"Visualization" of the SDGs-Tech

SDGs

The Sustainable Development Goals (SDGs) are the international goals for a sustainable and better world by 2030, as stated in the "2030 Agenda for Sustainable Development" adopted at the United Nations Summit in September 2015. SDGs include 17 goals that are universal, not only for developing countries but also for developed countries themselves. Japan is also actively involved in this issue.

What is "visualization"?

The visualization of SDGs-related patent technologies is conducted using an AI method called BERT, which was released by Google in October 2018. While BERT is an AI trained to read ordinary text like Wikipedia and novels, it was specially trained to read patent documents at IP AI Research Center in Japio. Furthermore, eight classes[1] of classifiers were added to the BERT after the training, which correspond to the goals related to science and technology among the SDGs, and training was conducted to determine SDGs-Tech by reading text related to each SDG.

Table1:Example of classification of development goals for patent publications

Description of patent publication (excerpt)	Estimated development goal
This invention provides a technology that makes it easier to recognize the relationship between data on crop growth and the location where the data was obtained...It is easy to visually grasp the condition of the field when focusing on	2 飢餓を ゼロに
This invention determines the degree of influence ... from biometric information obtained using a sensor device that can be measured at home. It can be used in a variety of devices and methods in technical fields related to health maintenance.	3 すべての人に 健康と福祉を
In the water generating device disclosed herein, the water generating device has a plurality of replaceable water generating members including moisture absorbing members...The efficiency of water generation can be improved in response to environmental changes.	6 安全な水とトイレ を世界中に

(1)
2. ZERO HUNGER
3. GOOD HEALTH AND WELL-BEING
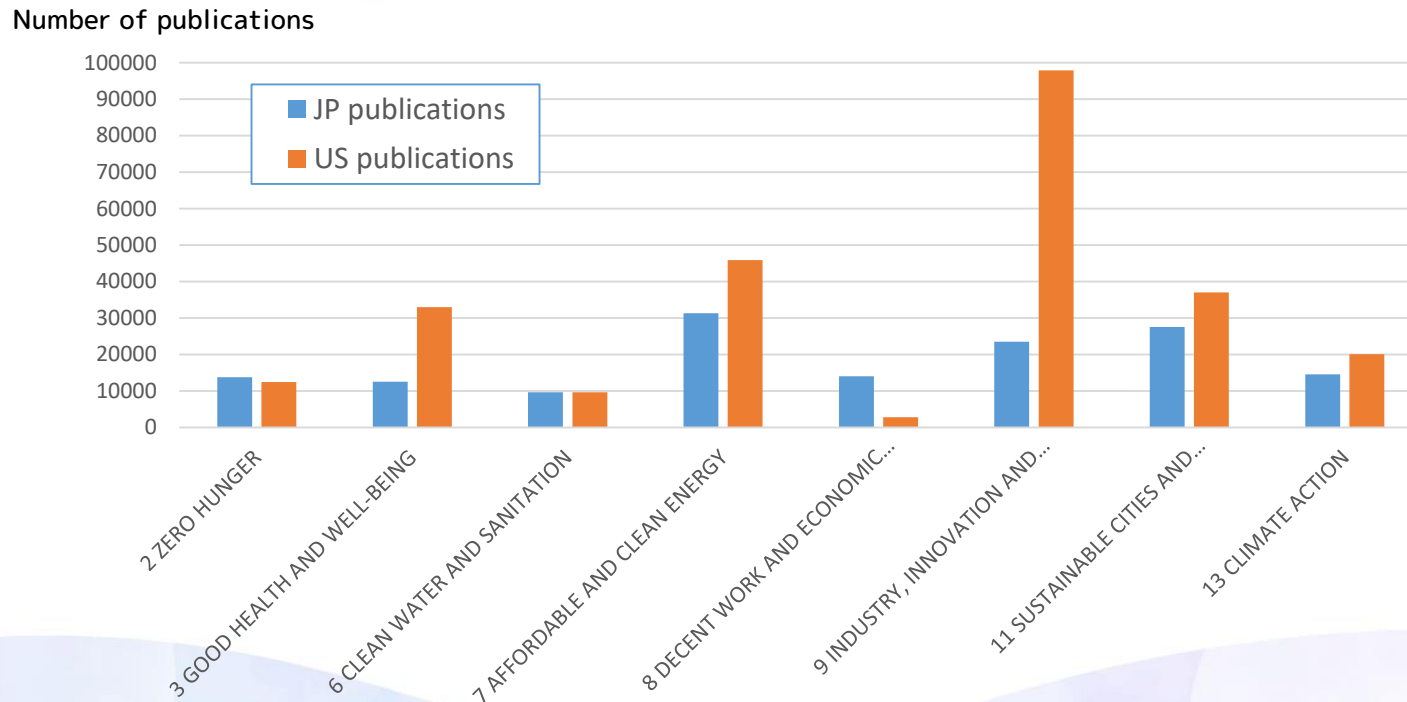6. CLEAN WATER AND SANITATION
7. AFFORDABLE AND CLEAN ENERGY
8. DECENT WORK AND ECONOMIC GROWTH
9. INDUSTRY, INNOVATION AND INFRASTRUCTURE
11. SUSTAINABLE CITIES AND COMMUNITIES
13. CLIMATE ACTION

※ See also the WIPO press [https://www.wipo.int/sdgs/en/story.html].

■ Results

The table below shows the result of AI estimation of patent applications published by the JPO and USPTO in 2020. As mentioned in the paragraph "What is visualization?", as AI estimation with the 8 classes, it was estimated that about 55%(JP) and 62%(US) of the total applications fall under any of the eight goals 2, 3, 6, 7, 8, 9, 11, and 13. The website of the IP AI Research Center publishes the annual and monthly rankings of SDGs companies.

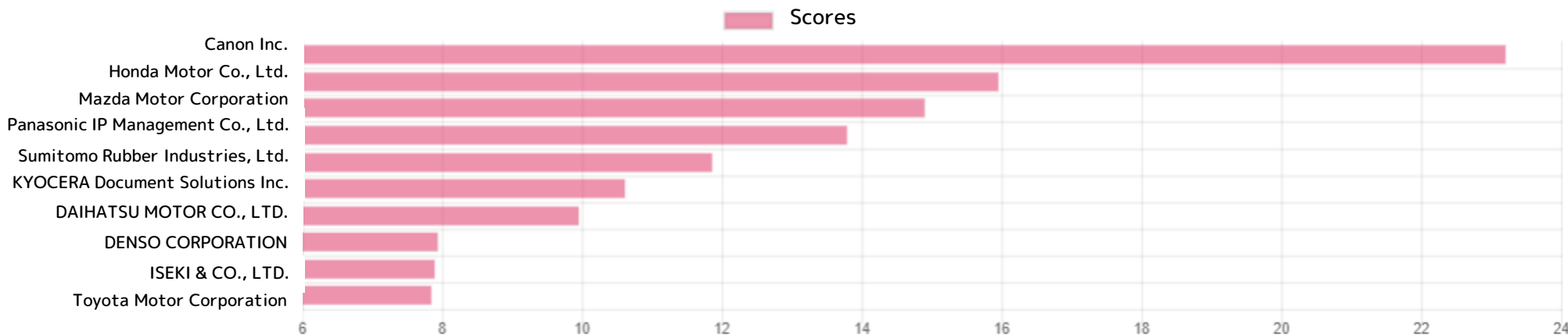Table2:AI estimated result

Number of publications

The remaining did not fall under any of the above goals and was classified as "other." These publications may be patents that should be classified into goals 1, 4, 5, 10, 12, and 14~17, which are not currently included in the classifier, or they may not yet be classified by our estimation model. We hope users will understand that the estimated results are the current research results of the Center and do not accurately reflect the SDGs activities of each company.

■ Rankings of SDGs companies

On the website of the Center, the annual and monthly rankings of SDGs companies are announced. The table below shows an example of a company ranking. Estimated goals and values are calculated for each patent application, and scores (sum of estimated values in each patent application) are calculated for each goal, and the applicants with the highest score are displayed in order.

Table3: Example of a company ranking

■ For more detailed data

For users who subscribe to Japio-GPG/FX, we will provide individual AI estimation results up to 100 documents per month for the patent applications of your choice.
For more information, please contact us.