

Ai Can Help Insurers Process Non-English Claims Faster, for 40% Less

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Foreign-language insurance claims can be costly and time-consuming. This position paper highlights the significant savings possible from Ai-based 'Enhanced MT' as a core element of foreign language claims processing.

Coverage examples: Accident & Health, Commercial General Liability, Commercial Package, Cyber, Directors & Officers Liability, Employee and Workplace Benefits, Environmental, Excess & Surplus, Fine Art & Collectibles, Global Casualty, Homeowners, Kidnap & Ransom, Management Liability, Marine, Medical Liability, Multinational, Product Recall, Professional Liability, Property, Reinsurance, Small Commercial, Specialty Casualty, Surety, Trade Credit & Political Risk, Umbrella & Excess Casualty, Workers Compensation.

As an insurer with hundreds or thousands of claims originating in foreign languages, your process can slow greatly by having to translate these into a

common language. Meanwhile, the increased need for translation – a trend even in domestic markets – can significantly increase your costs and complexity.

Leveraging AI-based ‘Enhanced Machine Translation’ (MT) for multi-language insurance claims is an option that can streamline your process and improve ROI.

Typically, foreign language insurance claims are handled in one of three ways:

1. **Centralized Translation (CT); Centralized Processing (CP):** Professional translators are hired in the same country that processes the claims, taking in the foreign language claims and converting them to English;
2. **De-centralized Translation (DT); Centralized Processing (CP):** Professional translators are hired in multiple countries to translate foreign language claims into English, before sending them to a central processing location;
3. **De-centralized Translation (DT); Decentralized Processing (DP):** Professional translators are hired in multiple countries, and the translated claims are processed in that same country or in a regional hub.

Working backwards, **Scenario #3 (DT, DP)** is probably the most expensive option as it requires insurers to maintain duplicated claims processing functions in multiple countries. This is perhaps used least often as a workable strategy because it requires duplication of functions and ignores economies of scale.

Scenario #2 (DT, CP) reduces processing costs but may increase translation costs. It requires internal staffing or contracted support from professional translation organization(s). A potential downside is that translations are occurring away from the country where claims are processed, so consistency of translation quality and costs may be an issue. The central claims processing team may have limited ability to know whether claims were translated accurately without hiring their own translation team to spot-check or re-translate the work.

Scenario #1 (CT, CP) is where the greatest opportunity for savings may be. Processing all claims by a central team develops a depth of knowledge plus tighter control over consistency and costs. Performing all translations in a central location (or by a single/limited number of contractors) can help consistency and cost management. However, even this approach can be expensive if all translations are being performed by human translators – the norm in insurance translation work.

THE CASE FOR ENHANCED MACHINE TRANSLATION AND AI

Linguistic Systems has served insurance leaders for decades. We see growing interest in artificial intelligence by insurers seeking to reduce the costs, complexity, and delivery time associated with foreign language claims processing. While still in its infancy in the Insurance industry, the Enhanced MT model may be the next wave of foreign language claims processing.

Using **Scenario #1 (Central Translations, Central Processing)** as the starting point, an all-out effort is made to properly enable and support a multi-language claims processing function in a single country. This entails the following steps.



1. **Common Templates:** Linguistic Systems works with our insurance clients to develop a common templated electronic version of the claim form for each insurance type. It is the intention that all claims of a similar type will be processed via a type-specific template.
2. **Optical Character Recognition:** (OCR) software converts any claim forms received in image-based formats (e.g., as pdfs) to text-based formats that can be read by translation engines.
3. **Ai Translate by LSI™:** All claim forms are run through Linguistic Systems' best-in-class translation solution. Here, automatic language detection identifies the language (and dialect) of the submitted claims, the proper statistical machine translation (SMT) or neural machine translation (NMT)

engine is selected, and a first pass is run to machine-translate the content.

4. **Human Post-Editing:** Highly qualified and certified human translators are assigned from within the **Ai Translate by LSI™** solution to post-edit the machine translated content. This enables a faster, less expensive process because translators aren't translating the entire claim document; they are spot-checking the accuracy and readability of the machine output and modifying it as needed by examining the source document.
5. **Glossary Development:** For each area of insurance coverage, custom glossaries can be created of regularly occurring "outlier" words, industry expressions, acronyms, search terms, places, personal names, country-specific legal requirements, and other content that's difficult for machine translation engines to translate. Over time, this helps machine translation engines to continue to learn and improve their accuracy and speed, while reducing costs.
6. **Glossary Enhancement:** Human translators continue to add any outlier words from the machine output to the custom glossaries, so they increase in intelligence over time. This enables the machines to handle the repetitive mundane work while the human translators focus on clarifying anomalies and adding rich context to each glossary or claim.
7. **Corporate Asset Creation:** Custom glossaries of foreign language outlier expressions, coupled with an optimized translation process, are a powerful new asset. If you were to acquire another company in your industry, you have a head start on integrating their claims processing.

ECONOMICS

Post-editing by qualified human translators costs from 30-50% less than full human translation. In addition, there are significant savings from ordering translations in up to 120 languages from one solution (**Ai Translate by LSI™**) versus having to hire multiple translators (or translation services) in multiple countries.

With the caveat that pricing for translation services is often negotiable depending upon the size of the job, complexity of the content, timeframe needed, and other factors, let's assume the following:

- An average foreign language claim might contain 1,500 words.
- A skilled professional translator can translate each claim (via full human translation) at \$.22 per word for Spanish and an average of \$.30 per word for other languages.
- Each human translated insurance claim typically costs approximately \$330 in Spanish, and up to \$450 for other languages.
- A large insurer might process 10,000 foreign language claims per year.
- Statistical Machine Translation (SMT) or Neural Machine Translation (NMT) plus a Light Post Edit (LPE) costs approximately \$.09 per word for Spanish and up to \$.13 per word for other languages. This converts to a cost of \$135 per translated claim form in Spanish and up to \$225 for other languages.
- Machine translation plus a Full Post Edit (FPE) would cost between \$.17 and \$.22 per word depending on language. This computes to \$255 for a Spanish claim and up to \$330 per claim for other languages.
- At least 50% of claims would be processed via machine translation (MT) plus a Light Post Edit (LPE), while another 50% of claims may require the extra scrutiny of a Full Post Edit (FPE).

From these assumptions, we can estimate the potential costs and savings in the table to follow:

Table 1: Blended Translation Costs for 10,000 Claims

Language	Human (HT)	MT + Light Post Edit (LPE)	MT + Full Post Edit (FPE)	Blended MT + Editing
<i>Usage %</i>	100%	100%	100%	
(100%) Spanish	3,300,000	1,350,000	2,550,000	
(100%) Other Languages	4,500,000	1,950,000	3,300,000	
<i>Usage %</i>	100%	50%	50%	100%
(40%) Spanish	1,320,000	270,000	510,000	780,000
(60%) Other Languages	2,700,000	585,000	990,000	1,575,000
TOTALS	4,020,000	855,000	1,500,000	2,355,000
% Savings – <i>Blended vs. HT</i>				41% Less

ADDITIONAL BENEFITS

Insurance claims require a very high level of translation quality. Companies do not want to risk huge payouts or expensive litigation by not correctly understanding foreign language claims content.

Therefore, insurers often choose the highest level of translation quality for foreign language claims; and that comes from human translation. A way to ensure against quality concerns is to perform both methods (full human translation, and Enhanced MT) on a small number of foreign language claims during an agreed ramp up period, perhaps 1-3 months. In this way, the quality of both statistical and neural machine translations can be tested and evaluated against the full human translations. This learning can be continued to populate, enhance, and perfect the

custom glossaries that will support the translation process over time.

Within 6 or more months, the Enhanced MT process should approach the performance and quality of full human translation but at a much lower cost. In addition, the company is developing a corporate asset that becomes more valuable with each new claim. Competing against this process may put companies who are not using artificial intelligence at a distinct disadvantage.

Here is a quick review of benefits for insurers:

- Insurers should save about 40% on foreign language translations. For claims quantities in the range of 10,000 per year, that's more than \$1.6 million.
- Enhanced MT reduces the amount of time needed to process a claim.
- Machine learning and glossary assets are portable. Insurers may re-use them with multiple claims, internal divisions, or underwriting partners.
- **Ai Translate's** language identification functionality normalizes data to a single source language – in most cases, English. This simplifies custodial control over the content.
- Files are translated in the cloud within a secure loop that encloses the insurer's and their client's data on the MT servers. This reduces the risk of a data breach.

Enhanced MT may be a highly cost-effective and time saving alternative to full human translation of foreign-language insurance claims. By leveraging the disruptive power of artificial intelligence for a repetitive process, insurers have the opportunity to save time and money, and to improve their claims processing service for non-English documentation.