

MARINE TECHNOSCIENCES AND FOREIGN POLICY

EXECUTIVE SUMMARY¹

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Marine technologies are generating an exponential increase in the information on the ocean which will facilitate the intensive exploitation of its resources, including those located at great depths. These discoveries will bring huge changes to our knowledge and to practical applications for human life and the environment. The technological revolution, which substantially increases extraction and production capacities, will bring about a crisis in the sustainability of marine resources, if rational administration and exploitation measures are not adopted. Our future prosperity will depend, to an increasing extent, on the intelligent, sustainable use of marine resources.

The genetic diversity contained in the sea is enormous. Recent discoveries are contributing to the development of innovative medicines and new industrial solvents, chemical treatments and other similar processes. Furthermore, hundreds of thousands of new sponges, bacteria and viruses have been found, which are helpful in the treatment of cancer, loss of vision, AIDS, arthritis and asthma, or as anti-inflammatory and anti-infective preparations.

Industrial-scale catches of living marine resources have exhausted traditional fishing grounds. In the South-West Atlantic, 55 per cent of species monitored are being exploited at levels that are not biologically sustainable, and the remaining 45 per cent are being exploited to the limit of what is biologically sustainable. Scientific and technological advances are developing marine aquaculture on a grand scale: it already produces 42 per cent of seafood, and it is estimated that this figure might reach 60 per cent by 2030, if its current rate of growth continues. Other estimates opine that aquaculture will provide 62 per cent of all proteins by the year 2050.

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In the ocean depths lie minerals which can be extracted from polymetallic nodules, ferromanganese crusts, and sulphur deposits, which contain materials such as nickel, silver, gold, copper, manganese, cobalt, zinc, lead, vanadium, molybdenum and platinum. There are also hydrocarbons and methane hydrates, and placer deposits of diamonds, silver, gold and other minerals closer to the coasts.

The sea is also a large energy source: besides the exploitation of fossil resources like oil and gas, there is also the growing dominium of technology to take advantage of currents, tidal differences and wave movement, although there is still some way to go before these can be used on a grand scale. The sea also facilitates the large-scale use of wind energy, by reducing the negative consequences of using it in areas close to cities.

The application of technosciences to the ocean, as also the effects of contamination coming from both emerged land and the exploitation of marine resources, will require not only a growing knowledge of the complexity of its system, but also a multidisciplinary study and coordination of action between national and international levels. International cooperation at political, scientific, economic and social levels is essential if we are to preserve this environment for the enjoyment of future generations.

Argentina's marine territories are exceptionally well suited to sustaining a high level of development for the country's society. Our submerged territory is as extensive as the emerged territory: we have a Blue Pampa and a Blue Patagonia, as well as the Antarctic projection and maritime areas, which are the Common Heritage of Humanity, and which we have the right to explore. The sea is also the vital lifeline for our foreign trade and our relations with insular and Antarctic territories, an essential source of resources and activity for our private companies, and of our population's wellbeing, especially for dwellers in riverine areas.

In spite of this importance, our capacity to develop marine technosciences, to use resources and, in parallel, to control what goes on in this vast territory continues to be very limited, as we lack both a long-term strategy and the material resources to carry it forward. The result of this lack of sufficient Argentinian means is mismanagement of resources, great economic and environmental losses, and, even more serious, the imposition, in an area vital to our interests, of an economic and security regime by extra-regional powers the superiority of which is based largely on state-of-the-art technological mastery, which also has a critical role in this field. At the same time, technological advances have broadened and enhanced the operational capacities of criminal non-state actors, including terrorist groups, who gain access to them.

Foreign policy on maritime areas requires, on the one hand, coordination of the policies and actions of the various national, provincial and municipal actors in its many different dimensions and, on the other, the design and implementation of a long-term strategy stemming from a State Policy which would guarantee it the necessary political support and budgetary continuity.

As a general framework, our foreign policy must be directed at the establishment of a legal, political, economic, environmental and security regime in the oceans, which would offer us sufficient guarantees that our rights and interests would be properly

recognised and respected, at the same time promoting sustainable use of marine resources to safeguard the legitimate rights of future generations³. The Earth's environment is a unique, interconnected system, and, from this point of view, the ocean is one whole, and should be analysed and regulated as such.

Of our oceanic areas, those of strategic priority are made up of three large parts: the South Atlantic, the sea surrounding our Antarctic territory and the interoceanic communications to the south of the continent. Three more areas are of direct strategic importance to the projection of our interests: the South Pacific, and access to both the North Atlantic and the Indian Ocean. However, we would be left with an inadequate, unilateral vision if we devoted our foreign policy attention and efforts exclusively to what is happening in that part of the global ocean. We need to have information and to affect all that happens in each part of the global ocean if we are to establish, properly and successfully, a foreign policy for the areas that make up our strategic priority.

The point of departure of a national strategy for developing technosciences applied to the sea is the organisation, strengthening and protection of all our territory: continental, insular, maritime and Antarctic. Establishing an intelligent infrastructure to allow the development and circulation of the new technologies throughout our territory, starting with the creation of a network of cities of large and medium size, physically and electronically interconnected, articulating Patagonia and the insular and Antarctic territories, as well as the North-west and North-east of our country, with the most advanced Cuyo-Pampa central core, will create the conditions to drive development, quality employment, and a more even distribution of the population throughout the entire country. An intelligent territory means equipping oneself with a state-of-the-art scientific and technological base, to allow the realisation of technologically highly sophisticated projects.

The integrated territorial planning of all these spaces must be carried out with a sense of the long term, with a dynamic vision, with a view to incorporating the latest available technologies, integrating the public sector with the private, and strengthening the interaction among the three key actors: University, State and private companies. We must unite scientific marine research with technological innovation, business incubators of new projects and the development of an internationally competitive business tapestry; national projects with provincial; facilitate the international marketing of the products generated and provide the necessary funding for the system to get fully under way. Thus, our marine and Antarctic territory will remain part of a national strategy, which will lead to the regional and global projection of our interests and the safeguarding of our defence and security, while we develop the innovativeness and international competitiveness of our businesses.

As we design this long-term strategy, we must also bear in mind that, during the

³ Preservation of the territory; keeping inter-oceanic lines of communication open; developing actions as required by our security and defense; protection of our citizens, their interests and businesses, and of the democratic and constitutional system; these are vital interests which must guide our foreign policy in the long term.

next 10 to 30 years, we shall continue to live in an unstable world that is liable to significant changes which will alter the current distribution of world power. Conflict will not disappear in the foreseeable future, indeed it is very probable that it will occur in maritime areas or in those next to the sea. To a large extent, national power and influence will continue to be projected on a regional and global scale by maritime means. Our country cannot be a mere onlooker at this process, if it does not want to be forced to accept the imposition of a regime designed by those with the technoscientific ability to take action at sea.

Argentina possesses all the necessary knowledge to design an Oceanic State Policy for the XXI century, but, without agreement among the majority parties and the essential actors, we shall be unable to ensure the political and budgetary support that its implementation will require in the long term. The intellectual sophistication of our scientists, technicians, politicians, businessmen, academics, military personnel and diplomats are the basis of our optimism that conditions are now right for this long-term policy to be drawn up and implemented successfully.

