

China's Marine Science and Technology R&D Policy and Prospects for Cooperation to China-Korea

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Marine policy are rulers of conduct for countries and regions to implementation their strategy、 planning objectives or policys for marine industry. R&D, Research And Development for short. Marine Science and Technology R&D Policy, by national legislation of the government's regulations and the way of administrative instruction career planning embodies a methodical legalization, so as to exert its for Marine science and technology R&D to guide and coordinate the restriction role.

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1. International development overview



1. International development overview

1.1 International Marine Science and Technology Policy

Since the 21st century, concentrated innovation on the new technology emerging as a global strategic priorities of Marine industry. World's great powers of Marine put scientific and technological innovation as an important means of expand the Marine economic development space and achieve sustainable development.

Since the 1860 s, Marine economy has become the important part of national economic system, occupy strategic islands and sea area gradually rise. In traditional further development and utilization of Marine resources at the same time, actively explore new resources and energy development strategy, has become the consensus of the world's great powers of Marine.



1. International development overview

1.1 International Marine Science and Technology Policy

USA

《USA ocean action plan》(2004)、《Marine research vision》(2005)、《U.S. Integrated Ocean Observing System》(2005)、《Ocean Strategic Plan 2009-2014》(2008)、《Charting the course for ocean science in U.S. for the next decade》(2007)、《Ocean Research Interactive Observatory Network》(2004)

EU

《Green Paper on Maritime Policy》(2006)、《Comprehensive Marine Policy》(2007)

UK

《Oceans 2025》(2008)

Canada

《Marine Development Strategy》(2002)、《Ocean Action plan for Present and Future》(2004)

1. International development overview

1.1 International Marine Science and Technology Policy

Japan

《Japanese Ocean Basic Policy Framework in New Century》(2002)、《Marine Basic Plan》(2007)、《Ocean Energy and Mineral Resources Development Plan》(2009)

Australia

《Ocean Research and Innovation Strategy Framework》(2009)

Korea

《Twenty-First Century Marine Strategy Second Stage 2011-2020》(2010)

1. International development overview

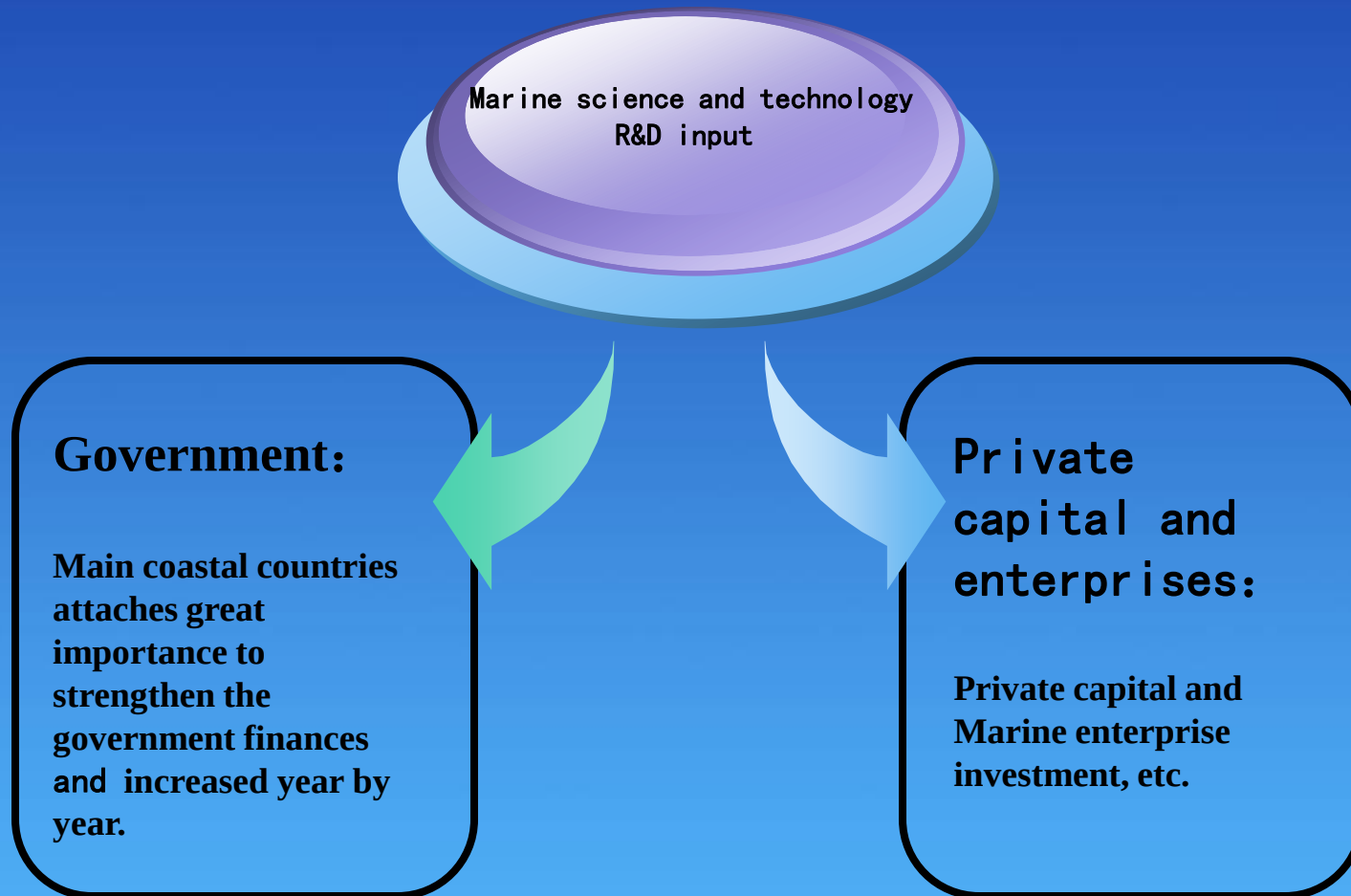
1.2 Marine science and technology R&D input

- Technology R&D input is the basis of scientific and technological innovation ability, also an important factor in science and technology and economic benign interaction. Developed countries attach great importance to science and technology R&D input. In 1997-2007, USA and EU's R&D spending to 3.3% average annual growth rate increases, USA and Japan become the country with the largest R&D spending in the world. R&D strength in the top five in 2008 followed by Japan, Korea, USA, Germany, France. U.S. President Obama has proposed to more than 3% of GDP money into R&D, and Korea put forward R&D investment as a share of GDP will increase to 5 in 2012.



1. International development overview

1.2 Marine science and technology R&D input



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1.2 Marine science and technology R&D input

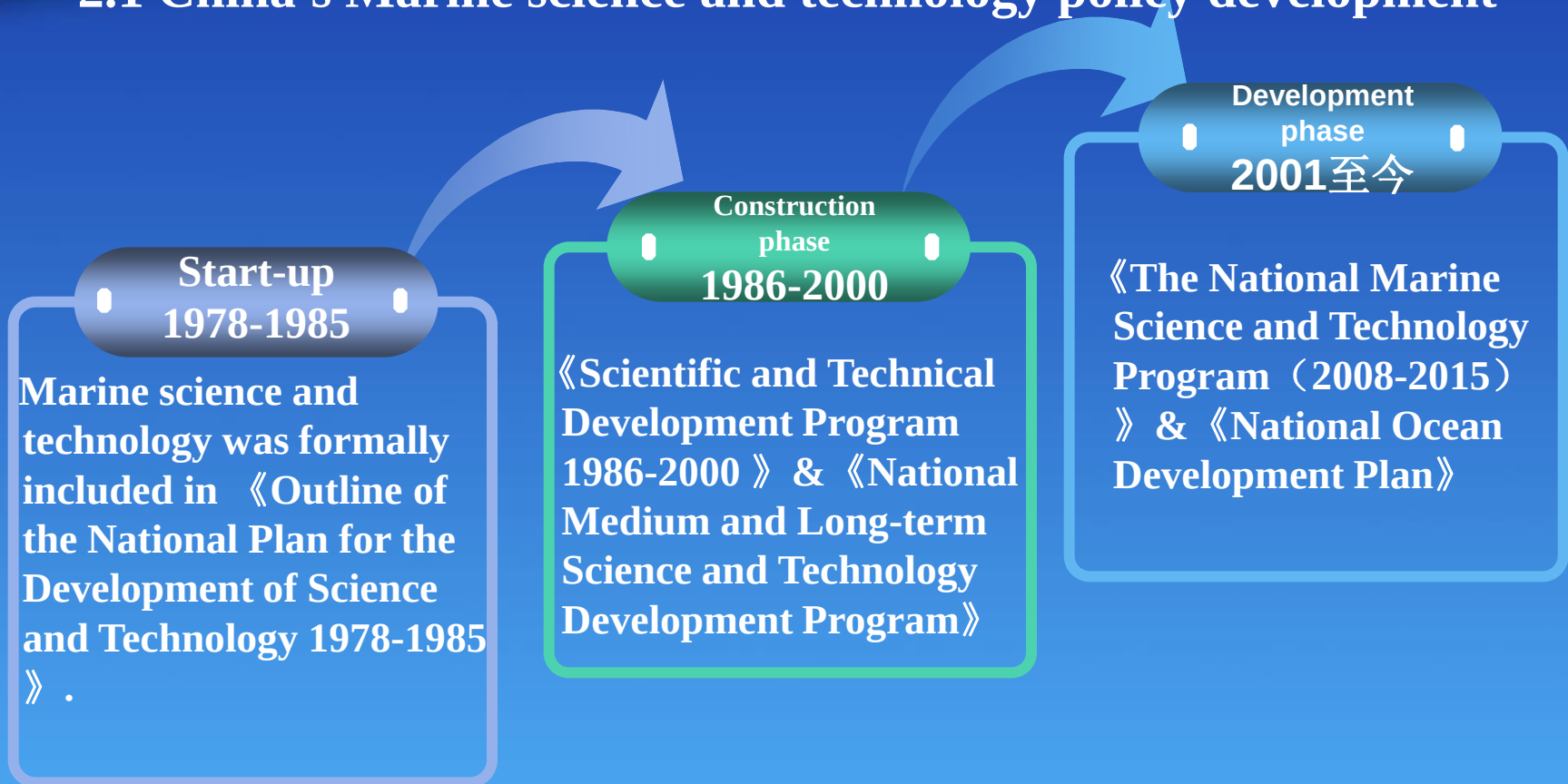
- Private capital and Marine enterprise investment, As Woods Hole Oceanographic, Scripps Institution of Oceanography, every year also includes cash and in-kind securities trust private donations besides government finances.
- To stimulate enterprises to increase R&D spending, government implement R&D tax incentives and provide funding subsidies and loans and other direct public funding.



2 China's Marine science and technology R&D policy



2.1 China's Marine science and technology policy development



Since its reform and opening-up, China has experienced from the planned economy system to market economic system of major change, in the field of Marine science and technology policy also shows the profound changes.

2.2 China's Marine science and technology policy

In 2011, the State Oceanic Administration, the Ministry of science and technology, Ministry of education and the National Natural Science Fund Committee and other departments jointly issued 《The twelfth five year development plan outline of National Marine Science and technology》, overall planning for the development of China from 2011 to 2015 the marine science and technology, which points out, in the next 5 to 10 years, China's economic development will increasingly depend on the Ocean. Coastal area such as Liaoning Coastal Economic Belt、 Hebei caofeidian industry zone、 Binhai New Area in Tianjin、 the blue economic zone of Shandong peninsula、 Jiangsu coastal area、 Pudong New District、 Zhejiang ocean economic development demonstration area、 straits' west bank in Fujian、 Guangdong Marine economic comprehensive development experimental zone、 Guangxi Gulf of Tonkin economic zone and international tourist island of Hainan development planning and implementation. China's Marine economy and Marine industry will usher in high-speed development period.

2.2 China's Marine science and technology policy

Marine science and technology development has entered into the phase of rapid ascension, in urgent need of marine science and technology can accelerate the change from support to support and lead, strive to make China's Marine Science and technology level as soon as possible into the advanced ranks in the world. With science and technology innovation of Marine economy development, improve the ability of ocean development, contribute to build China an innovative country.

2.3 China Ocean science and technology R&D input

Marine science and technology fund investment scale and distribution structure directly affect the efficiency of Marine science and technology achievements transformation. R&D is link is an important part of innovation, transformation of scientific and technological achievements is the main way of technology innovation, the role of different tasks at various stages, funding support are different. Proportion among the basic research, technology transfer, industrialization is 1:10:100 in developed country, which is 1:0.7:10 in China, serious imbalance in the ratio.

2.4 China national science and technology program

A diagram illustrating the structure of China's national science and technology program. It features a central green circle with the text 'Basic plan & Major projects' in bold white font. To the right of the circle, six horizontal rounded rectangular boxes are stacked vertically, each containing a specific program or project name. The boxes are colored in shades of purple and blue. The entire diagram is set against a blue background with a white wavy line at the top.

Basic plan & Major projects

**National High-tech Research and Development
Projects-863**

**Major State Basic Research Development
Program of China-973**

**National Key Technology Research and Development
Program of the Ministry of Science and Technology of China**

**The National R&D Infrastructure and Facility
Development Program of China**

**Formulates and supervises
Science and Technology plans**

Major projects

863

In March 1986, Wang Kan-Chang、Wang Daheng、Yang Jiachi、Chen Fangyun propose 《 Suggestions on the track of strategic high-tech development》 , Deng-Xiaoping pay high attention to it, go through science and technological demonstration, the State Council approve 《National High-tech Research and Development Projects-863》 。



Scientific and technological achievements of 863

Removable barrel base oil production platform



The 5th of the south China sea drilling platform construction well high temperature and overpressure



973

In 1997, The Chinese Government adopt suggest form scientist, decide formulate nation key point fundamental research. In June 1997, 《Major State Basic Research Development Program of China-973》 implemented.

In 2013, 184 projects approval, buget amount close to 3 billion CNY, thereinto 60 million CNY of Ocean.

3 China's main coastal provinces' Marine science and technology R&D policy



3 China's main coastal provinces'

Marine science and technology R&D policy

A purple square with rounded corners and a white border, containing the word 'Shandong' in white text.

Shandong

In the shandong peninsula blue economic zone construction process of the implementation of the strategy of xinghai science and education, Strengthen the comprehensive science and technology innovation platform、 professional platform and the transformation of scientific and technological achievements to promote construction of platform, improve the modern Marine education system, Shandong ocean areas get money 2.64 billion CNY form nation, province and city, state funds mainl.

3 China's main coastal provinces'

Marine science and technology R&D policy



Guangdong Province is the first big China marine economy, have strong ability of Marine science and technology strength and support. The Guangdong Marine economic development experimental zone construction strategy launched in 2011.

3 China's main coastal provinces'

Marine science and technology R&D policy

Fujian

Fujian is one of the birthplace of the modern Marine science and technology in China, actively carry out independent innovation. 《Fujian province twelfth five-year plan for national economic and social development development outline》 proposed “adhere to the technology, strengthening R&D capability and construction of marine science and technology.

3 China's main coastal provinces'

Marine science and technology R&D policy

A purple square icon with rounded corners and a white border, containing the word 'Zhejiang' in white text.

Zhejiang

Zhejiang has good Marine development foundation, push the ocean carrier construction, industrialization of achievement of science and technology innovation and made significant achievements. In 2003, proposed “Building a powerful province of marine economy”. Zhejiang intensify efforts to promote innovation and development in the field of Marine science and technology. Zhejiang ocean economic development demonstration area construction strategy launched in 2011, regional Marine science and technology innovation to provide a broader space.

3 China's main coastal provinces'

Marine science and technology R&D policy

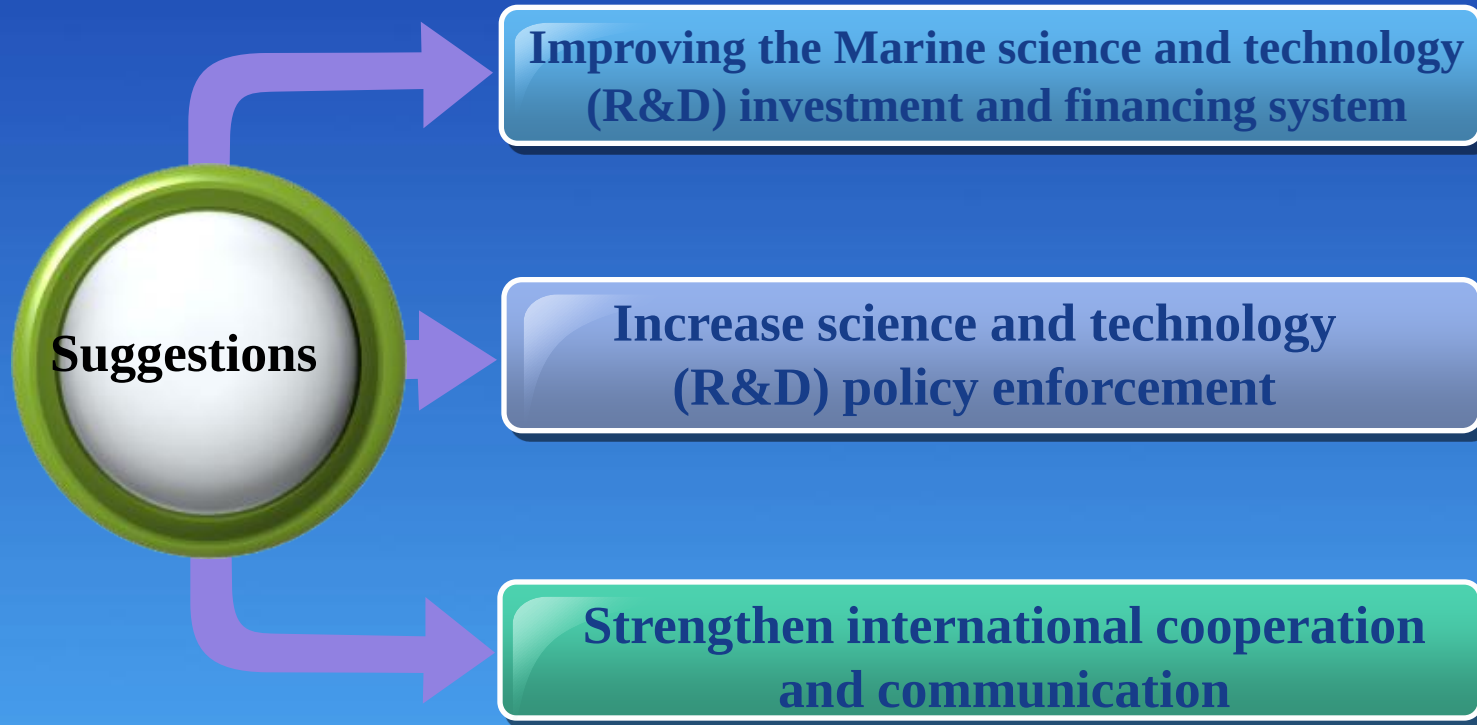
Liaoning

Liaoning Marine economic development has a long history, on the basis of 《Liaoning Provincial Oceanic and fishery "Twelfth Five Year" development plan of science and technology》 , to strengthen the innovation and transformation of scientific and technological achievements for the breakthrough, for the construction of liaoning coastal economic zone provides strong technology support.

4 Proposals for China's Marine science and technology R&D policy



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4.1 Improving the Marine science and technology (R&D) investment and financing system

On the basis of market resources allocation, explicit the relationship of government, enterprises, financing institution and nonprofit thirdparty science and technology input, increase government policy support, guide other investor send up the input intensity of Marine science and technology R&D.

4 Proposals for China's Marine science and technology R&D policy

4.2 Increase science and technology (R&D) policy enforcement

Actively promote government function transformation, shift the role from the organizer of the R&D to the controller. Improve the quality and efficiency of policy development and implementation, to ensure the effectiveness of policy implementation. Give full play to the people and social forces, such as the news media supervision role, to strengthen supervision of administrative law enforcement.

4 Proposals for China's Marine science and technology R&D policy

4.3 Strengthen international cooperation and communication

Increasing communication and contact with the international community. Based on agreement between the government, development of Marine science and technology international cooperation and exchange of countries and disciplines. Encourage Marine enterprises with foreign related to science and education institutions and enterprises to develop various forms of cooperation, support in the form of multinational technology innovation strategic alliance development long-term relations of cooperation.

5 China-Korea cooperation in Marine science and technology policy



5 China-Korea cooperation in Marine science and technology policy

- 1.Strengthen global Marine science and technology (R&D) cooperation strategy thinking. Organization that team, thinking and making global cooperation strategy policy.**
- 2.Improve the Marine science and technology in China and Korea (R&D) of cooperation. Start with public welfare projects from the sea, gradually deepened China and South Korea in the sea ranch Marine technical cooperation resource sharing and the exchange of personnel training, etc. Explore and establish a Marine science and technology in China and South Korea R&D investment and financing mechanism.**

5 China-Korea cooperation in Marine science and technology policy

- 3. China-Korea information platform of Marine science and technology cooperation and resources sharing construction. The formation of different provinces in the country and region on the basis of using the coordination mechanism between different departments, and the multinational trans-regional information platform of Marine science and technology in China-Korea .**
- 4. “Think tank ”construction of China-Korea Marine science and technology cooperation. On the one hand, to study on monitoring and the development of the Marine science and technology cooperation in China-Korea. On the other hand, for Marine science and technology in China-Korea cooperation of emergency contingency plans and measures are put forward. Build a complete team, in order to provide long-term intellectual support for China-Korea Marine cooperation.**

Experts and scholars, please comment

Thank you!