sector is both multidisciplinary and specialised.

*Environmental protection and economic growth is a sometimes problematic marriage, especially in a port environment where estuaries and wetlands historically created very favourable conditions for nature development. How do you assess the right equilibrium between economy and ecology in this respect?*

As in all aspects of human activity, accommodating economic growth with sustainable development imposes restrictions and creates opportunities. It is undeniable that, generally speaking, a port infrastructure is an intrusion into the particular sensitive ecosystem of a wet zone. Such interference is an unavoidable artificiality, demanding a carefully organised mitigation of adverse impacts. This is one of the really important tasks in our field of action. In this context, it is worth to recall that the EU Birds Directive was transposed into Portuguese legislation in 1999. This led to significant areas in the most important Portuguese estuaries being classified as Special Protected Zones (SPZ). These areas include the ports of Lisbon, Setúbal and Aveiro which, as a consequence, have suffered severe limitations to their expansion. Special care was and is necessary to mitigate the impacts of the renovation of existing infrastructures. Also, the EU Water Framework Directive (WFD) was recently transposed into Portuguese legislation, where it is known as the Water Law. This law will profoundly





*Picture 2: The characteristic leaning tower in the forefront is the Port of Lisbon's VTS-nerve centre (APL © 2003)*



change, for instance, some aspects with regard to ownership of water resources.

*Your reference to a sensitive ecosystem may well apply to the open ocean as well. With a long coastline, Portugal is particularly vulnerable for oil spills and accidents at sea. Maritime navigation surely must be a threat as well as a blessing?*

Sea transport is a reality and it is a blessing indeed, since it is well adapted to long-distance traffic and has low energy consumption per freight unit. However, the impact on the ocean environment in the case of an accident may be devastating. Therefore, ships must have a high level of safety and operability, which enhances once again the need for proper crew qualifications. The Portuguese continental coast is located very close to major shipping lines. All VLCC's for Northwest Europe come along our coast. Potential accidents at sea are a huge concern in this country. There are two 'dangerous' spots, where accidents and near-accidents have happened in the past: Cape St. Vincent in the Southwest and the Berlengas Islands near Peniche, North of Lisbon. Luckily, we have escaped the worst after the Prestige disaster in November 2002 off the coast of nearby Galicia. In order to improve the safety, we are currently deploying a VTS system along the entire Portuguese coast.

*Under the presidency of your fellow countryman, José Manuel Barroso, the European Commission is currently in the process of drafting a new maritime policy. What should be the focus of such a maritime policy?*

The future of sea transport and inland navigation will depend on the quality and the sustainability of our operations. It is essential to transform the maritime industry in such a way to increase the ship energy efficiency and the control of transported goods, to shrink transit time, to profit from the economies of scale, and to reconcile sea and river transport with respect and preservation of the environment. It is also necessary to prevent the devastating effects of resorting to crews without proper qualifications, at a time when the global work market becomes a reality. Expertise of PIANC members may be very helpful in suggesting solutions for technical issues with regard of a future EU maritime policy.

*What does it mean for Portuguese engineers to be a member of PIANC? What added value can PIANC provide for today's engineers?*

For us in Portugal, PIANC is the first and ultimate reference in our profession. The PIANC Working Group reports are our bible. When we are confronted with a technical problem in the field of port construction and marine works, for instance, the very first reaction would be: 'What does PIANC have available in this respect? Was there any Working Group report that has summarized the state-of-the-art?' On my shelf, PIANC publications are readily available for current reference. It is hard to find one single subject in our sphere of interest, which has not yet been covered by a PIANC Working Group.

*Besides being the chairman of the 31<sup>st</sup> World Congress Organising Committee, you are also the chairman of the Portuguese Delegation. What kind of activities do you organise at the Portuguese National Section?*

At least since 1937 when our government appointed an official three-member delegation, Portugal has been a governmental member of PIANC – nowadays called 'qualifying member'. But already at the end of the 19<sup>th</sup> century, some influential civil servants became individual members of our association – or so we learn from the memoirs of Adolpho Loureiro, a former director-general of Public Works who we consider the father of Portuguese coastal engineering. In 1989, our National Section together with honorary president Robert De Paepe organised a PIANC Conference on the Rehabilitation of Harbour Areas, which was attended by more than 300 participants. Every two years, we organise the Portuguese Days on Coastal and Harbour Engineering, which last year, in its fourth edition, brought 110 participants together in the Azores. We also award two prizes. The first one is named after Adolpho Loureiro (1836-1911) and gives an incentive for young professionals. The second award is named after Fernando Abecasis, who was a vice-president of PIANC and my former boss in the Hydraulics Department at LNEC. He died in 2003 and the award was created in 2005 as a prestigious recognition at the end of a deserving career. Last year, the Fernando Abecasis Award was granted for the first time at our Portuguese Days in the Azores and the winner was José Manuel Gonçalves Cerejeira.

*How could Portuguese engineers play a bigger role in marketing the PIANC image and activities? What about extending international co-operation?*

The Portuguese National Section would like to take a more active role in the activities of the PIANC Working Groups. We have a lot of expertise that may be useful for other countries, notably in the field of contaminated sediments, recreational infrastructures,



or navigation issues related to LNG operations. This will be my first priority after the end of the Congress. In the field of inland navigation, our contribution may be somewhat less since we only have short distance inland shipping in our country. However, there is some tourism navigation on the Douro (which is also included in the post-congress tours). Furthermore, the Portuguese National Section may be helpful with establishing contacts in the Portuguese-language African countries and in Brazil. In Rio de Janeiro and São Paulo in particular, I have many good contacts. Brazil has a very long coastline and there are a lot of excellent coastal engineers in that country. As far as the co-operation with other National Sections is concerned, we are always open to enlarge and to strengthen the relations we already have and we really would like to improve our technical

relations with the Spanish National Section. I insist on 'technical' relations, for our personal contacts have always been excellent. A Spanish-Portuguese technical event organized every two years by each National Section, for instance, or a similar idea, is something that would please us most. As for regional co-operation between Portugal, Spain, France and Italy, I am aware of initiatives to establish a Southern European regional group of PIANC, very much like Nord-PIANC. However, it is not that I am somewhat sceptical towards the idea but we really have to examine this more deeply, all together – there are already so many international forums...

*Interview by*

**Mon Vanderostyne**

**LISNAVE**  
 ESTALEIROS NAVAIS, S.A.

# Mitrena Yard

---

MITRENA YARD  
 Apartado 135  
 2901- 901 SETÚBAL - PORTUGAL

Phone 265 79 91 00 - Fax 265 71 93 19  
 Email: [comercial@lisnave.pt](mailto:comercial@lisnave.pt)  
[Www.lisnave.pt](http://Www.lisnave.pt)