

magazine for international information management

tcworld

November 2016

Writing for Industry 4.0

How our hyper-connected world is changing the way we live, work and play



Language technology leads to growth for all

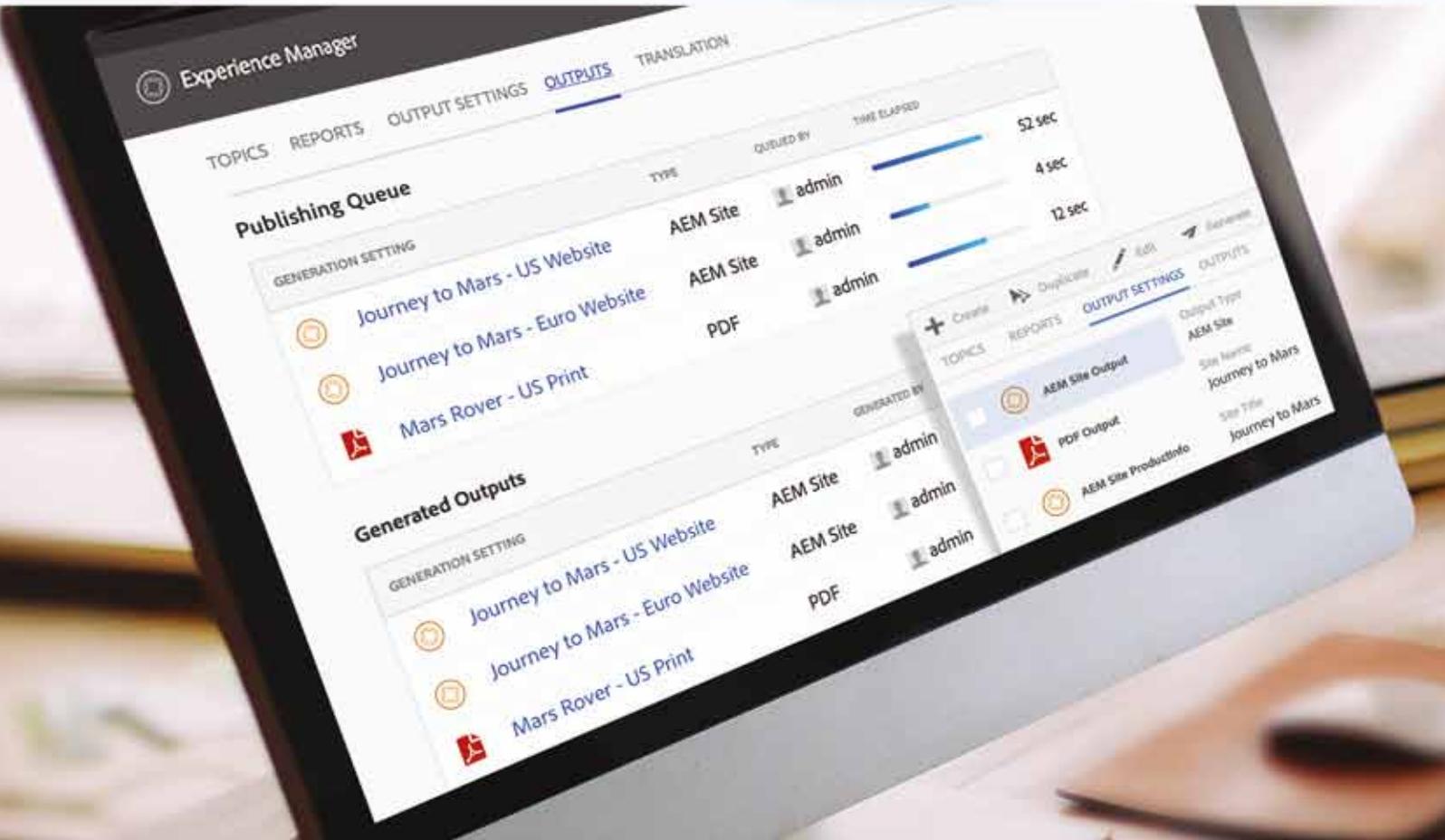
New work opportunities for human translators?

The golden triangle of content metrics

Using customer feedback to measure the value of our content

Introducing

XML Documentation Add-on for Adobe Experience Manager



An end-to-end enterprise class component content management solution for DITA-based content creation and delivery

-  Reduce total cost of ownership by up to 40%
-  Increase enterprise content velocity by up to three times
-  Enjoy all core CCMS functions – such as collaboration, review, approval, translation, search and reports

For a personalized demo or questions, please reach us at techcomm@adobe.com

imprint

publisher

tcworld GmbH
 Dr. Michael Fritz (CEO)
 Rotebühlstraße 64
 70178 Stuttgart
 GERMANY
 +49 711 65704-0
 Fax +49 711 65704-99
 HRB 22804 Amtsgericht Stuttgart
 www.tekom.de
 info@tekom.de

advertising

tcworld GmbH
 Sales Team
 +49 711 65704-52 and -57
 sales@tekom.de

layout

Irmi Hobmaier
 irmi@hobmaier.com

editor

Corinna Melville
 www.tcworld.info
 editor@tcworld.info

printing

Druckerei Mack GmbH
 Siemensstraße 15
 71101 Schönaich
 GERMANY
 www.druckerei-mack.de

Cover image

© everythingpossible/
 123rf.com

tcworld magazine is published every quarter (4 issues per year).

Subscription price of a single issue: 8.00 Euro + VAT
 + shipping & handling.

Yearly subscription: 32.00 Euro
 + VAT + shipping & handling.

The minimum subscription period is one calendar year. This will automatically be renewed for a successive period of one calendar year, unless written notice to cancel the subscription is given to the publisher at least six weeks before the end of the calendar year. An annual subscription to *tcworld magazine* is included in the membership fee of members of tekom Deutschland and tekom Europe (except Austrian members). Printed in Germany

tcworld

magazine for international information management



From the editor

We are in the midst of an industrial revolution. In the very near future, all the devices you own will be connected and it won't be long until almost all objects will routinely exchange volumes of data with each other about how you live, work and play. With the help of ever more invisible wearable devices, the real world around you will be augmented with information, visuals or objects to enhance your perception and supposedly make your life easier. Intelligent agents and robots are expected to take on or eliminate six percent of jobs over the next five years. What a brave new world our planet has become.

The sheer excitement about the endless opportunities these new technology trends are bringing us has absorbed our attention, but so

far little has been resolved in terms of privacy issues, data protection and security. To put it bluntly: At this point, you might simply be too busy talking to your TV to notice that your toaster is sending out junk mails on your behalf or that your baby monitor has been hacked allowing strangers to talk to your children. A recent experiment in the US revealed that hackers are able to send commands through a car's entertainment system and control dashboard functions, steering, brakes and transmission from a laptop miles away.

Even so, young consumers in particular often agree to compromise privacy and security in exchange for access to the latest technology. In a digitally connected world, legislation and privacy standards have

yet to catch up. But will this ever be enough to allow the safe and secure use of connected objects and gadgets?

Within the technical communication community discussions have revolved around the creation of modular, responsive, reusable and translatable information. The focus has been on process efficiency. More recently, the hype around customer experience has shifted the spotlight slightly and brought more attention to the user. Indeed, in this hyper-connected world we must put the user front and center. Smart products require dynamic, individualized, context-sensitive user information with careful consideration of the user's privacy and security.

This is not a topic that can be settled easily, and it will surely dominate discussions at industry events and in relevant media for years to come. In this edition of our magazine we would like to kick-start the debate. This is why the creation of user information for smart products – or information 4.0 – is our present focus topic. As many of our authors will also share their knowledge at the tcworld conference 2016, you will find a reference to their presentations at the end of their articles.

We look forward to seeing you in Stuttgart from November 8-10!

Corinna Melville



PRINTED VERSION
**SUBSCRIBE
NOW**

tcworld magazine – the platform for technical communication

tcworld magazine provides valuable information for anyone facing the challenges of communicating with customers, partners and associates in an increasing number of international markets, in the technical communication and localization and translation field. The printed version gives you more value.

The largest circulation worldwide on technical communication

- Up-to-date information on technical communication every three months

More articles written by industry experts

- Experts from around the world write articles on various topics

Job postings

- Targeted positions from large international corporations

Learn more about industry suppliers and vendors

- Find out about the latest technology available

An excellent reference

- A great addition to your library



Yes! I would like to subscribe to the printed issue of tcworld magazine.

4 issues of tcworld magazine
for 32.00 Euro + VAT + shipping & handling

You will be billed for the remaining issues per year.

Please fax or email this form to

Fax +49 711 65704-99
info@tekom.de

Name

Company

Address

Postal Code/City

Country

Email

Phone/Fax Number

VAT (if applicable)

With my signature below, I agree that tcworld GmbH can store, process and use the information provided in accordance with article 28 of the German Federal Data Protection Act (§ 28 BDSG), in order to promote itself as well as the Gesellschaft für Technische Kommunikation – tekom Deutschland e.V. Moreover, I agree to receive phone or email promotions. The minimum subscription period is one calendar year. This will automatically be renewed for a successive period of one calendar year unless written notice is given to the publisher to cancel the subscription at least six weeks before the end of the calendar year.

Date / Signature

Writing for Industry 4.0

Our digitally connected world is forcing us to rethink technical communication. Smart products require dynamic, individualized, context-sensitive user information. Welcome to the age of Information 4.0.

page 10

Language technology leads to growth for all

Research shows that as language technology matures, it has gained acceptance among organizations and LSPs – and even provided work opportunities for translators.

page 32



The golden triangle of content metrics

Customer feedback provides technical writers with a useful evaluation of their work. So how can we leverage this feedback to measure the value of our content and improve it?

page 40



3 editorial | imprint

6 news

8 tc unplugged

focus

» 10 Writing for Industry 4.0

11 From product information to product communication

14 Context sensing and Information 4.0

20 Writing for the 21st century

24 A five-step content strategy for Industry 4.0

localization & language technology

28 Localizability and world-readiness for software
How to save on localization costs

» 32 Language technology leads to growth for all

technical writing

36 Ten reasons why DITA and Agile are made for each other
How two well-established principles enhance proficiency

» 40 The golden triangle of content metrics

team management

45 Working with distributed teams
Are you ready to go virtual?

community

48 Current knowledge for technical communicators
Introducing the Profiling Tool for the tekomp Competence Framework

50 tcworld calendar

NEW DQF PLUGIN FOR XTM CLOUD

TAUS has announced that a DQF plugin has been made available for XTM Cloud. Built into the latest DQF API release 3.0, the plugin supports both productivity tracking and quality review based on the harmonized MQM-DQF error typology. TAUS has also launched a set of new subscription plans.

www.taus.net

ASSESSMENT FOR DIGITAL BUSINESS

Enterprise software company Software AG has unveiled its Digital Assessment Tool, an online solution that lets users assess their organization's readiness for digital transformation. The findings are compared to other organizations throughout industries. After the assessment, users receive access to an October 2016 Forrester Consulting Thought Leadership Paper titled *Energize Your Digital Transformation: Seven Disciplines To Support Successful Digital Strategy*.

www.softwareag.com

MULTILINGUAL WEBSITES DRIVE ECONOMIC SUCCESS

Data collected by research firm Common Sense Advisory (CSA Research) has found a strong correlation between a brand's financial strength and the number of languages it makes its website available in. The data, findings, and analysis are detailed in the firm's report, *Global Website Assessment Index 2016*.

www.common senseadvisory.com

LINGUALINX ACQUIRES LANGUAGE TRANSLATION

Language translation provider LinguaLinx, Inc., has announced its acquisition of Language Translation, Inc. (LTI). The acquisition will allow LinguaLinx to tap into new sources of revenue and continue its growth in the American language translation industry.

<http://lingualinx.com>

New MQTT standard enables connectivity in the IoT

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) have approved the release of MQTT, a foundational Internet of Things (IoT) standard developed by the OASIS consortium. Version 3.1.1 of MQTT was given the designation "ISO/IEC 20922".

MQTT defines an extremely lightweight publish/subscribe messaging transport protocol. Because it requires significantly less bandwidth and is so easy to implement, MQTT is well suited for IoT applications where resources such as battery power and bandwidth are at a premium. The range of MQTT applications continues to grow. In the healthcare sector, practitioners use the protocol to communicate with bio-medical devices such as blood pressure monitors. Oil and

gas companies use MQTT to monitor thousands of miles of pipelines. MQTT is emerging as a fundamental enabler for telematics, infotainment, and other connected vehicle applications. MQTT is also becoming increasingly popular for interactive mobile applications.

Brian Raymor of Microsoft Corp., co-chair of the OASIS MQTT Technical Committee, stated: "Standards such as MQTT are critical in allowing enterprises to connect their assets. ISO and IEC's support for MQTT provides validation for the international community, and the ISO/IEC 20922 publication promises to accelerate the pace of adoption even more."

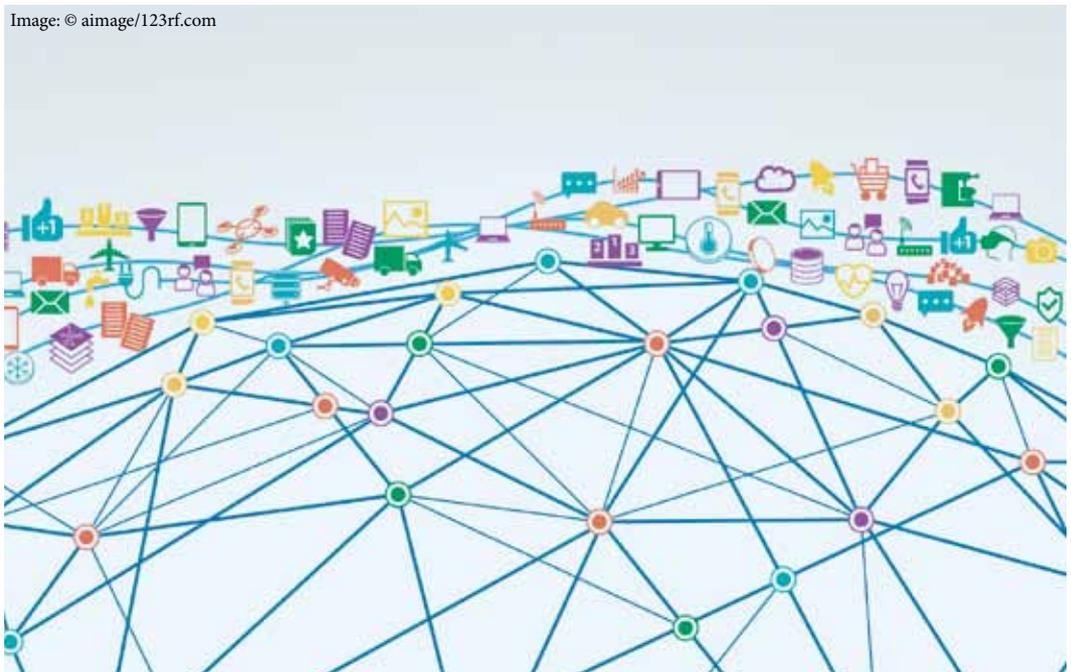
Original co-designer of MQTT and distinguished engineer for IBM Watson Internet of Things, Andy Stanford-Clark said, "I am delighted to see that,

thanks to its spectacular adoption in the IoT world, MQTT has attained this significant milestone. This positions the protocol perfectly to underpin the modern IoT ecosystem, supporting businesses and organizations in their journey towards a truly connected world. The additional scrutiny required for international recognition confirms the protocol as an open and solid IoT technology."

MQTT 3.1.1 was ratified as an OASIS standard in October 2014 and later submitted to the ISO/IEC JTC 1 Information Technology body. As ISO/IEC 20922, this international standard will continue to be maintained and advanced by the OASIS MQTT Technical Committee.

www.oasis-open.org

Image: © aimage/123rf.com



Tech trends that will change the world by 2021



Image: © Menno van Dijk/istockphoto.com

Research firm Forrester has identified emerging technologies that will change our lives as consumers and the way businesses operate over the next five years.

Of the 15 technologies analyzed in the report, the following five have been identified as having the greatest disruptive potential and offering the biggest competitive advantage:

- Internet-of-things (IoT) software and solutions. The IoT will be driving new levels of customer insight and engagement for some by 2021, but technology diversity and the need for organizational changes will still stymie or delay many firms.
- Intelligent agents. Intelligent agents and related robots will have eliminated six percent of jobs by 2021.

- Augmented reality (AR) and virtual reality (VR). By 2021, AR will be commonplace, while VR remains niche.
- Artificial intelligence (AI) and cognitive technology. Solutions powered by AI/cognitive technology will displace jobs, with the biggest impact felt in transportation, logistics, customer service, and consumer services.
- Hybrid wireless. 5G will be rolling out by 2021, creating a high-bandwidth cellular backbone to support IoT devices. In addition, Bluetooth and Wi-Fi will expand their capabilities to support IoT devices.

The full report can be purchased online.

www.forrester.com

ASD Simplified Technical English (STE) term checker

STE helps to make instructions as clear as possible. But, STE has many grammar rules and thousands of dictionary rules.

To remember all the rules is difficult. Can you remember the approval status of the word *fluid*?

- Not approved
- Approved as a noun
- Approved as an adjective
- Approved as a noun and as an adjective.

Can you remember your organization's technical terms and the unapproved alternatives?

The STE term checker from TechScribe helps you to make sure that your text conforms to STE.

Free trial: www.simplified-english.co.uk

* *Fluid* is approved as a noun only, unlike *liquid*, which is approved as a noun and as an adjective.



Intuitive, web-based XML editor

Impress your authors,
structure your data
and improve your
technical documentation!

Your benefits

-  User-friendly
-  High quality content
-  Easy collaboration
-  Platform and location independent

Features

-  Support for DITA/PI-Mod/S1000D/custom schemas
-  Interface similar to MSWord
-  Intelligent real-time validation
-  Spelling and grammar check
-  Formula editor
-  Comment system
-  Easy integration into existing systems

Join us!

tcworld conference, booth 2/A08

For more information please go to:
www.xeditor.com

Or send your inquiry to:
service@xeditor.com



Don't use that fork! The myth of the cultural faux pas

By Leah Guren

There once was an American businessman who was scheduled to visit his company's Japanese subsidiary for a series of meetings. To prepare for the trip, he read about Japanese culture and customs, and even learned a few basic words of the language. He hired a consultant who taught him the proper way to greet his Japanese hosts, how to exchange business cards, how to eat with chopsticks, and more.

"In Japan," the consultant told him, "you must always start with a statement of humility about your own worth or status, and a statement of praise honoring your host." With that in mind, the American businessman carefully wrote his speech. Once in Tokyo, he followed all the rules, bowed just the right degree, and presented his business cards with both hands.

Then it was time to make his presentation in front of 2000 employees. "I am deeply honored to be here in your beautiful, modern factory," he began. "I am humbled when I see the excellence of your production methods. There is much that we can learn from your efficiency and your high standards of manufacturing quality."

All of the Japanese employees laughed uproariously.

The American was confused, but he managed to finish the rest of his presentation. Later in the day, he had an opportunity to ask his host, "Why did everyone laugh at me? I was trying to be polite!" His host bowed. "Yes," he said, "but we told everyone that all Americans start their speeches with a joke." Of course this is only a silly joke that has been making the rounds for more than ten years. But it is a wonderful way to illustrate the problem of cultural over-sensitivity; that is, the fear that we may irreparably damage relations with a customer or a coworker by ignorantly (though innocently) committing some horrible cultural faux pas.

Learning about other cultures is always valuable. It enables us to better understand other people. It enriches our own lives by providing us with a broader perspective. It shows our hosts that we have taken the time to notice and appreciate their culture. And of course these are all good things. But do you really think that in IT, a developer would storm out of a meeting because you said her first and last names in the wrong order? Or that a high-tech customer might cancel an order because you scratched your nose? Or that attendees at an international conference would be offended by the background color of your slide deck? This is simply foolish. People are smarter than that, and people in IT are more sophisticated than that.

I've traveled all over the world and I've participated in projects with geographically dispersed teams. I have had to deal with communication problems many times, but I can honestly say that I have never seen someone lose a sale for using the wrong fork or pouring water with the wrong hand. If you are acting in good faith and treating your hosts with the same courtesy and respect that you would treat an honored guest, then no one will interpret mistakes as an aggressive act of rudeness. If you are still nervous about being hopelessly tactless, here are some tips to reduce the risk:

- 1. Research the country.** Knowing something about the history of the country you are visiting is very helpful. Understanding even basic current events can help you steer away from disastrous topics. Is this a country that has recently undergone massive political changes? Are they recovering from a recent war or a natural disaster?
- 2. Learn a few phrases.** Nothing wins hearts faster than learning to say hello, please, and thank you in the local language.
- 3. Identify proper greeting styles.** Greetings can be awkward; do you shake hands? Kiss? Both sides?



The same for men and women? Many years ago, a wise colleague taught me a trick to help navigate the complexity of greetings in heterogeneous cultures (for example, those where the secular and the religious follow different rules). Now, I smile, incline my head slightly, and wait for the other person to initiate the action, whether a handshake, a Namaste palms-together bow, or an embrace with kisses.

4. Identify major taboos. Make sure you check up-to-date sources, as a shifting political landscape can eradicate old taboos and create new ones (see #1 above). For instance, a rep from Argentina once arrived on site wearing an orange shirt at a time when orange had been adopted as the color of an extremely divisive political faction. He had no idea what his shirt "meant" and how people perceived him.

5. Ask the right questions. Everyone loves telling you about their country, customs, culture, and history, if you ask questions in the right way. The trick is getting people to talk without asking what

sounds like either judgmental or clueless questions. If you want to stay on safe topics, ask people about their favorite holidays, best childhood games, etc. Everyone loves talking about fond memories.

6. Learn the gift of the gift. Giving and receiving presents is a very big thing in some cultures. Learn what is appropriate and learn how to accept gifts graciously and enthusiastically.

7. You don't have to eat monkey brains. Don't eat meat? Don't worry. Can't handle cheese? No big deal. Don't drink alcohol? No problem. The trick is telling your host what you cannot eat (whether for health or religious reasons) and then being 100% willing to try anything else. No one is going to force you to drink cobra blood or eat yak testicles if you let them know you are vegetarian. But that means when they bring out the stinky fermented tofu, you had better give it a try.

8. Focus on clear communication. It can be an effort to make sure that you understand and are understood, but the success of the project may depend on it. Don't be embarrassed to ask for clarification. Always take the responsibility (for the lack of understanding) on yourself (that is, never blame the other person for being hard to understand). Do you need to use pictures? Say something again in shorter, simpler sentences? Use pantomime?

9. Be a decent person. Being polite and friendly goes a long way, even when there is a gaping cultural chasm and you don't speak the language. I once got completely turned around and walked three kilometers in the wrong direction. I ended

up far away from the city center in an area with no tourists and no one who spoke English. But somehow, with maps and sign language and a few words, the proprietor of a small ice cream shop managed to show me where I was. One of his patrons, an older woman, escorted me to the correct bus stop. We had not a word in common, but we smiled and nodded a lot, and I made it clear that I was appreciative of her help. So relax and enjoy the opportunities that come with business travel and multi-cultural projects. Just be a decent person and you will never have to worry about using the wrong fork. Do you have another story about cultural oversensitivity? I'd love to hear from you.

ABOUT THE AUTHOR

Leah Guren

is the owner/operator of Cow TC. She has been active in the field of technical communication since 1980 as a writer, manager, Help author, and usability consultant. She now devotes her time to consulting and teaching courses and seminars in technical communication, primarily in Israel and Europe.



@ leah@cowtc.com
 www.cowtc.com

YOUR RELIABLE PARTNER FOR KOREAN & JAPANESE TRANSLATION!

Qualified Resource	
High Translation Quality	
Competitive Price	
ISO 17100 Certified	

- 3-Step Translation (Translation+Editing+Proofreading)
- In-house linguistic QA
- Functional QA
- Language Sign-off
- Language Quality Evaluation
- DTP Services

hanseMEUG, Korea

#24, Gwongwang-ro 142-gil, Paldal-gu, Suwon-si, Gyeonggi-do
info@ezuserguide.com | www.hansemeug.com



Writing for Industry 4.0

The fourth industrial revolution is well on its way to changing our lives – and our jobs.



From product information to product communication

In times of user forums and service portals, user information is no longer a one-way street. But while many manufacturers still ignore – or even fear – user-driven information, we should think of ways to tap into this great pool of knowledge that users give away freely.

By Carl Carlheim-Gyllensköld and Johan Elisson

One day, our manager came by with her mobile phone. It had crashed and she needed help from her tech-savvy employees. A quick Google search gave us several solutions to the problem; some through video, others through forum threads, some in blog entries. We did what most of us do; we gave each solution a few seconds and decided on one that felt good. Bingo! A few minutes later, the mobile phone worked again. The interesting thing was that none of the solutions came from the actual mobile phone company. Why?

The product information world is changing

Producing technical information has been a relatively routine process for many decades. Products are manufactured, documented and marketed, and when they are sold, the printed documentation is handed over to the user or distributed to service technicians. But this world is changing. With the breakthrough of the Internet, a slow, structural evolution commenced, directing information away from the printed manual and more towards the screen. Handbooks have been replaced by apps and user forums. Information about repair and maintenance procedures is now available in service portals.

Accessories and parts systems are digitally distributed and connected to e-commerce websites and business platforms. And now there is the Internet of Things (IoT).

Prepare for the Internet of Things

With the Internet of Things, information will be completely integrated into products. The mission for us as creators of product information will be to continuously describe the components of ever-changing products. Soon we will abandon print completely and instead work with online tools that create modular topic-based structures where information and products are developed simultaneously throughout the product lifecycle.

So what exactly is the Internet of Things? In short, it means that all things running on electricity can and will be connected to the Internet. And we are talking about ALL sorts of things, from large industrial machines to consumer products and even down to small basic components. Washing machines, cars, welding equipment, lamps, refrigerators, clocks... everything.

Why will this happen? Because connected things can be programmed to intelligently make use of each other in order to make human life easier and more efficient. The development of the IoT is something we can utilize,



both in order to create a more prosperous planet as well as to save money, or create new money making products and services.

For everyone working with product information – for example manufacturers or suppliers – it is necessary to understand and prepare for this evolution, so that we can face the new requirements put on us as well as benefit from the opportunities they create.

Information must be adapted to each user

The quick Google search to find a solution for our manager's mobile phone and how we handled the search result highlight one thing: As a user, I have to understand, or believe that I understand, the information right away; otherwise, I will jump to the next search hit. The average attention span, that is, the time we can focus on a task, has gone from twelve seconds in 2000 to eight seconds today. This is one second less than a goldfish, which has an attention span of nine seconds. What does that say about us when we lose interest faster than a small fish swimming around randomly in an aquarium? It is therefore crucial that information is formulated in a way that the user can understand in eight seconds or less – otherwise, the user moves on.

Furthermore, user requirements on information have increased. Today's users have become used to services like Spotify and Netflix. Information needs to be:

- accessible 24/7
- based on the user's situation
- accurate and reliable
- collected in one place
- understandable with no prior knowledge
- searchable/findable
- always up-to-date

Many of these points require interaction with the user or the user's product. Product information is no longer a matter of sending information one way, from the manual to the user, but rather about information sent back and forth between the user, the product, and the product information. Communication, if you will. Where are the user and product located? What time is it? Is the product working properly or is there an identified problem or error? What is the software version of the product? What is

the product currently doing? How long has the user had the product? The answers to all these questions can, and in intelligent information should, change the information presented to the user. The information really needs to be tailored to the specific situation. If not, the user will spend those eight precious seconds working out that the information is irrelevant to him before moving on to something else.

Users are also more sophisticated now than they were 20 years ago, as evidenced by large online communities of technical dilettantes and self-educated experts. Anyone can pick up a Raspberry Pi, a tablet or a smartphone and take advantage of the power of GPS, database and multimedia server functions, VPN and VOIP without reading a single article or reference topic in a manual or user guide.

Many technical communicators would argue that minimalism in writing is key and that you should provide only the information a user needs. However, it is very easy to write product information with the misconception that the writer himself represents a typical user. It is also easy to underestimate just how many tinkerers and even casual users are capable of customizing and improving the product while demanding specific information from the official user guide.

In the same way, software developers and hardware engineers must balance advanced features with ease of use. A technical communicator must write or rewrite the information with the intention of addressing the evolved needs of the user.

These are tough requirements to meet for the product companies.

The user owns the information

No matter what companies think about it, people will keep talking about them and their products. They write reviews, give tips, discuss and question the products. It has always been like this, but through social networks, blogs, and forums, this has a much greater impact than if they were just talking to their closest friends. Nowadays, people are very quick to communicate to the world what they think and what they know. They record, for example, their own instructional videos showing how to repair a mobile phone or how to remodel it in the best way, and post them on YouTube. The users have taken control of information.

Freedom of choice and participation are needs that are deeply ingrained in most of us. We as users do not want to be passive recipients of information; we want to select and deselect. We want to be listened to, and we want to share our experiences.

It is no longer the companies or the media that determine what information is going to be spread – it is the users.

Information is free

Even outside work, both authors of this article have spent a lot of time explaining how things work. Johan has been an active contributor to the English Wikipedia since 2004. In 2006, the community nominated him to an administrator role. The main driving force behind his 20,000 edits has been to make information available online for everyone, when it previously could only be found in offline sources.

His favorite quote on the online encyclopedia, "Wikipedia is a paradox – it doesn't work in theory, only in practice," also gives a hint as to



Image: Andrew Rich/istockphoto.com

why companies hesitate to take user-driven information under their wing. A rule of thumb for companies is to have a product work in theory before actually starting to produce it – this is why research and development departments exist. However, just as a user-driven encyclopedia does not work in theory, neither does user-driven product information.

Carl is deeply involved in the maker community that started Stockholm Makerspace. The maker community is all about sharing knowledge and ideas via courses, instructions, etc. Users spend their own free time learning new skills and then spread this knowledge to other users. The Internet is full of instructions on how to do almost anything, generated by the making community. Check out sites like instructables.com, ikeahacks.com, wikihow.com, or makezine.com for inspiration.

Companies need to learn how to tap into this new world where users freely want to give away their knowledge. They need to start to communicate, not inform. They need to let go of their rule of thumb and embrace user communities and, most importantly, user-driven information. A number of progressive companies have already done this, such as the Apple forums hosted under the company flag, where anyone can contribute. The forum moderators can mark up the best posts and answers as "Apple-approved". This not only lets Apple have a level of control over the information, but also triggers the users to make great contributions.

From product information to product communication

To summarize, the success of product information depends on whether or not a user finds what he or she is looking for. It is the responsibility of the technical communicator to make sure users get the information they need. How should product manufacturers meet the tough requirements? The first step is to stop trying to bring information to the users and begin to communicate with them instead. Move from product information to product communication. If the company that makes our manager's mobile phone starts to listen to and communicate with its users, its solution will be first on the hit list. More and more companies are also beginning to work with information crowdsourcing and

user-generated content. The companies using these possibilities have an edge over competitors while users get a better product. It will be a win-win situation for both users and companies.



Learn more about this topic at the **tcworld conference**:

Date: Tuesday, November 8
Time: 17:15 - 18:00
Room: C6.2 OG



ABOUT THE AUTHORS

Johan Elisson works as a technical communicator and topic-based authoring specialist in Gothenburg, Sweden, where he writes owner's information for Volvo Cars. He specializes in digital product information and topic-based authoring. When he is not writing for Volvo, he develops and teaches concepts, processes and methods for producing topic-based information.



@ johan.elisson@semcon.com
www.semcon.com

Carl Carlheim-Gyllensköld is based in Stockholm and loves to describe how stuff works. For the last decade, he has worked as a technical communicator for many different customers in various industries, including industrial tools, mining, robotics, dairy farming, telecom, audio technology, consumer products, software... His work has given him great experience in presenting technology to a wide variety of target groups, always focusing on the end user.



@ carl.carlheim-gyllenskold@semcon.com
www.semcon.com

Please visit us in **Hall 2 Stand C07**



NEW IN SCHEMA ST4: PROJECT CONFIGURATOR

Automation in Technical Documentation – when the content comes to the writer.

The SCHEMA ST4 Component Content Management System is steadily automating technical authoring processes in the shape of the new project configurator. Intelligent information modules comprised of metadata automatically generate the required content, while gaps can be added as new modules with just one click. With the new project configurator in SCHEMA ST4, content and publications are found automatically.



www.schema.de

Context sensing and Information 4.0

Context sensing provides us with the means to produce highly personalized information that is geared towards the user's needs on a minute-by-minute basis.

So are we ready to become creators of Information 4.0?

By Ray Gallon and Andy McDonald

If you want to catch a glimpse of how people are going to access information in the future, download the Blippar app (www.blippar.com). Scan your hand and see what you get: The app recognizes the image and crawls the web for a transmedia sampling of information. But it doesn't stop there. Behind these results is an extensive ontology represented by spheres, which provide new results. Tap the "finger"

sphere to get a new ontology in which, interestingly, one of the links leads to "amputation". Blippar believes that visual recognition and Augmented Reality are their key innovations. And they are. However, we think the way they process and offer information to the user is even more significant. What is important here is that none of this information is static. If the Wikipedia "Hand" entry

is updated, or new relationships are found, they will be displayed immediately. This is constant information delivery, continuously updated and mashed up from a variety of sources. Blippar gives us an idea of what challenges we have to solve in the next information revolution sparked by Industry 4.0.

- When someone points Blippar or a similar app at your product or software screen, will your user assistance show up?
- How can you guarantee this?
- Is the information offered pertinent to the task or issue they're interested in?
- How can we identify this issue?
- How can you be sure that what the user needs is the obvious choice?

Not just smart refrigerators

Industry 4.0 surely has a lot to do with the Internet of Things (IoT), but it goes well beyond objects communicating the fact that the milk in your refrigerator is going bad. It's a complex network of networks, powered by artificial intelligence (AI), in which objects make autonomous decisions that affect us directly in a number of ways.

In Industry 4.0, information transparency is a requirement. Industry 4.0 information systems will create a

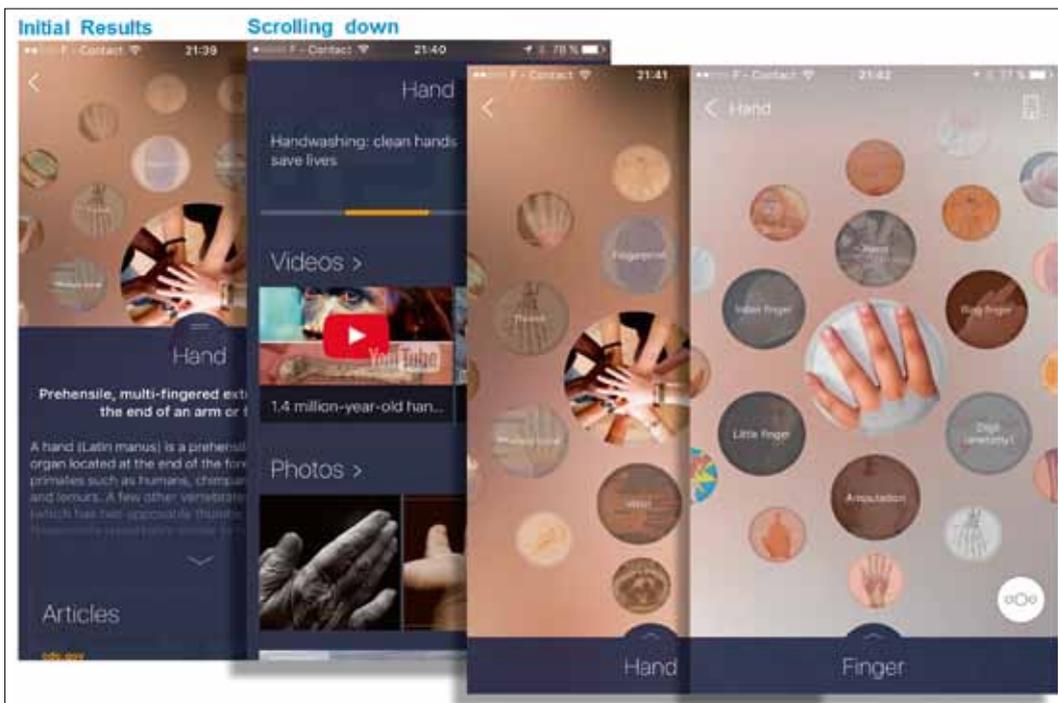


Figure 1: Four screenshots from Blippar after blipping a hand

Your connection to translation and localization companies

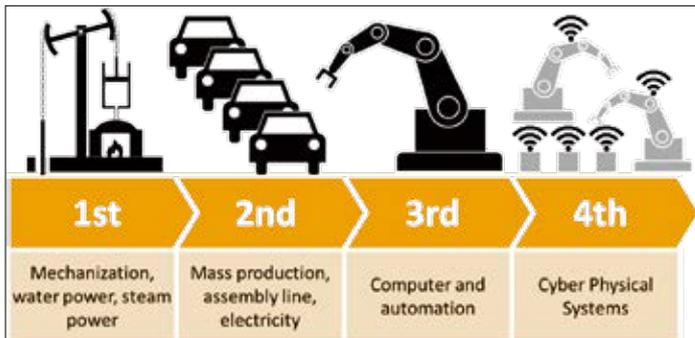


Figure 2: The four industrial revolutions as defined by Wikipedia
Source: Christoph Roser at AllAboutLean.com

virtual copy of the physical world by enriching digital plant models with sensor data. This requires the aggregation of raw sensor data to higher-value context information.

The way we see it, one of the most important products of Industry 4.0 will be information. Notice that we said "product", not "product-related" or "product instructions" or any other euphemism. We all need and want information. In a lot of ways, it will be tuned to profiles that are not defined by an individual.

In the context of Industry 4.0, we define **Information 4.0** as having these characteristics:

- **Molecular** – no documents, just information molecules
- **Dynamic** – continuously updated
- **Offered** rather than delivered
- **Ubiquitous**, online, searchable and findable
- **Spontaneous** – triggered by contexts
- **Profiled** automatically

The key to this new informational environment is context-sensing technology. But this context sensing goes well beyond familiar concepts.

The context of context

Intel defines context sensing as *Information that must be collected and used soon, because otherwise the information*

may not be valid anymore. This kind of context information is called "context state." A group of "context states" comprise a "snapshot" of the current user's context, such as location, user activity, and the user's surrounding environment. This snapshot is formally called the "state vector," which contains a collection of "context states," describing the user's current context.

This might appear to be a comprehensive definition, but Intel's idea of a "state vector" may not have a wide enough horizon.

Dr. Christian Glahn, director of the Blended Learning Center at the Chur University of Applied Sciences in Switzerland, refers to context sensing as a "discovery". Its central principles are:

- Not always more of the same
 - ⇒ If I just ate, I don't need more restaurants.
 - ⇒ After four hours in a museum, I need a café more than another museum.
- Meaningful connections
 - ⇒ If I'm on a business trip, I'm not interested in finding a gym just before a meeting.
- Follow rhythms
 - ⇒ If I always eat dinner around 6:00 PM, I might be interested in finding a restaurant at this time when I'm away from home.



verztec.com
Quality translations of e-learning courseware and websites into over 100 languages. Reach us at enquiry@verztec.com



medilingua.com
Medical and pharmaceutical translations in 50 languages, in-country review, readability testing.



translatedinargentina.com
A network of companies promoting Argentina as the key destination for Spanish translations.



memoq.com
memoQ — designed to facilitate, speed-up, and optimize your entire translation process.

To see a complete list of GALA member companies, please visit www.gala-global.org

The Globalization and Localization Association (GALA) is a global, non-profit trade association for the language industry. As a membership organization, we support our member companies and the language sector by creating communities, championing standards, sharing knowledge, and advancing technology.

Knows	Detects	Will soon know your
<ul style="list-style-type: none"> • where it is (in 3D) • if it is indoors or outdoors • if it is moving or not • if it is attached to you or not • your preferred communication channels 	<ul style="list-style-type: none"> • objects, especially faces • input type (verbal, haptic, optic) • ambient noise • conditions (lighting, electromagnetic, temperature, barometric pressure) • elements in proximity 	<ul style="list-style-type: none"> • current time (local, season, day, date) • age, gender, family situation • behavior (themes that interest you for work and leisure, learning style) • networks – social as well as technological • history (previous states of your networks, applications, situation in space-time) • emotions

Table 1: Your mobile builds the context

Can you imagine applying these principles to user assistance and other technical information? This means not only context-sensitive in the static, traditional sense, but highly personalized and dynamically contextualized information on a minute-by-minute basis!

Mobile evolution

Without noticing, our mobile devices have transmuted from phones to Internet terminals. And they're about to mutate again from terminals to context sensors. We'll still use them to phone home or catch up on gossip regarding our favorite pop singer, but a mobile's real function will be the elaboration of constantly evolving, real-time state vectors.

Terminals already "know" some of the things listed in Table 1 – like the current time – because we, or our service providers, tell them. Tomorrow they will know these things all by themselves and make decisions based on this knowledge. But what will happen when your phone starts comparing you to statistics from Big Data and factors your surroundings into your state vector?

Picture the following scenario: You pass a shoe store (part of a national chain) in a shopping center – let's call it Sam's Shoes. Your terminal knows that you bought your running shoes six months ago and, based on your time spent running, it calculates

that you are just about due to buy a new pair. Correlating with the store, it finds your brand and model on sale there and alerts you. If you are jogging, it will have the store send an email, and the store decides to include a voucher.

In this scenario, your mobile isn't simply alerting you about a national shoe sale. It triggers THIS Sam's Shoes to suggest you buy the SAME shoes, on sale NOW, because your phone deduced YOUR CURRENT SHOES ARE ABOUT TO WEAR OUT.

This level of personalization makes marketers tremble – but it will be a reality before we know it.

Context states and individual needs

This implies that the context state, as defined by Intel, is not just about location, activity, or surroundings. It's also about interior states that the terminal has monitored and collected: heart rate, perspiration, respiration, general metabolic activity, brain waves, etc.

Coupling context state information with context history predicts mood, behavior and needs. The information offers that we receive can, and probably will, become ever more narrowly filtered and focused as they become more and more personalized. So how can we use all this collected data on context states to help clients and users?

Developing a coherent content strategy

Each individual's needs form a loose matrix based on varying levels of interest or requirements across multiple domains. This matrix varies in time.

Mapping the needs potentially involves defining thousands of personas. A coherent content strategy is indispensable for defining the information made available to the matrix.

In user-centered design and marketing, personas are fictional characters created to represent the different user types that might use a site, brand, or product in a similar way...

[From Wikipedia]

Although primarily used in marketing, we have a more global vision of user personas: fictional characters created to represent different user typologies having similar experiences and needs.

Let's take an example from the energy industry, where various disciplines (processing, drilling, geology,

geophysics, reservoir engineering, etc.) interact to obtain results. Individuals involved have varying levels of experience, competency, skills or know-how in each field, resulting in a complex requirements matrix as shown in Figure 3.

A company, using software (provided by a supplier), has objectives concerning the evolution of competencies in various domains. The supplier can't decide these objectives. They are defined by policy within the company.

However, these evolutions can be mapped to persona journeys by the supplier (on a broader scale than the end client).

A journey is a set of changes in state vectors (orange line, Figure 3). Information 4.0 requires that we respond with refined content candidates.

Personas will probably be tagged as belonging to a discipline. In reality this is not always the case. Awareness of others' skills is required to handle complex processes.

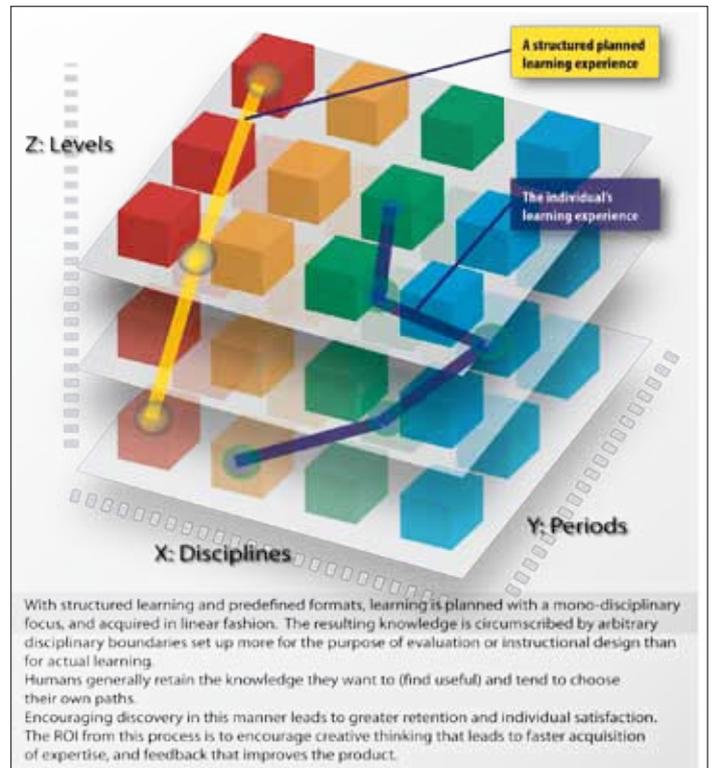


Figure 3: Expected skills acquisition over time vs what actually happens



Figure 4: Sample of emotions from the Affectiva Developer Portal

Source: Affectiva Developer Portal

Let's look at the same situation through an individual user journey. While the company has objectives, the individual user will require or desire other unplanned competencies, even forget some, or want to move to other domains outside his core domain (blue line, Figure 3). Integrating this phenomenon into production requires metrics for tracking the real journey. Success will be measured by:

- satisfaction
- company feedback on competency improvement.

At no point have we talked about typing or structuring, and definitely not delivery. We'll come back to this.

Facilitating individual competency learning

Users of technological products or software are learners. Learning is part of a user journey and is designed in stages (changes in state vectors) that can be easily assimilated. As information developers, we won't decide when users progress. They will.

Users graze from a variety of sources; the learning process is no longer linear. Our job is to fill the gaps with pertinent information. Users will cherry-pick for their needs (based on perception). We will promote the journey, facilitate the stages, encourage engagement, and reward success. We are no longer just writers.

Evolving from support to user relationship

Bots and conversational AI (such as IBM Watson) will allow the first level of user support to be automated. It won't replace the human support person entirely, but will cater to repetitive cases and issues and detect the unresolved. Humans will intervene more in the unresolved complex problems, where expertise, handholding,

foreseeing issues, and improving existing practices are required.

This does not remove the requirement for information production. The objective will be to provide less costly, but more pertinent, support based on profile, persona and history. The management systems for this type of support are still being designed.

Emotions embedded in sensing

Emotions will play a big part in how well our content serves our purposes. As an example, on a cognitive level, joy can be leveraged; contempt and disgust cannot, but have to be taken into account. Resolving a user's frustration requires alternate re-engagement strategies, including real integrated communities of stakeholders where the user's problems are taken seriously and their suggestions can be integrated into the products.

The Affdex SDK by Affectiva brings emotion sensing and analytics to software via facial expression recognition. We need to understand how to map content to emotion so that AI applications like this one can help us to provide truly responsive UX.

Multi-threaded production

Our current information production is linear. Our next information production model has to consider:

- Replacing waterfall production (documents) with constant delivery or real-time availability of molecular information
- Context tagging as an imperative, emotional tagging in the future
- Widely collaborative processes where stakeholders, including users, drive goal-oriented efforts

Constant delivery or real-time availability implies changing:

- Decisions about the what, who and when of production and validation – integral to new content strategies
- Feedback management – this is curation and animation, rather than moderation

Minimalist practices reduce information overload, but don't solve everything; it's a principle, not a design method. Designing for non-linear user journeys means making structures that are smaller than we use today in systems like DITA, which are combined, updated, and recombined in real time.

Information 4.0 is lean, nimble, profiled and designed to be assembled spontaneously into an emotion-based response, tailored to a persona. The Blippar example at the beginning draws on the broadest content set possible, mapped using ontological relationships. This is fine for unguided discovery – without a precise objective. But our ontologies have refined purposes. For products or software, for instance, information candidates and the relations between them are oriented towards onboarding, acceptance, familiarity, proficiency and, eventually, expertise.

Defining the future?

Industry 4.0 brings game-changing technology to the scene. It will impact our experiences and behaviors in social and economic spheres. These changes are happening now and, as practitioners, we need to harness them and identify elements where we can add value to the user experience.

Information 4.0 includes design, production, curation, collaboration, animation, and governance. We may think we already do all of these things, but we need to break our usual patterns and learn to do them in a more agile, nimble fashion.

We need to learn to provide information almost instantly, include users as stakeholders and val-

uate their contributions, and become comfortable with continuous change and improvement. The governance of these processes is critical; the criteria and mechanisms are yet to be written. Systems for managing Information 4.0 need to emerge or coalesce. We can let Industry 4.0 dominate the way our future is defined, or we can be the ones who define how it changes us.

 **Learn more** about this topic at the **tcworld conference**

 Date: Tuesday, November 8
Time: 09:45 - 10:30
Room: C9.2 OG



 ABOUT THE AUTHORS

Ray Gallon is co-founder of the research and consulting company The Transformation Society, and owner of Culturecom, a company that provides business process improvement through communication. He has over 40 years of experience as a communicator, first as an award-winning radio producer and journalist, then in the technical content industries.



- @ ray@transformationsociety.net
- www.transformationsociety.net
- twitter.com/RayGallon
- twitter.com/TransformSoc

Andy McDonald has been designing and writing documentation for the oil industry since 1998 and is now Innovative Information Products Manager for Tech Advantage in the Paris area. Having seen methods, norms and formats come and go, his basic training leads him to concentrate on the people involved in the processes and the end user requirements.



- @ Andy.MCDONALD@tech-advantage.com
- www.doccontents.com/en/home
- twitter.com/AndyMcD_TECH

WHEN WE SAY

It will be ready at 10 p.m.

WE MEAN

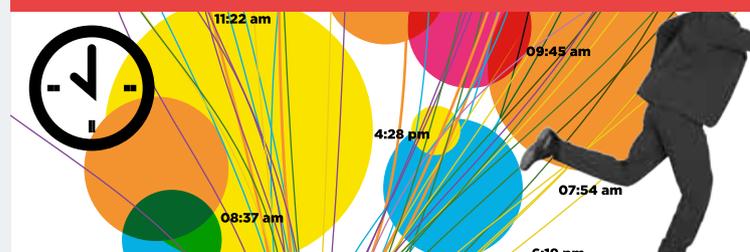
It will be ready at 10 p.m.

In our dictionary, the word trust is defined as the most important element of our relationship with our clients.

SeproTec is ranked among the world's top 30 language service providers. With a global presence, we offer translation, localization and interpreting services in any language. Furthermore, our 25 years of experience in the sector have allowed us to earn the most important international certifications.

We can assure you that with us, uncertainty is something that only new clients feel. It completely disappears once you've worked with us for the first time.

WORDS MATTER



madcap

DOC-TO-HELP™

TECHNICAL DOCUMENTATION, MADE EASY

Author, Reuse and Publish Content to Any Format or Device Using Microsoft® Word

*“ I cannot imagine developing Word-centric technical documentation without Doc-To-Help.
In my opinion, Doc-To-Help and Word are a match made in heaven. ”*

– Peggy Fenton, Senior Technical Writer

» EASY TO USE

Leverage existing content and author in a familiar environment using Microsoft® Word.

» CREATE A VARIETY OF DOCUMENTATION

Quickly and easily create training manuals, user guides, policy and procedures, knowledge bases and more.

» WRITE ONCE, PUBLISH TO MULTIPLE FORMATS

Publish to multiple formats including responsive Web, PDF, ePub and more.

FOR MICROSOFT®
WORD USERS



Download a Free Trial at madcapsoftware.com



Copyright © 2016, MadCap Software, Inc., and its licensors. All rights reserved. MadCap Software, the MadCap Software logo, and Doc-to-Help are trademarks or registered trademarks of MadCap Software, Inc., in the United States and/or other countries. Other marks are the properties of their respective owners.

Writing for the 21st century

Industry 4.0 and new technologies such as intelligent agents or Augmented Reality are bringing a new user experience and transforming customer support. Their coming of age forces us to think about how we produce technical documentation to make the most of this revolution.

By Fabrice Lacroix

Technical documentation is part and parcel of the product experience. It is essential to many phases of the customer journey, from pre-sales, installation, use and maintenance through to support. Historically delivered on paper in the form of books or manuals, technical documentation is a narrative provided via words and phrases, written by humans to be read by other humans.

The advent of digital technology has disrupted this state of affairs, raising all sorts of questions concerning information architecture. The former supremacy of large books and manuals has been challenged by the emergence of short content focused on one particular topic (articles, knowledge bases). This has in turn engendered fresh challenges on how to organize this profusion of

information in order to make it consistent and meaningful. Embodied by products such as Fluid Topics, Dynamic Content Delivery has managed to provide an effective response to this transformation.

The shift from book to article remains firmly within the scope of content that continues to be written and read by humans in the form of



Image 1: Textual content is inappropriate for advanced devices.

Source: © Google

typed text. However, it falls short in accommodating the next step. Indeed, a revolution is underway, one that will introduce a new way of accessing and using information with new interfaces and a groundbreaking user experience, far removed from traditional pages of text. It will combine:

- Self-documented devices that give predictive and contextual indications
- Augmented Reality, already present on tablets and mobile devices
- Wearable tools such as smart glasses
- Interactive agents, already standard fare with Siri by Apple, or OK Google

These innovations sound appealing, but they require us to rethink our approach to technical communication. Can anyone seriously imagine reading a three-page PDF article using connected eyewear? Or listening to an intelligent agent reading a ten-minute response to a question? Technical documentation as customarily produced, and especially as it continues to be published today in the form of short or long texts, is clearly inappropriate. Information professionals must take stock of the challenges and prepare for them. They must write for machines, i.e. produce an appropriate form of information whose consumption – or ingestion – and use are in line with these new tools. How? And in what form? Flat text is useless. And one thing is certain: hyper-structured knowledge bases such as those used in the 1990s do not provide the answer, due to their overly complex modeling, costly maintenance, slow expert-driven input, etc.

What approach should these professionals adopt to satisfy today's publishing methods and anticipate those of tomorrow? The answer is quite straightforward and within reach, since it involves implementing three practices that are already known and approved. We call it the **Content Value Path**:

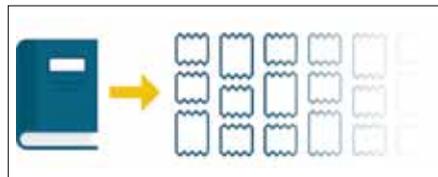
1. Structure
2. Metadata
3. Semantics

We will review these three steps below and show how they tie in closely with one another, and how their combined effect opens up new opportunities.

1. Structure

Structure is meant here as part of the structured content authoring concept, a widespread practice in the sphere of technical documenta-

tion that consists of breaking down the content into little pieces (from a few lines to a few paragraphs) called components or topics. These are subsequently assembled via maps (similar to tables of contents) to create the final content. The corresponding standard and tools are well known, for example DITA or S1000D. This approach runs contrary to writing long, unstructured documents using word processing tools. It was designed to optimize the production and maintenance of large bodies of documentation by writing in parallel, avoiding duplicate content by recycling topics, facilitating modifications, reducing translation costs, etc.



Note that, in this productivist approach, the granularity of the topics is determined by production issues and is potentially decorrelated from the content itself, i.e. the subjects broached in the text. In our Content Value Path approach, the breakdown of the topics must be aligned with the subject because we need consistent and complete grains of information. Excessively long topics that deal with several subjects must thus be broken down to a more granular level. Conversely, excessively small topics (such as a phrase or fragment) resulting from a given documentation technique must be assembled within intermediate maps that are not necessarily intended for publication, but that serve to define this consistent level of information.

Why is the breakdown so important? Because it enables the respective technologies and algorithms to work with complete grains of information, and thus be able to target the elements

needed to answer a question more effectively and unambiguously. But to do that, we must still add the metadata and semantics layers.

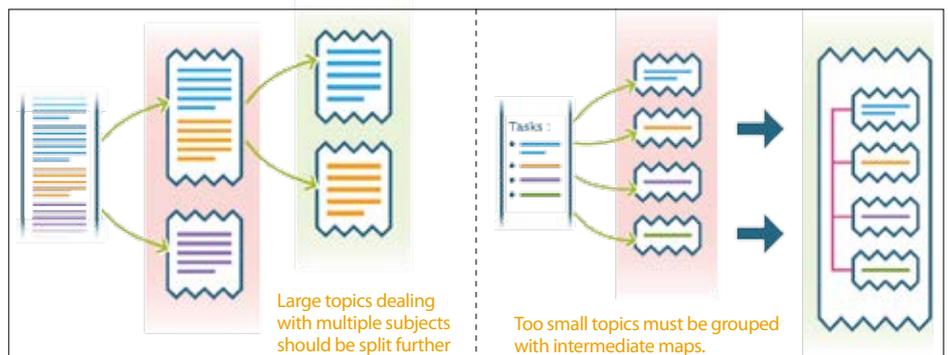
2. Metadata

Metadata is data that describes other data. For example, the date a topic is created, as well as the author and publishing status, is management metadata. Other types of metadata may play a more editorial role and, as such, are part of the content itself, for example, the software application or version, the type of task described (installation, maintenance, etc.), or the required level of expertise. Metadata can be dates, numbers, free keywords or, more typically in documentation, labels taken from controlled lists: flat or hierarchical lists (here we speak of taxonomy). This metadata can be positioned on the topics or maps (in which case it is conveyed to all the topics included in the map).

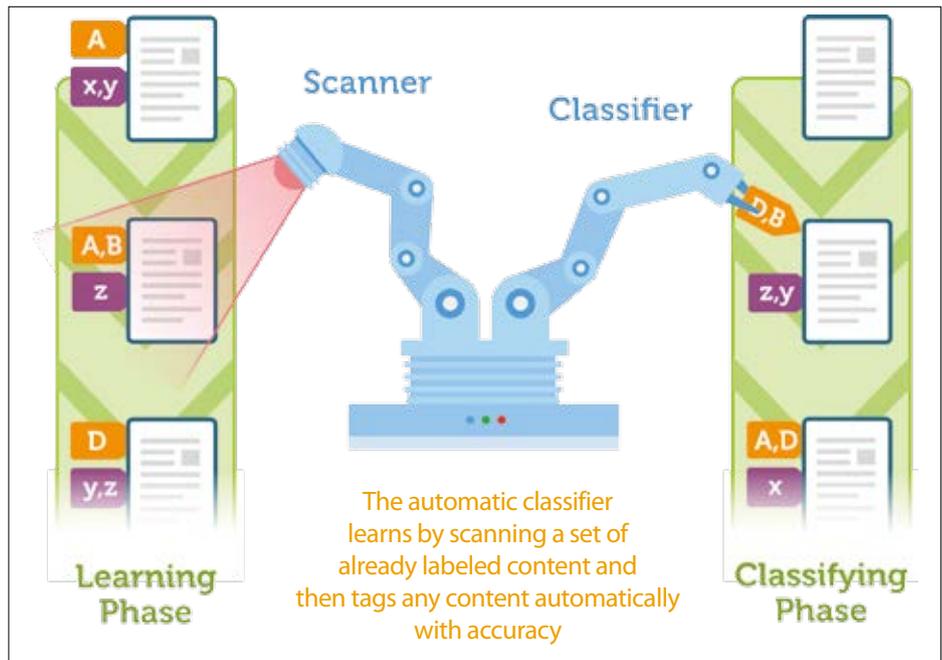
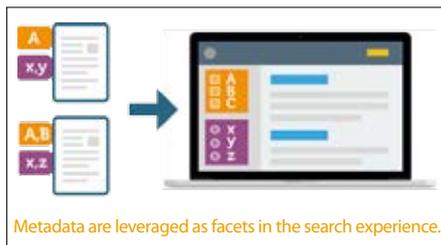
The link between structure and metadata clearly emerges: for metadata to be meaningful and usable, it must apply to the entire topic unambiguously. Thus, for example, if a topic contains information on both the installation and maintenance of a product, it will have to be split into two distinct topics, one containing information specific to the installation, the other information specific to maintenance so that each can be labeled with more accuracy.

The underlying issue to address concerns the choice of metadata: which metadata, with which values? While there are clearly a number of obvious options and best practices, there is no universal response as such. It will depend on your products, your content and how you want the content to be used. Here are some typical use cases:

- In a search engine, create filters – also called facets – so that users can refine their search, for example by only retaining responses specific to their product.



- In online Help, display contextual information linked to the exact version of the product and its configuration.
- For a maintenance operation, display a bar code and an error number on the machine. The operator will respectively scan and enter them to access the maintenance procedure. The bar code is translated into a list of the machine's constituent subsystems and applicability conditions, all of which represent the metadata used to filter the content.



If you are starting from scratch with your metadata, or if you have already gathered some metadata and are wondering how to proceed, follow these steps:

1. First, define some use cases via scenarios that involve typical users based on standard techniques involving characters and storytelling.
2. Next, identify the metadata needed to support these scenarios: which criteria are necessary to extract the content with filters?
3. Match the metadata with the content. Here, you may have to adapt your content's granularity, as mentioned in the Structure step.

This last step may appear somewhat daunting and even beyond your reach if you have thousands or even tens of thousands of topics. This is where technology steps in. Today's automatic classification algorithms, which use the latest technological advances in artificial intelligence, are extremely accurate. They are able to learn from a representative set of manually labeled topics (supervised learning phase), and then proceed on their own (automatic classification phase). Consequently, with just a few hundred pre-labeled topics, you can tag thousands or even millions of topics in a matter of minutes. You can do the same for content from any other sources (wikis, knowledge bases), and thus benefit from a fully aligned body of documentation. Here too, we must stress the need for topics with the right level of granularity. The more focused the topic's content is (in particular concerning topics used for learning), the more precise will be the automatic labeling – easily as good as that produced by humans.

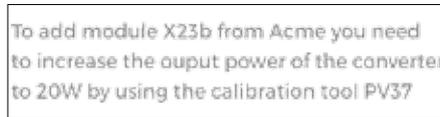
3. Semantics

The last step in the Content Value Path, and no doubt the least familiar in the technical documentation world, is that of semantic enablement. This technique is in fact widely used for Web content in the context of Search Engine Optimization (SEO). It involves labeling the text using tags that allow algorithms to unambiguously identify and extract information such as the name of persons or products, dates, quantities, references, events, etc.

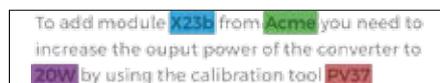
In the example below, we can see that, in addition to text, Google displays structured data: rating and reviewer.



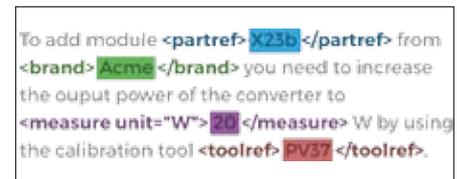
This is possible because the web pages have specifically marked this information via tags (see schema.org, RDFa, JSON-LD and Microdata). For example, behind the sentence



one can see the relevant entities:



And the actual text includes markers that look like this:



This example shows how an algorithm can automatically and unambiguously extract the essential data used to build a knowledge graph and then respond to complex questions such as "What is the list of maintenance procedures involving component X23b", or "Give me the list of tools needed for an intervention on machine b45."

The discerning reader will have noticed that the standards used to write structured documentation already provide semantics. Thus, while the list of steps involved in a maintenance task would be written as an ordered list in an HTML wiki or using a word processing tool:

```
<p> Change cartridge </p>
<ol>
  <li>Step 1: Do this</li>
  <li>Step 2: Do that</li>
  <li>Step 3: Finish</li>
</ol>
```

in DITA, the same content would be written like this: »

```

<task><title>Change cartridge
</title>
<steps>
  <step>Do this</step>
  <step>Do that</step>
  <step>Finish</step>
</steps></task>

```

Even if this level of semantics represents a significant contribution, it is insufficient in our Content Value Path, as it is limited to the structural aspects of documentation. It must therefore be improved by a more granular form of semantic enablement in order to identify the informational elements specific to the business context. How do we accomplish this?

1. Here again, you must define the use cases to which you wish to respond: which questions might your user persona ask, in which circumstances and with which objectives?
2. This will generate the key information elements, and you will be able to list the types of entities that must be labeled (products, references, components, technologies, measurements, dates, etc.).
3. But the most important question is: how do you go about labeling all your content? Will you have to insert all these markers manually? This would appear to be a superhuman and unrealistic task, especially if you have thousands of pages of documentation.

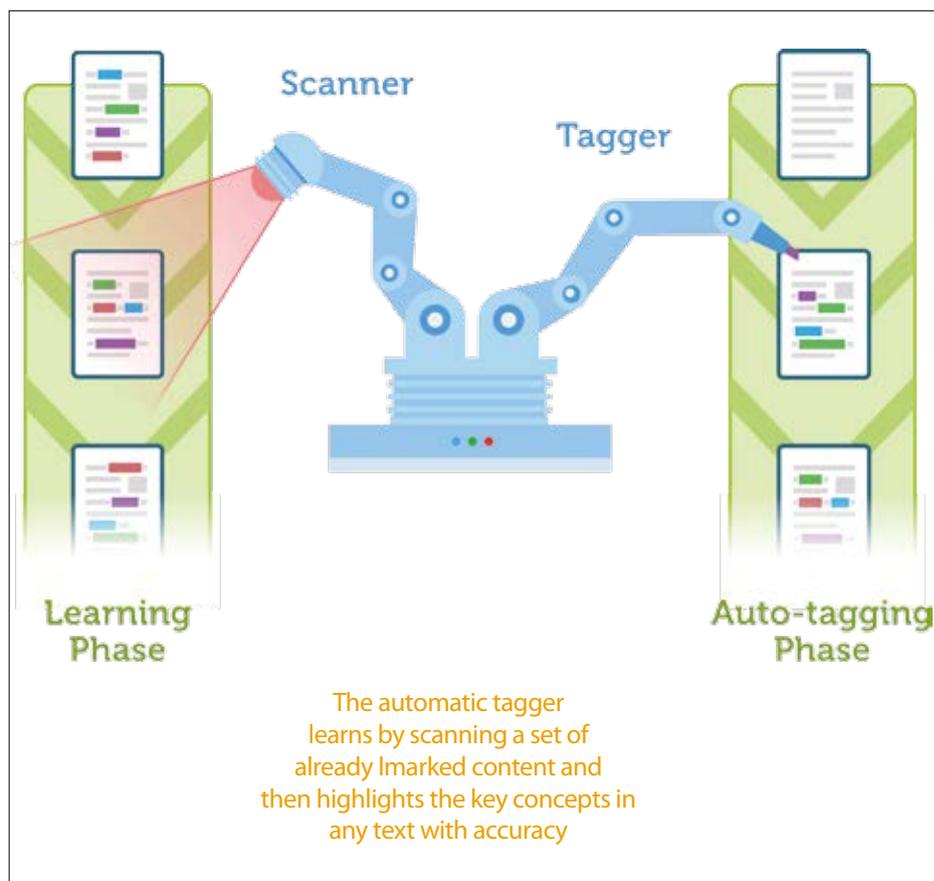
Here again, technology comes to the rescue. Thanks once more to the progress made in machine learning, algorithms can automatically perform this marking with a very high level of precision. They only need a few dozens of manually tagged topics to learn before being able to pursue this on their own. This enhancement task is usually performed outside the content management system (CMS) and is integrated into the publishing system, which performs it on the fly during the analysis of received content.

Conclusion

Structure, metadata and semantic enablement of content – these are the three steps inherent in the Content Value Path.

As we have seen, the way to obtain enhanced content is clearly marked:

- Define the use cases and standard questions to which you wish to respond.



- Go on to deduce the metadata and the necessary entities.
- Switch to structured documentation and adapt the granularity of the breakdown into topics and maps.
- Place metadata and labeling entities on a representative sample of your content. Then use these elements to “teach” automatic entity classification and extraction tools.

For this last step, you will need to rely on your dynamic publication tool, which must integrate and provide the building blocks needed to enhance content. This is, for example, offered by the Fluid Topics solution.

The enhanced data can then be efficiently “consumed”, not only by humans but also by algorithms, thus opening up a world full of opportunities. Remember that smart glasses and Augmented Reality are already here. And intelligent agents will be commonplace in the next three years. So what about you? Will you be ready?



Learn more about this topic at the **tcworld conference**:

Date: Thursday, November 10
Time: 14:30 - 15:15
Room: C9.2 OG



ABOUT THE AUTHOR

Fabrice Lacroix is the CEO of Antidot and Fluid Topics, a software vendor specialized in search technology, content enrichment and dynamic content publishing. With more than 150 clients, Antidot is well known for its advanced technology and breakthroughs in the field of machine learning. Fluid Topics is its dynamic content delivery solution.



@ lacroix@antidot.net
www.fluidtopics.com

A five-step content strategy for Industry 4.0

Content is everywhere. It sits in your pocket or on the screen of your mobile phone. It pops up from a search when you want to find out what something is or how it works. It might already be part of your watch telling you that it's time to exercise. With the advent of Industry 4.0, it will find its way into your fridge, or even onto a nanochip underneath your skin.



Image: Kirill Kedrinski/123rf.com

By Marie Girard

From books to molecular content

Where does technical content fit into this picture? Let's go back in time and examine where technical content comes from. The story of mass content production started when the printed press made it possible to share scientific knowledge. Technical knowledge – that is, information about how to do something for a utilitarian purpose – remained tied to an oral tradition of apprenticeship until the industrial age. Mass industrialization created the need to transfer know-how quickly: Instruction manuals were born. Products came with a paper manual; the book was the unit of content.

Then came the Internet, and the possibility of publishing books online gave birth to PDFs. New ways of browsing and searching forced the book-like nature of PDFs to give way to a different information architecture: online Help. The first documentation standards appeared, based on SGML and then XML, and the topic became the unit of content. Soon, new technologies made it possible to create a tighter link between a software interface and the online Help. Chunks of content could provide instructions and know-how directly within interfaces. Because these chunks were smaller than topics and were sitting outside of the online Help, content management challenges emerged.

When social media entered the picture, many different authors could share know-how through videos, graphics, or forum interactions. Technical support and marketing teams embraced the change and moved to these platforms. Technical content, in the sense of content that explains what something is and how to use it, can now be found in a variety of shapes and places. And it seems that professional technical communicators are no longer the only ones producing it. UI designers, support agents, content marketers, and instructional designers are all producing technical content online or in connected objects these days.

The need for a change of mindset

The original birthplace of technical content is the instruction manual, so we tend to equate the nature of technical content (know-how) with its

location (the manual). If you change this mindset and consider the nature of technical content as information that helps a client answer questions and make decisions about how to do something, then it becomes clear that the help is now just one part of the equation.

An integrated strategy is all the more important because online user experiences are disconnected and inconsistent. These experiences are fragmented because the focus is more on where content gets published than on how it matches the end-to-end user experience. With Industry 4.0, online user experience can make or break a product. Content in general, and technical content in particular, becomes critical to creating successful online experiences for clients, and therefore becomes an essential business asset.

We had to change our content strategy for technology, architecture, and processes when manuals became available online. We have to make a similar type of change now that technical content has become ubiquitous, polymorphous, and fast-changing. Analytical, linear, and hierarchy-based frameworks show their limits in a complex environment where things are interrelated, simultaneous, and circular.

Here are five steps for defining a strategy for technical content in the age of Industry 4.0. They do not need to be taken in this order – remember we are not in a linear context. Think of them as various entry points to a global approach.

Step 1: Set a goal for how you want to impact user experience

Online user experience has become the cornerstone of business in Industry 4.0. So the starting point for a content strategy is the role of content in this experience.

Go back to your audience. What sorts of questions do they have? What decisions do they need to make? How are they going to feel? How would you like them to feel? Define journeys for user experience and ask yourself these questions for each stage of the journey. Do some user research to back your conclusions.

Then, for each stage of the journey, define a clear goal for your content. Make sure the

goal is explicit, shared, and understood by all. A shared goal makes it easier for people in an organization to make quick decisions without having to resort to a formal validation process. Agility in decision-making is very important in this fast-paced environment. Change the usual goal of getting content published on platform X into a goal of creating content that is relevant for stage X of the user experience.

Smart Insights' Content Marketing Planning template (www.smartinsights.com/content-management/content-marketing-strategy/the-content-marketing-matrix-new-winfographic/attachment/content-marketing-planning-template/) is a good example of how you can set user-focused goals for your content. This template focuses on content marketing, but you can use a similar map for technical content. For example, a tutorial will seek to educate and maybe entertain, while a technical support FAQ will seek to reassure and convince.

Step 2: Create multidisciplinary teams

A lot of the inconsistency and disconnectedness that users face when using online content comes from the internal disconnection between groups. This is known as Conway's Law, which states that the design of a system mimics the structure of the organization that produced it. If the content organization is siloed, the user experience with content will be siloed too. Good news: You do not have to wait for the whole organization to change to fix this. Reach out to other content creation departments: support, training, marketing, etc., and bring representatives of these departments into an integrated content "council" or "workgroup". The mere act of creating interaction has an immediate, concrete impact on user experience, with more cross-linking, reuse, and cost savings.

Technical support teams gain a lot from documentation teams who can help them produce the content necessary to reduce support calls. Sales teams can help documentation and training teams better address user needs. Marketing teams usually look for quality technical content to promote, and technical content teams can point them to it.

Step 3: Team up with machines

To model and categorize ubiquitous, polymorphous content in the age of Industry 4.0, you need superpowers. The moment you think you have captured a model, put the ultimate CMS in place and another form of content appears that you haven't taken into account. Detailed manual inventories become impossible with molecular content scattered all over the place. Modeling and categorization are an area where machines can help. Progress in natural language processing and artificial intelligence has made it possible to search for, extract, and categorize content more easily. Structured content and metadata can help machines carry out a thorough analysis to help you understand where the content needs improvement, or where it can be reused. But an AI system can also work for unstructured content, and might actually save you more time than you would need to make this content structured.

Analytics tools can give you traffic information, but are limited for informing you about actual quality. Sentiment analysis tools can help you assess whether comments on a given piece of content are positive or negative. Text analysis can help you derive keywords and word clouds, which can help you assess how well various subjects are covered.

Step 4: Trust collective intelligence for finding solutions

Machines can analyze and audit your content – but don't go as far as entrusting them with your strategic decisions. Metrics, KPIs and categorizations will only make sense when you correlate them and check them against the goals you have defined for your content (step 1). To do this, you can leverage the power of multidisciplinary teams (step 2). People in these teams will see the data from different perspectives, and will define the best solution for complex content problems by bringing together contributions from multiple objectives and mindsets.

Metrics might indicate a high number of support calls on a given subject. Without a multidisciplinary team, the support team would only be able to define solutions at their level – their publishing platform. But if they have a venue for discussing these metrics with other teams, the group may find a solution in, say, creating a new training course, updating the documentation, and promoting the training course through the sales team's social media channels.

Step 5: Experiment and iterate

You change a complex system by poking at it and observing what happens. In a context where content appears in a number of different outlets and formats that are strongly interrelated, you cannot make long-term plans. But you can experiment with transversal projects (reuse, linking, review process, and so on) and assess their impact. You can then make baby steps towards governing the new forms of technical content today.

Not having a long-term plan doesn't mean you have to give up on your goal (step 1). It means that you subordinate the what and the how to the why. The clarity of that goal enables you to adjust what to do and how to do it depending on circumstances. Machines can help you get feedback on your experiments more quickly (step 3), and collective intelligence will help you decide what the next experiment should be (step 4).

Conclusion

Content is everywhere. Content is a business asset, the backbone of online user experience. In the age of Industry 4.0, it's all over the place, spreads in all directions, and moves fast. To embrace the challenge of ubiquitous content, rely on transversal collaboration and experimentation backed by artificial intelligence, and make user experience your guiding star.

SUPERHEROES FOR SUPER CONTENT

Your software for content optimization



Learn more about this topic at the **tcworld conference**:

Date: Thursday, November 10

Time: 12:15 - 13:00

Room: C9.2 OG



ABOUT THE AUTHOR

Marie Girard is an enterprise content strategist at IBM. She leads unified content strategy efforts through collaboration across silos, content audits, and focus on user experience. She teaches technical communication at Paris Diderot University.



@ magichopi@gmail.com

www.ibm.com

technical communication
tcworld



India 2017, Bangalore, Feb 23–24

Inspiring presentations and professional networking

**The Top Event
for Technical
Communication
in India!**

For more information please visit our website:
conferences.tekom.de/tcworld-india-2017



Become a sponsor! Further details: sales@tekom.de

Localizability and world-readiness for software

Software errors found after the product has been released can cost four to five times as much to fix as the ones uncovered during the design stage. And, for localized products, these costs can be multiplied by the number of target languages. Incorporating localization steps early can reduce costs and save precious nerves.



Image: Ivaylo Sarayski/123rf.com

By Wojciech Froelich

When a software development team is in the product design phase, it is easy for localization to be overlooked. Development teams are busy gathering user requirements, developing components and testing usability in the source language (most often English) – until the moment when the product manager says: “OK, this is great! Let’s sell it in 15 countries.” If localizability hasn’t been built into the product, developers can be hurled into a costly and time-consuming spiral of retrofitting global needs onto a product, delaying global release cycles and creating inelegant, provisional workarounds that add unnecessary complication to both native and international release processes. What seemed like a great idea – to amortize development costs more quickly through global expansion – can rapidly become the source of sleepless nights for both the product manager and the development team.

The ultimate goal of software development for the global marketplace should be to create a “world-ready” application. This process is often referred to as internationalization, and ensures that software can be run anywhere in any language. This means the application should be able to support any locale, any regional time, date or numbering formats, as well as ensuring that the application is ready to be translated into any language, even those using different scripts and alphabets or bi-directional languages such as Hebrew or Arabic.

The key to localizability is the design of software and resources that enable a software localization process that does not require re-engineering or modifying code after translation processes have been completed.

The first step on the road to a “world-ready” application is achieving the clear separation of User Interface (UI) resources from functionality-related

resources. The ideal scenario is to achieve this separation using file formats that suit localization teams – enabling both the use of professional translation tools and potential automation, which becomes a key element when developing and localizing in agile environments.

The second step is to be able to measure the success of any localizability efforts. The easiest way to confirm that a product can be easily localized is by running localizability testing tasks.

Function and process

There are typically three interdependent functional teams involved in launching a global product: developers, translators and testers.

As the process flow in Figure 1 illustrates, usability testing takes place prior to the launch of software in its original language, but also after translation. Localization testing can result in two types of issues:

- Translation issues can be fixed by getting the linguist to amend the translation. This type of issue usually occurs either because the original translation does not reflect a string’s real meaning in the context of the running application or a string needs to be shortened to match the space available within the User Interface.
- Functional issues are issues that need to be routed back to developers that cannot be fixed by making a linguistic change. These can range from bugs introduced due to the translated language to string length issues, which cannot be fixed by reducing the length of a translation or functional issues not apparent in the English build.

Context is king

It might seem self-evident, but the key to a successfully localized software product is to enable linguists to do the best possible job.

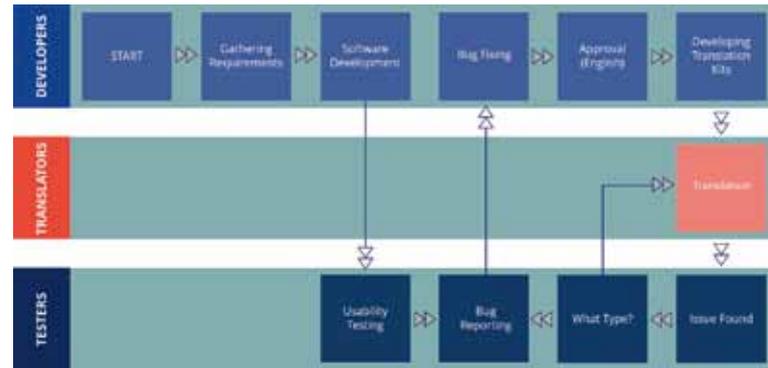


Figure 1: A typical software release process

Source: Argos Multilingual

Professional linguists are usually highly qualified: In addition to a degree in translation, they often have many years of professional experience before they specialize in a particular area. But even the best linguists need to have a solid understanding of the original product if they are to produce a great translation.

Reducing the number of functionality issues relating to world-readiness is one of the factors that will allow linguists to get the translation right the first time.

When it comes to giving linguists what they need to do the job correctly, context is the single biggest factor. In software localization, context is king. Provide as much context information as possible, and your product will reap the benefits.

The perfect scenario is a full visualization of the UI during translation, but other elements can also be very helpful:

- Meaningful string identifiers can provide additional context information.
- Comments from developers can be a great source of information, especially for cryptic UI messages.
- Length limitation information. Note that a “number of characters” limitation will work only with fixed-width fonts. When using proportional fonts, the linguist will need to know the actual width of a string in pixels compared with the length limitation.

In cases where localizability has not been built into the development process and where the product manager decides that the product should be sold globally, a developer is often quickly reassigned to produce “translatable” resources. In practice, these developers are very often tempted by easy-looking formats like Excel files, where linguists are expected to insert translations into their language’s column parallel to the English string. Once translation is completed, a developer then needs to copy and paste the translations back into the code. It is worth mentioning that it is rare that these kinds of hurried copy-and-paste operations in an unfamiliar language are done right the first time around! Figure 2 is an example of such a translatable file in Excel format.

As you can see, the developer has put a great deal of effort into creating the file and has included useful information such as where the string is found and the maximum string lengths. No doubt the developer is very proud of the work and believes that the file will be a great help for translation teams. Although the file might look cumbersome, the developer has actually done a decent job in this example; it is significantly better than many localization files received even ten years ago! In reality, though, these formats are not easy to process in a translation workflow, and it is worth getting developers and localization engineers together in order to discuss available

ID #	English string to translate	Debug Menu?	Translate?	Location Type	Max pixel width	Max # rows	Max CJK char/row	Max Western char/row	Max CJK string length**	Est. max Western string length	Translation	New string length	String OK?	Changed?	New?
45	At 60 mins			B2	148	2	6	11	12	22	Po 60 minutach	14	Yes		
46	Auto restart at			T1	284	1	11	21	11	21	Auto restart o	14	Yes		
47	Auto Watchdog PAT	Y	N	-	0	0	0	0	0	0	** Do not translate **	n/a	Yes		
48	Averaging On	Y	N	-	0	0	0	0	0	0	** Do not translate **	n/a	Yes		
49	Awaiting test	Y	N	-	0	0	0	0	0	0	** Do not translate **	n/a	Yes		
50	Barometer			B1	294	2	12	22	24	44	Barometr	8	Yes		
51	2400		N	B2	148	1	6	11	6	11	** Do not translate **	n/a	Yes		
52	300		N	B2	148	1	6	11	6	11	** Do not translate **	n/a	Yes		
53	4800		N	B2	148	1	6	11	6	11	** Do not translate **	n/a	Yes		
54	9600		N	B2	148	1	6	11	6	11	** Do not translate **	n/a	Yes		
55	Baud Rate			H1	636	1	26	48	26	48	Szybkość transmisji	19	Yes	Y	
56	Beeper			B1	294	2	12	22	24	44	Signal dźwiękowy	17	Yes	Y	

Figure 2: Example of a UI translation file in Excel format

Source: Argos Multilingual

options. In most situations, there are better ways to handle the UI files. These days, linguistic technologies are far more advanced and a little forethought can result in a much smoother localization process. Where should you start? Usually, the best place to begin is the software development framework being used. Most modern software development frameworks provide tools to extract UI content from code and guidelines on how to create code that can be easily processed for localization. These tools produce files in formats supported by translation tools like .resx, .properties, .po and .ts files. Processing UI content with translation tools gives linguists access to many advanced features like translation memory, terminology databases and automated quality checks that are right at the translator’s fingertips as part of the translation environment. These features help speed up the production of high-quality translations. Some frameworks even enable linguists to preview UI while translating. This is usually the best possible scenario – translators see the translation immediately in the right context, they see what type of element is being translated (button, menu item, text field label), and they can see the potential space limitations. Unified formats for UI translation are a key element to automation of hand-off/hand-back processes in

agile workflows. Without automation, agile localization processes can’t integrate with agile development processes, and there is no automation if formats are not clearly defined. Figure 3 shows a preview generated from an .resx Windows Form by a popular translation tool. As you can see, there is plenty of useful information available for linguists, including the string ID, development comments as well as a preview of the dialog, which will help linguists to understand how a dialog is used, and whether there are any string length limitations. Even custom XML files can be previewed. Because XML files can be easily processed for translation, additional information such as comments about usage or context can also be included for linguists, giving them the best possible chance of getting translations right the first time.

A proactive localizability development model

The problem with incorporating localization late in the development process is that it complicates the process of resolving language-related issues discovered during or after translation, and during localization testing. These issues will probably require some development rework and are likely to happen at a very critical moment in the timeline – right before the release. A study by the Systems Science Institute at IBM found that the “cost to fix an error

found after product release was four to five times as much as one uncovered during design.” For localized products, these costs have the potential to be multiplied by the number of target languages. If localizability testing isn’t carried out before English approval, each testing team (for the respective target languages) will spend time discovering and reporting the same issues, and will then each have to run regression testing on the same bugs. This can be avoided if localizability testing is brought forward in the product development cycle. If we modify the earlier process a little – by running localizability testing in sync with usability testing – we can avoid these issues altogether. Figure 4 shows a revised process flow with the inclusion of pseudo-translation testing.

This means developers will exchange localizable files with the translation team even before source content is approved. Introducing pseudo-translation testing helps to identify language-related issues early in the process, so there is still enough time to go back to developers and fix any language-related issues. Once the source content is approved, it can be translated and tested linguistically, knowing well that the number of issues requiring developer intervention has been minimized because they were already discovered and fixed much earlier in the process.

Pseudo-localization

So what is pseudo-localization? It is a very rapid and cost-effective method of mimicking the effects of

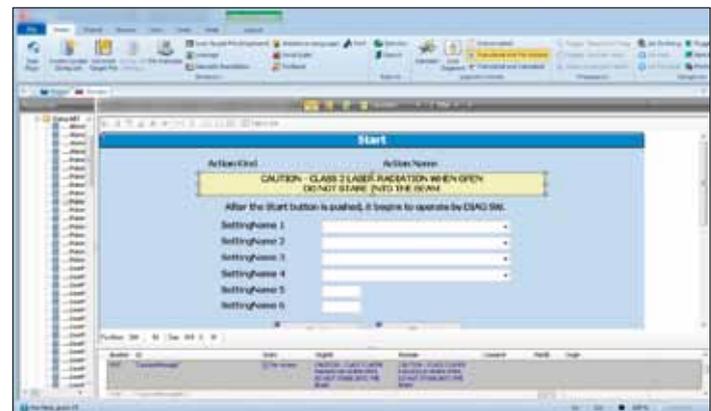


Figure 3: A Windows Form preview generated from .resx resources

Source: Argos Multilingual

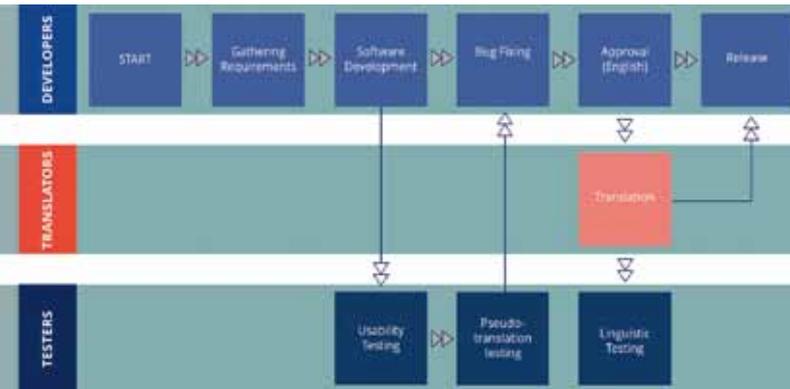


Figure 4: A software release process adapted for localization

Source: Argos Multilingual

the translation process without the costs and scheduling impact of a real translation.

Pseudo-localization simulates the translation of all resource strings, and usually includes:

- Replacing some English characters with similar non-English characters.
- Adding extra characters to simulate text expansion.
- Adding prefixes and suffixes to mark the boundaries of a string.
- Using Unicode characters for all resources.

All these changes can be automated, so all UI resources can be modified, using similar patterns

that help to identify issues quickly in newly built resources.

Pseudo-translated resources can be used to rebuild an application and test it. It should function in the same way as the original version.

Thanks to the patterns used while pseudo-translating resources, it is easy to detect the following issues:

- Strings that were hard-coded and were not moved to the localizable resources.
- Strings that were built from other strings by concatenation or replacing some parts of the string – these strings will often fail to work in languages different from the source language.

- Any Unicode-incompatible functions that process or display text.
- Any other display issues like incompatible fonts, truncated strings or unexpected space limitations.

Code reviews and lessons learned

Just as complex projects should be followed by a post-project review, it is worth closing the development loop by creating and maintaining code development guidelines that include localization-related guidelines. These guidelines should reflect results of code audits and localization process issues that were fixed in the past. For projects with large volumes of code, there are third-party tools that can automate the code review process. What's more, localization providers will normally be happy to participate in this process too, as it will help them to perform great work the first time around in future projects. In a nutshell, world-readiness is perfectly compatible with the development process as long as you take steps to bring your localization partners on board early, perform pseudo-translations to test localizability before translations begin,

and consider the best format to allow linguists to perform their job. All this means that everyone can enjoy a peaceful night's sleep when your product manager asks to sell in multiple locales. You will be able to answer with confidence: "Sure. No problem, let's do it!"

ABOUT THE AUTHOR

Wojciech

Froelich has 15 years' experience in localization engineering. He



is CTO at Argos Multilingual where he leads a team of experienced engineers who are responsible for building customer-oriented localization workflows and providing internationalization consultancy and software engineering support to Argos partners. He focuses on integrating authoring, automated translation management and multi-lingual publishing systems.

@ info@argosmultilingual.com
 www.argosmultilingual.com



COMMUNICATING YOUR CONTENT

Across Languages. Around the World.



Language technology leads to growth for all

Machine translation enables organizations to dramatically increase the amount of content they translate and the languages they support. And, as the technology improves and matures, it has gained acceptance among content-producing organizations and language service providers.



Image: © Le Moal Olivier/123rf.com

By Arle Lommel

Machine translation (MT) is a permanent – and highly controversial – topic for organizations that require translation as well as for the language service providers (LSPs) who work with them. Common Sense Advisory’s (CSA Research) examination of MT showed that it is poised on the edge of a tremendous growth curve that will take it from a niche solution suitable primarily for large enterprises to a mainstream one for companies of any size. This article examines the changing role of MT and how this affects language service providers (LSPs), enterprise content developers, individual technical communicators, and human translators.

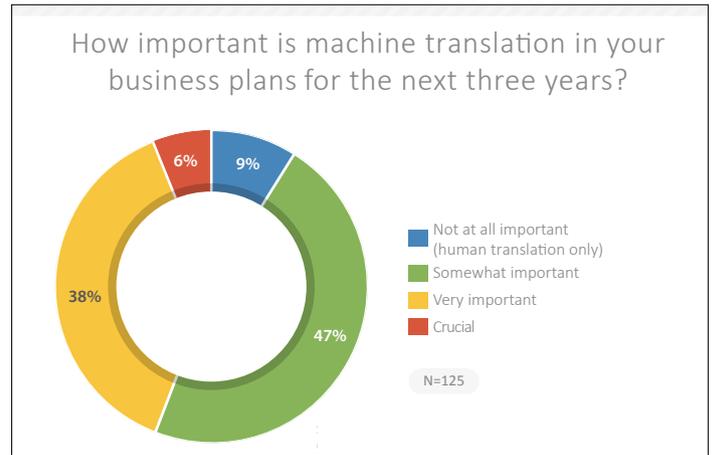
Content growth renders MT inevitable

CSA Research estimates that the global capacity of all professional translators today could address only 0.0000000009 percent – less than one-billionth – of the content generated every day. Even though much of that content consists of non-translatable data – such as sensor readings and machine-to-machine communication – far less than one percent of the content will be translated that, in an ideal world, would appear in multiple languages. Add to that the fact that most translations are made into a small number of economically important languages that leave a big part of the world on the outside, as strangers looking in on a wealth of materials they cannot access – a phenomenon known as language blocking. If organizations are to close the gap and provide a positive customer experience to individuals who purchase their goods and services – no matter where they live – they will need to turn to technology. Human translators cannot possibly close this ever-growing gap – even if a massive influx of new

translators enters the field. Fifteen years ago, globally operating companies addressed at most a few dozen languages, but today they support 120 languages or more, including some for which very little professional translation capacity exists. Given the trend for these numbers to steadily increase, it is apparent that LSPs will need to embrace technology to meet the needs of their clients.

How will LSPs meet the challenge?

LSPs are aware of these trends, and also respond to increasing client requests for MT-related services. Over time, their attitudes have shifted from opposing the new technology to cautiously experimenting with it and to finally accepting it. Today, many embrace it. CSA Research asked CEOs of leading LSPs how they view and use MT in their companies. The vast majority of them – 91 percent – stated that it played a role. Just nine percent intended to stick with human translation only. Although the survey focused on larger LSPs, thereby overstating the level of adoption compared to smaller LSPs, by 2019 the majority of both enterprises and LSPs will use MT for at least some of their international content production needs. In fact, the largest growth market for MT production is currently among small and medium LSPs. LSPs generally prefer to offer post-edited machine translation (PEMT). This refers to translations where professional linguists review MT output and correct it to meet defined quality targets. They do so by correcting grammatical and translation errors, either with the goal of making the text accurate and understandable – so-called “light” post-editing – or of making it indistinguishable from human translation – “heavy” post-editing.



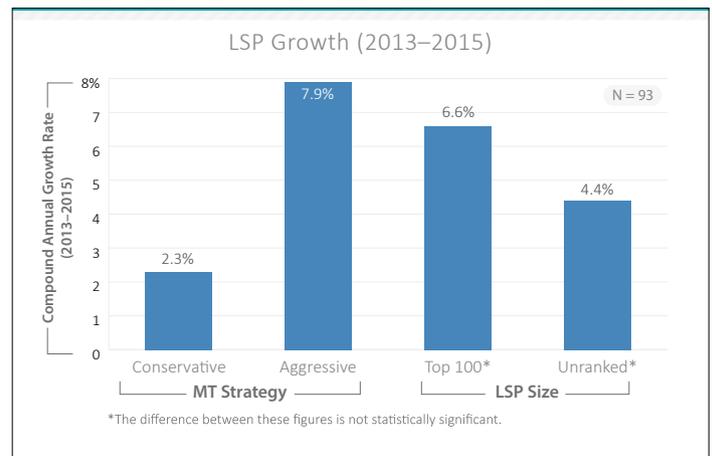
Only nine percent of businesses intend to stick with human translation only. Source: CSA Research

The current growth of PEMT – coupled with surging demand for machine translation services in general – is generating a massive shift in how LSPs produce translation and deal with technology.

LSPs embrace MT to drive growth

Based on the importance the respective CEOs assigned to MT, CSA Research grouped LSPs into two roughly equal groups: aggressive adopters, who see MT as a “crucial” or “very important” part of their business plans

(44 percent), and more conservative users who treat it as “somewhat important” (47 percent). Many of the latter group offer PEMT only in direct response to client requests, but do not otherwise market or promote it. Not surprisingly, companies that appeared in CSA Research’s annual ranking of the 100 largest LSPs were more likely to adopt an aggressive approach, as were many smaller up-and-coming companies. The analysis correlated these groups with their companies’ compound annual growth rates (CAGR) from 2013 through 2015 based on reported figures in CSA Research’s annual Global



LSPs with an aggressive MT implementation approach grew more than their conservative competitors. Source: CSA Research



Your fast track to success in any language

- ✓ Translation and localisation services in all languages
- ✓ Use of specialised translation memory systems and localisation tools
- ✓ Document, software and website localisation
- ✓ 45 years of experience in markets worldwide



www.e-kern.com
info@e-kern.com



KERN Global Language Services
 Kurfuerstenstrasse 1 · 60486 Frankfurt/Main
kern.frankfurt@e-kern.com · Fax: 74 99 98

+49 (0) 69 75 60 73-0

International:

Amsterdam · Berlin · Cologne · Frankfurt
 Hong Kong · London · Lyon · Munich · New York
 Paris · Rotterdam · San Francisco · Salzburg
 Vienna · Warsaw

Market Survey. Overall, respondents grew at a healthy average of 5.5 percent per annum, but these growth rates exhibit a particularly strong and statistically significant correlation with MT strategy. LSPs with an aggressive implementation approach grew 3.5 times as much as their more cautious competitors – 7.9 percent CAGR versus 2.3 percent.

Is this difference just a result of the fact that the largest LSPs are more likely to take an aggressive approach to MT and, independent of that, they also happen to grow faster than their competitors? No. In fact, CSA Research found the opposite effect. Machine translation strategy is a much better predictor of growth rates than company size. Although the largest providers do grow faster than smaller ones (6.6 versus 4.4 percent), this difference is not statistically significant. To the extent that the larger firms grow more quickly, CSA Research attributes some of that increase to the existence of more aggressive MT implementers in that group.

Although these results do not indicate that MT adoption leads directly to faster growth, they do show two circumstantial connections:

- 1) LSPs experiencing rapid growth are more likely to use machine translation, and
- 2) Those with a technology-centric approach are more successful in managing rapid revenue increases.

CSA Research also ascribes some of the cause for the rapid growth of aggressive implementers to their early-adopter advantage. They can provide more cost-effective services for which there is pent-up demand. This difference is likely to fade as increasing numbers of LSPs move to work with MT and it becomes a standard part of provider toolsets, but for now, MT represents an opportunity for those who seek to grow.

Enterprises can leverage MT for global growth

The advantages for LSPs that are willing to work with MT are clear, but the ultimate beneficiaries are enterprises that produce content. Examination of the market reveals that – after a period of market uncertainty – prices for heavy PEMT are slowly stabilizing at around 65 percent of the cost of full human translation. This reduction in cost makes translation more attractive and ena-

bles companies to address more content or add additional languages.

In the next three years, all types of translation – including “pure” human ones – will see substantial volume increases. Compared to present baselines, the fastest growing segment will be PEMT (105 percent increase in volume from 2016 to 2019). Unedited (“raw”) MT will lead in terms of sheer volume, but much of this will be for comparatively low-value text that would otherwise remain untranslated. For important texts, PEMT becomes increasingly an option. CSA Research’s examination of what enterprises are translating shows product documentation, online Help, FAQs, and knowledge bases as attractive targets for PEMT. However, marketing – which requires a deep understanding of the culture and characteristics of its audience – will remain in the hands of human translators for the foreseeable future.

Raw MT, by contrast, provides opportunities for companies to deal with customer engagement content – blogs and comments, user-to-user forums, customer reviews, messaging, group discussions, and social media posts – that they would generally not translate. These types of content have uncertain value, a shelf life that is often too short for slow human translation, and little funding for translation. For scenarios where they can live with results that may fall short of what human translators can deliver, raw MT provides a way for organizations to expand their coverage and engage customers more effectively.

Technical writers influence MT success

These market changes will also affect writers. MT requires communicators to change their habits. Statistical machine translation, which dominates the field today, does not “understand” the text it translates. Instead, it relies on detecting similarities between new content and what it has previously encountered. This shift means that the value of what technical writers produce will increase. Their employers can use it to “train” MT systems to produce better results, but doing so will require them to systematize how they capture and store text, if they have not already done so.

At a more practical level, writers can assist the translation task by ensuring that they use terminology consistently, write clear and unambigu-

ous sentences that are self-contained and do not rely on context, and limit complexity. These tasks also improve the usability of texts for many users, so they deliver benefits beyond translation. Careful writing that keeps the needs of MT and human translators in mind is not difficult, but delivers considerable savings when text is translated into many languages.

Will MT replace human translators?

Professional translators frequently worry that MT will replace them with a cheap technology that delivers inferior results. Although most enterprises would doubtlessly like to eliminate the cost of human translation, the good news is that MT is not doing away with translators. Although it is displacing some types of human translation, enterprises are increasing their outlay on professional translation even as they spend more on MT. Although not all translators want to produce PEMT, demand for it will more than double from 2016 to 2019, and this represents a growth opportunity for those linguists who can produce it efficiently.

In other words, MT is increasing the overall translation market – and all segments within it – rather than taking away from translators in a zero-sum game. Although some translators will lose particular work to MT, the overall trend for translators is positive. The role of translators will change, with increasing emphasis on their ability to combine the result of multiple technologies with their own linguistic abilities. These technologies are making translators more productive and allowing those who embrace them to increase their effective hourly pay even as they decrease per-word rates. In this regard, translators are like professionals in other industries – such as accountants – who have seen the value of their skills increase even as automation has eliminated many tasks they formerly carried out.

Conclusion

Machine translation is just the tip of the iceberg. Other technologies – such as automatic content enrichment, sentiment analysis, and improved human-oriented translation tools – are also transforming translation as a profession. The good news is that they make translation more

efficient and create growth opportunities for all parties.

Content creators can dramatically increase the amount of content they translate or the languages they support. LSPs that embrace language technology are finding that doing so enables substantial increases in revenue. Technical communicators discover that their content becomes more useful and can help facilitate global content strategies. Translators may see dramatic changes in their work, but those who take a positive approach to technology find that it makes their work more efficient and valuable, enabling them to compensate for falling per-word prices. Despite fears that MT would destroy translation, it appears instead to be a rising tide that lifts all boats, at least those not anchored to how things were done in the past.

This article is based on proprietary research, which is detailed in the following CSA Research:

“MT’s Journey to the Enterprise” (May 2016),
 “Post-Editing Goes Mainstream” (June 2016),
 and “Fast-Growing LSPs Turn to Machine Translation” (June 2016).

ABOUT THE AUTHOR

Arle Lommel is a senior analyst with independent market research firm Common Sense Advisory (CSA Research). He is a recognized expert in quality processes and interoperability standards. Arle’s research focuses on technology, quality assessment, and interoperability.



@ arle@commonsenseadvisory.com
 www.commonsenseadvisory.com
 Twitter: @CSA_Research



**Localization Partner for your success
in Central & Eastern Europe**





**VISIT OUR EXHIBITION BOOTH
No. 2 / F26**

**TEKOM CONFERENCE
STUTTGART, GERMANY
08–10 NOVEMBER 2016**



EUROPEAN UNION
European Regional Development Fund
Operational Programme Enterprise
and Innovations for Competitiveness

success

www.traductera.com

Ten reasons why DITA and Agile are made for each other

DITA's topic-based approach to enable content reuse complements the principles of Agile methodologies.

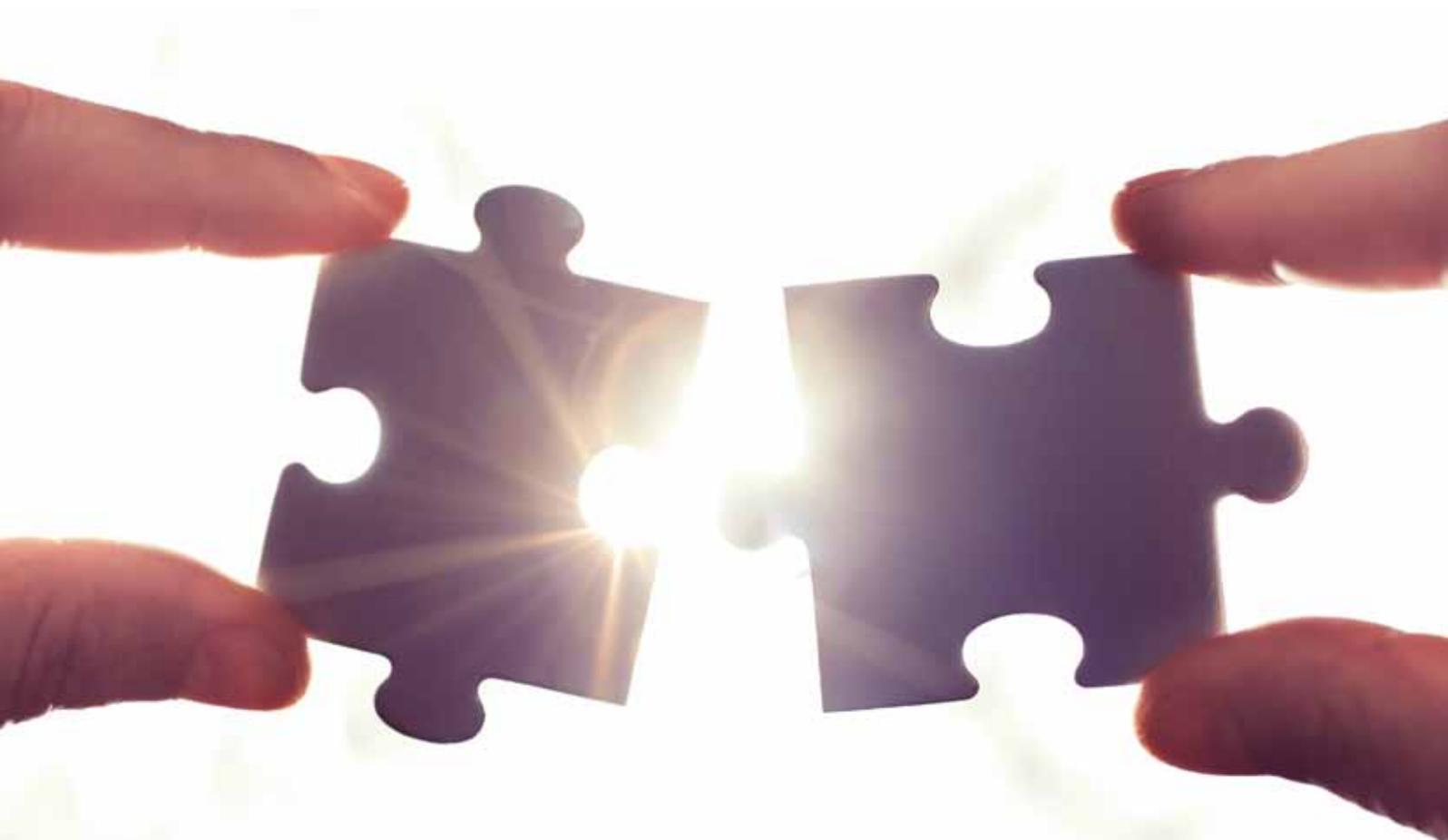
And that's by far not the only reason why the two principles make a perfect match.

By Keith Schengili-Roberts

Both the Darwin Information Typing Architecture (DITA) and Agile were born out of necessity for software development teams. Technical writers within the software division at IBM established DITA in order to efficiently create effective and collaboratively written topic-based documentation. Similarly, the

Agile Manifesto came from a group of software developers seeking a more lightweight way to create their deliverables. In just over ten years of existence, DITA has seen the highest adoption rates within software development – the same industry in which Agile has had the largest uptake.

Agile software development makes specific demands on documentation teams, whose technical writers are required to be nimble, describe features in a piecemeal fashion, and report on their progress. The structure of DITA is ideally suited to these needs. Though originally created for different reasons, DITA and Agile share com-



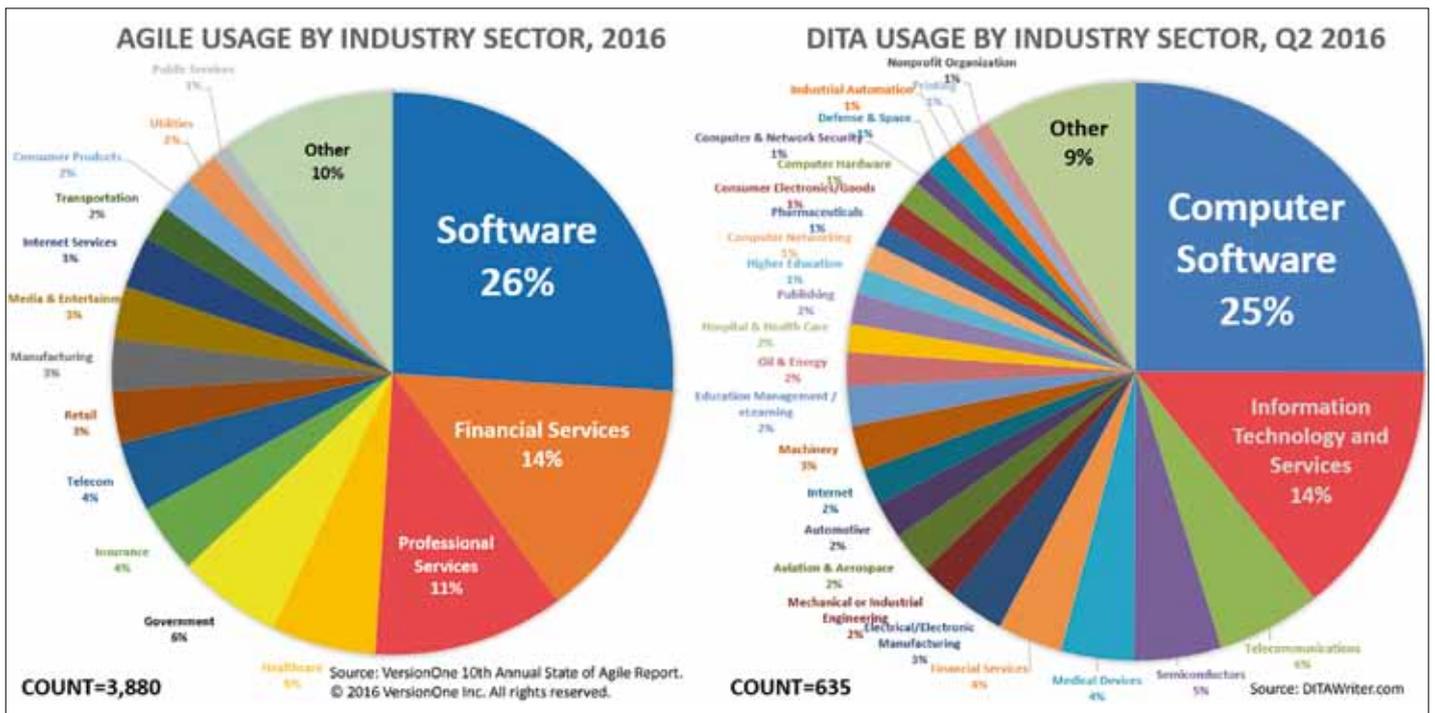


Figure 1: Agile and DITA adoption by sector

Source: DITAWriter.com

mon roots in the software development world, and DITA has proved that Agile for documentation teams is possible.

The need for collaborative technical writing

Arguably the most significant evolutionary steps in modern technical writing developed in tandem with the growth of the software industry. Desktop publication programs made it possible for authors to create technical documents from beginning to end. This in turn opened up possibilities for collaboration.

As the volume of content increased – particularly for complex software projects – collaborative documentation practices became a necessity. It was no longer one writer producing a single document, but instead several writers producing multiple documents. As documentation teams grew, there was a real need to coordinate technical writing projects. JoAnn Hackos' *Information Development* (2006) was not only the first book devoted solely to the subject of documentation management, but it also referred to Agile-based documentation processes: "It is most important for information project managers to recognize that traditional project management methods must be adapted to Agile projects." Not coincidentally, DITA had just been released the year before.

Enter Agile

Back in the winter of 2001, 17 software developers got together in a remote ski resort to talk

about the common issues that they faced with traditional development practices. They published the *Agile Manifesto*, which focused on "uncovering better ways of developing software by doing it and helping others do it". All of the various "flavors" of Agile – Lean, Scrum, Kanban, Extreme Programming and others – are all ultimately derived from the common principles laid out in the original manifesto, each providing their own take on how to create software more efficiently than by using the waterfall method.

Agile thrives in environments where short release cycles are possible, and the interviews I have conducted with members of technical documentation teams who are working within Agile confirm this. Most people I spoke with worked either at a software firm or within the software division of a company in a different industry sector. For example, I learned of cases where Agile and DITA were used together in the Medical Devices and Heavy Machinery sectors, but in both cases the push for Agile came from the software divisions within these firms. It appears that Agile is rarely used in highly regulated environments or in those with long development times, such as Heavy Machinery. Using data from VersionOne's *10th Annual State of Agile Report* (2016) and comparing it with my own findings from DITA-using firms (published on ditawriter.com), I have found that there is some overlapping between firms that use DITA and Agile: At least 25 percent of all firms using DITA and Agile separately are software firms.

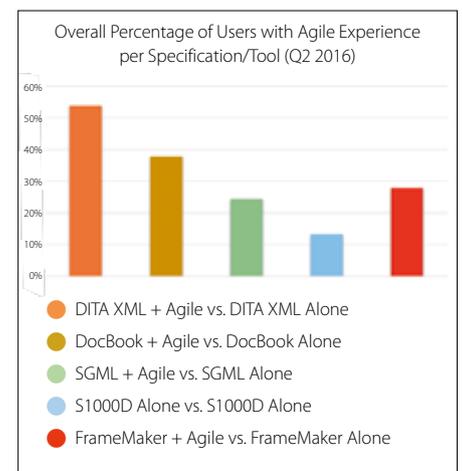


Figure 2: Percentage of technical writer profiles on LinkedIn claiming experience with Agile and specific XML standards/tools

Source: Keith Schengili-Roberts

There are some significant differences elsewhere, but the strong mutual link to software and related technology sectors is apparent. My research based on LinkedIn technical writer profile descriptions has shown that just over half of all technical writers who claim experience with DITA also have experience with Agile – a significantly higher percentage than those claiming experience with other XML standards, and even more than for Adobe FrameMaker. Obviously many people who are using DITA are doing so in an Agile environment, or have come from a place where Agile processes were used.



Across Language Server v6.3:

Now even easier

- » Optimized translation environment
- » External document editing in third-party systems
- » Translation of PDF and JSON files
- » Terminology maintenance with mass operations

across

Language Technology
for a Globalized World.

www.across.net

In environments where business factors are pushing for rapid change in product development, Agile methodologies are more likely to be introduced. And where Agile exists in a business environment, it is also clear that DITA is more likely to be used to support documentation efforts.

DITA + Agile = a great partnership

There are many key factors that make DITA-based technical documentation complementary to Agile-based product development. Among others, here are ten reasons why DITA and Agile make a great partnership:

1. Topic-based approach in DITA assists with incremental development: One of the tenets of DITA is content reuse, encouraging technical writers to “write once, use many”. This also means that there is no need to rewrite what already exists – a writer can simply reuse entire topics, paragraphs, or phrases used elsewhere thanks to reuse mechanisms within DITA. This enables writers to easily keep up with the rapid pace of development changes.

2. Agile user stories map well to the task topic type in DITA: Scrum-based Agile often calls upon user stories to help craft development efforts. These often take the form of various procedures that users will want to accomplish. This format fits nicely with the DITA task topic type. One common practice I found when interviewing Agile-based DITA technical writers was for them to embed the concept as the context for a task instead of writing separate concept and task topics. Additionally, Agile “epics” are collections of related user stories that comprise the complete workflow for a type of user. From a DITA standpoint, epics can be used to help refine audience-based conditional processing of content or maps (chapters) within a bookmap when an epic story hierarchy exists. DITA 1.3 also adds troubleshooting as a new topic type, designed to provide specific solutions to scenarios that are likely to arise, and how to solve them. This new DITA topic type is perfect for writers looking for a troubleshooting option for user stories where a task may not be an appropriate solution.

3. DITA best practices advocate that content is focused squarely on the user: Technical writers are able to provide early feedback on products

through their active use of the product. In this way, technical writers often become an advocate for users; this in turn helps define realistic user stories. The constant change and iterations of content over multiple releases forces a change in the typical writer’s mindset from “document everything” to “document only what the user needs”. Again, the granular, topic-based nature of DITA helps to make this possible.

4. Individual topics can be counted, allowing for documentation project measurement:

In a typical Scrum-based Agile environment, everyone involved in a project gathers in regular meetings to discuss progress. Using a traditional DTP-based approach, all that can typically be reported is the word count or the number of chapters completed since the last sprint. With DITA, it is possible to match development features to individual topics, making it easier to report in a more realistic manner on documentation progress. If a CCMS is used, workflow status – draft, in review, done, etc. – can also be measured and reported at the Scrum meeting.

5. The DITA best practice of minimalism reduces “waste”:

One of the key concepts of Lean Management – an Agile methodology – is to reduce waste wherever possible. This is encapsulated in the Japanese term “muda”. In the case of documentation, this refers to content that is unnecessary in order for the customer to use the product. Technical writers can use it as a check against writing “filler” – typically background or marketing-related content that a user does not need in order to accomplish a particular task or action. One of the philosophical underpinnings of DITA is minimalism, which similarly tells writers to trim content to its essentials.

6. Topic reuse improves content consistency:

The various content reuse mechanisms in DITA – topic, conrefs, and keys – contribute to greater consistency in documentation output generated within an Agile environment. Due to short deadlines and time constraints within Agile environments, it is more convenient for technical writers to reuse content where it exists, and DITA provides easy mechanisms for accomplishing this. In many business environments, if you have a topic and it has been reviewed and approved, and you want to reuse it elsewhere, it does not have to be sent out for review again, as it has already been approved. (The exceptions are

regulated environments where all content must be reviewed in context, but even here content reuse speeds up the approval processes).

7. The separation of content from formatting saves time: Thanks to the separation of content formatting built into DITA, technical writers can focus on creating content rather than formatting it. This can save a considerable amount of time. An informal survey I did several years ago with a team of technical writers using a popular DTP software package to produce their documentation showed that roughly half of their time was spent formatting content. Now this time can be used for writing more Agile content in a DITA-based environment. This also eliminates the wasted time where SMEs comment on formatting instead of on the content they are supposed to be reviewing.

8. Agile encourages continuous feedback; topic-based review is easier: Due to shorter review times, it is easier for developers to review a topic rather than a chapter produced by a DTP tool. In this way, documentation can also support broader communication between teams, customers, audit processes, etc. Work cycles are faster, and documentation feedback becomes more critical. One of the technical writers I interviewed for this article told me that Agile developers “left no room for procrastination, so this was an easy way for them to check this off their own task list.”

9. DITA's short descriptions direct users to content: Writing short descriptions for DITA topics is already considered a best practice. It is arguably more so for Agile-based content, as it provides a means of progressive disclosure with regard to content relevancy for users when they search for information. A short description can often be similar to the intent of an Agile user story, where: “user x can do y based on z”.

10. DITA makes publishing on demand to multiple formats straightforward: The DITA Open Toolkit is designed to produce documentation outputs in multiple formats, including HTML, WebHelp and PDF. It is also possible to flexibly produce documentation at the chapter or individual topic level on demand. Waiting for documentation deliverables is rarely a bottleneck in a DITA-based process.

Some parting thoughts

DITA is not a cure-all when it comes to working with Agile – during my interviews I encountered teams for whom Agile adoption within a DITA-based documentation team had failed. This usually happened due to poor communication, training, and lack of buy-in for documentation team members within the development environment. In cases where there was poor change management, some technical writing teams would revert to waterfall modes of engaging with development staff.

But in general, I discovered that the consensus in my research and interviews was that DITA made the job of working in an Agile environment possible. Though created for different purposes, the fact that DITA and Agile evolved from similar roots in the software sector means that there are common needs and approaches that complement each other. In particular, the topic-based structure of DITA, its emphasis on reuse, and the separation of formatting from content enables Agile documentation teams to keep up with the rapid pace that development teams set. In short, DITA helps make Agile-based documentation possible. One of my favorite quotes from my interviews highlights this. Nathalie Laroche, Lead Technical Writer at IXIASOFT, said: “Agile development goes hand in hand with topic writing, and I think this is why it's a perfect match for DITA. I love working in Agile! It makes my life as a writer much, much easier.”

ABOUT THE AUTHOR

Keith Schengili-Roberts

works for IXIASOFT as a DITA Information Architect. He also runs the popular DITAWriter.com website, and teaches Information Architecture at the University of Toronto. He has been working with DITA for over ten years.



@ keith.roberts@ixiasoft.com
@KeithIXIASOFT
www.ixiasoft.com

acrolinx

Our Software Helps the World's Greatest Brands Create Amazing Content: On-Brand, On-Target, and at Scale.



Google



facebook



SIEMENS

SONY

VOLVO



PayPal



ERICSSON

SCANIA



PHILIPS



Dräger



SAAB

ARM



DAF



Tetra Pak

KONECRANES

The golden triangle of content metrics

Feedback can be a gift and an asset that content-producing teams can use to demonstrate their value and improve the success of their content. But how can we measure the value of our content?



By Laura Bellamy

As technical writers and content producers, we provide information that serves our customers so they can successfully use our products and services. To produce effective information, we rely on customer feedback. Too often the feedback that we receive focuses on a single channel of information or a limited set of metrics. This narrow view limits our ability to make effective decisions.

Discussions of metrics and customer feedback often revolve around customer satisfaction (CSAT) and net promoter score (NPS). As a content-producing organization, you might be unable to get a single metric that shows satisfaction, let alone be able to use that metric to make data-driven decisions for your organization.

As opposed to focusing on a single metric or a single channel of customer feedback, consider expanding the scope of customer feedback data that you gather to include data across three dimensions: customer engagement, content value, and market reach. The data from these dimensions creates a golden triangle of customer feedback that will help you to better demonstrate the value of your information, focus your resources on the most impactful areas of work, and better serve your customers.

Metrics strategy

Just as you have a content strategy, you should also create a metrics strategy that answers three key questions:

- What do you want to know?
- How will you measure it?
- How will the information be actionable?

A metrics strategy can help prioritize what data you collect and ensure that the information will help both managers and technical writers to make decisions that improve the success of your content. The data from a well-defined metrics strategy can provide actionable information down to your writing team as well as provide valuable business information that you can provide to your management team.

Avoid false metrics

If you are just getting started defining your strategy and capturing data, you might be tempted to

Question	Metrics to measure	Uses for this information
How many customers access my content?	<ul style="list-style-type: none">• Sessions – The number of times that users access and engage with your site• Total users – The total number of visitors to your site• Unique users – The number of visitors that have visited your site once• Returning users – The number of visitors that have visited your site more than once• Page views – The total number of pages viewed on your site	Use this information as a data point for determining how wide your customer reach is. For example, if you have a specialized product that serves niche customers, you might expect only a few hundred users to access this content. If your content is targeted toward a mass-market audience and you do not see a large number of views, you might need to address SEO or marketing issues to ensure your content reaches your customers.
How long are customers engaging with my site?	<ul style="list-style-type: none">• Pages per session – The average number of pages viewed per session• Session duration – The average length of a session• Bounce rate – The number of visits where users left the site before engaging with a page	Use this information to determine the most popular and the most engaging pages so you can apply positive characteristics from these pages to other content. For example, if your topics with code samples are widely viewed and have a low bounce rate, consider creating more code samples and adding samples to other pages.

Table 1: Basic metrics for measuring customer engagement

center your strategy around metrics that are easy to produce, such as:

- The number of topics, pages, or deliverables that you create
- The number of topics, pages, or deliverables pages that you publish
- The number of languages you support
- The number of output formats that you support
- The degree of reuse within your content

These internal metrics explain what your team has produced. This could be effective information if you are trying to evaluate the internal productivity of your team. This data also helps to show how you are using resources and spending your budget to produce content. However, this information does not answer whether your content is of value to customers.

Customer engagement metrics

Customer engagement metrics answer the question, "How are customers using your content?" These metrics are the easiest to gather because you can quickly measure how customers access and interact with your content.

How to get metrics

If you publish content to a website that is publicly accessible, use a web analytics tool to gather customer access data. Your corporate web or marketing team might have an existing analytics tool that you can use. Otherwise, consider using free tools such as Google Analytics or Piwik.

If you do not publish publicly accessible HTML, consider other ways you can evaluate how often customers access your content. For example:

- Number of downloads of a PDF
- Number of documentation downloads from the app store

What to measure

Web analytics tools provide such a wide range of information that it can be difficult to decide what to track. For measuring customer engagement, consider tracking the basic metrics listed in Table 1.

Content value metrics

Content value metrics answer the question, "Do customers find your content useful?" As the Nielsen Norman Group showed, the core characteristic of a good user experience is utility – meaning that the content is useful to customers.



Figure 1: Nielsen Norman Group user experience characteristics

You can invest a great deal of effort creating perfect, polished content that doesn't meet customer needs. A well-defined metrics strategy that includes value metrics will help you to determine the usefulness of your content as well as the usability of the information.

How to get metrics

- Number or star ratings
- Like and upvote systems
- Yes/No questions
- Surveys and feedback forms
- Comments
- Email

Be aware that feedback mechanisms range in technical complexity. Adding an email address to your site is easy, while setting up a database and notifications for your rating mechanism can be more difficult to implement.

What to measure

Because there are so many different feedback mechanisms, defining the goal of your value metric is critical. Defining the goal might help you to choose which mechanism to implement, see Table 2.

Market reach metrics

Market reach metrics answer the question, "Are you effectively reaching your customers?"

How to get metrics

While some of this information is provided from web analytics, you might need to contact your sales, marketing, or support organizations to gather additional data. Contact other parts of your

Goal	Recommended feedback mechanism
Receive feedback about errors in the content	Email or feedback form – A private message that is directly routed to your team ensures that you receive the actionable information. You can track the number of emails you receive or forms submitted.
Track social engagement of your content	Comments – Commenting can create a dialog for your user community. You can track metrics related to comments including number of users that comment, number of comments received, number of threaded comments, etc.
Determine customer satisfaction	Survey – Ask a small set of questions to determine how satisfied customers are with the content and your site.
Understand utility of content	Number or star ratings – Give customers a range to rate the value of your content on a fixed scale. Measure the average ratings of your content. Like – Allow customers to Like or Upvote content that they find useful and to Downvote content that is ineffective. Measure the number of Likes for your content. Yes/ No question – Provide a direct question for users to specify if they find content helpful or not. For users who answer No, provide a follow-up question to gather actionable information. Measure the number of users who find your content helpful.

Table 2: To collect value metrics, define your goal first before deciding on the feedback mechanism.

company to understand the potential customer base for your content.

What to measure

Your sales or support organization might be able to answer the following questions:

- How many customers have purchased the product or service?
- How many customers have downloaded the product or service?
- How many customers have installed or activated the product or service?
- What are the key accounts or users for the product or service?
- What global regions and languages have the most users?

Market reach data is essential for you to determine if your customer engagement is successful. Your products and business units could vary widely and understanding market reach helps to avoid an apples-to-oranges comparison. For example, consider what success looks like for the following two products:

- **End-user SaaS product** – For a new Software-as-a-Service product with a single market focus, the expected adop-

tion might be slow growth among a small, key customer base.

- **Enterprise installed product** – For a mature, enterprise product that serves multiple markets, the expected adoption might be rapid growth among a majority of the existing user population.

Correlate data to create the golden triangle

When you have data from the three key dimensions, you can correlate the information to gather

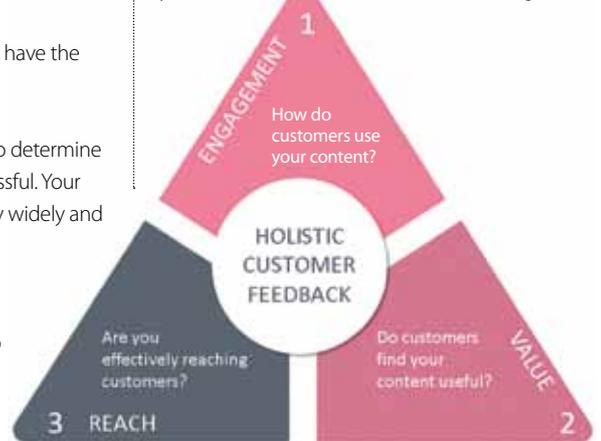


Figure 2: The triangle of customer feedback

a holistic view of the content and to make insightful observations and decisions.

The triangle answers three basic questions:

- **Engagement** – How do customers use your content?
- **Value** – Do customers find your content useful?
- **Reach** – Are you effectively reaching customers?

Example: Evaluate the success of an effort

Consider how the data from the triangle helps a manager to determine how successful the effort was for two projects, see Table 3.

Example: Make forward-looking decisions

The data from the triangle can also be used to evaluate trends and make decisions for upcoming projects and resource decisions. This is especially useful when you consider the opportunity cost of a project. By focusing your resources on one project, you are unable to complete another project. Use your customer data to help determine which projects you should prioritize, see Table 4.

Conclusion

Defining a metrics strategy is important because it focuses your effort and ensures that you have actionable data. Documenting your strategy is also important because this effort might involve multiple teams, such as Marketing, Sales, and IT, which need to understand your requirements and goals. By using data from multiple dimensions and correlating the data, you have a comprehensive view of your content and can use insights to improve the success of your content.

TIPS FOR GETTING STARTED WITH METRICS

• **Start with a few key metrics and grow from there.**

Too much data can be overwhelming. Limit the data that you collect so your team can adapt to the strategy.

• **Design for automation in mind.**

It takes time to collect data and present it in effective ways.

As you are defining your metrics strategy, try to automate the collection and presentation of data as much as possible.

• **Start with existing capabilities and grow from there.**

It might not be necessary to start a new IT project to begin collecting data. Evaluate the functionality of your existing tools. Can you use SQL queries in your current database to gather data? Can you use your company's default web analytics tool?

• **Socialize the strategy with your teams.**

Your team might feel that metrics are being used to measure and judge their work. Discuss your metrics strategy with the team so they understand the value of the data and how they can use the data to do more impactful work.

• **Report out key insights to show the value of your content.**

Metrics can help you make decisions that improve customer success and demonstrate the value of your organization. Be sure to collect and share data that shows your use of the data and how it improves business outcomes.

 **Learn more** about this topic at the **tcworld conference:**

Date: Tuesday, November 8
 Time: 09:45 - 10:30
 Room: C6.2 OG



Project description	Evaluation
Scenario 1 <ul style="list-style-type: none"> • Product has only a handful of customers • Two technical writers work for six months to create content • The 100 pages are all highly rated • Documentation is important for a key account 	Successful – Although this product has a limited customer set and very few users, delivering the documentation to a key customer helped to serve a key customer account. This effort was highly impactful for the business.
Scenario 2 <ul style="list-style-type: none"> • Mass-market product has a large number of customers • One technical writer produces a video series that is viewed by only 2,000 users • Most viewers don't finish watching the video 	Not successful – It was costly to produce the video series and the result of only 2,000 views is not a significant number for this customer base. The cost of this project did not return the investment to the business.

Table 3: Measuring the success of a project

Project description	Evaluation
Scenario 1 <ul style="list-style-type: none"> • Three topics are rated as poor by customers • Topic A has 100 page views • Topic B has 2,000 page views • Topic C has 10,000 page views 	<ul style="list-style-type: none"> • Priority #1 – Improve Topic C because it will benefit the most customers. • Priority #2 – Improve Topic B because it reaches a limited set of customers. • Do not update Topic A. It might be poorly rated, but your investment will have little impact.
Scenario 2 <ul style="list-style-type: none"> • Should you document a new feature for an upcoming release, or incorporate bug fixes to existing topics? • Sales data shows that customers don't download the product until three months after the release • There are a lot of negative comments and ratings that show poor quality in the current release 	<ul style="list-style-type: none"> • Priority #1 – Complete the bug fixes and quality improvements. Helping to improve the content that customers are currently using will improve CSAT. • Priority #2 – Document the new feature after the bug fixes are complete and deliver it within three months of the release so customers have the content when they use the new version.

Table 4: Using customer data to determine which projects to prioritize

 **ABOUT THE AUTHOR**

Laura Bellamy is the Director of Information Experience at VMware, Inc. and manages a global team of writers, editors, and architects. Laura has 15 years of industry experience as a technical writer and information architect. She has worked extensively in XML authoring technologies, is a co-author of the book DITA Best Practices, and a technical writing instructor at the University of California Santa Cruz Extension.



- @ lbellamy@vmware.com
- www.vmware.com

**Innovative technology,
made human.**

SDL Trados Studio 2017

**Introducing transformational
technology – SDL Adaptive MT
and upLIFT**

#Trados2017

www.sdl.com/trados2017
www.translationzone.com/translator/trados2017
www.translationzone.com/lsp/trados2017

SDL | Trados
Studio 2017

Working with distributed teams

In the era of virtual reality and ubiquitous computing, it is no surprise that more and more companies are going virtual when it comes to teamwork too. Geographically distributed teams hold many advantages, but the transition from working in brick and mortar offices to the virtual desk brings some challenges. Here are some things to consider when setting up distributed teams.



© www.graphicstock.com

By Eva Reiterer

Making the case for distributed teams

Distributed teams come in a plethora of shapes and sizes, so generalizing is difficult. However, they tend to share the same advantages:

Tapping into the global talent pool. Establishing distributed teams in your company will allow you to hire the best talents from around the world, no matter if they come from a different part of your country or from another continent. So-called *digital nomads*, people looking exclusively for remote work, have become quite common.

Happy employees. Enabling your employees to work from home, or indeed from wherever they want, allows for a much greater work-life balance. With reduced or no commuting, your remote workers will have more time to spend with their loved ones, and more time to follow a healthy lifestyle, the benefits of which are obvious.

Saving on overheads. Distributed teams are a particular advantage for start-ups as they involve the lowest cost and risk, especially when employing freelancers. In addition, they also provide an excellent alternative for well-established companies who are beginning to outgrow their brick and mortar offices and have to invest in additional office space.

Focused work. If you have worked in an open-plan office before, you will know how painfully distracting sharing your workspace can be. High heels tapping on hardwood floors, co-workers sneezing and coughing, constantly ringing telephones and people stopping by for a quick chat are just some of the small but frequent interruptions that can make you lose focus again and again. When working from home, your employees can create their own office space and set their own rules which, when followed properly, will allow them to really focus on their work and thus produce better results.

Doing the groundwork

When setting up your distributed team, always bear in mind that the organizational framework you provide will be the basis for everything else you do. You will have to create new rules and policies, which will have a great impact on your

team and should be communicated clearly. Within this organizational framework, you will encounter human as well as technological challenges.

The organizational framework

Time-based vs. results-based

When asked why their organization doesn't offer home offices yet, many managers state as their main concern that they would not be able to control how much time their employees actually spend working. If this is the case with your organization, you could consider changing from paying for time worked to paying for results delivered. This works very well if you have specific targets or quantifiable work. With other types of work, you will only be able to run a successful distributed team if you invest a healthy portion of trust in your workers. If, for whatever reason, you don't feel you can trust them, you will inevitably resort to micro-management and destroy your team's productivity. However, you shouldn't worry too much about this problem, because it is usually only a concern in the preparatory phase, as remote workers have actually been found to be more motivated than their on-site colleagues due to the freedom they enjoy.

Tip: In the end, no matter what time policy you go for, make sure to establish certain times when your team members have to be "at work" and reachable.

Finding the right software

Considering that a remote team is only possible thanks to technological advances, it is no surprise that you will depend heavily on these to enable your team to work together. There is more than enough software out there to support your team's virtual collaboration, but finding the right one for you will take some time and thought. Whichever software you decide on, remember to keep it simple. There's no point in having Skype, Google Hangouts and Slack for chatting, and Zoom, Teamviewer and Sococo for video chatting and screen sharing, because having to choose between these options every day will only use up your team members' valuable time and decision-making energy. Instead, invest in a

maximum of two types of software that will really meet your needs. Although this may be more costly than using several cheaper ones, it is by no means wasted money, as the increase in your team's productivity will definitely be worth it. The second software will come in handy as a backup for when the first is going through a mysteriously unannounced server update or the like.

If you have decided on your software, get your IT department involved. They will know best which software complies with your organization's IT security policies, and they can also train your distributed teams to understand which online actions pose security risks and how things can be done safely.

Tips for the human and technological aspects

Getting to know the team members

Social skills may be the biggest must-have when working with distributed teams. In a virtual environment, you don't usually get these random but highly valuable hallway or coffee pot chats. Nevertheless, you can realize these essential interactions by establishing a friendly, social atmosphere and by acquiring software that supports it, such as Sococo. This works well for team members who already know each other. When building a new team, however, a little nudge will be needed to achieve this, especially when your project has a tight deadline. A great way to achieve this is with the help of the Personal Maps exercise, created by Management 3.0 pioneer Jurgen Appelo. In this exercise, team members gather information about each other and present their results to the team.

Guide the culture development

Your distributed team will never experience your organizational culture as your on-site teams do. This means that, even if you already have a great organizational culture that fosters collaboration, you will need to actively generate this culture in the team. If you don't yet have the organizational culture you feel you need, this is your opportunity to start molding it from scratch in your team, and to expand it from there to the rest of your organization. Always bear in mind that for a distributed team to fulfill its potential, it will need a culture

that rewards collaboration. Praise collaborative behavior where you see it, and foster gratitude and appreciation in your team. A particularly interesting way to do this is by implementing Kudo Cards, another great tool created by Jurgen Appelo. These cards can be handed out by both managers and colleagues to recognize a team member's good work.

Provide all contact details

Little things such as having to ask for a team member's phone number, rummage through a pile of paper or do a brief email search can be enough to put people off getting in touch, especially if it's only for a quick question. To avoid this, create a contact overview, which should at least include the following information of each team member:

- Full name (you wouldn't think this is necessary to mention, but funnily enough it is)
- Email address
- Work phone
- Private phone number for emergencies, but only with permission from each member
- Regular work hours during which he/she will be online
- Country or state he/she is based in plus time zone

Create a competence-based team chart

Say you are assembling a team of software developers or, as in our case at Meinrad.CC, a team of translation project managers. You will have highly competent people in your team whose knowledge should be shared with others and whose skills should be used by your entire team or organization. For this to happen, your team will first

have to know about each team member's skills. To create a competence chart, you can use the Personal Maps exercise mentioned earlier to gather the information you need and then simply put it into a PowerPoint presentation, ideally including the contact information mentioned above. Make sure that everybody in your team has access to this chart. You might even want to print it out and ship it to your team members to ensure they have it at hand when they need it.

Provide as much technological support as possible

Whether it's providing webcams so that you can see the face that accompanies the voice or contacting a team member's regional Internet provider to get a special deal for a high-speed connection, always think of ways to improve collaboration. Watch out for potential technological barriers and do everything you can to minimize them.

A technological barrier can be something as basic as not knowing which software to use, or how to use it, so create an overview of the software your team will be using, along with basic instructions, and make sure that everyone is aware of each software package's specific purpose. Keep in mind that you will need to assign a person to manage the software in terms of being the go-to person and communicating with the IT department or the software company.

Don't forget the fun

If you enjoy tech gadgets as much as we do and are lucky enough to have a generous IT budget,

there is definitely something out there for you to make the distributed team experience more fun. Telepresence robots, for example, are becoming increasingly popular, and we ourselves are currently thinking about installing a touchscreen in the coffee corner, which will allow on-site employees to enjoy a cup of coffee with their remote co-workers via video chat.

Final thoughts

Keep it real

Finally, remember that with every change, people need time to adjust. After all, you are not building a machine, but dealing with complex human networks. Cut yourself and your team some slack and, most importantly, talk about the challenges you're facing. Share your experiences with the team and with other teams, and give each other room to vent. Ultimately, your key focus should be on how to improve the experience of working together remotely. And don't be shy about asking for help.



Learn more about this topic at the **tcworld conference:**

Date: Tuesday, November 8

Time: 09:45 - 10:30

Room: C7.30G



ABOUT THE AUTHOR

With a BA in Transcultural Communication and an MSc in International Business Management with HRM, **Eva Reiterer**



found her passion in the human side of the language business. After gaining professional experience in HRM, she joined the family business and is now responsible for Business Development at the translation agency Meinrad.CC Communication Consulting GmbH.

@ e.reiterer@meinrad.cc

www.meinrad.cc

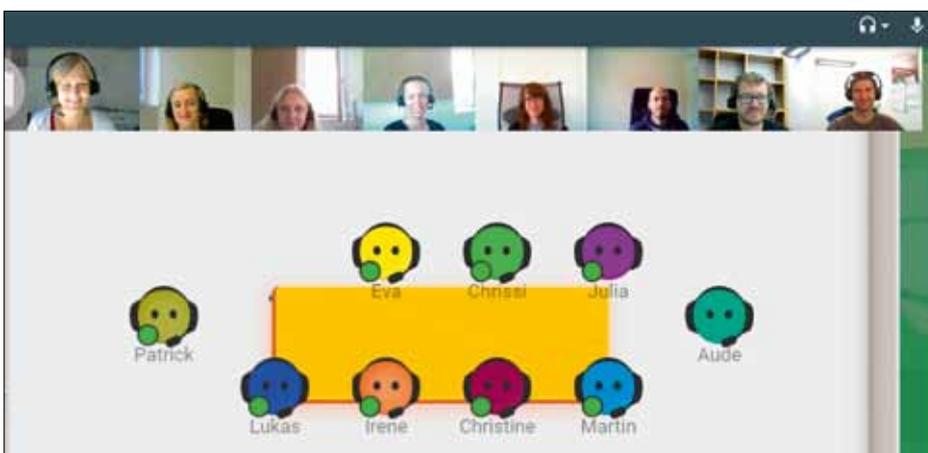


Image 2: Meinrad.CC's weekly team meeting in our Sococo office

Source: Meinrad.CC

Current knowledge for technical communicators

Knowledge has never been more valuable than it is today.

Which expertise is essential for technical communicators and how can they obtain it?

The profiling tool for the tekomp Competence Framework provides guidance.

By Dr. Daniela Straub

Knowledge and competence as an economic factor

There has been a lot of talk about a knowledge-based society. Options for information and communication as well as services involving information are booming. Meanwhile, knowledge has acquired the

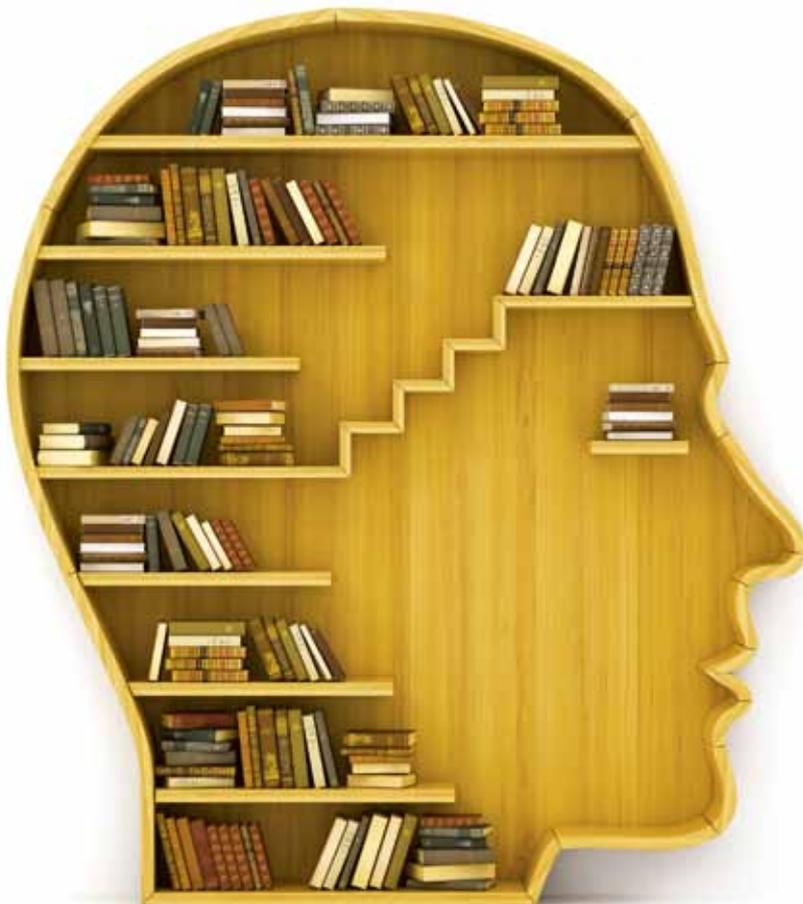
same significance as the classic production factors and is even referred to as the “new” fourth production factor. In business, the benefits and profits of systematic knowledge management for a company are discussed quite a bit – even if active knowledge management is rarely found in practice.

In fact, the half-life of knowledge is decreasing continuously. For example:

- Operational expertise has a half-life of approx. 4 years.
- IT expertise has a half-life of approx. 1.5 years.
- In 2010, twice as much content was created than in all previous years combined.
- According to the *Harvard Business Review*, knowledge increases exponentially; its half-life decreases.

So, what is the half-life of knowledge? This refers to the time after which only half of the available knowledge, for example in a specific area of expertise, is still valuable, i.e. only half of it is still valid after a certain period of time. As a result, companies and their employees must continuously verify if their knowledge is up-to-date and still fits their requirements.

How much of this applies to technical communication? There are no statistical or empirical studies regarding the half-life of knowledge in technical communication. Therefore, it can be assumed that not many scientific findings are overruled every couple of years, for example those on human information processing, which in turn have consequences for structuring methodologies in technical communication. In this case, the half-life of knowledge in technical communication may even be measured in decades. However, there are also many other areas that are highly relevant to IT and media. And here, the half-life of knowledge in technical communication may be comparable to that of IT expertise, which affects, for instance, the development of apps for technical documentation, special software systems or the topic of wearable technologies, to name just a few examples. It is not without reason that in our industry, there are many information services involving the latest developments and trends. Also, the range of tasks in technical communication



has become very diverse and specialized. Nowadays a technical writer cannot know everything, and he doesn't have to. Specific job profiles define the knowledge and competence requirements for the employee.

Keeping knowledge current

There is a high demand for specifically trained technical communicators. In Germany, about 1.4 percent of all employees in industrial businesses work in technical communication; in the software industry, this value reaches roughly 3.6 percent. Among these are many employees who entered technical communication as career changers from the areas of translation or engineering sciences. There are many professional requirements for knowledge and skills in technical communication and the range of tasks is unclear. There is a great need for many businesses and employees in the field of technical communication to define the job description and profile, along with the corresponding knowledge and skills requirements. For employees in technical communication, this means that their knowledge must be up-to-date and match the respective job profile. There are many opportunities for further training and lifelong learning, such as Internet portals, professional conferences, professional journals, workshops etc. With all these measures, it is possible to acquire knowledge and keep it current. Many businesses support their employees in this respect, and many HR departments also provide for continual personnel development – precisely because the resource “knowledge” is a significant production factor. “I know that I know nothing.” This familiar quote from ancient times is still relevant today – in particular with regard to knowledge management and the importance of acquiring knowledge in a goal-oriented and effective manner, as well as taking advantage of the appropriate information services and offerings for lifelong learning. But how can employees determine if their knowledge is current and adequate for a specific job profile, and what their respective needs for further training are?

The new Competence Framework

The new Competence Framework closes this gap. It details the job descriptions and potential job profiles within technical communication. In addition, it defines practical and action-oriented competences

and how they are used in the field of technical communication, as well as the necessary qualifications. It also focuses on the creation of information products. Using a classification schema (taxonomy), the tekomp Competence Framework for Technical Communication systematizes, defines and classifies qualifying competences, knowledge and skills for employees in technical communication. This taxonomy was developed based on the reference process for the development of information products. It describes the respective competence areas and fields involved for the seven process steps, as well as the secondary group of topics with learning content and educational objectives.

The tekomp Profiling Tool for the Competence Framework

With its Profiling Tool for the Competence Framework, tekomp offers a quick method to learn more about the requirements for technical communicators and to find out one's individual level of knowledge and knowledge requirements.

Using an action- and task-focused approach, the Competence Framework is based on the creation process for information products. It illustrates in detail which tasks technical communicators perform and what skills they need in order to do so – always at the latest state-of-the-art. The tekomp Competence Framework was only recently completed and published, and is accessible to everyone free of charge. It provides a clear and basic orientation for businesses of all kinds as well as for employees in technical communication, and all those who are interested in the profession, or just starting out, with decisions to make regarding job openings, personnel selection, career paths, training, curricula, exams, assessments etc. It shows the competence and qualification requirements in technical communication in a clear and logical manner. With the Profiling Tool for the tekomp Competence Framework, specific competence profiles can be created. It is suitable for:

- Employees in technical communication
- To identify knowledge gaps
- For targeted and systematic lifelong learning
- For locating and defining individual training contents and objectives

Those interested in the profession and entry-level employees in technical communication

- As an orientation to job and workplace requirements
- To define a job description
- For the development of individual and need-based training concepts

Managers in technical communication and personnel departments in businesses

- For personnel development and development of employees' specific competences
- For drafting specialized job profiles and roles
- For targeted personnel acquisition and description of job openings

Educational institutions and training providers, including universities

- For the development of new educational opportunities and curricula
- Those interested in training

The Competence Framework plays a pivotal role in the education and training system for technical communicators. It can be the basis for:

- Gap analysis and identification of individual training needs
- Defining training contents, learning perspectives and educational objectives of training opportunities
- Determining learning contents and learning objectives
- Development of exam questions and for certification

To learn more about the tekomp Competence Framework for Technical Communication, visit <http://competences.technical-communication.org>.

Dr. Daniela Straub

graduated in Psychology and has been working for tekomp consultancy projects since 2003. For tekomp, she conducts empirical studies, organizes and leads the tekomp benchmarking workshops and is involved in the development of the tekomp further education guideline and certification system.



@ d.straub@tekomp.de
 www.technical-communication.org

events

tcworld 2016/2017

Languages & The Media

- 📅 November 2-4, 2016
- 📍 Berlin, Germany
- 🌐 <http://languages-media.com>

tcworld conference 2016

Image: © tekomp



- 📅 November 8-10, 2016
- 📍 Stuttgart, Germany
- 🌐 <http://conferences.tekom.de>

The tekomp annual conference, together with the tcworld conference and tekomp fair, is the largest global event and marketplace for technical communication. Last year's event was attended by around 4,200 conference participants and visitors from 48 countries. The conference is a central platform for anyone who plans, creates, localizes and delivers content in any format and any language.

Gilbane 2016

- 📅 November 29-30, 2016
- 📍 Boston, MA, USA
- 🌐 <http://gilbaneconference.com/2016>

Outsourcing World Summit

- 📅 February 19-22, 2017
- 📍 San Antonio, TX, USA
- 🌐 www.iaop.org/summit

Organizations have become increasingly technology-driven and interdependent through an array of ever-changing collaborative business models such as multi-sourcing, offshoring, robotic process automation (RPA), cloud-sourcing and many other variants. New businesses have evolved offering services that are less expensive and more creative, useful and impactful. To make sure you're making the most of these new opportunities, join the Outsourcing World Summit.

Elia Together 2017

- 📅 February 23-24, 2017
- 📍 Berlin, Germany
- 🌐 <http://elia-together.org>

Image: © Jason Ross/123rf.com



tcworld India

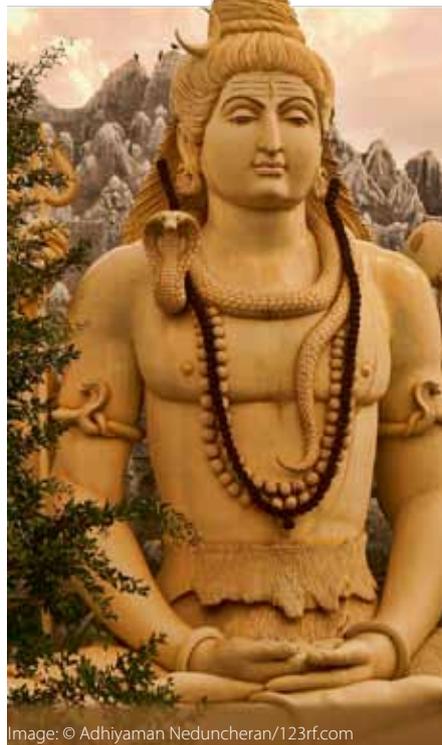


Image: © Adhiyaman Neduncheran/123rf.com

- 📅 February 23-24, 2017
- 📍 Bangalore, India
- 🌐 <http://conferences.tekom.de/tcworld-india-2017/home>

GALA 2017

- 📅 March 26-29, 2017
- 📍 Amsterdam, Netherlands
- 🌐 www.gala-global.org/conference-2017-amsterdam

Intelligent Content Conference

- 📅 March 28-30, 2017
- 📍 Las Vegas, NV, USA
- 🌐 www.intelligentcontentconference.com

ICC 2017 is a content strategy event for marketing professionals. In order to be truly effective at strategic content, we need to scale our content, leverage the right technology, easily re-purpose and reuse content, and deliver content to the right person, at the right time, regardless of device. That's what ICC is all about.

MadWorld 2017

- 📅 April 2-5, 2017
- 📍 San Diego, CA, USA
- 🌐 www.madcapsoftware.com/events/madworld

EUATC International Conference

- 📅 April 20-21, 2017
- 📍 Berlin, Germany
- 🌐 <http://euatc.org/conference>

UA Europe 2017

- 📅 June 7-9, 2017
- 📍 Harrogate, United Kingdom
- 🌐 www.uaconference.eu

Content Marketing World 2017

- 📅 September 5-8, 2017
- 📍 Cleveland, OH, USA
- 🌐 <http://contentmarketinginstitute.com/events>

tcworld conference 2017

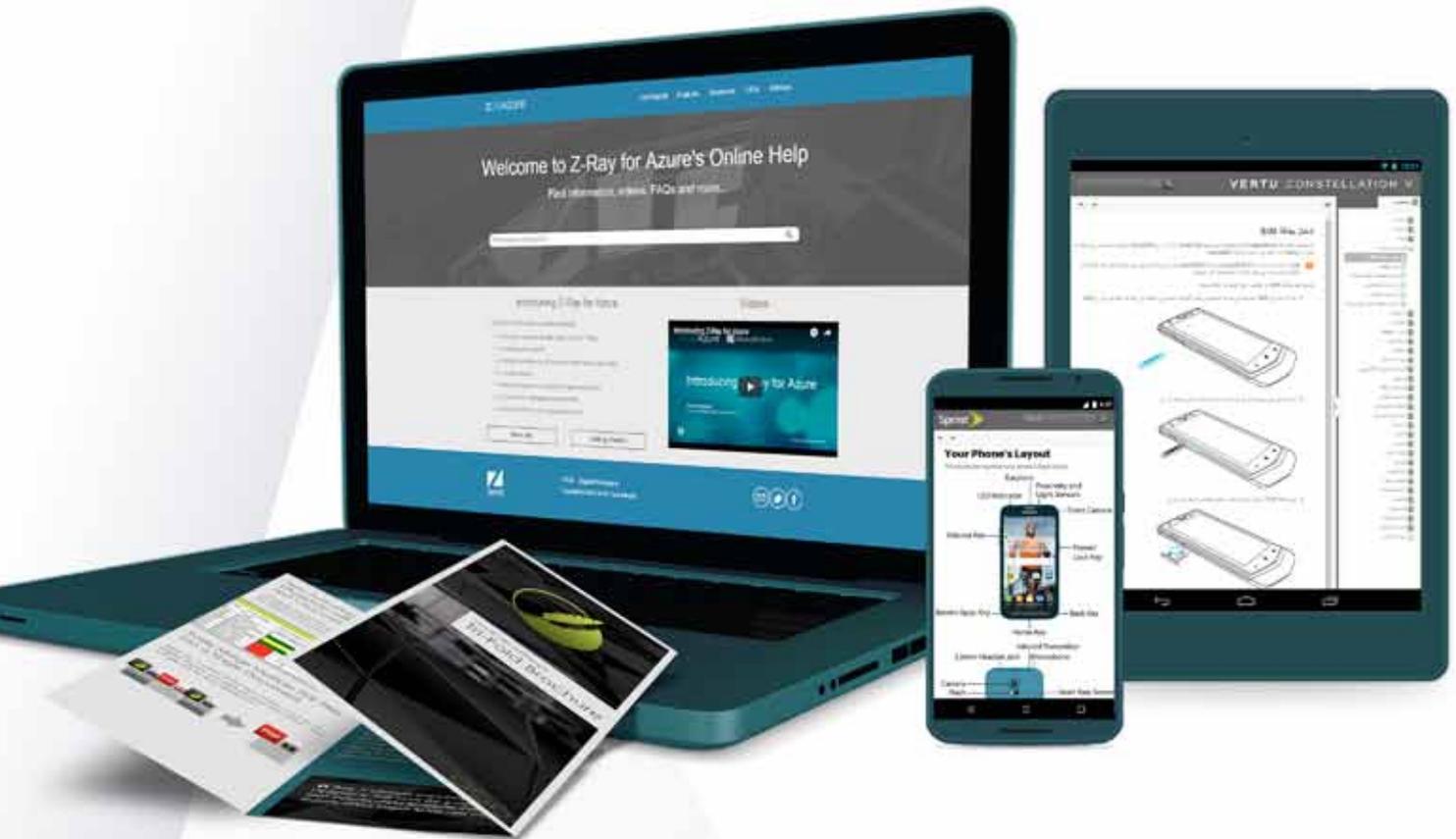
- 📅 October 24-26, 2017
- 📍 Stuttgart, Germany
- 🌐 <http://conferences.tekom.de>

madcap

FLARE™



Technical Writers, Content Developers
and Documentation Teams Worldwide
Use MadCap Flare



“ Having traveled from Microsoft® Word, FrameMaker®, RoboHelp®, Help & Manual to MadCap Software during my years as a technical writer, MadCap Flare is by far the most versatile tool I have ever used. I love its power and flexibility. ”

—Lars Lyhne | **Technical Communicator, ReSound**

Ready to join the thousands of companies who have chosen MadCap Software, and change the way you create, manage and publish content?

SONY



Microsoft

NOKIA

SIEMENS



BARCLAYS

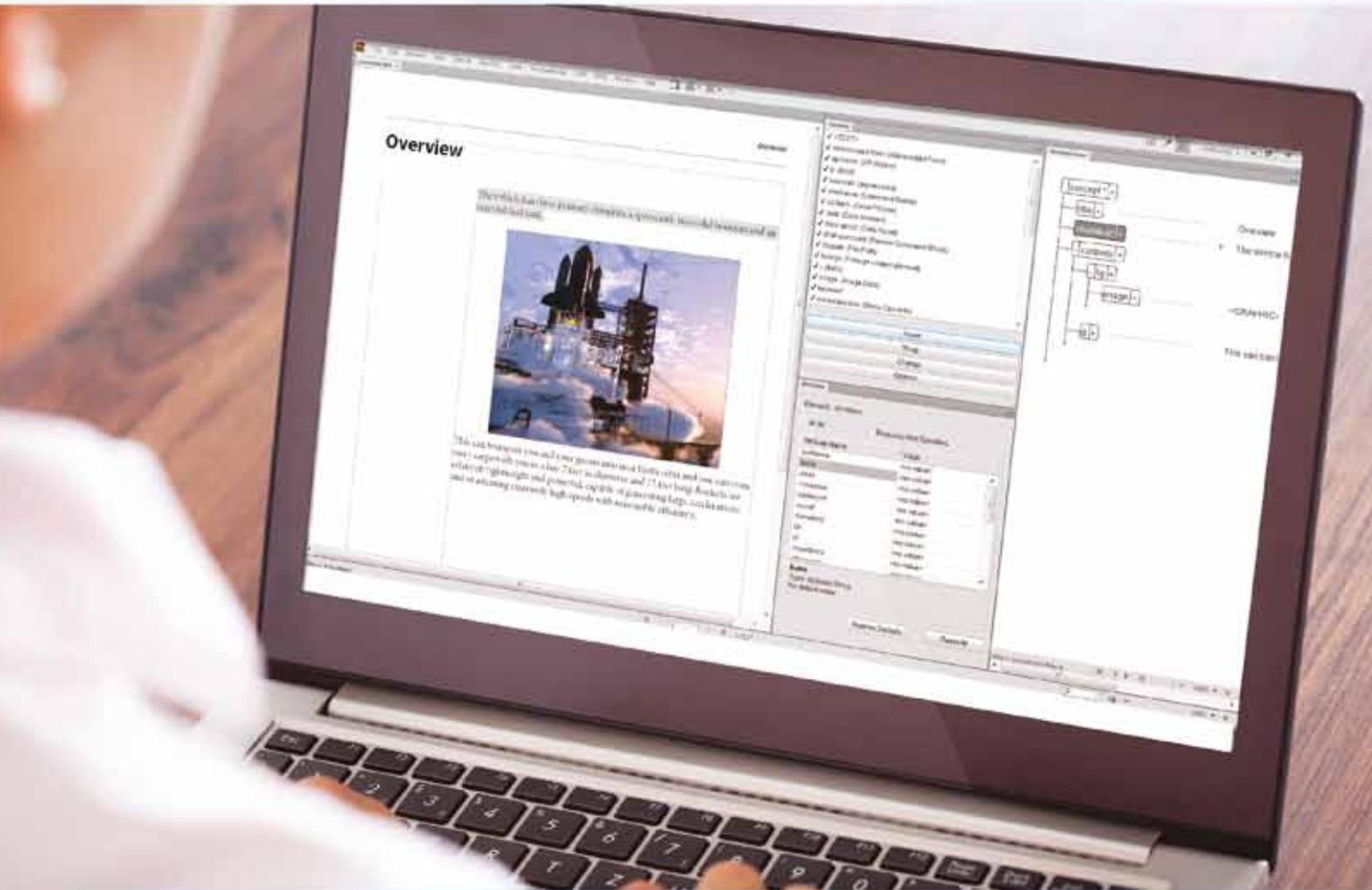
Schneider
Electric

CATERPILLAR

Download a Free Trial at MadCapSoftware.com



Adobe FrameMaker (2015 release)



Experience best-in-class XML authoring

- Author DITA content with out-of-the-box DITA 1.3 support
- Work faster with enhanced Structure view
- Empower your SMEs to work in the simplified form-like XML environment

For a personalized demo or questions, please reach us at techcomm@adobe.com