

## Intellectual Property DX to Support Intellectual Property Activities

We are working to transform our organization into one with high productivity per person through intellectual property DX. Here, we will introduce some examples of DX that supports intellectual property activities.

### 1. Improving the efficiency of prior art searches

Prior art searches are essential for patent applications. However, for our R&D engineers who have few opportunities to conduct such searches, it is difficult to maintain their search skills. As a result, there are cases where prior art is not always thoroughly identified and patent applications are rejected on the grounds of the existence of prior art. To solve this problem, we developed a tool that allows prior art to be searched by just entering text, regardless of skill level, and we achieved a time reduction of approximately 85% compared to the conventional workflow.

### 2. Improving the efficiency of exploring our technology and human resources

Until now, it has taken time to find in-house experts on specific technologies. The technology asset visualization tool, developed as part of the intellectual property DX project, not only makes in-house technology assets visible and searchable, but also allows us to search for the in-house technical human resources who are well-versed in the assets.

This tool not only enables efficient access to in-house experts on specific technologies but also facilitates team building for the creation of new businesses, allowing for easy exploration and aggregation of necessary technology and human resources. As a result, it is expected to promote the launch of new businesses utilizing the fusion of technology and human resources and lead to the creation of new patent assets.

### 3. Reforming the foreign patent application process using AI

Our company has a high ratio of overseas sales, and files foreign patent applications in line with business strategy. For these foreign patent applications, it is essential to translate the application documents into the local language, and this accounts for a large portion of the man-hours in preparing documents for foreign applications. In particular, since careful selection of terms is required for patent translation, the issue is the variation in quality and necessary work time by workers. We addressed this

issue by developing an AI-based proofreading assist function. This function has the potential to significantly reduce the man-hours in both the translation and final checking processes. As a result, we proceeded with preparation for implementing this function to reduce the burden on workers in these processes, allowing them to focus on more advanced quality checks and highly specialized translation tasks. We plan to continue making improvements and further utilize AI technology to maximize man-hours reduction.

### 4. Improving the productivity of IP Landscape using generative AI

Data analysts in the Intellectual Property Division have been conducting IP Landscape analysis (a multifaceted analysis that combines technical information, including intellectual property, and market information, and provides various outputs, such as strategic proposals). As awareness of the usefulness of this analysis has increased internally, the number of requests for such analysis has increased, and it has become difficult to provide stable, high-quality outputs. On the other hand, while handling numerous cases, we found that there was a possibility of building a common process that could be applied to all requests, like information collection and analysis, regardless of what is requested. Therefore, we are considering developing a tool that utilizes generative AI to automatically collect and analyze the necessary information from a wide variety of sources, regardless of the request. By doing this, we will be able to significantly reduce the man-hours for information collection, etc., and allow data analysts to focus on advanced information processing.

