BALANCING EFFICIENCY AND ACCURACY:

THE RISKS AND BENEFITS OF AI TRANSLATIONS IN SAFETY-CRITICAL INDUSTRIES

In safety-critical industries, clear communication is essential. At Mintra, client interest for multilingual training has increased significantly, reflecting the need for accessible training in workers' native languages, explains Moana Ewald.

Jordan Gardner
Immersive Learning Developer
Mintra

Several factors are at play, primarily fuelled by the availability of AI translation engines to make multilingual training more accessible and affordable. The emerging conversation acknowledges that training undertaken in the mother tongue is not just about convenience, it helps learners 'feel safer'. There is an increased confidence, a sense of value and a positive learning outcome that directly impacts safety. However, it's not all plain sailing, relying on AI-powered translation engines without adequate quality review processes can lead to critical errors. There are lessons to be learnt.

In 1978, the International Maritime Organization (IMO) adopted English as the official working language for seafarers under the Standards of Training, Certification and Watchkeeping (STCW). The goal was clear: To ensure smooth, unambiguous communication across multinational crews. Yet, despite using English as the de facto language for maritime safety and operations for the last 45+ years, improvements in AI have made multilingual training more feasible, accessible and increasingly in demand.

The energy sector, known for its stringent health and safety regulations and high-value workers, is leading the charge with customers requesting high-quality translations in safety-critical courses, particularly into Norwegian, Brazilian Portuguese and European Spanish. Training delivered in your native language is not just a matter of preference, it is proven to be more effective. As people naturally think in their native tongue, your brain must first translate information, then understand it, before storing it. By providing the option of native-language training, these companies ensure a clearer understanding of safety protocols, reducing risks and improving compliance. The emphasis on seeking high-quality translations offers valuable lessons for the maritime sector, which faces similar challenges of employing and training multilingual teams.

But it's not quite as rose-tinted as it looks. Whilst the availability of AI-powered translations has made the process quicker and less labour intensive, there are inherent risks.

Using unregulated AI translation engines in safety-critical sectors can pose significant risks where precise communication is essential. Services like Google Translate are popular for their speed and accessibility on phones or laptops. They can handle basic translations but often fail to capture the nuances of technical jargon, industry-specific terminology and cultural context, potentially leading to dangerous misunderstandings or mishandling of critical tasks. In safety-sensitive contexts, such errors could result in severe consequences, including accidents, damage to equipment or even fatalities.

This issue is compounded by the fact that AI systems are often not tailored to the specialised needs of industries like energy or maritime, where precision is non-negotiable. More rigorous translation practices, where human expertise remains integral, are vital for ensuring both safety and accuracy.

At Mintra, we have several layers of 'human' expertise that check and edit the AI translation, ensuring that it is correct and meeting the high standards of our accreditations, such as the DNV standard for Maritime Training Providers (DNV-ST-0029). We perform our quality assurance (QA) reviews with a constant language sensibility. In one instance, a translation tool used by a third-party provider rendered the word "plant" incorrectly, translating it into German as "Pflanze" (a plant in the biological sense) rather than the intended "industrial plant" (Anlage). The whole course became nonsensical and such errors, especially when applied to safety protocols or emergency procedures, could lead to catastrophic consequences. This type of mistranslation highlights the critical importance of human intervention and a robust quality assurance process.

It's not all doom and gloom. The careful use of AI in translation services offers numerous advantages, particularly when paired with human expertise. One of the main benefits is its speed and efficiency, as AI can process large volumes of text rapidly, enabling quicker project completion and significant cost savings. Furthermore, AI ensures consistency across large-scale translation projects, preventing errors that can arise when human translators interpret materials with their own individual nuances. The scalability of AI tools is also a key factor, as they can manage vast amounts of translation work at a scale impractical for human translators, making them ideal for extending multilingual training into the global market.

Here at Mintra we understand the value of AI for speed and delivering cost efficiencies which we are keen to pass on to our clients. Combining the power of AI-assisted tools with an API (Application Programming Interface) Key of our previously created 'term bases'. Everything is then fact-checked by our language experts who carefully review and refine the work to ensure accuracy and cultural appropriateness. By using this hybrid approach, blending the speed of AI with the quality control, cultural sensitivity and precision of human expertise, we deliver translations that are not only efficient but also meet the high standards needed for safety-critical industries.

Manual translation used to take on average 8 hours for 2,000 words, but with the system we have devised it's cut to between 3 and 6 hours, making it a more viable option for our customers. This process stands to become even quicker and more accurate as the database of terms grows and the AI gets smarter.

As we move forward, we are committed to providing courses in multiple languages, such as Norwegian, Brazilian Portuguese and European Spanish. We are working with clients to offer courses flagged with language options on the portal, so they can switch between languages. Encouraging them to learn in the language / style that suits them best.

We are constantly reviewing our translation partners and we spot-check all courses, providing robust feedback on translations. In addition to this, the Mintra team keeps up to date with technology and we continually review our policies and procedures to ensure our systems are 'best in class'. With this approach, we can provide safe, consistent and efficient training for everyone working in high-risk industries, regardless of their language.

The key takeaway for industries like energy and maritime, is that AI has a place in the translation process, but it must be continuously trained to improve its accuracy and human oversight is essential in high-stakes training environments. While AI offers clear benefits in terms of speed and scalability, its limitations are evident when industry-specific terminology and cultural awareness are essential. By combining the speed of AI with the expertise of human professionals, we can efficiently deliver high quality training materials that meet the critical demands of safety-critical industries.

As AI continues to reshape the translation landscape, we must remember that there is no substitute for the human touch, especially when lives are at stake. Always ensure that your translation processes are robust and culturally and linguistically sensitive—because in high-risk industries, clear communication saves lives.

To learn more about Mintra's approach to multilingual training solutions, visit
mintra.com/services/custom-elearning

Training & Development Column
in association with
MINTRA®