Use of AI Translation (1)

【**Results of the FY2019 Validation Tests**】

・There are generally no grammatical errors, but when the structure of the Japanese language is complex, the translation is sometimes inaccurate.

【**Results of the FY2021 Validation Tests**】

・There are fewer grammatical errors and inaccurate translations than in FY2019, the performance of the AI translation engine has improved, and the translation quality has dramatically improved.

・However, there are issues such as: (1) the use of the wrong words to fill in grammatical subjects, which occurs due to the difference in Japanese and English sentence structures, and (2) inconsistency in the use of translated terms and problems of compliance with the Standard Legal Terms Dictionary and the Law Translation Guidelines.

Issue (1) The way the wrong words are used to fill in grammatical subjects

・In Japanese, when the grammatical subject is the same in the main clause and the associated conditional clause, the subject in one of those clauses is sometimes omitted. In contrast, English requires that the subject be present in both clauses in order to form a complete sentence. When the subject has been omitted in the Japanese text, a word connected with the surrounding context is sometimes used to fill in for it in the translation, incorrectly.

➡ **We are looking into how to address this by strengthening AI learning**

Issue (2) Inconsistency in the use of translated terms and problems of compliance with the Standard Legal Terms Dictionary and the Law Translation Guidelines.

・Different translations are sometimes used for the same word when it appears multiple times in the same law or regulation.

・It is difficult to achieve complete consistency with the Standard Legal Terms Dictionary and the Law Translation Guidelines through AI learning alone.

➡ **We are looking into using an app to uniformly substitute in the appropriate translations.**

* However, uniform substitution is not so readily applicable to some types of words (e.g., verbs, auxiliaries), so human verification is essential.

➡ **We conducted an exploration and review towards a solution to issue(1) and issue(2) in FY2022**

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Use of AI Translation (2)

【**Outline of the FY2022 Exploration and Review**】

Issue (1) Use of the wrong words to fill in grammatical subjects : **AI learning enhancements**

→   The wrong words stopped being positioned as the grammatical subject, and the translation quality improved.

Issue (2) Inconsistency in the use of translated terms and problems of compliance with the Standard Legal Terms Dictionary and the Law Translation Guidelines : **use of an app**

→   Translations became consistent with the Standard Legal Terms Dictionary and the Law Translation Guidelines, and the translation quality improved.

【**Results of the Exploration and Review** 】

・   We saw an improvement in the target issues, **confirming that the measures explored improve the translation results**.

・   However, when it comes to points such as choice of capital/lower case letters, singular/plural forms, and contextually adapted translated terms, **it is difficult to apply a mechanical approach to these decisions, meaning that checking and correction (quality reviews) by humans will** need to **continue**.

・   By using AI translation and reviewing the modality for quality reviews, **we believe that we will reduce the lead times for preparing draft English translations of laws and regulations and for making those translations available to the public.**

➡ **Based on the results of the exploration and review, we will start developing an AI translation system from FY2023.**

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