QAD achieves $1.7 million savings with Google Translate API and Machine Learning

Industry
Software and technology

Location(s)
Headquartered in Santa Barbara, California; customers worldwide

Technologies
• Google Translate

• Google AutoML

Overview
QAD, a manufacturing ERP software provider, needed fast, accurate translations of its online help for customers in 10 different languages. Human translation was cost-prohibitive, but the Google Translate API combined with an AutoML model now translates 2-3,000 page help files in under 15 minutes. The company estimates a $1.7 million savings in the first year.

Global ERP provider can translate online help files to 10 languages in under 15 minutes.

QAD delivers next-generation ERP and supply chain solutions in the cloud to keep pace with emerging business disruptors and to use the changes for competitive advantage. Over 2,000 manufacturing companies in more than 100 countries around the world have deployed QAD solutions. The company's ERP platform itself works in a number of languages, but when it came to online help, the answers were falling short.

Translating these extensive files was cost-prohibitive, so non-English users had to rely on on-demand translation capabilities. The results were hit-and-miss, due to the specialized vocabulary associated with the industry.

Thomas Blumer, Director of Knowledge Management at QAD, wanted to do better. He recommended a custom translation solution using the Google Translate API and a Google AutoML model. Pythian helped bring his vision to life, and in just weeks, a new way to help customers was launched.

QAD can now translate 2,000-3,000 page help files in under 15 minutes each, with quality that's far superior to their previous option. Blumer estimates the project will save the company $1.7 million in the first year alone.

"With AutoML, we can leverage all the translation we have done for the last 20 years."

– Thomas Blumer, Director of Knowledge Management, QAD

Pythian

Support global customers without breaking the budget

Previously, QAD worked with outside translators to convert priority documents into 10 different languages. However, the process was cumbersome. Human translations took several weeks, and even the best partners struggled with the very technical vocabulary of the manufacturing industry. Out-of-the-box Google Translate offered similar results. Native speakers at QAD often had to revise materials before releasing translations to customers.

Cost was another factor. Blumer estimates the ERP platform's online help files at 2,000-3,000 pages in length. Manually translating from English could cost approximately $180,000 per language.

Tapping into APIs and machine learning made the difference for QAD. Modern Google solutions provide the benefits of automation and the speed of cloud computing. They also let the company leverage their vast repository of previous translations, resulting in higher quality outputs.

Blumer only wishes it had been available sooner.

"I had the idea back in 2011, but there were no APIs available back then; it was hard-coded stuff," he recalled. "So we kept our eyes open, and we checked Google quality every year—and it got better and better."

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Automate translations with 20 years' of custom terminology

Once he got the greenlight to proceed, Blumer reached out to Pythian. As a long-time Pythian customer for Google Cloud managed services and support, QAD knew outsourcing to the experts would pay off in an accelerated timeline and well-designed product.

"Pythian are experts, and rather than us learn everything from the ground up, it was easier to outsource," Blumer said. "It really played to the strengths of the people."

They decided on a two-stage approach. First, create a proof of concept (PoC) to test the translation quality and review the Google AutoML outputs. Then, a short second phase to finalize the code, train internal users and roll it out across all 10 languages.

Solution/What We Did

Pythian created a robust and user-friendly solution with the Google Translate API and an AutoML model. This enabled QAD to add 20 years of industry and product-specific terminology to Google Translate's existing lexicon. With a few clicks, staff can upload a help file in English, specify a language, and receive a completed translation in approximately 15 minutes.

The solution taps into the powerful Google Translate application, where Google constantly refines each language's capabilities. Adding Google AutoML means QAD can use its industry- and product-specific terminology to help the solution learn and improve accuracy.

"With AutoML, we can leverage all the translation we have done for the last 20 years," Blumer noted. "We can upload this entire 'translation memory' to Google Cloud."

QAD's subject matter experts around the world reported stronger translations once the company's previous materials were included for reference. Ironically, this input caused Google Translate's quality scores to decrease, which Blumer anticipated.

Every translation includes a BiLingual Evaluation Understudy or "BLEU" score. The BLEU score is a number between zero and one that measures the similarity of the machine-translated text to a set of high-quality reference translations.

"The interesting thing was that the BLEU score got lower because we loaded a lot of precise words (but incomplete sentences) into the system," Blumer explained. "But, when we sent this new translation with more information to our Chinese team, they felt the quality was actually higher, which we expected."

"With Google, I can have it tomorrow, while with any translation house on the planet, it will take days or weeks."

– Thomas Blumer, Director of Knowledge Management, QAD

Save money, automate translations and improve speed to market

Result/Key Outcomes

After a successful Proof of Concept with several languages, the company will do a full launch in 2022 with all 10 languages. QAD estimates savings of $1.7 million in the first year. They'll be faster to market, with more comprehensive online help files for their customers around the world. The tool is extremely easy to use and will continue to improve in quality as the model learns over time.

Blumer and his team are thrilled with the results. Translations are nearly immediate, helping them get customer-facing help files to market much faster.

"Now, we take our materials, upload, and within minutes, we have the entire content translated," Blumer said. "What used to take at least three weeks, we can do in 15 minutes."

He added, "With Google, I can have it tomorrow, while with any translation house on the planet, it will take days or weeks."

The Pythian tool is easy to use, requiring little internal training and no additional headcount. Users simply "drag and drop" English-language files, specify the output language, and receive translated files within minutes. An email notifies them of finished materials to download.

The impressive ROI makes Blumer most proud.

"Translating the traditional way would cost us $1.8 million; the savings in 2022 will be $1.7 million," he said.

Looking ahead, QAD sees opportunities to translate other technical documentation, but knows there are limits to Google Translate's current capabilities. More sophisticated or conversational materials, for example, aren't yet right for automated translation.

"You need the right tool for the right purpose," Blumer said. "Online help is pretty technical; that's why it works so well. You can't use it for marketing;

you can't use metaphors to make a point—that's a translation challenge, a cultural shift."

The more QAD uses the tool, the greater the knowledge base for their AutoML model. They expect accuracy to increase, and costs to decrease, as they continue their technical translations.

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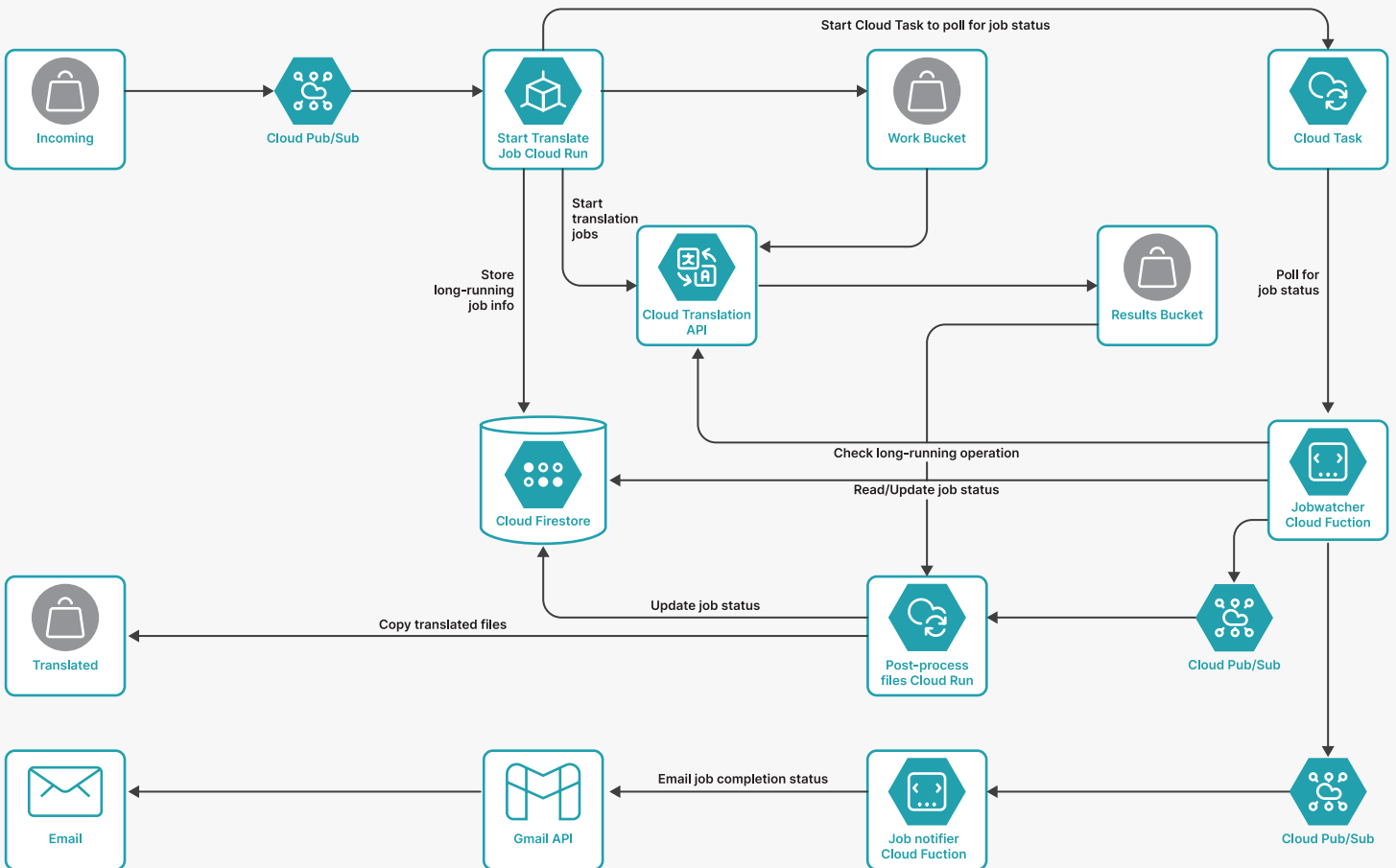
Depiction of QAD workflow for automated translation with machine learning API

About QAD – Enabling Adaptive Enterprises

QAD Inc. is a leading provider of next-generation manufacturing and supply chain solutions in the cloud. QAD enables global manufacturers that face ongoing disruption to thrive amidst technology-driven innovation and changing consumer preferences. QAD calls these Adaptive Manufacturing Enterprises. Global supply chains are also facing unprecedented disruption in the form of supply shortages and fluctuations in demand. QAD minimizes friction in supply chains and enables businesses to seamlessly optimize agility, efficiency and resilience for more effective customer service. QAD calls these Adaptive Supply Chains.

Founded in Santa Barbara, California, QAD operates in countries around the world. Thousands of companies have deployed QAD enterprise solutions including enterprise resource planning (ERP), digital supply chain planning (DSCP), global trade and transportation execution (GTTE) and enterprise quality management system (EQMS). To learn more, visit www.qad.com or call +1 805-566-6100. Find us on LinkedIn, Twitter, Facebook and Instagram.

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ABOUT PYTHIAN

Founded in 1997, Pythian is a global IT services company that helps organizations transform how they compete and win by helping them turn data into valuable insights, predictions and products. From cloud automation to machine learning, Pythian designs, implements and supports customized solutions to the toughest data challenges.

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