

technological innovation, we firmly believe that we're on the cusp of an AI revolution that will fundamentally reshape our industry and make us rethink many of our business management approaches over the past three decades. The machines are on the rise.

LILT

We think about the role of AI in Lilt's technology in terms of augmented intelligence. The idea that AI is somehow able to automate the entirety of translation via pure MT is misguided, especially for content that requires a high level of quality. You can't really "solve" MT until you solve artificial intelligence, which is itself very much an unsolved problem. We need to think about how we can use AI to augment human translation quality and speed. Translation is an art form, and Lilt's focus is on how we can continue to develop technology that uses AI to enable translators to do their best work. In short: machines should work with, and learn from, human translators.

MATECAT

Artificial intelligence is fascinating and scary. Human language and translation in particular are perhaps the most difficult challenges that machines face. Natural language is a very compressed channel of information that is densely packed with meaning. It requires contextual information beyond the words themselves to be understood.

Language is the greatest challenge that machines face because it's the most *human* thing there is. Because of this, automatic translation systems are progressing slowly, but they are undeniably progressing.²

MEMOQ

In translation environment tools, AI in its MT incarnation is here to stay, but with a clear shift in focus. We'll see technology and processes move from post-editing, where the human editor is an afterthought, to augmented translation, where AI is harnessed to give linguists superpowers. The next

exciting things will happen in human-machine interaction, not in the MT models per se.

Beyond language processing in the strict sense, MT will start cropping up in project management, vendor management, and localization engineering. Overall, the successful language professional's toolbox will include a growing number of commoditized machine learning and data analysis tools. AI's future is bleak in one area: quality assurance. If a tool were "smart enough" to assess quality, it would be smart enough to do the job better itself. So, we would use the tool to do the job, not the quality assurance.

Developers and users are getting increasingly good at using this kind of technology.

MEMSOURCE

At Memsource, AI has found its place in our translation management and translation tool components. Typically, we look for tasks that are repetitive, need to be performed at scale, and bring a high return on investment. These tasks are often perfect candidates for AI. For instance, our Machine Translation Quality Estimation (MTQE) feature identifies high-quality MT output that needs no post-editing. Another feature identifies non-translatable content. A very promising area is the end-to-end automation of the localization workflow, from configuring the right project settings to picking the right linguist for the job. On the other hand, AI will struggle with tasks such as a comprehensive review of translated content before delivery to a very demanding customer. For instance, AI will not spot issues that are unique or rare, or issues that might not have been present in the data set on which it was trained. In any case, these are exciting times, and AI-powered technology should allow us to focus on creative tasks that are more fun.

PLUNET

As a business management system running your workflows, Plunet could foresee artificial intelligence for vendor allocation, trying to go for the best possible option and then opening up to a broader potential vendor audience. AI could also be used to predict deadlines or even possible workflows. In addition, we could think about predicting what a user wants to do next and present those options to them (e.g., user experience design).

In an ideal world—given enough metadata and legacy information—projects could be entirely automated: quoting, setting up projects, choosing the right CAT tool, vendor allocation, and even some automated exception handling.

SDL

We see AI in any scenario where it's about increasing productivity and automation. Here are a few examples:

- Neural MT (a productivity booster) combined with translation memory (TM), terminology, and fragment matching to always provide the best possible match from which to start.
- Voice recognition. (Seeing the increasing quality of AI-based engines such as Google, it becomes more and more compelling to deeply integrate with CAT environments.)
- Project automation. For example, automatically routing work by analyzing source content and finding the most appropriate resources (e.g., TMs, termbases, and MT engines) and translators/reviewers with matching skills.

Having this set of intelligent tools at their fingertips, there is a certain likelihood that translators will spend more time overseeing and managing a translation process versus starting to translate from scratch (i.e., a shift from "from-scratch" translation to review). As an aside, we like to avoid the term "post-editing" when it comes to NMT. We prefer the term "review," as this more closely matches the type of work when reviewing output from a well-trained NMT engine.



There's a lot more to say about artificial intelligence and translation than just how it relates to machine translation.

Having said all of the above, though, language is language, which always means “unexpected intricacies” that make it key to design any piece of technology in such a way that translators are in control of the resources with which they are working, rather than shoehorning users into a certain way of working. Flexibility will be key. In our focus groups, users keep telling us that this is a vital aspect.

SMARTCAT

We use AI to make translation and translation management stress-free and efficient. For linguists, this means suggesting jobs relevant to their expertise; adapting translation suggestions to their style and voice; helping with tedious things like tags, number formats, and non-translatables; and handling invoices, payment, and everything related to running their own accounting. These tasks often take up to 30% of translators’ time, which they could use for translating, thus making more money and being happier in general.

For project managers, this means suggesting linguists who are the best match for specific projects,

automatically setting deadlines, choosing the most relevant MT engines, tracking progress, and notifying the project manager if anything goes wrong.

In the near future, AI will become the brain of multiple smart personal assistants for project managers and linguists in Smartcat, helping them work more efficiently and creatively by taking on repetitive, nonproductive tasks.

STAR

The two AI technologies—semantic information management and machine learning—play a critical role in STAR technologies and will also have a significant impact in the evolution of those technologies.

Semantic information represented in knowledge graphs and ontologies is key for opening the “content black box” in technical communications making content interpretable. This enables smart services and processing of tech coms in digitized processes. Semantic information is the base for intelligent assistants, chat bots, voice assistants, and intelligent augmented reality and virtual reality scenarios.

Machine learning is the base for MT and the core of the STAR MT solution

that supports translators by providing machine-based translation suggestions. Machine learning-based neural networks will also support the following:

- Intelligent (predictive) text completion in authoring memories.
- Higher degrees of automation for quality assurance, error detection, and correction in translations.
- AI-based post-editing of machine translations.
- Optimized terminology recognition and checking in morphology-rich languages.
- Higher automation of alignment corrections.

FINAL THOUGHTS

For me (Jost) it was very instructive to see what technology vendors had to say. Note that only one (MateCat in their longer response available online at the link listed below) casts real doubt on the longevity of the world of translation as we know it. All others see artificial intelligence not only as not taking over our work, but as something that complements our work as professional translators, editors, or project managers, and often in very creative ways. And, like I’ve said so many times before in this column, it’s likely up to us to become even more creative in communicating to technology vendors which tasks are mindless and repetitive and should probably be taken over by machines, and which are the ones that are better left to us. ●

NOTES

1. For a complete list of answers, see xl8.link/ToolBoxAI.
2. For the rest of the lengthy, but insightful, take on this topic, see marcotrombetti.com/future.



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