



VIEWPOINTS: STANDARDS DEVELOPMENT FOR PHOTO AND IMAGE METADATA

Some perspectives on metadata for images

The Third International Photo Metadata Conference, sponsored by IPTC and Ifra, meets in conjunction with the CEPIC Congress 2009 this June in Dresden. With this article, the IPTC Mirror takes a look at the competing views and business needs that must be resolved if standards for photo metadata are to be developed. Three people agreed to share their views on on of the key issues. Future editions will examine other issues and views.

From her office in London, Liisa Kaakinen, keyword trainer and consultant, has a bird's eye view of the problems the news and stock photo industry face when applying keywords to images. It's a challenge she confronts 80-200 times a day, as she assigns keywords and captions to individual photographs for a broad range of clients. Kaakinen, who owns and operates [Keyword Trainer](#) in the U.K., is convinced of the need for global standards for photo metadata — at least

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STANDARDS SPOTLIGHT: AN EARLY ADOPTER PUTS G2-STANDARDS TO WORK



REUTERS

Reuters 'Newsroom Initiative' yields results

The Reuters Newsroom Initiative began in order to get the company ready to serve its customers in a cross-media news environment. Those who led the effort say it is meeting that goal and building collaborative relationships with editorial system vendors.

As with most complex business endeavours, there were several motivators behind the [Reuters](#) Newsroom Initiative, which was launched in 2008.

First was the long-predicted, fast-approaching convergence of news delivery channels for newswires, video, photography, news graphics and online news sites. The approaching intersection of these news formats created an urgent need for interoperable

metadata to manage the information.

This need was met by the second motivator for the Reuters Newsroom Initiative — the development and release of the IPTC G2-Standards with their common technical framework, the G2 News Architecture (NAR). The IPTC G2-Standards, which include NewsML-G2, EventsML-G2 and SportsML-G2, are the foundation for moving and managing multiple delivery streams of

news content and metadata. NewsML-G2 fit in well with the RNI goals.

These events, although welcome, were external and largely beyond the direction or control of Thomson Reuters. The third driver, however, was internal to Thomson Reuters. It grew out of the company's decision to draw customers and editorial system vendors into the process of adapting

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as concerns controlled vocabularies and keywords.

When the Third International Photo Metadata Conference convenes 4 June 2009 in Dresden, Germany, attendees will confront a broad array of issues. IPTC Mirror approached several experts who deal regularly with controlled vocabularies and keywords to gain their perspectives on where the industry is on this subject one year after the last such conference. Those interviewed work largely with stock photos, but are also experienced in dealing with news photos. Staffan Teste with Bildombudsmannen AB in Sweden, Sarah Saunders with Electric Lane in the U.K., and Kaakinen agreed to share their thoughts with the Mirror’s readers.

Keywords and captions are on the front lines

“There are as many standards as there are picture libraries, so all my clients have different requirements,” Kaakinen told the Mirror. “I mainly keyword per their specs for Getty, Corbis and Alamy, but I also keyword images for smaller libraries with different setups.

“Both Getty and Corbis use thesauruses on their sites, so they are similar in some respects. I only have to add the most specific terms and exclude synonyms and lexical variants,” she said. “However, the words and structure of their controlled vocabularies vary. For example, age categories are

different. Getty defines mid-adults as being from 30 years to 39 years, whereas Corbis defines it to include the years from 25 to 45.

“There are lots of other differences,” Kaakinen said. “My favourite one is the keyword phrase ‘Looking at camera’. At Getty this means a model looking into the photographer’s camera, whereas at Corbis the phrase means looking at the device [camera] shown in the image. Corbis uses the phrase ‘eye contact’ when the model is looking into the photographer’s camera”.

Kaakinen went on to say that “Alamy is totally different. They don’t utilise either a controlled vocabulary or word-stemming, which means reducing related words, like ‘fishing’, ‘fished’, ‘fish’, and ‘fisher’, to their root word of ‘fish’. Consequently, all variants, synonyms and common misspellings have to be included. Furthermore, they have a three-tiered keywording system where certain keywords are weighted more heavily than others”.

Is a global standard desirable? “As a keyworder, I would certainly welcome an across-the-board keywording standard,” she said, “as it would make the job easier. I am sure picture researchers feel the same. However, I doubt there can ever be an absolute single standard, simply because of the differences in human and financial resources and also because controlled vocabularies can be arranged in different ways depending on the

IPTC’s Steidl on photo metadata challenges

There are different facets to a metadata standard. It may standardize the fields (also called properties) that hold metadata values, in particular the identifier and semantics of fields, or it may standardize a set of values to be applied to a field — in other words a controlled vocabulary.

The Photo Metadata Working Group first proposed a controlled vocabulary for images at the IPTC Autumn Meeting 2008 in Nice, France, in October. This is an important first step, but it will take time to develop if a high level of quality is to be ensured.

The subject of keywords and controlled vocabularies is an area of contention between the several segments of this industry. There are many different issues, viewpoints and recommendations to consider.

Future *Mirror* articles will explore other views and aspects about shaping image metadata across multiple media platforms.

- Michael Steidl
[IPTC](#) Managing Director

types of image collections. Also, the interpretation of images is somewhat subjective.

“I do think that there are general guidelines and top level categories that most people would agree on, though,” said Kaakinen. “An initiative for some standardisation would certainly be welcomed”.

The view from [Electric Lane](#)

Sarah Saunders agrees. She acknowledges, however, that creating some kind of global standard will not be easily done. “It’s early days, yet,” she said. “The whole idea needs to be tested and discussed further”. Saunders is the director of Electric

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PUBLISHER’S STATEMENT

The *IPTC Mirror* is published five times per year by the International Press Telecommunications Council (IPTC). The IPTC, based in London, U.K., is a consortium of the world’s major news agencies, news publishers and news industry vendors. Founded in 1965, the IPTC develops and maintains the technical standards for improved news exchange that are used by virtually every major news organization in the world. Membership is open to organizations and companies concerned with news collection, distribution and publishing, as well as to system vendors supporting the news industry. The IPTC keeps the industry apprised of issues and developments through the *IPTC Mirror* and the IPTC website: www.iptc.org.

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*Photographs in *IPTC Mirror* without a credit line were taken by Sue Fine, Editor.

Lane in London, a consultancy and training company dealing with all aspects of digital image management and workflow. She also works with the IPTC Photo Metadata Working Group on behalf of the British Association of Picture Libraries and Agencies (BAP-LA) and was a presenter at the 2007 Photo Metadata Conference.

The question the Mirror put to Saunders was: The IPTC Photo Metadata White Paper issued in 2007 acknowl-

***A picture is worth 1,000 words. An accurately keyworded image is worth 1,000 pounds". —
www.keywordtrainer.com***

edged the importance of controlled vocabularies, but did not explore them. Can you tell me where this industry issue is at this point?

"To understand controlled vocabularies, you have to look how keywords are applied and used," Saunders said. "Large agencies like Getty Images and Corbis use controlled vocabularies in the background for assigning keywords. Other smaller suppliers of images don't have controlled vocabularies of the same complexity, if at all.

"IPTC wants to help the whole industry develop controlled terms which can be used to aid keywording at the producer end and searching at the customer end. A controlled vocabulary of some sort is critical to the idea of automatic translation between languages, so there is a great deal of interest in the idea.

There are a number of hurdles to overcome, including the fact that picture agencies all have their own methods of keywording. However, we believe it should be possible to come

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Keywords vs. controlled vocabularies: different approaches to applying photo metadata

As clients require, Liisa Kaainen of Keyword Trainer applies keywords to their images. It is a common approach. Industry-wide discussions about moving to controlled vocabularies for managing metadata are ongoing. The IPTC Core schema of metadata (a metadata schema is a defined set of fields) includes, for example, fields for city, state and country that provide information about a location. In the keywords Liisa Kaainen provided, locations like Nan Yan Island, Thailand and Berlin, Germany would map to the corresponding fields. You can try applying photos with keywords yourself with [Keyword Trainer's Keywording Test](#). It points to the nature and complexity of keywords and illustrates limitations.



Berlin Wall

Caption: Mature man looking through Berlin Wall, November 1989, Berlin, Germany

Keywords: Photography, Color image, Horizontal, Outdoors, Day, One person, Side view, Three quarter length, 50-54 years, 50s, One mature man only, Caucasian appearance, Trench coat, Fedora, Formal clothing, Peeking, Looking through an object, Curiosity, Hole, Graffiti, Urban scene, Wall, Voyeurism, Cracked, Hand in pocket, Famous place, Berlin, Germany, Berlin Wall, Fall Of The Berlin Wall, Politics



Hippy on coastline

Caption: Mid-Adult man sitting on rock by sea, Ko Nang Yuan Island, Thailand

Keywords: Photography, Color image, Horizontal, Outdoors, Coastline, Day, Casual clothing, One person, 30-34 years, 30s, Caucasian appearance, One mid adult man only, Front view, Full length, Cross-legged, Sitting, Rock, Island, Water, Sea, Looking at camera, Long hair, Travel, Portrait, Seascape, Scenics, Nature, Rural scene, Lifestyle, Hippy, High up, Tropical climate, Koh Tao, Nan Yan Island, Thailand

Photos © Keyword Trainer. Used with permission.

newsroom workflows so that news is provided to multiple news channels in the formats they require.

In a recent conversation, Roger Bacon, the company's media product manager, London, told the *IPTC Mirror* about the decisions and actions that made Reuters an early adopter of the IPTC G2-Standards and discussed the company's implementation of NewsML-G2.

Two years in the making

"The initiative actually began about two years ago," said Bacon. "We were developing an online packaging tool and wanted to find out if the product and format was what clients needed.

"In the past, we produced products to 'industry standards' and then supplied them directly to our clients. It wasn't a two-way conversation. For this project, we surveyed them and found that they were using a lot of different systems, some of which we knew nothing about. It was clear," Bacon said, "that in preparing for convergence, the old approaches would not work".

A new model was needed. With the assistance of clients — "they were very interested in what we were trying to do, because the general consensus was that convergence was finally real" — Reuters identified the major vendors for their clients' editorial systems and began contacting them.

Reuters decided that the company needed to explore closer relationships with their customers' system vendors. "With many providers we already had an historical relationship, but it was not a close one," said Bacon. "Now,

we began sharing information, with the goal of establishing long-term relationships with the editorial systems people".

Sharing has taken several forms, but the most significant is giving participating vendors free access to Reuters news feeds, including early access to the next generation of multimedia news feeds. "Essentially, what we've done is said, 'Let us provide you with the feed of our content to make sure it works for your systems,'" Bacon said. In addition, participating systems providers can work with designated product management and news capability teams, give them feedback and share perspectives on what newsroom clients need.

"We have created a forum where Reuters and the editorial systems providers can get to know and understand each other better," Bacon remarked. "This way, their products and ours can each improve, to the advantage of our common customers".

NewsML-G2 centerpiece of RNI

Reuters is committed to migrating to the IPTC G2-Standards. "We already offer them to our clients," said Bacon. "We went live with NewsML-1 right after the Sydney Olympic Games in 2000. And with the release of Reuters Entertainment Video Online in 2008 we can now offer NewsML-G2, on Reuters "Agency G3" platform. The others (EventsML-G2 and SportsML-G2) will follow. The G2-Standards enable us to put all our assets together. Customers once received multiple feeds from us, depending on content. With the introduction of Agency G3, clients will have only one feed to go to, and the content is all digital and metadata is embedded in XML format".

Dave Compton, a senior media technologist at Reuters and active co-developer of IPTC News Architecture and NewsML-G2, supports this notion. "Leveraging the G2-Standards provides an out-of-the-box ability to link and associate content and define extensible metadata." Compton said. "We're now at the point where Reuters can provide rich content association and navigational links. This enables many opportunities, but can only be maximized by cooperation between providers and system vendors — this is where the Newsroom Initiative is positioned".

Migrating to the G2-Standards did not pose huge challenges for Reuters, though it did require careful mapping of properties plus an in-depth understanding of the standard. In fact, said Bacon, "if there is any advice I have to give others who plan to implement the G2-Standards, it is to have someone on the implementation project who knows everything about them. The best way for a company to ensure this is to be an IPTC member and have one person assigned to attend meetings and become an expert on the standard. This is very important".

Compton echoes this, "The amount of collective effort and intellectual investment during evolution of the G2-Standards has been immense. However, this will be more than recouped by the Newsroom Initiative — for both providers and system vendors".

Benefits already in evidence

Twenty organizations have signed up for the program. Close relationships have grown between Reuters and the editorial system vendors. "Now, if a customer has problems receiving our

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Roger Bacon

Roger Bacon is media product manager Reuters in London, and manages Reuters Media delivery capabilities, including satellite, internet and terrestrial feeds. He has 25+ years experience with the online news industry.



Photo courtesy Roger Bacon

Dave Compton

Dave Compton is a senior media technologist in Reuters, London, and represents Reuters at IPTC and is an active co-developer of the IPTC News Architecture and NewsML-G2 standards.



Photo courtesy Dave Compton

Philip Kardos

Philip Kardos, product manager for Reuters Media, New York, works with the news distribution team. His responsibilities include ownership of a set of products and delivery channels serving news agency clients.



Photo courtesy Philip Kardos

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up with a set of top level terms which could be used by most image providers. The field for controlled vocabularies will also allow existing specialist vocabularies to be used", she said.

"Electric Lane ran a keywording course recently with Liisa Kaakinen and the response indicated that keywording is top of the list for many people at the moment", Saunders said. "With so many images around, search terms are critical to retrieval and sales.

"When a magazine like Stern in Germany searches through 12,000 images a day to find the 200 or so they need for the next edition, the value of a controlled vocabulary and consistent standards becomes obvious. If you search for 'rock' for example", she added, "you will get rock music, rock climbing, rock landscapes and pictures by Mick Rock. A controlled vocabulary, even of broad terms, will help to narrow the search".

Saunders also noted that controlled vocabularies have to be fit for use, so it is a challenge to find a level of solution that covers the needs of news, stock and specialist image providers. The controlled vocabulary field sits alongside the existing keywords field as an additional feature. "I am excited

"In the long run, we will compete with the quality of our images, just as newspapers compete on the quality of the newspaper".

by the prospect of some sort of standardisation", says Saunders, "but the project will have to be carefully managed with both stakeholders and experts on board".

Existing metadata systems often incompatible

Staffan Teste owns and operates [Bildombudsmannen AB](#) in Sweden and represents photographers legally on issues of intellectual property right protection for their work. He is a board member and chairman of the technical committee of CEPIC and represents CEPIC within IPTC and at the IPTC Photo Metadata Working Group.

"Controlled vocabularies and keywords are definitely an issue when it comes to photo metadata," according to Teste. "At the moment we're seeing consolidation in the industry, with picture agencies buying each other or buying photos from other agencies and finding their specs for applying

keywords are incompatible".

Also, search terms can differ widely, Teste says. "I once searched for 'Swedish King' on one agency's site, and a picture of a fireplace came up. It turned out that if you blew the picture up, you could see a small photo of the King of Sweden on the fireplace mantle, which was not what I had in mind. Searching with some global standard for vocabularies and keywords would save time for purchasers and make money for agencies".

On top of this, he said, if you add the need to translate search terms when the selling agency, for example, is in Germany and the purchasing agency is in Portugal, then you really complicate the issue. "With translation, you can work with the United Nations' translation equivalency codes, so 'bil' in Swedish becomes 'car' in English, but some words are difficult to translate. I'm sure there are ways around this, though," he said. "After all, the world has dealt with translation issues for a long time.

"In the long run, we will compete with the quality of our images, just as newspapers compete on the quality of the newspaper. However, users must be able to find the images, and photographers and agencies must be able to protect and sell them".

Reuters, from page 4)

news feed, we can draw in the systems people and get their help to solve the client's problem", said Bacon. "The vendors can use the free news feed we provide to demonstrate their own products, and of course that promotes Reuters in the process. We used to only give code change notifications to clients, and have them inform the vendors, but now we tell the editorial systems vendors in advance of the change, so they have time to make changes and test their integration using our news feed. When we wanted to figure out how to provide Web services packages, we consulted with the systems vendors about the best ap-

proach. There already are lots of benefits to Reuters and to the vendors".

Compton adds, "Whether we're generating NewsML-G2 feeds natively or by transformation, clients will now be able to receive the same range of content structures. Everyone benefits".

What's next for RNI?

"Eventually, we'd like to bring customers into the forum, too, and have all of us work together to figure out how to make the best use of our news and codes", Bacon said. "The editorial systems people know how to make them work in their systems. And clients know their own needs best".

Philip Kardos, product manager for Reuters Media, summarized the initiative for *IPTC Mirror*. "The fundamental aim of the Newsroom Initiative is to provide great customer service to news organizations. We want to ensure that our clients can leverage the breadth and depth of Reuters content in the best possible manner through their editorial systems.

"Working with the systems vendors we can learn more about our common clients' workflow and help integrate Reuters content efficiently", he said. "With our partners, we also provide a simple path for feedback and support in order to better serve our customers".



Photo courtesy Words2Gold LLC. Used with permission.

Dresden '09: "Metadata in a Multimedia World"

The [Third International Photo Metadata Conference](#) convenes on 4 June 2009 in Dresden, Germany, where delegates will consider the multiple challenges that lie along the path to the rapidly-emerging, cross-media business landscape. The focus this year is on video metadata and automating metadata entry.

"The programme of the third international Photo Metadata Conference will continue discussions that began at the 2007 and 2008 conferences," said Michael Steidl, IPTC managing director. "Metadata is crucial to business, and having a common set of fields and terms, developed with the participation of as many involved parties as possible, improves the value of any content. The media business is moving forward and the exchange of photos, graphics and video is merging into a single business".

The velocity at which convergence is approaching is increasing. It is important, therefore, that as many as possible of those with a stake in the visual media business work together to arrive at global solutions. The day-long meeting, which is being held in conjunction with the [CEPIC Congress 2009](#), under the sponsorship of IPTC and Ifra.

Thematically, speakers at this substantive programme will focus attendee attention on three key areas:

I. What is video metadata and how does it relate to photo metadata?

Which metadata schemas are available for video content and how do they relate to existing photo metadata schemas like the IPTC Photo Metadata and Exif? Speakers will be drawn from organizations that are developing and maintaining video metadata schemas, as well as companies that are in the business of exchanging and syndicating video content from different sources.

II. Getting a handle on video metadata.

This section will focus on how video metadata can or may be stored with the digital video content, and also how metadata might be created for still images that are retrieved from video. Another area for discussion will

be how metadata delivered from imaging devices can be easily incorporated into production systems. Speakers will represent companies that provide software solutions for this purpose and from organizations who have already developed standards to store metadata with video content.

III. How to automate the creation of metadata.

More and more metadata fields are available for use, but who will do the metadata entry? Low cost outsourcing is one approach, but another growing trend is to use automated methods. Speakers will come from research institutions and from companies developing solutions for the automated recognition of visual content and the proper application of this knowledge as metadata.

The upcoming conference is for anyone from the various sectors of visual media content, professionals in the photo and video business, representatives from system vendors and directors of trade organisations who want to look at this business from a non-traditional perspective. Visit the official conference website for registration, hotel and additional information.



Photo courtesy Words2Gold LLC. Used with permission.

Above and top left, Dresden, capital city of the Federal Free State of Saxony, flourishes on both sides of the River Elbe in eastern Germany. It is a cultural, political, and economic centre. The Dresden Elbe Valley is a World Heritage site.