



Case Study

A Hybrid Human + Machine Translation
Approach Keeps Zendesk's Customers Happy



Zendesk is a global customer service software company with a commitment to customer success. This commitment is reflected in its large collection of articles created by its support team. However, the articles were originally only provided in English. In order to reach business objectives and provide content to global customers, the support team set a goal to translate 100% of those articles into five target languages. The search for an automated translation solution that was both cost-effective and scalable began.

Challenge:

Zendesk's translation challenge revolved around the fact that they had huge volumes of support content that is continuously being updated. Keeping track of updates manually would create an administrative challenge. To top it off, their articles ranged from extremely popular, high traffic content to seldom-viewed articles. It was clear that one translation strategy would not fit for all of Zendesk's articles.

In order to keep up with international sales growth and provide an excellent user experience for their customers, finding an automated solution was imperative.

So what was Zendesk looking for in their new solution? They wanted a tool that required little human intervention - this meant that access to an API was essential. They wanted the ability to customize the tool to incorporate Zendesk's specific vocabulary, and wanted something that was truly scalable, requiring low administrative and maintenance effort. Finally, they wanted a solution that was also cost-effective without compromising on quality so they could

accommodate their growing volume of content without breaking the budget.

"We didn't want an off-the-shelf solution. We needed something we could customize as much as possible to our own vocabulary, and that could instantaneously learn as we went along with our human and machine translations," said Melissa Burch, manager of online support at Zendesk.

Melissa's team researched three options: pure machine translation, pure human translation (managed by a translation agency) or a hybrid solution. Using human translation alone was dismissed early due to its high cost. Pure machine translation was deemed insufficient after reviewing the quality of the translated articles. The solution they chose would need to provide a high quality output sufficient enough to warrant the absence of human intervention.

"We weren't going to endorse a solution that was pure 100% Machine Translation (MT). We knew we needed human translation for articles that were high priority and highly utilized by our customers," said Burch.

It was clear that a hybrid of human and machine translation was the answer.

The Solution:

Lilt felt like the perfect solution: "Our dream was to be able to translate all our content in the best possible way, in the most cost effective way. We threw out a lot of crazy ideas - this notion of a hybrid model that's automated - with some human, some machine - and Lilt is where we landed!" said Burch.

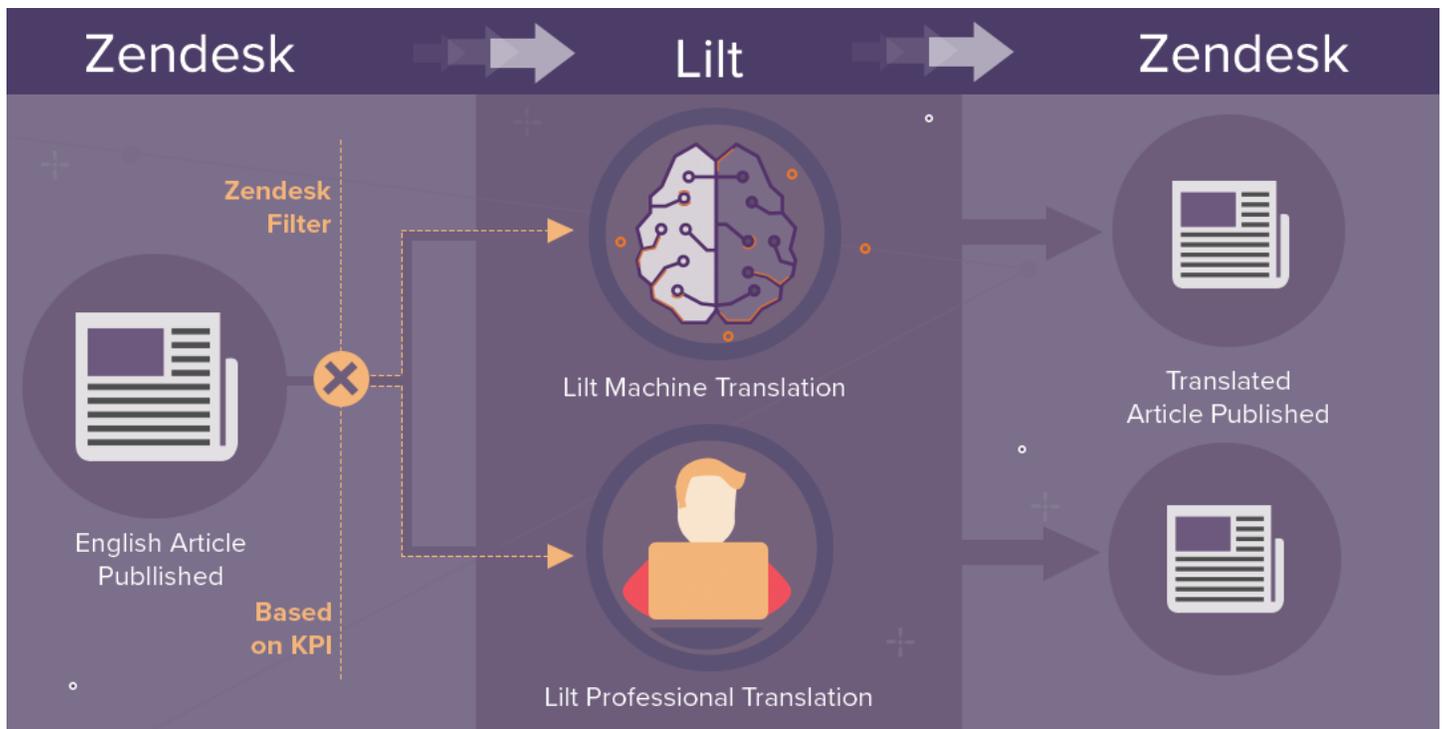


Lilt worked with Zendesk to implement an end-to-end content production pipeline that is accelerated by adaptive neural machine translation and a centralized translation memory.

Zendesk produced the articles in English and sent them through a Key Performance Indicator (KPI) filter. Based on this metric, the articles would be either sent to a professional team of translators for translation through Lilt's adaptive neural MT

system, or the articles would be sent directly to the adaptive neural MT system and the raw MT output would be used.

Lilt's API further accelerated the process by connecting directly to Zendesk's Content Management System to facilitate the transfer of content into and out of Lilt. So there was no need to worry about manually uploading and downloading files.



Results:

After a few short weeks of implementation, Zendesk was already able to see the value in choosing a hybrid translation solution.

“Automating this process allows us to keep our focus on our customer rather than on time consuming internal processes.” Burch said. “It’s a sign that we’ve moved in the right direction.”

Better Quality

About halfway through implementation, Lilt released their new Neural Machine Translation (NMT) system for the English to German language pair. A pairwise ranking experiment on 98 segments, conducted with two native speakers, showed that the new Neural Machine output surpassed the quality of the Phrase-based translation about 44% of the time.



Meaning that Zendesk could confidently continue using this solution for lower-priority articles.

Another benefit came from the centralized translation memory and adaptive MT. As the MT engine learns from translation feedback in real-time, there's no need to externally re-train the engine, as would be needed in a static engine. This real-time learning also improved the quality of the MT suggestions shown to human translators in Lilt. Overall, increasing the quality of human translation output and increasing throughput times.

"We love the connection between the human translator and their ability to train our MT engines. It meant that when we did make an investment in human translations, it would also contribute to the quality of our MT engines." said Burch.

Lower Cost

High translation cost was one of the main reasons that Zendesk searched for an automated

solution. Using a hybrid of human and machine translation, cost was reduced by over 75%.

Higher Usage

The main goal of translating the content was to get users engaged. "Having 100% content translated means our user experience is more consistent for our non-English speaking customers, and our sales team entering new markets can include our support and service in their pitch." explained Burch.

Despite the fact that Zendesk had not previously provided translated versions of their support-generated content, nor did they promote the new content in any way, as soon as the translated versions were published, their customers started using it. This shows that users are indeed finding and reading the information they were looking for, in the language they speak.



About Zendesk

Zendesk builds software for better customer relationships. It empowers organizations to improve customer engagement and better understand their customers. More than 107,000 paid customer accounts in over 160 countries and territories use Zendesk products. Based in San Francisco, Zendesk has operations in the United States, Europe, Asia, Australia, and South America. Learn more at www.zendesk.com.



About Lilt

Lilt helps companies remove language barriers to information access with the first vertically integrated, AI-infused localization platform. Founded in Palo Alto in 2015, Lilt is based on research at Stanford, Berkeley, and Google. Learn more at www.lilt.com.

