

## **Business Plan FY2023**

### 1. Recent situations and new direction

The Institute for Future Engineering (IFENG) celebrated its bicentennial on February 15, 2021. The FY2023 will be the second year of groundwork for further advance of the institute in the next 50 years.

Our leading principle is, as emphasized in the semicentenary events held in the last year, resolute and disinterested pursuit of truth, drawing on our managerial independence.

We believe that the factors essential for further development of IFENG are firstly human resources, secondly strengthened basic research methodology, and thirdly buildup and elaboration of a new methodology for future think tank activities. Dealing with rapidly changing information environment is of prime importance and needs immediate actions.

The GGTTI think tank ranking has been suspended since 2020. While the current financial situation of IFENG is precarious, the Cabinet Office has demanded us to appropriate the accumulated surplus for nonprofit activities. In accordance with the instruction, a part of the surplus will supply current expenditure and the rest will cover the deficit in the current year. Stabilization of income is obviously an important task: we are trying to obtain more commissions in the current year.

IFENG's history and feature have been described as follows:

IFENG, one of the first-generation think tanks in Japan, was created in the period when the country was facing new and universal problems of environmental pollution and limits in resources and energy. "Soft science", or science of political decision making, was proposed 49 years ago as a field to study complex and interdisciplinary problems concerning social and political issues, involving interactions of humans, society, nature and technology. The activities of IFENG, a nonprofit organization, have been focused exactly on soft science, particularly on the fields of science and technology as well as research and development, which was a unique feature in Japan.

The institute has thus developed original methodologies for analysis of social trends, identification of essential issues in society, and development of comprehensive strategy to settle them, as well as conception, implementation and evaluation of relevant policies. These methodologies have proven to be effective in application to policy issues and socioeconomic problems.

IFENG has recently been extending its activities to include the "mode 3" policy studies, i.e. future technologies involving human and social factors as essential elements. Studies in these subjects, deeply rooted in the human nature, must be based on insights in epistemology and theory of knowledge. Specific subjects relevant to IFENG's independent studies include next-generation AI, brain science, genome editing, synthetic biology and behavioral psychology.

The purpose of the Institute is summarized as follows:

Our research activities start from gaining insights into the developing tendency of science and technology and into presages of socioeconomic changes in order to predict a likely future and its inherent problems and tasks. The goal is to conceive, design and propose measures for solving those problems by analyzing relevant data with "engineering" methodologies, thus contributing to advances in science and technology as well as socioeconomic development at large. Subjects addressed include desirable social systems, policy making, identification of long-term and basic tasks along with development of systems to address them, preferable product development and service systems, research and development systems, and implementation of technologies,

More specifically, our research tasks and ancillary works are divided into the following units: Research Center for Policy Analysis, Research Center for Information and Telecommunication, Research Center for Social Issues, and Programs Related to the Great East Japan Earthquake. Studies are performed by platforms formed by internal researchers, which are networked with external experts. Results are released in forms sharable with the general public as far as possible, for example through social media or

on websites, in addition to conferences, lectures and publications. The external networks include Japan Society for Future Research and Japan Society for Research Policy and Innovation Management, which are in partnership with us due to their activities closely related to ours, as well as a number of domestic and overseas specialist groups that have been formed in the course of our technology forecast and other activities.

Specific activities are classified into three categories: Contracted Investigations, Independent Investigations, and Interactive Research. Within each category, balance is controlled between Nonprofit Activities for the general public and For-Profit Activities for specific parties.

Based on our history and general guidelines for activities described above, IFENG will continue and expand the activities since 2015. Particularly, the Interactive Research, relatively inactive so far, will be enhanced in order to "create wisdom for society". Furthermore, nonprofit Independent Investigations will further be expanded in FY2023 by continuing actions in FY2022. For this purpose, we intend to build up a competent body with a variety of expertise and thoroughgoing thought, thus consolidating our knowledge base and diversify our activities, particularly through fostering recently recruited personnel.

## 2. Business plans for individual categories

### (1) Nonprofit Contracted Investigations (N1)

Nonprofit Contracted Investigations (N1) are performed by IFENG according to contracts with governmental agencies, local authorities, foundations and other organizations. The results are to be shared with the general public including the originators.

Our research contracts, usually based on open application, may be either "commissioned" or "subventionary". While a commissioned investigation is carried out in accordance with the specifications by the commissioning party defining the general framework of the project as well as expected results, a subventionary investigation allows more discretion of the applicant.

Investigation projects are financed either by the commissioning parties or foundations: commissioned investigations are principally supported by government agencies, local authorities, research institutions, or incorporated foundations, while subventionary investigations rely on foundations for research promotion.

Activities in think tanks require a great variety of detailed leading-edge knowledge in different disciplines. No single organization could cover this entirely with its internal manpower even for a project fit for its background. We adopt, therefore, a platform-network system where our staff works on the platform for the core activities in a project while peripheral knowledge is provided by networked teams of external specialists. Even non-skilled works such as questionnaire counting may be outsourced to specialized contractors on economic ground.

## (2) Nonprofit Independent Investigations (N2)

Nonprofit Independent Investigations (N2) are self-financed investigations on subjects attracting much public attention. The results are open to public. The Special Earthquake-Related Project started in FY2011 belongs to this category. Here the process of emergence and recognition of the social impacts of the quake was compared with that of social response in terms of time series, in order to explore appropriate social systems requisite for short- and mid-term response measures.

This category has been enhanced from FY2016 on: in addition to original works by our staff, a program for training young researchers started in that year, along with efforts to secure financial resources for the program. Two seminars were opened in FY2017: "Thinking Methodology" for enhancement of the basic techniques for think tank activities, and "Concept of Next-Generation Artificial Intelligence" as an embodiment of "creation of wisdom for society". Similar activities will be continued in this year, particularly focusing on studies on actors and processes of policymaking. Our basic principles will be anticipating situations and acting more effectively for application of the research outcome to the knowledge-based information society.

### (3) Nonprofit Interactive Research (N3)

Nonprofit Interactive Research (N3) aims at sharing the results with society and, for new problems suggested by the results, collaborating with the general public for deepening insights into them or finding solutions through iterative dialogues.

Activities in this category are thus characterized by sharing research results and tasks, along with continued dialogues, on an open ground. It is intended to involve the general public in the process towards better understanding of problems.

We think of the digital space as a preferred venue for such interaction. The "Forum" and "Insight" sections in our website typically provide such opportunities for dialogue.

While the Forum is intended for discussion with the public, the Insight is the channel for presenting IFENG's research results as questions to society and inviting discussions by registered external specialists. The progress of discussions is made accessible to the public by timely disclosure on the website. The "Publication" section of the site provides IFENG's publications in the past as the basis for discussion, complemented by public lectures and printed publications.

Following the enhancement plan started in FY2015, this category will further be expanded to a more substantial part of the institute this year, for example by combination with other Nonprofit Investigation projects, along with securing financial resources and establishing appropriate organizational measures. In addition, our website will be renewed and integrated with social media.

### (4) For-Profit Commissioned Investigations (F1)

For-Profit Commissioned Investigations (F1) consist of investigations performed for specific parties, mostly business companies and other organizations, that order the investigations. Projects assigned through open application may also be categorized here if the outcome is unlikely to be shared publicly.

### (5) For-Profit Independent Investigations (F2)

An example of Independent Investigations performed for specific parties is consulting service based on IFENG's knowledge and findings obtained in the past think tank activities.

(6) For-Profit Interactive Research (F3)

For-Profit Interactive Research (F3) includes lectures, training courses and publications based on our research results for specific target groups.