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Business

Looking ahead to globalization 2020

Mike Iacobucci

Speaking with language service providers (LSPs), technology partners, customers and industry analysts, we continue to see excitement building around the emerging globalization supply chain. Our industry has never seen such collaboration and openness.

The common elements running through this supply chain are languages and translators, for without them this chain would cease to exist. So, how will changes in technology and infrastructure ultimately change language and the people skilled at translating it? Where do key players in the industry believe we're headed?

This article is a compilation of insights about the industry's future from a diverse group of globalization supply chain partners. The only direction given for these pieces was to provide a personal or company vision for the future of globalization.

What you'll see when you read these insights is how uniquely a group of collaborators see the future. Arturo Quintero from Moravia Worldwide, for example, believes that speech and visual elements will play a more important role in the future. He believes we'll see the emergence of "language as a feature." For translators, this portends an elevation of the craft, something Chris Grebiz echoes when he points to a future with high-value content with "the most qualified translators" ensuring its accuracy and quality.

Grebiz' notion that we will also see some "commoditization" of language is consistent with Kirti Vashee's assertion

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that more automation is necessary to create a future where certain content can actually have more value to society. Machine-assisted human translation will clearly play a role in our future, and many believe this will have nothing but a positive impact on translators and other language professionals.

Finally, we draw comments from two companies that will have much to say about how technology looks in 2020, Sun Microsystems and EMC. Sun's Melissa Biggs and Christof Pin-taske suggest we're heading toward a "participation age" in which localization will be critical to our ability to communicate faster and more dynamically with one another. EMC's Jessica Roland shares this vision, and she offers best practices to ensure the globalization "value chain" can operate as automatically and efficiently as possible.

A common thread in each of the pieces is the importance of automation. In 2020, linguists and translators will be a busy group that, more than ever, will help to fuel a true global economy. Each of us will be equally busy ensuring that our technologies and services are equal to the task.

Appropriately, the lone non-vendor voice in this piece, Donald A. DePalma, pulls everything together. DePalma says that "2020 will see buyers, suppliers and technology morphing to a just-in-time, market-driven world requiring the right information in the right form in the right language at the right time."

This is great news indeed because he is describing a vibrant and collaborative globalization supply chain that is already growing stronger as I write this. This includes each of the companies represented in this piece, as well as dozens of other technology and service providers we call partners today.

We hope you enjoy this vision for 2020, and we look forward to hearing your insights as well.

—Mike Iacobucci

Business in evolution — Arturo Quintero

One thing that is clear to me is that our localization business model will go through a number of evolutions before we get to 2020. Software companies today are attempting to redefine their own models, and we will have to adapt with them.

Two other ideas come to my mind when attempting to visualize 2020. One is related to languages and the other to the way we interact with technology. These two will play an important role in our industry by the time 2020 arrives.

Regardless of the features of the most common “device” we will use in 2020, human-computer interaction research suggests that speech and visual elements will have a much more important role to play than they do today. For example, contrary to the adoption of mark-up languages leading to the web or maps in mobile phones – features that could hardly be predicted years ago – one of the primary functions of the device of the future will be its communication function. Therefore, “language as a feature” that the users of 2020 expect will be as sophisticated as we can possibly imagine today. In this respect, I believe devices will be naturally adaptive to human context, not only to a local language, but to a local jargon and even to personalized context.

Not all the news is positive, though. Ironically, even today, technology separates new and older generations, and this is most visible in the developing countries. Communities of minority languages are isolated and often feel embarrassment rather than pride about the use of their language – in my own experience, illustrated in the way Native American language speakers in Mexico feel about their native tongue. Only the older generations speak and hold on to these languages; younger ones are embarrassed to. Many of the world’s languages are disappearing, and technology may play a role. I am, however, an optimistic person, and I believe that there will be a richer variety of “locals” by 2020. For example, English Creole has begun to flourish with unprecedented vigor in Jamaica, whereas 20 years ago everyone was predicting its demise.

One final aspect is education. I believe that projects such as One Laptop per Child and the UN Millennium Development Goals will bring the world an unprecedented pool of talent and creative force. As a student of science years ago, I was puzzled by the search for the perfect language, and years later, the many attempts to embark on this journey based on mathematics or music still leave us very far from the “perfect language.” But I would not be surprised if a *lingua franca* emerges between technology and humans by 2020 – not necessarily an evolution of, say, the current use of SMS/Chat into a language itself, but more likely an invented language, such as Esperanto. And, by the way, Wikipedia has more than 10,000 articles published in Esperanto today – ahead of languages such as Romanian, Slovak, Catalan, Czech, Ukrainian, Hungarian and Danish. Overall, I expect that the concept of school, teaching and

acquiring foreign language will have a different meaning than today, given all the possibilities that technology will be able to offer.



Arturo Quintero is chief corporate strategist at Moravia Worldwide and on the board of directors of The Institute of Localization Professionals.

A clearer vision — Chris Grebisz

In 2020, the internet will have reached most of the globe, developing communities that unite people across language, cultural and national boundaries in a way never before possible. Similar to the open-source movement, these communities will encourage participation and contribution towards a greater outcome, one that has been unattainable by separate entities. Customers will expect to be part of the dialogue and process, which in turn will help meet their own unique needs. Governments, corporations and organizations will quickly adopt these concepts, introducing a new approach to business and a new approach to globalization. Globalization will incorporate the concept of communities united to a common objective: creating a process centered on the customer while providing value and collaboration throughout a unified supply chain.

Every organization will have a local end-customer whose role is to deliver, deploy or release the final localized product within that target market. Up until now, these end-customers have been the farthest removed from the localization process, which has not fully addressed their needs. These customers are faced with accepting the output of a process in which they have little role or input. A localization management system designed by and for the intermediaries of the process – and not the true customer – produces bare-bones translated content devoid of the nuances and adaptation required to reach deep into international markets.

In the second decade of 2000, two key concepts will emerge with a profound impact on the concept of globalization.

The first concept: All content is not equal in its value or importance. Some content requires a high level of localization and adaptation, while other content only needs basic translation to convey simple information. Local markets and end-customers will demand the segregation of content, and LSPs will adjust and develop a methodology to accommodate each type. On one end of the spectrum, high-value content and subsequent translation will require the most qualified translators, editors and reviewers to ensure that the source message is retained and culturally adapted per the requirements of the target market. Customers will be willing to pay for this premium content.

Other content considered more industrial or “commodity” level will follow a different approach. More language firms will begin to employ machine translation (MT) as a basis for a high-volume need, developing a network of MT providers and editing teams that vendors will resell as a packaged service. This movement will produce a large assortment of buyers and resellers of language translation and post-editing services, customized to meet the high-volume, non-critical needs of global information, and at commodity prices.

The second concept: Creation of a complete supply chain founded on an interactive technology platform that engages all players within an open community and incorporates the ideals of marketization. Marketization will emerge as the process by which end-customers, content authors and LSPs collaborate interactively in a unified ecosystem to create content carefully adapted to meet

the needs of the target market. Platforms created by language vendors will host community environments capturing larger parts of the supply chain and enable a process where each piece of content can be authored, translated and adapted. In-country end-customers, partners and LSPs will all contribute by editing content before it goes to market, focusing their efforts on critical content areas and ensuring that the changes are captured for future re-use. Built using open standards, these platforms will pull together vendors, tools, customers and LSPs into a single network designed to meet the needs of marketing managers. With these platforms, end-customers will be able to monitor the process, while measuring return on investment (ROI) at each step.

Marketing will move beyond a country-by-country language approach in the next decade, and include regional linguistic differences, adapted for age, economic background and cultural preferences. Marketing teams will use these new platforms to manage, target and measure the delivery of content to these narrowly defined global customer segments. The concept of globalization will expand to define an architecture that is created for content that can support multiple instances and is specifically designed to support translation and marketization. Content authors will be trained on the globalization process, and localization will become an equal step in the creation process to information design, graphic layout and usability.

The introduction of content value and marketization platforms will have a profound effect on the marketing process, helping companies reach new customers in ways never before possible. We are only beginning to see the possibilities.

Chris Grebisz is chief operating officer at Welocalize.



A participation age – Melissa Biggs and Christof Pintaske

Sun has a vision that information technology (IT) and computing are merging into a “participation age” – that is, the computer “network” has moved to the next level where users and communities drive technology focus. These trends are already solidifying and influencing the future directions of hardware and software through virtualization, social networking trends, and extended internet business models. All of these areas work globally on a plethora of computing environments and devices. On the road to 2020, translation follows where the web is going.

In the IT industry, translation volume will shift even further from proprietary, monolithic content such as software messages and books to fast-paced and short-lived content such as FAQs, examples, blogs, news and e-mail threads, chat and in some cases multimedia. These documents don’t provide a cover-to-cover reading experience but detail-oriented, problem-specific advice. Industry may see some shift away from creation of content by professional writers to domain experts with varying professional background and language/writing skills. Look to trends in localization towards targeted

use of mashup software technologies to provide fast-turn-around and sometimes custom solutions to producing, testing and maintaining localized contents.

Open-source communities are major drivers in this content and internet paradigm shift of the “participation age” and will continue to grow and gain strength in the next ten years. What often starts as a community purely of software developers, with English as their *lingua franca*, evolves into an international community of software and hardware users. Intrigued by the opportunity to learn more about and make better use of the hardware/software, some of these developers convert from consumer to proactive contributors who give back to hardware/software projects. In the majority of cases, giving back doesn’t mean coding but helping others on mailing lists, maintaining web pages, providing feedback/testing, reporting or verifying bugs, and customizing. Depending on skills, some start creating documentation/content and localizations. Where globalization groups can and will fit into this emerging landscape is in “cultivating and growing” these communities. The soft skills that will be required for success in this new area include organization-building, team management, evangelism, creation of community portals, management of social networking components. The outcome of this effort will be enhanced growth opportunities for a company’s products and offerings and potential cost benefits. Tools for distributed parallel collaboration on documentation and translation will become widely used, pretty much as bug tracking systems are now. They will allow even casual users to make additions and corrections, without requiring much training. By 2020, they will span multiple open projects to ensure consistent wording and terminology.

A second growing trend in the industry is the global user’s increasing need for immediate, on-the-fly translation. This will be balanced by a continuing requirement for longer, more detailed information. A translation will increasingly be published via alternative methods, for example, on a Wiki or via aggregated articles/sites/next generation blogs. Expect to see a parallel growth in MT to manage these new on-the-fly needs. These alternative publishing methods will allow for more harvesting of content directly in multiple languages, all adding value to the topic and making reverse translation more prominent. There will be an increasing shift away from English as the only relevant source language. As non-English content grows, we’ll see solutions for non-English content mining. Searching will not only look up the search terms in the source language but also translated into many target languages. Any results will be also translated on the fly, providing a seamless experience.

Overall, the “participation age” will flourish and grow over the next ten years, with an emphasis on the importance of communities; open source; a rapid shift in content and the ways it is localized; a growth of new technologies; and MT to meet the requirements of this shift.



Melissa Biggs is senior globalization business manager at Sun Microsystems, Inc.

Christof Pintaske is a staff engineer working on globalization at Sun Microsystems, Inc.

'Zero latency' globalized content supply chains – Jessica Roland

By 2020, most enterprises will manage their product, marketing and sales content across their global business value chain as automatically, efficiently and effectively as they run their physical goods supply chains today. Leading companies are already using enterprise content management (ECM) and translation technologies in tandem to implement globalized, managed content delivery in ever-faster, more cost-effective and higher quality ways. By the year 2020, in addition to building on these classic benefits, best established practices for globalizing content will capitalize on the following principles and trends:

- All content will be structured in small XML components that can be shared across content formats and re-used.

- Companies will manage globalized content as securely as source content, via information rights management.

- Globalization technologies (TM, MT, authoring systems, globalization management systems and so on) will all be tightly integrated with leading ECM systems, providing a seamless user experience.

- Users will be able to subscribe to unified ECM+globalization technology packages via software-as-a-service models.

- Linguistic assets will be shared across industry sectors collaboratively and securely to reduce the amount of content individual companies must globalize and to enhance customer ease of use.

- Automatic detection of changes to source content that require translation will be a standard part of globalization workflow.

We can envision how these “best established practices” will enable new high-ROI applications of the technology:

- e-room/collaboration running in concurrent multiple languages;

- scanning devices that integrate imaging software with globalization technology for instant capture + translation;

- closed captioning translation so the audio stream associated with video can go through a translation conversion process; and

- any language search query against any language content across any repository, with instant, complete and high-quality translation of results.

Language translation is a core content transformation service, where content within the ECM system should be available for consumption in any language of any country in which the company conducts business. This used to mean a relatively small number of major geographic markets, but increasingly, companies' growth strategies are pointed at sourcing from and selling into emerging markets. The number of languages a company needs to conduct business is rapidly expanding, and so is the need for new “supply chain” levels of efficiency.

“Zero latency” across globalized content supply chains will be achieved by linking enterprise-strength content management and best-of-breed globalization management technologies together for the benefit of translators and enterprises alike.



Jessica Roland is director of localization operations at EMC Corporation.

Advances in language processing technologies – Kirti Vashee

Much of the innovation in language technology today is coming from outside the localization industry. Semantic Web initiatives and natural language processing promise to dramatically change the way we approach information, words and human knowledge. These initiatives are all in their infancy, and few people understand fully what their impact will be. But these will quite possibly be as fundamental agents of change as shrink-wrapped software for personal PCs and web search were when they first emerged.

Translation automation will happen and advance because it must, not just because it's a “nice to have” innovation. The imperative of knowledge exchange and transfer underlying the web at large is the driving force behind automated translation, not the need for more multilingual documentation or marketing materials. The internet, Web 2.0 and 3.0 are serious forces of growth and development.

The promise of SMT. Statistical machine translation (SMT) already has caught up, in just four years, to what the best rule-based MT (RBMT) systems can do after more than 30 years of effort. In many cases, SMT accuracy has surpassed RBMT. It is raising user expectations all the time with real systems that translators like to use. Today, significant advances are being made in automatic translation by companies such as Google, Microsoft and Language Weaver on an almost weekly basis, and they are all pursuing statistical technologies.

SMT developers have only begun to look at the more difficult problems in and around translation such as semantics, meaning, building cross language pairs, morphological equivalencies and linguistic variation. Advances in this area will affect and possibly transform the existing tools. SMT technology is moving from a purely statistical and pattern matching approach to incorporating linguistics. Very soon we'll see language modules with very different linguistic characteristics.

Why do we believe this progress will happen? Because SMT can leverage every human translation that it can find to build its intelligence. As this data grows and is pooled, the systems will improve in quality; they evolve.

SMT is used today because of clear ROI and productivity impacts. The early adopters are among the most efficient and process-oriented LSPs, which can look at the technology objectively without being threatened and use it to their benefit. As the technology advances, more LSPs will recognize its benefits and will add it to their workflow to protect their margins.

Globalization value. The questions we face today are not whether you can do a localization project with 50% less money or time. These are important but not the most important questions facing people involved with translation technology. They are and should be more about how do we translate Wikipedia into Thai, Indonesian and Hausa competently in 2007 so that a knowledge economy can evolve in these regions. How do we aid people in communicating with each other so that educational and medical advances are shared? How do we get people interacting and conducting business together so that poverty and therefore war aren't so rampant?

None of this can happen without fundamental advances in many different language processing technologies. More automation

There will be an increasing shift away from English as the only relevant source language.

is needed, and new players will emerge to respond to the global need. We believe it will happen.

In a global world, the world of Web 3.0, translation for communication and knowledge-sharing is a fundamental issue that will attract the best minds in the world. The future will dramatically expand the reach of translation from documentation that nobody reads to knowledge that many will want to access and communication systems that will enable cross-lingual communication on a scale not seen yet.



Kirti Vashee is vice president for worldwide sales and marketing at Language Weaver.

Morphing by disruption — Donald A. DePalma

2020 will see buyers, suppliers and technology morphing to a just-in-time, market-driven world requiring the right information in the right form in the right language at the right time. But 12 years is both an epoch and a drop in the ocean. We can expect major disruptions in how translation is delivered, but the inertia of decades of TRADOS on the desktop will slow innovation.

■ **Buyer demographics.** 2020's corporate localization managers are just graduating from college in 2008. This new cadre of buyers, weaned on the internet, will have different expectations about how translation should happen. Avid users of BitTorrent, Kazaa and YouTube, they will share TMs, terminology and even DITA++ topics. Gamers to the end, they will be less tolerant of drawn-out processes and as intent as Master Chief (Master Chief Petty Officer John-117, fictional protagonist of the Halo universe) in dispatching process issues. They will live in the cloud of software services from the GooglePlex, IBM, Sun and 2018's cool brands.

■ **Supplier multiplexing.** Most companies will have tried limiting vendors to a select few LSPs and found it wanting. More advanced buyers will shift to a "let a thousand vendors bid" model based on evolved translation management solutions. Any registered LSP can bid on a project as long as it uses approved tools, follows established processes, leverages corporate content and translation assets, and charges no more than a set maximum. This multi-vendor buffet and deconstruction of processes into easily outsourced and managed tasks will put a new premium on timeliness, integration and collaboration.

■ **The end of localization Taylorism.** The age-old model of translate/edit/proofread, with each individual and task

working in lockstep rotation, will be replaced by technology that allows a swarm of translators, editors and supporting cast to work concurrently. Taking their lessons from the Agile development model of creating software in shorter periods, the localization scrum will emphasize functional, timely translation as its goal. Collaboration across borders, communities of translators, updates of centralized TMs and terminology bases, and *in-situ* use of terminology, style and grammar guides by authors will be hallmarks of this new translation process. Post-modern localization will be more decentralized, benefiting smaller LSPs. Suppliers will be cross-border entities, with sales in the euro-pound-dollar region; project management in low-wage, high-literacy countries; and production distributed around the globe.

■ **Translation technology.** The most innovative and powerful translation technology of 2020 will be in the cloud and enabled by middleware that lets any tool access any data source. Following the example of database management and ERP, 2020's language technology will pivot on shared, documented formats that allow interoperability both among different translation software and with other elements of the corporate information stack – content, database and CRM among them.

■ **Support from newly disruptive technologies.** Storage advances such as IBM's "racetrack memory" will increase memory capacity by orders of magnitude, allowing for massive increases in the digitization and manipulation of content – in any language. Rapid innovation in mathematics, expert systems, and even supply chain management will drive innovations in linguistic tools. This work will be complemented by new Ph.D.s graduating from translation programs that came into being in 2006 and 2007. These new researchers will begin to rethink translation, test the boundaries and assumptions of the trade, and spin off start-ups based on an amalgam of translation theory, information technology, and mathematics.

Will all this happen? Winston Churchill wrote that "a politician needs the ability to foretell what is going to happen tomorrow, next week, next month, and next year. And to have the ability afterwards to explain why it didn't happen." Check back with me in 2020. I'll be the old guy with the ponytail on the beach in Key Largo, assuming that global warming hasn't sunk my dive shop. **M**



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