



Machine Translation Solutions (MT) Case Study

World market leader offering production
solutions in the machine tool, laser and
electronics sectors



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SEPROTEC USE CASE MT OUTPUT EVALUATION (CONTENT QUO)

1. The client

Our customer is a high-tech company, providing manufacturing solutions in the fields of machine tools, laser technology, electronics, and Industry 4.0.

- **Cooperation** since January 2020
- **Text types:** Software & HMI, sales and marketing material, quotation documents, customer training courses, contracts, technical data, system metadata, training documents, protocols, SAP, trade fair material, newsletters, labelling texts, interface descriptions, etc.
- **Language Combinations:**
 - **Source language:** German, English, French, Italian, Dutch
 - **Target language:** Bulgarian, Chinese (simplified & traditional), Croatian, Czech, Danish, Dutch, English (UK & US), Estonian, Filipino (Tagalog), Finnish, French, German, Greek, Hindi, Hebrew, Hungarian, Indonesian, Italian, Japanese, Korean, Latvian, Lithuanian, Malay, Norwegian, Polish, Portuguese (Brazil & Portugal), Romanian, Russian, Swedish, Serbian, Slovakian, Slovenian, Spanish, Thai, Turkish, Vietnamese
- **Translation technologies:** Across Language Server, MultiTerm
- **Services:** Translation, Proofreading, Machine Translation Solutions, File Handling, Desktop Publishing (DTP), Terminology Work, Alignments and Language Consulting

2. The challenge

Our customer faced a very common problem in a highly competitive market: The company needed to shorten turnaround times and wanted to reduce the overall cost of translations to operate more cost-effectively. At the same time, the quality level of the translations had to be maintained.

3. The solution

To meet these challenges effectively, our team consulted the technical documentation department on the development of a machine translation solution tailored to their processes and subsequently supported them with the implementation.

The proposed machine translation solution included the development and training of six customized MT engines through Language Quality Assessment (LQA). The project details are as follows:

Language Combinations

The MT engines were trained for the language combinations:

- Source Language: German
- Target languages:
 - 1st batch: English, Chinese and Polish
 - 2nd batch: French, Italian and Spanish.





Technology

We relied on our trusted technology partner KantanMT as our MT provider and used "crossConnect for external Editing" as the interface between Across (the customer's translation management system) and KantanMT.

Process

We stored the results of the raw machine translation and the results of the translation process in a database so that we can measure the edit distance and draw conclusions for training the engines.

Training

We have set-up a specialized post-editing training for the language specialists assigned the customer's post-editing tasks

After completing the training phase, we developed and supported the implementation of a new "human-in-the-loop" translation workflow that allows the customer to benefit from the newly developed engines while maintaining the required translation quality.

This workflow included the following steps:

1. Machine translation
2. Post-editing (MTPE)
3. Sample Quality Assurance (QA) checks by a second language specialist

4. Benefits

By introducing the new MTPE workflow, we were able to reduce the price per word, which led to an overall cost reduction for the technical documentation department's translation projects in these language combinations.

Furthermore, the quality of the MT output after finishing the training phase is already very promising with a measured edit distance below 0,25 for the language combination DE-EN in 80% of the cases. The edit distance ED score can get scaled as follows:

0	0-0,25	0,25-0,5	0,5-0,75	0,75-1
Good as is (no changes)	Light editing	Medium editing	Heavy editing	Almost completely re-written

The operational phase only began in October 2023. We expect further results in the future. But we are already communicating with the customer to implement the developed MT solution for other departments as well.

