

Business Report FY2019

1. General

During 49 years since its establishment, the Institute for Future Engineering (IFENG), a first-generation think tank in Japan, has continuously been trying to gain an insight into the developing tendency of science and technology and into socioeconomic changes, to identify issues and their solutions for a desirable future on the basis of engineering methodologies, and to propose ways how science and technology solve possible problems. The fiscal 2019 concludes the seventh year of IFENG as a public-interest corporation. Efforts to achieve a capability commensurate with the status of the institute have resulted in 71 researchers (mostly part-timers) compared with the initial 34. Synergy of the newly hired part-timers with different backgrounds with the full-time researchers who have got accustomed to the new management system has led to a variety of contracted works and has expanded the business to include independent nonprofit projects. Meanwhile, IFENG obtained for 2019 the fourth place in the GGTTI think tank ranking in the science and technology area, following the eighth in 2012 and 2013, the sixth in 2014, the fifth in 2015 and 2016, and fourth in 2017 and 2018. Financially FY2019 recorded a large surplus thanks to the highest amount ever of contract. However, this is essentially due to a large-scale project related to the Basic Plan for Science and Technology formulated every five years; the fundamental financial position of IFENG has not been sufficiently improved. The immediate priorities for the institute are expansion and stabilization of the business and, particularly, improvement and effective utilization of skills of the expanded part-time research staff. IFENG itself also needs renovations to address new issues in response to the worldwide changes of business climate caused by the COVID-19 pandemic which occurred late the fiscal year.

IFENG's article of incorporations define its activities in three categories¹⁾: investigations in the area of future engineering, interaction with the public related to future engineering (publicity, services, etc.), and international exchange related to future engineering.

The activities of a public-interest corporation are to be classified into nonprofit (N) and

for-profit (F) ones. The former is intended for the general public, while the latter is for specific parties.

2. Business-related activities

For explanations in this section, the N and P activities are further divided into three each: (1) contracted investigations (investigations driven by commissions or subventions by other parties), (2) independent investigations (investigations relying on its own fund), and (3) interactive research²⁾. Individual details are presented below. Activities related to international exchange are described in the last paragraph without differentiating N and P categories.

A total of 50 projects were implemented in FY2019, including four continued from the preceding year (one of which has already been closed financially) and one to be continued in the next year. Forty-nine were thus concluded within the fiscal year and considered in the account settlement.

The current contract-based projects include 18 for N1, 28 for P1 and 3 for P2. The project names are specified in the tables in the subsequent sections.

(1) Contracted investigations

The 46 F1 and P1 projects completed in FY2019 included 28 contracts with public institutions and 18 with private companies or foundations. Details are given for subventiary and commissioned investigations³⁾ respectively.

Two projects were supported by the private sector (Watanabe Memorial Foundation for the Advancement of New Technology), three were subsidized by the Grants-in-Aid for Scientific Research ("Kakenhi", Japan Society for the Promotion of Science) (joint investigations), and one by the Ministry of Foreign Affairs; the remaining 40 were commissioned projects.

The commissions came from six governmental agencies for 13 projects (compared with 13 in the preceding year, the same hereinafter), five government-run institutions for 8 (12), three universities for 3 (3), and six business companies for 12 (11). The commissioning government agencies included the Cabinet Office; the Ministry of Education, Culture, Sports, Science and Technology; the Agency for Cultural Affairs; the Ministry of Health, Labor and Welfare; the Ministry of Agriculture, Forestry and Fisheries; and the Ministry of Land, Infrastructure, Transport and Tourism. Several National Research and Development Agencies (including Japan Science Technology Agency) and Independent Administrative Agencies have also commissioned research works to IFENG, as well as a private and two national universities. IFENG made also four research contracts with private institutions. A subventionary project supported by a private institution is to be continued to the next year.

In terms of the business categories, 18 projects belong to nonprofit activities and 31 for-profit activities, as shown in the following table.

(2) Independent investigations

(i) Independent nonprofit investigations (N2)

The self-financed nonprofit independent investigations include preparatory works for supporting contracted projects (original concepts) and studies to expand researchers' knowledge. No activity in FY2019 belonged to this category.

(ii) Independent for-profit investigations (F2)

The independent for-profit investigations in 2019 included three projects (consulting) to support business companies' activities related to science and technology based on IFENG's existing knowledge.

(3) Interaction with the public

(i) Nonprofit interaction with the public (N3)

The activities below started in 2015 to feedback the research outcome of IFENG to wide

public:

(a) In an SNS-based publicity program, IFENG's official Twitter account was established along with accounts for individual projects. It is intended to familiarize the public with the research outcome of the institute and to encourage their access to essential issues by inviting the followers of the accounts to visit the official IFENG website, particularly the "Insight" and "Forum" sections. Experiences obtained in the projects implemented in FY2015-16 were helpful. This activity has been suspended in 2019 due to renewal works of the Institute's website.

(b) Publication of Annual Report and expansion of the English pages in IFENG's website were realized along with individual researchers' publication of their research results and presentation of their views in a number of printed media, conferences, meetings and seminars.

(ii) For-profit interaction with the public (F3)

Support of Aviation Forum was continued as a research activity related to future engineering by IFENG members.

(4) International exchange

A total of 16 researchers visited the US, Finland, Norway, Belgium, the Netherlands, Britain, Germany, India, Singapore, China, Republic of Korea, Hong Kong and Australia for their investigations.

Notes

1) Article 4.

2) These categories are hereinafter represented as N1, N2, ..., P1, P2, etc.

3) Investigations supported by subsidization from subventionary funds are called "subventionary"; those based on other financial sources are "commissioned".