

해양분야 리빙랩 활성화 방안 연구

A Study on Promoting Living Labs
in the Marine Sector

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Industry
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EXECUTIVE SUMMARY

1. Purpose

- The purpose of this study is to present measures for invigorating living labs, a new form of open-ended cooperative model, in order to solve a number of issues related to the marine sector as well as to ensure support to companies.
- First, after analyzing the present status and limitations of the stakeholder participation system and policies relevant to corporate support in the marine sector, this study highlighted the necessity of invigorating living labs.
- Second, success factors and obstacles of living labs were drawn based on the analyses of domestic and foreign status of implementing living labs and major relevant cases.
- Third, invigoration measures of living labs in the marine sector were suggested and categorized into the following three sectors: measures for establishing the foundation, expanding the living lab business and building a network of living labs.

2. Methodology and Features

1) Methodology

Category	Purpose	Implementation method
Literature review	Conducting a theoretical analysis of the concept and conceptual differentiation of living labs in order to highlight the characteristics and applicability of living labs as a general-purpose model	Analysis of manuscripts of academic journals, policy research reports and reports on living lab-related project results
	Collecting basic data for analyzing domestic and foreign cases of living labs	Analysis of general academic data, websites, media reports and policy data
	Analyzing the present status and limitations of the stakeholder participation system as well as policies relevant to corporate support in the marine sector	Analysis of laws, policy data and national plans etc. in the marine sector
Case analysis	Analysis of domestic and foreign major cases in the marine and non-marine sector	Conducting a comparative analysis on the background, purpose, principal agents of implementation, key methods and characteristics per each case and deducing success factors and limitations
Descriptive statistical Analysis	Invigorating living labs as a driving system of R&D	characteristics of living lab-based national R&Ds by utilizing NTIS DB
In-depth interview	Carrying out an in-depth investigation on a variety of problems and conflicts potentially arising in the process of implementing living labs, countermeasures, achievements, limitations and future tasks	In-depth interview with principal agents, professional support manpower, intermediate support groups, those in charge of relevant policies and researchers related to living lab implementation and similar projects
Consultation meeting with	A comprehensive review of the results and review of the effectiveness and rationality of	Holding a consultative meeting with relevant policy officials, living lab researchers, those in charge of

Category	Purpose	Implementation method
experts	policy suggestions	R&D management organizations and living lab managers of intermediate support groups

Source: Prepared by the author

2) Features

- Serving as the first study with a comprehensive approach on living labs in both domestic and foreign marine sectors, this study increases the applicability of living labs in the marine sector based on a multi-faceted research method, thorough analysis of cases and suggestion of specific policy measures for the invigoration of living labs.
- In particular, this study recognizes living labs as an effective tool not only for solving problems, but also for supporting companies. Therefore, this study intends to present policy measures to apply living labs in a variety of industrial fields in the marine sector, maximizing the effectiveness of living labs.

3. Results

1) Summary

- In pursuit of participation, cooperation and openness, living

lab methods possess high potential as an alternative to solve a variety of problems and promote industries. However, the current system of implementing marine policies does not have measures to appropriately accommodate them.

- The stakeholder participation system of the marine sector possesses a number of limitations including the following: experts-centered tenet, focusing on securing procedural legitimacy through representative methods and one-time participation. The system, hence, falls short of a mechanism in which relevant parties to a problem can directly participate in the process of finding and implementing solution on the basis of actual fields.
- Industrial promotion policy also focuses on corporate support. Therefore, this system owns limitations on properly reflecting the needs of consumers and developing products highly accepted by users based on creative testing and demonstrations in the field.
- Living labs in Korea's marine sector have not been generally promoted and invigorated compared to Europe or Korea's other industries.
- In Europe, living labs have been adopted in a variety of marine sectors not only in solving problems but also in supporting companies, especially small-sized ones. In areas other than the marine sector in Korea, principal agents of implementation and application scope of living labs have been quickly diversified in a short period of time.

- According to the analysis of domestic and foreign cases, major success factors include selecting participatory agents befitting to the purpose of living lab operations, securing end-users, establishing the governance of trust and cooperation and retaining the social and business value of outcomes.
- In Korea's marine sector, however, the introduction of living labs was relatively belated, applying only to limited sectors, most of which remain at the initial stage.
- According to in-depth interviews with principal agents and experts relevant to living labs in Korea, major factors determining the invigoration of living labs were found and include the following; a lack of legal and institutional grounds, low awareness on living labs, shortage of professional support manpower, ambiguous concept and identity of living labs, one-time project-based operation, low sustainability of public competition-type projects and the lack of participation by research institutes.

2) Policy suggestions

- Measures for the invigoration of living labs in the marine sector suggested by this study were largely divided into three areas; establishing the foundation, expanding the living lab business and building a network of living labs.
- First, specific action plans for establishing the foundation of living labs include the following: i) revising the law including

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- the Marine Science and Technology Promotion Act, ii) establishing a system of problem identification and management, iii) improving the awareness of relevant parties to living labs as well as strengthening their capability, iv) gradually expanding a user group by utilizing existing civil society organizations in the marine sector as a leading organization as well as nurturing profession support workforce.
- Second, this study proposes measures for expanding the living lab business as follows: i) expanding living labs to entire national R&D projects except for basic studies and implementing bottom-up problem-solving R&D projects based on living labs, ii) expanding citizen-participatory (driven) public competition projects for living labs and securing the sustainability through phased scale-up, iii) vitalizing living labs in universities by connecting living labs with Korea Sea-Grant program, iv) invigorating the use of living labs by relevant organizations in the marine sector such as government-funded research intuitions that possess expertise and infrastructures.
 - Last of all, measures for building the network of living labs include as follows: i) establishing a regional-based cooperative network through making a platform of living labs in the mid-to-long term perspective, ii) constructing an online living lab platform and iii) designating and operating an organization dedicated to living labs.

3) Expected benefits

- This study allows living labs, currently at an initial pilot stage, to take root in the marine sector, contributing to practically solving social problems so that people can feel the benefits.
- By enabling a variety of consumers such as general citizens as well as social and economic organizations who have been excluded from existing expert-oriented problem-solving process, this study lay the foundation for them to grow as new principal actors of innovation in coastal communities and strengthen the capability.
- This study contributes to corporate support in the marine sector as well as industrial development by fulfilling the need of consumers, facilitating the development of highly acceptable products and services and minimizing uncertainty surrounding corporate management.