Ubiquity, Mobility, Immediacy and Translation
Language Professionals Get Ready for the Next Four Billion Customers

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At a Glance
An increasing share of the world’s ubiquitous content is becoming available to billions of economically viable, mobile workers who want immediate access to it. Yet when 99% of that content remains untranslated, language differences become the final barrier, which only real-time, multilingual communication can overcome.

SUMMARY
Language professionals are seeing the trends of ubiquity, mobility, and immediacy converging on the industry. There is more content to translate, into more languages, for more people, in less time.

Each trend introduces new players and technologies to the industry landscape. With the right mindset, the entire industry – service providers, translators, buyers – can capitalize on these new entrants for the benefit of all.

Readers of this paper will see how these trends shape their organizations and their customers. Lionbridge has recently responded to the trends with new products and technologies of its own, and the paper explains these innovations in the context of ubiquity, mobility and immediacy.

Main Messages
» Ubiquity – Digital content will continue to grow exponentially, as “good-enough” methods of generating, delivering, and translating content spread.

» Mobility – There are over four billion mobile (including Internet) connections in the world. The “Next Four Billion” connections will populate the Long Tail of Language and create opportunities for the Global Multilingual Worker.

» Immediacy – The technology for real-time, multilingual communication is within reach. It will require the commercially viable deployment of integrated machine translation (MT) and its combination with translation memory (TM/MT).

» The best way to connect global, multilingual workers is through cloud-based, Software-as-a-Service (SaaS) platforms, coupled with real-time, multilingual communication engines.
UBIQUITY – CONTENT IS EVERYWHERE

Almost every industry enjoys productivity gains as a result of technology and information has always surrounded mankind. Technology has helped move it from historically static forms like books and movies to softer forms like data and multimedia files. Increasing numbers of people can generate their own information, and they can share it with more people, in more media.

“Everyware” and the power of ubiquity

This ubiquity of information leads to Adam Greenfield’s concept of “Everyware:”

» “Ever more pervasive, ever harder to perceive, computing has leapt off the desktop and insinuated itself into everyday life. Such ubiquitous information technology – “everyware” – will appear in many different contexts and take a wide variety of forms, but it will affect almost every one of us, whether we’re aware of it or not. What is everyware? How can we recognize it when we encounter it? And how can we expect it to show up in our lives?” – Adam Greenfield in Everyware – The Dawning Age of Ubiquitous Computing, 2006, New Riders

Everyware and ubiquitous information go far beyond newsrooms and broadcasters to include organizations that connect with customers personally, based on tastes, recent purchases, interests, and location. This intensely personal dimension endows ubiquity with its own power. Ubiquity confers its own brand of legitimacy and acceptability on most standards.

» “Well-intentioned standards bodies and departments of justice can do their best, but at the end of the day, volume deployment is the only setter of standards. Ubiquity trumps policy, just about every time.” – Jonathan Schwartz, CEO, Sun Microsystems

In other words, masses beat classes every time. Any product or service that gains acceptance among the masses will overtake rules, legislation, “best practices,” tradition, and even quality. It’s not possible to manage or direct the wave of ubiquity, but it is advantageous to see it coming and ride it.

Good-enough content
Ubiquity changes not only the expectations we have of using technology, products, and services, but it can also have a huge impact on the business model that underpins them. Consider that:

> The popularity of on-screen content has resulted in a new category that comes not from high-end movie cameras, but from good-enough cameras inside laptop computers, dedicated devices (e.g., Flip Video), and even mobile phones.

> Music is analog by nature, but it moves farther and faster in digital formats that have relegated the superior listening experience of analog to quaintness and nostalgia.

> User-generated content (UGC) lacks polish, yet wise global brands embrace and even encourage it because of its proximity to customer tastes.

These offerings are ubiquitous, cheap, and available, so why should quality matter? Across a broad spectrum of industries and professions, ubiquity has paved the way for “good-enough” and pricing that supports it.

**What ubiquity means for your customers**

Your customers are part of the masses, part of the ubiquity. Even the subset that does not agree with ubiquity’s direction is not immune to its influence. The most prevalent manifestation of ubiquity today is the cell phone – almost everybody has at least one.

> The GSM Association today announced that the mobile world has celebrated its four billionth connection, according to Wireless Intelligence, the GSMA’s market intelligence unit. This milestone underscores the continued strong growth of the mobile industry and puts the global market on the path to reach a staggering six billion connections by 2013. The growth is driven by two primary sources: the integration of mobile into previously unconnected devices and subscriber additions in emerging markets. – “Mobile World Celebrates Four Billion Connections,” GSM Association, London, February 11, 2009

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1 As this paper was being released, Wireless Intelligence announced five billion connections: “Mobile Connections: Over 5 Billion Served,” Kevin Tofel, GigaOM, July 8, 2010.
Your current customers are among the current four billion connections, and your future customers are among The Next Four Billion. Cell phone access is one of the most important things they will all have in common.

Ubiquity is not merely a matter of numbers, but also of acceleration. It took 20 years to get to the first billion mobile phone users and one year to get to the fourth billion, according to Wireless Intelligence, which predicts six billion users by 2013.

In fact, author and telecom consultant Tomi Ahonen predicts that these four billion connections represent not only “the greatest economic opportunity of the next decade, but [also] that these four billion connections will double to eight billion very soon.” How will the figure reach eight billion, if there are not that many people on Earth, and a certain percentage will never have access to wireless devices?

> “The world will reach 120% penetration, even with poor countries like Bangladesh and Sudan. Ukraine is currently at 140%, Russia at 130%, Chile at 120%, Argentina at 110%, and Malaysia, Colombia and South Africa at 100%. Penetration in these countries is growing at 5 to 12 percent per year. During the next decade, countries like China, India, Brazil, Indonesia, Pakistan, Bangladesh, Nigeria and Mexico will exceed 100% penetration of mobile phones, growing 15 to 20 percent per year. Every economically viable person on the planet will have two or more subscriptions. Many of the Next Four Billion will be illiterate, so we need to provide easy-to-use, video-based services.” - Tomi Ahonen in “Mobile Phones: The Next Four Billion”, PICNIC Festival, September 2009

**What ubiquity means for our industry: 1,234 languages**

Global buyers and sellers of language services currently estimate the maximum reach of their translation efforts at one billion users, with Microsoft requiring 127 languages, Nokia requiring 92 languages, and Motorola requiring 83 languages.

In the next few years, the language industry will likely need to serve clients who put applications, content, services, and information in front of billions more users. Borrowing a theme from “The Long Tail,” by Chris Anderson (Hyperion, 2006), by 2015, as growth migrates to developing nations and it becomes conceivable to connect as many as five billion users, it will take approximately 1,234 languages – most of them “long-tail” languages – to serve them.
Thus, ubiquity places several ineluctable truths squarely in front of the language service industry:

» These billions of people will be connected.
» They will be valuable to the industry as both customers and vendors.
» Many will be unable to read or write, but all will be capable of using a wireless device of some kind.
» Smart language service providers will figure out ways to do business with these people; other companies will ignore the opportunity at their peril.

The industry is struggling to produce high-quality materials at low cost and high volume in 127 languages; how will it get to 1,234 languages? Current practices for translation quality – such as translate-edit-proofread (TEP) – will not scale to such linguistic demands, as content moves into more third-, fourth-, and fifth-tier languages. So, even though the translator community may at first bristle, good-enough will need to become a part of language quality.

How can good-enough suffice for any service industry, let alone a profession with as many nuances as translation?

» “But for most simple legal interactions, eLawyering is, well, Good Enough. It
gets the job done, even if it doesn’t let you ask every question or address every contingency. And not surprisingly, it’s on the rise. eLawyering will be mainstream in three years. I predict that in five years, if you’re a small firm and don’t offer this kind of Web service, you’re not going to make it.” – Richard Granat, President of DirectLaw, in “The Good Enough Revolution: When Cheap and Simple Is Just Fine” by Robert Capps, Wired Magazine, Issue 17, 2009

Ubiquity is coming to demand good enough language quality. For the industry to reconcile itself to that new reality, language service providers will need product and service offerings that satisfy both the customers who want high quality and the customers who want good enough.

The new goal of translation is becoming mutual comprehension (value in content), not linguistic quality. While the profession has built itself upon – and often staked its reputation on – delivering publication-quality TEP content with high fidelity to the source text, meeting the challenge of ubiquity will leave little time for that. Both buyer and seller of language services reaching for the Next Four Billion users need to make their peace with:

» Delivering a mix of both high-quality and good-enough translated content
» Watching the preponderance of good-enough content grow over time²

**How Lionbridge is responding to ubiquity**

Obviously, then, with ubiquity comes a potential translation workload beyond the scope of any company, enterprise, or even industry. In a world where people working on content in over 1,000 languages need to collaborate, desktop and inside-the-firewall tools are not up to the scalability, robustness, and size of the task.

Lionbridge has created Translation Workspace, its cloud-based translation memory, with exactly this scope in mind. Based on Software as a Service (SaaS), Translation Workspace is already handling 200 million SQL queries on billions of words of content in its Language Asset Repository, from more than 2,000 translators per day. It can accommodate vast growth in the amount of content and the number of languages. The company has looked at all possible ways of dealing with the ubiquity of translatable content and believes there is no viable alternative to this cloud-based approach.

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MOBILITY – USERS CAN ACCESS CONTENT FROM ANYWHERE

Mobile communication is the most pervasive enabling technology on the planet. Consider these figures:

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There are over four billion wireless connections in the world. The “Next Four Billion” connections will populate the Long Tail of Language and create opportunities for the Global Multilingual Worker.

These technologies have been instrumental to economic growth in developed countries. Since the mid-20th century, every economically viable person in the world has used them or has had access to them in some combination. But the mobile phone is enabling emerging economies to leapfrog most of them.

Mobile does not render other technologies obsolete – they continue to play an enabling role – however, it picks up where they leave off. In the emerging economies that will make up the Next

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Four Billion, the mobile phone is proving a great enabler. Even people who will never touch a PC, own a television, or read a newspaper will have access to and will be able to use a mobile phone. Numerically at least, every economically viable person on the planet has access to a mobile phone now. Mobility has supplanted transportation, computing power, and even literacy as the prime enabler of economic viability.

The view from the Base of the Pyramid (BOP)

What happens in emerging economies as the people at the base of the pyramid – with annual per capita income below USD3500 – adopt mobile technology?

» Besides personal communication, the BOP takes advantage of mobile devices to obtain market prices, health information, and government services. The BOP is quick to see the earning potential in mobility and quick to adopt it.

» The tide rises for all boats. A 2005 London Business School study reported that for every additional ten mobile phones per 100 people, a country’s gross domestic product increased by 500 basis points, or one-half of one percent. Even the most successful government programs are hard pressed to increase GDP by similar margins.

» Pent-up demand explodes. “In many countries, however, information and communication technology (ICT) spending increases disproportionately in the highest BOP income segments (BOP2500 and BOP3000), indicating latent demand for ICT services in the BOP. Among median countries...the ratio of average household ICT spending in the BOP3000 income segment to that in the BOP1000 segment is 27:1 in Cameroon, 8:1 in Cambodia, 4:1 in Belarus and Kazakhstan, and 32:1 in Peru.” In the context of a developed economy, this would be equivalent to a poor household tripling its annual income from USD10,000 to 30,000, yet increasing the amount of money it spends on information and communication – including mobile – by as much as a factor of 32

What mobility means to your customers

Mobile technology engenders economic change because it enables relatively effortless communication. The human condition takes it from there.


“Communication is a basic human need. People who are trying to scrape by have immediate need for connection to information about local labor and commodities markets. Public health and disaster relief information can be an SMS away...There are already reasons why people at the bottom of the economic system need and can use cheap telecommunication. Once they are connected, they will think of their own ways to use connectivity plus computation to relieve suffering or increase wealth.” – Howard Rheingold, Internet sociologist and author of The Virtual Community and Smart Mobs\(^6\)

The Next Four Billion users will not be connected to the “legacy Internet;” their Internet will be mobile only. The emerging middle class will aspire to own a netbook, and will compare smartphone against netbook when the time comes to upgrade. Wealthy people in these countries will have new devices – including smartphones – and broadband access, but the Next Four Billion will live and thrive in the world of feature phones, basic WAP browsers, SMS, and MMS.

The rise of mobility will make SMS a huge data opportunity and MMS a huge media opportunity over the next ten years. Users at the BOP may not be able to afford a cup of coffee, but they will make up the big-growth markets as they buy phones and airtime, communicate over text and voice, and consume multimedia in advertising and entertainment.

**What mobility means for our industry: The Global Multilingual Worker**

The emergence of the Next Four Billion from the Long Tail of Language will create new kinds of global multilingual workers, and new tasks for them beyond traditional translation: feedback, buying preferences, online search, local information, and apparently isolated details that suddenly add up to trends. There is a thirst for all manner of culturally adept, multilingual people to perform all manner of task-based work over the Internet.

This is a new category of workers, and smart language service providers will figure out new relationships with them, instead of simply asking them to translate 20 pages of text and send it back by next Thursday. As these people become mobile and look for ways to earn, language service providers have the chance to bring them together in online communities for mutual benefit.

**How Lionbridge is responding to mobility**

Lionbridge is taking advantage of increased mobility to build communities of...
This is a new category of workers, and smart language service providers will figure out new relationships with them, instead of simply asking them to translate 20 pages of text and send it back by next Thursday.

global multilingual workers not only around its pedigree translation specialty, but also around search and the online experience.

» GeoWorkz is a new business unit within Lionbridge dedicated to developing and managing Translation Workspace. The GeoWorkz.com e-commerce gateway manages subscriptions to translation tools and assets accessible worldwide.

» Global Search and Sourcing (GSS) is a business unit connecting tens of thousands of well-qualified, bilingual, at-home workers in over 100 countries. Using technology and working with its customers, GSS manages the members of this global community for real-time information about their online activity that helps improve the relevance of local content.

Lionbridge believes that its ability to bring these communities to the work and then parse the information they deliver, based on their demographics, education, and location, is extremely valuable. Providing platforms for these communities is also providing a way for the Next Four Billion to earn money.

IMMEDIACY – USERS WANT ACCESS TO CONTENT WITHOUT DELAY

When information is everywhere and consumers are mobile, the last demand to satisfy is immediacy: the desire to consume the information as quickly as possible. Content from almost any source can reach almost any destination, so the last barrier to immediacy is translating it from source language to target.

This is difficult enough for content with a long life, like books, or with a medium-length life, like Web pages. Within acceptable turnaround times, the technology exists to deliver these in multiple languages, but what about news, blogs posts, chat, online reporting, public forums, social media, and cyber-communities? The lifespan of relevance for these kinds of content, and their translations, is very brief.

What immediacy means to your customers

The diversity of the world’s languages impedes the global, real-time conversation, and users know tha
The technology for real-time multilingual communication is within reach. It will require the commercially viable deployment of integrated machine translation (MT) and its combination with translation memory (TM/MT).

“The language barrier is really a very big problem for communication... Consider that 1% of the information on the Web is in Arabic: people who read only that language have very limited access to the world’s information. The idea is, with the help of technology and machine translation, can we break down the language barrier, so that anyone can access any information – any text out there – independent of the language?” – Franz-Josef Och, Google

Faced with ubiquity, mobility, and especially immediacy, the Next Four Billion are very likely to prefer good-enough over nothing at all for short-lifespan content.

**What immediacy means for our industry: More machine translation**

Just as translating into hundreds of languages and connecting to thousands of global multilingual workers will require a change of mindset, immediacy will also require a different model of multilingual content.
Addressing immediacy will require more and more reliance on advanced language technologies to supplement the human work of translation, because it is not possible to be immediate without it. Immediacy will heighten demand for real-time processing and asset management. It will also necessitate the deployment of integrated MT and its combination with translation memory (TM/MT).

The combination of high fixed expense and low reliability has impeded MT adoption over its long history; but, as factors such as the cost of TEP, the growth of content, and the number of languages have grown, there has been a shift in the tipping point at which MT makes sense.

The demand for real-time, multilingual communication has also sparked renewed interest in MT technologies such as Google Translate, Microsoft Translator, and n.Fluent from IBM.

**How Lionbridge is responding to immediacy**

Lionbridge believes that MT shows the greatest promise for delivering multilingual content at high volume and low cost, and has invested heavily in the technology, using Systran’s internally, maintaining its own Barcelona MT engines, and running post-editing pilot projects with well-known providers of freeware MT.

Lionbridge and IBM have forged a partnership to accelerate development and commercialization of automated language technology for instant translation of content such as Web pages, documents, customer support, user-generated content, instant messages, blogs, and e-mail. The partnership will create a real-time, multilingual communication platform by combining the cloud-based capabilities of Translation Workspace and RTTS, IBM’s statistical machine translation technology. The goal of the combined solution is broader use of automated translation technologies through lowered cost, quality and process barriers, and the scale of collaboration that the world of immediacy demands.

Web-portal based MT has brought the technology into the browser and within reach of millions of users, but these applications do not allow fine-tuning. The Lionbridge-IBM platform allows customization, including the language pairs, acronyms, jargon, and nature of an organization’s unique communications and
culture. Its presence in the cloud eliminates the need to manage on-premise, desktop systems.

Thus, Lionbridge is able to deliver at both ends of the time/quality continuum: with integrated translation solutions for publication-ready content in business-time, and real-time multilingual communications for good-enough content in real time.

**CONCLUSION**

An increasing share of the world’s ubiquitous content is becoming available to billions of economically viable, mobile workers who want immediate access to it. Yet when 99% of that content remains untranslated, language differences become the final barrier.

As the trend toward “good-enough” pervades information, entertainment, and communications, and as the Next Four Billion supply and demand online services, the machine-driven model of real-time collaboration in the cloud will accommodate a new wave of global multilingual workers. These workers will
The best way to connect global multilingual workers is through Internet-based platforms coupled with real-time multilingual communication engines.

provide value beyond traditional translation by making local information, feedback, buying preferences, and search results available worldwide.

Lionbridge’s GeoWorkz, Global Search & Sourcing, and the RTTS machine translation partnership with IBM are the technical embodiment of this future. Collectively, they bring the Next Four Billion closer to good enough translations of the world’s content in their languages, and offer global multilingual workers new ways to generate income.

About the Author

Paula Shannon manages Lionbridge’s global sales forces and account management teams.

This paper is based on her presentation, “Ubiquity, Mobility, Immediacy: Trends for the Localization Industry.”
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About Lionbridge

Lionbridge Technologies, Inc. (Nasdaq: LIOX) is a leading provider of translation, localization, and testing services. Lionbridge combines global language resources with proven program management methodologies to serve as an outsource partner throughout a client’s product and content lifecycle. Organizations in all industries rely on Lionbridge language and testing services to increase international market share, speed adoption of products and content, and ensure the integrity of their global brands. Based in Waltham, Mass., Lionbridge operates across 26 countries, and provides services under the Lionbridge and VeriTest® brands.

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