



Project Reynir

Increasing Trust With Media Provenance In Newsrooms



Medieklyngen
Media Cluster Norway

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Introduction

With news media facing challenges from AI-generated content and the rise of alternative sources, maintaining and building trust has never been more crucial.

The rapid technological development of generative artificial intelligence has turbocharged the engines of disinformation, and caught both society and journalism off guard.

The first consequences are already here: Increased uncertainty, new forms of election interference and a more muddled information ecosystem. Sustaining strong democracies in this time calls for strong and trustworthy news media. However, the signal strength from newsrooms risk being drowned out by a deluge of fake images, videos and accounts impersonating news brands.

We believe that C2PA presents an important piece of the solution to these problems. This report is intended to provide examples and insights developed through the Media Cluster Norway initiative Project Reynir into why C2PA could be right for your organization, and give important information on how to proceed towards implementation.

C2PA (Coalition for Content Provenance and Authenticity) is a global initiative supported by organizations such as Adobe, Microsoft, BBC and AFP. It develops technology that enables cryptographically protected attribution of media content.

IPTC's Provenance Committee (formerly Project Origin) is an international collaboration working to implement this technology in newsrooms. Media Cluster Norway is represented on the steering committee alongside BBC, CBC/Radio-Canada and IPTC, leading the working group on best practices and implementation.

Project Reynir, managed by Media Cluster Norway, gathers Norwegian newsrooms, media tech companies and academic institutions in a collaborative effort that aims to implement C2PA in 80% of the Norwegian media industry. The goal is to give both newsrooms and media users access to reliable information about the origin and provenance of photos and videos, and to make it possible to see what has happened to media content on its journey — for example, from a photographer's lens to a reader's mobile screen.

The following report stems from this work, and builds on the work of our project partners. Please contact us at marianne@medieklyngen.no if you want additional information or wish to join Project Reynir.

1: Provenance information increases trust in brands and content

Implementing C2PA gives newsrooms an opportunity to increase transparency in workflows and the journalistic process, which can have a positive impact on trust.

In this report, we have focused mainly on the positive effects of adding more information about content, which could be perceived as useful by the audience.

As noted by [the BBC and IPTC](#), there are also other positive use cases for newsrooms:

- Using C2PA on the ingest side, to check that content entering your newsroom is authentic.
- Having your content signed and attributed back to you in a tamper-proof way when it appears on third party platforms.

From an audience perspective, two recent studies show the benefits of implementing C2PA: Adding provenance information can increase trust in both news images and the publisher. This effect is seen already with basic metadata, and becomes stronger when users are given more detailed information about the media content.

A [study](#) by BBC Research & Development tested low, medium and high amounts of information and found that:

- Adding provenance on images did not have a negative effect on trust in content.
- Adding provenance significantly increased trust in content among non-BBC-users.
- A medium amount of information was found to be beneficial, as a high amount did not further increase trust when compared to the medium level.

A [study](#) commissioned by Project Reynir and conducted by SFI MediaFutures at the University of Bergen fielded a survey experiment with 6000 respondents, testing the impact of provenance information on trust in three countries (UK, US, Norway) with a high-trust news brand and a low-trust news brand in each country.

Key findings were:

- Adding provenance significantly improved user perception of an image's credibility, and in the source of the image.
- Outlets less trusted had most to gain: Adding provenance had a greater impact on trust for news brands that are generally perceived as less trustworthy.
- Adding provenance increased trust the most among people who were already users of the news brand in question, in contrast to the BBC study. The authors postulate that there is a potential for increased trust both among users and non-users.

Although these early results are promising in terms of building trust, there were several unanswered questions as to precisely how and when newsrooms should proceed to implement C2PA from a user experience perspective. In order to amend this, Project Reynir gathered media tech companies, newsrooms and academic partners to discuss and design a possible path ahead.

This brief report highlights the most important findings from our work so far. First, we propose a version of the Content Credentials-icon tailored for Norwegian newsrooms, as well as a second level of information displayed natively on the publisher's site. We supplement our proposed guidelines with insights from user studies performed in Project Reynir. Secondly, we present proposed guidelines for metadata sharing for editorial use.

2: The visual expression of C2PA in news content

There is not yet a consensus in the news media ecosystem on how C2PA should be displayed, how much information should be offered at different times and whether one should create an icon or branding that differs from the official, more generic Content Credentials-icon. Several organisations have suggested different solutions and directions.

Project Reynir gathered a diverse group of newsrooms, media tech companies and academic institutions for thorough discussions, seminars and workshops on end user experience. The main focus has been on how the media provenance information should be presented for end users, namely readers and viewers on the newsroom's own platforms. Five key points emerged from the discussion, and guided our work with piloting and user testing:

1. The wish for a dedicated icon for editorial media

Namely, an icon that differentiates from the more generic Content Credentials icon. The reason for this is twofold: First, an icon used by all types of media creators would make news media stand less out in the information space. Second, it could be wise for news media to differentiate from an icon which could be associated with major tech companies from the US. Having a dedicated icon would thus make it easier for newsrooms to symbolically stand out.

2. The need for editorial media to gather around a single icon

It is important that newsrooms gather around a single, shared icon — at least in a national market such as Norway — so that the perception of the icon is shared across users of different news brands, and media consumers are left enlightened rather than confused. Moreover, this makes efforts to educate the audience on provenance information easier.

3. The need for an editorially controlled second level of information

Participants in the project stressed the need to have a second level of information (that is displayed after clicking the icon native to their website) that is controlled by the newsroom in question. This will allow the individual brands to keep the visual profile that users may be accustomed to, which in turn creates a smoother user experience.

4. The need for clarity on whether on-image or below-image placement of the icon is optimal

Here, there is a concrete trade-off between detection and understanding on one hand, and the user experience with an image or a video on the other. Some participants stressed the need for detection, while others worried about ruining the aesthetics of an image, thus spoiling the user experience.

5. The need for additional knowledge about whether users understand, like and desire provenance information

Although existing research provides promising results in terms of using provenance information to increase trust in content and news rooms, the working group stressed the need for more user tests to know more about how users perceive provenance information.

The final prototype was developed by a dedicated task force consisting of TV 2 Norway, Schibsted, TU Media and Media Cluster Norway. Among the suggestions were a new editorial icon, and an on-site second level of information with metadata fields corresponding with the Project Reynir metadata guidelines (see next section).

The icon

The icon is meant to visually resemble the CR-icon proposed by Content Credentials, but with what we argue is a more intuitive connotation to “more information” by using the i-symbol commonly used for the same purpose in other editorial settings in Norway.



Editorial second level of information

The second level of information native on site is an attempt to strike a balance between information overload and not giving enough information to the end user. We based this on insights from the studies by BBC Research & Development and SFI MediaFutures.



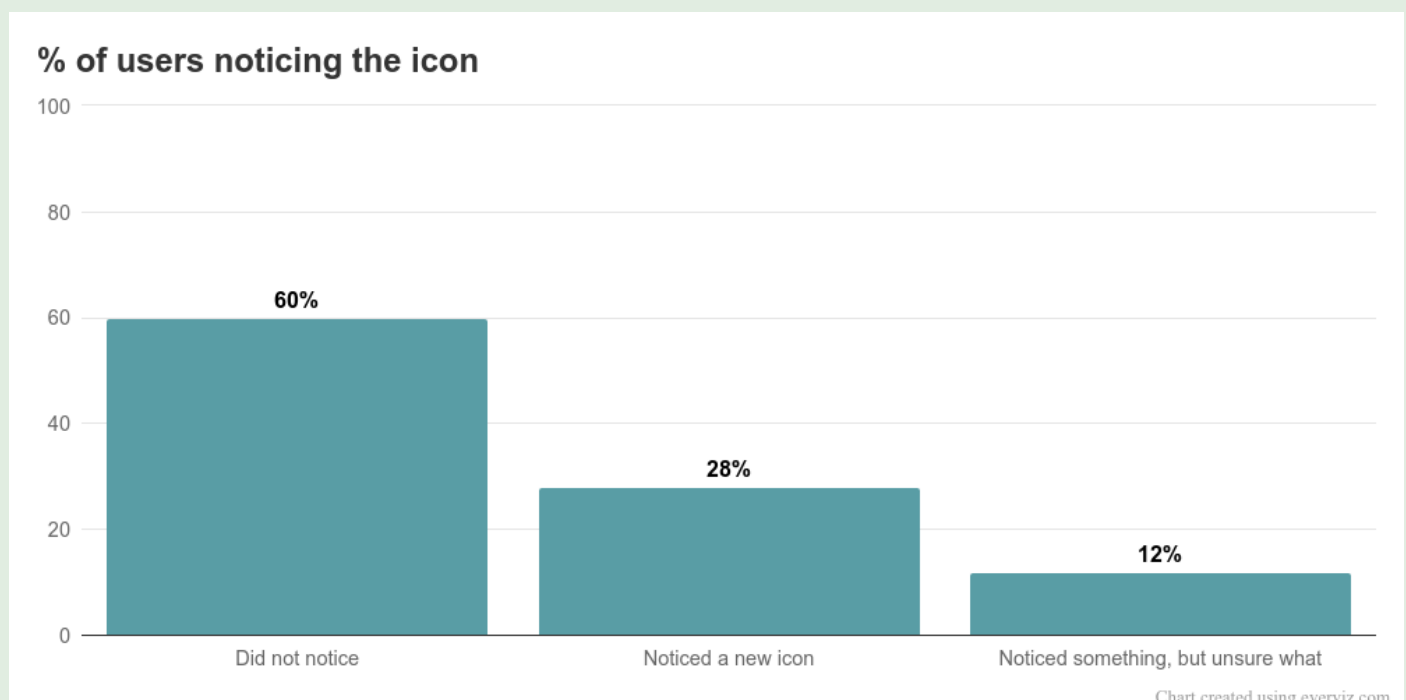
The headline reads “Information about the origin of the picture”. The info box then lists camera information, photographer, editing (“the image was not edited”), verification (done in adherence to TV 2’s ethical code of conduct, and certified with content credentials). Links are to “More about our ethical code of conduct” and “More about Content Credentials”.

Participants in Project Reynir discussions emphasized the importance of the second level of information having the look and feel of the individual brands when appearing on their own platforms. Implementing this editorial second level of information natively on site means news brands could have a custom look that is in tune with their brand's visual profile, while being able to refer to their own code of ethics or other relevant information. Users have the option to click further on, and be sent to the Content Credentials website for additional information.

Key findings from tests of the prototypes

In order to test these prototypes, Project Reynir and TV 2 conducted a quantitative user test with 2032 respondents, and a supplementary qualitative user test with 6 informants. We wanted to test visibility and interpretation of the proposed editorial icon, the perceived usefulness of the provenance information and icon and placement preference.

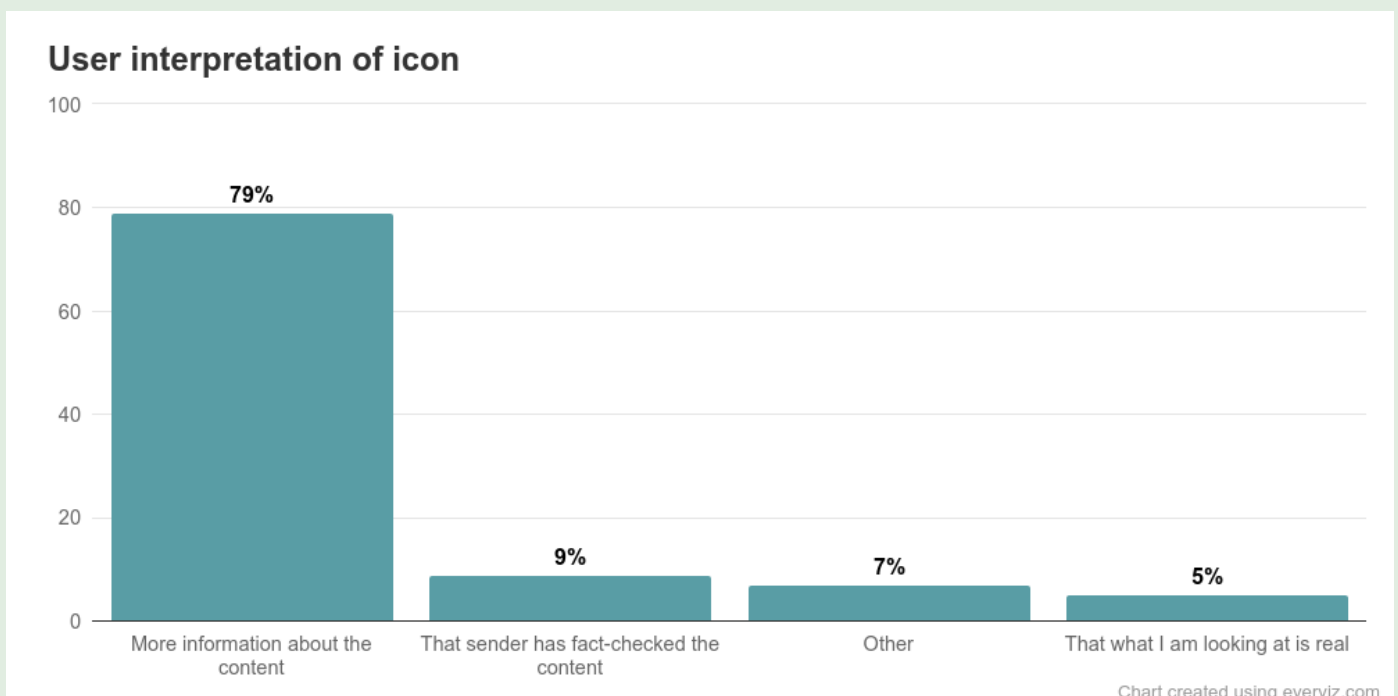
A balance between visibility and distraction?



60% of users did not notice the new icon. However, 28% specifically identified the icon. This could indicate that we are close to a good balance between visibility and distraction, which has been a key point of discussion in Project Reynir. One does not want the icon to disrupt the experience of the news article, but also not to go completely unnoticed.

Users share an understanding of the icon

A significant majority (79%, 1610 respondents) interpret the icon as meaning "I can get more information about the content." A much smaller percentage associate it with fact-checking (9%, 182 respondents) or authenticity verification (5%, 105 respondents). The remaining 7% (134 respondents) had other interpretations not specified in the main options.



Provenance information is useful for the audience

- **72% of users found the second level of information useful when evaluating content authenticity.**
- **81% think the second level of information makes it easier for them to separate real from fake.**

While providing additional information is generally appreciated by users, some users may be less interested in such information, or do not find the second level useful. Alternatively, there may be opportunities to improve the content or presentation to better serve the 28% who found limited value.

Usefulness for determining if something is real or not

How useful is this information for you if you were to assess whether something was real or not?

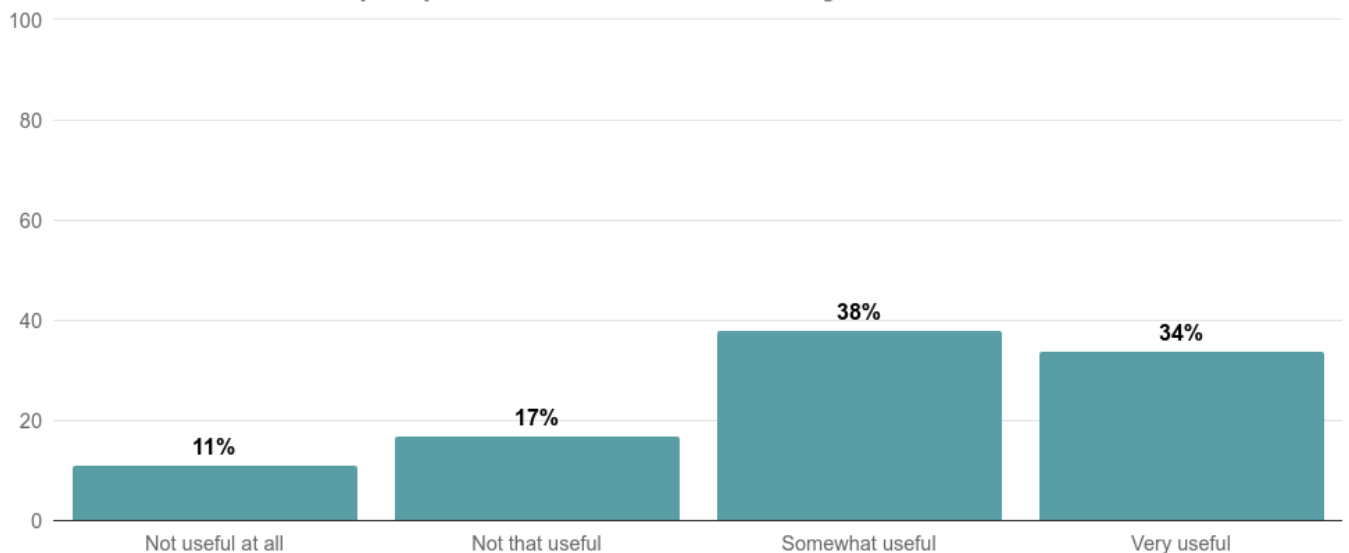
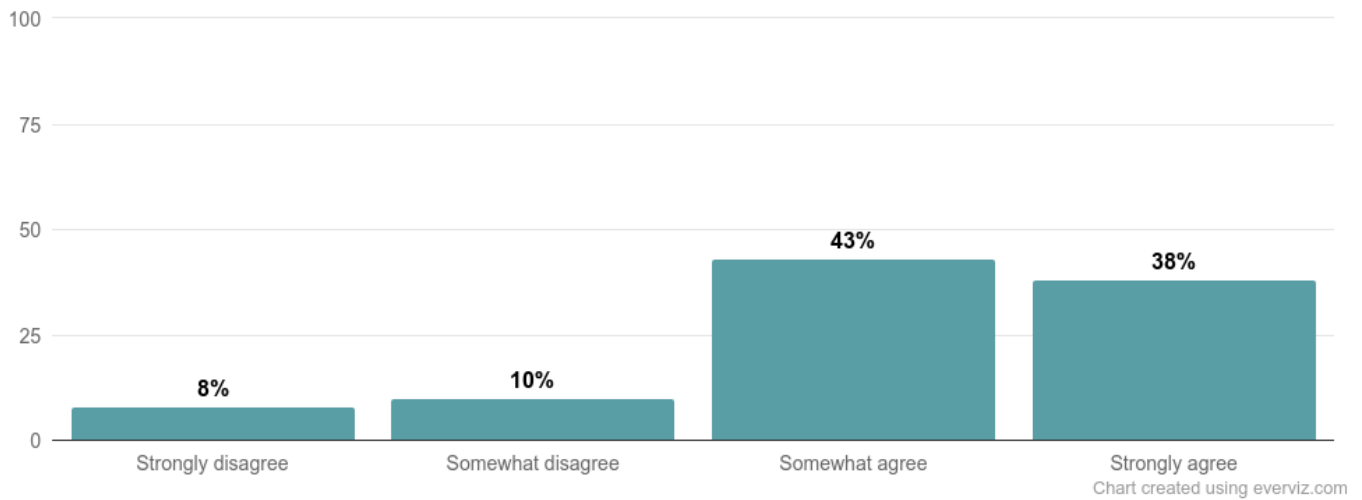


Chart created using everviz.com

Usefulness for separating real from fake

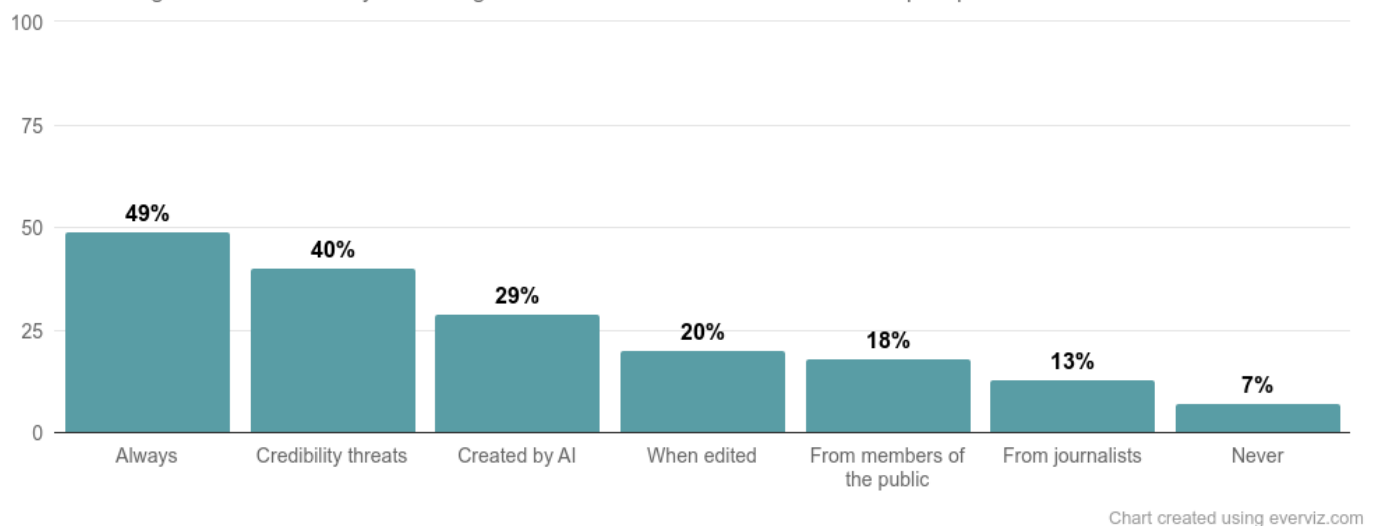
To what degree do you agree or disagree to the following statement: Getting information like this makes it easier for me to assess if content is real or fake



Half of all users wants credentials and information on all images and videos, many specifically want credentials for contested images

When do users want to see provenance information?

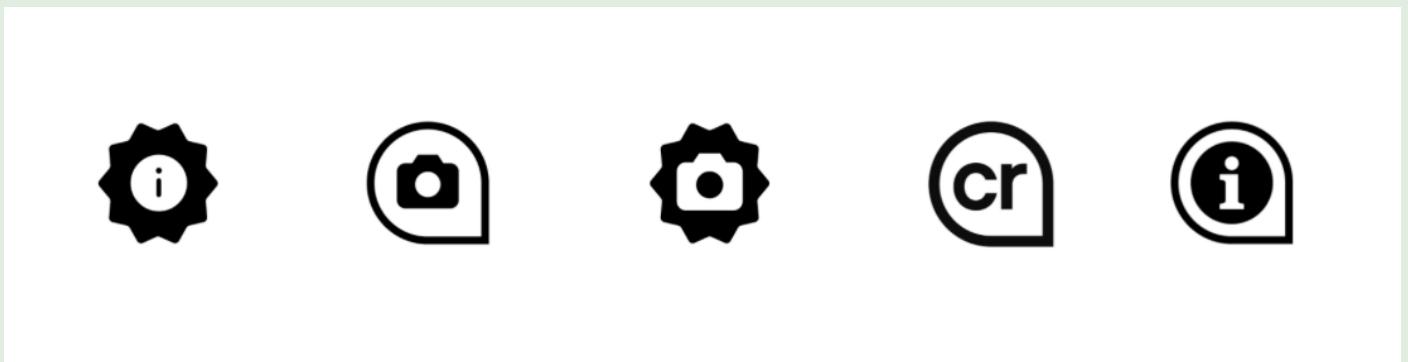
On which images or videos would you like to get this information? You can choose multiple options



A majority of respondents (49%) wanted information on all images and videos. 40% specifically want this information on content where the credibility of the content might be questioned for some reason. Only 7% indicated they don't want information or the icon on any visual content.

Users preferred the i-icon, and most of them wanted it placed on top of images.

After the initial questions, users were given the opportunity to indicate which type of icon they would prefer for provenance information. Users were shown the following menu of icons to choose from:



A majority of respondents (64%) preferred the information i-icon. A small minority of users (19%) preferred the camera icon with a similar contour. Very few (3%) preferred the CR-icon. We do note, however, that the two most preferred icons are the ones that resemble the CR icon visually in terms of shape.

Preferred icon

If you had to choose, which icon would be useful for you to look out for if you wanted more information about an image or a video?

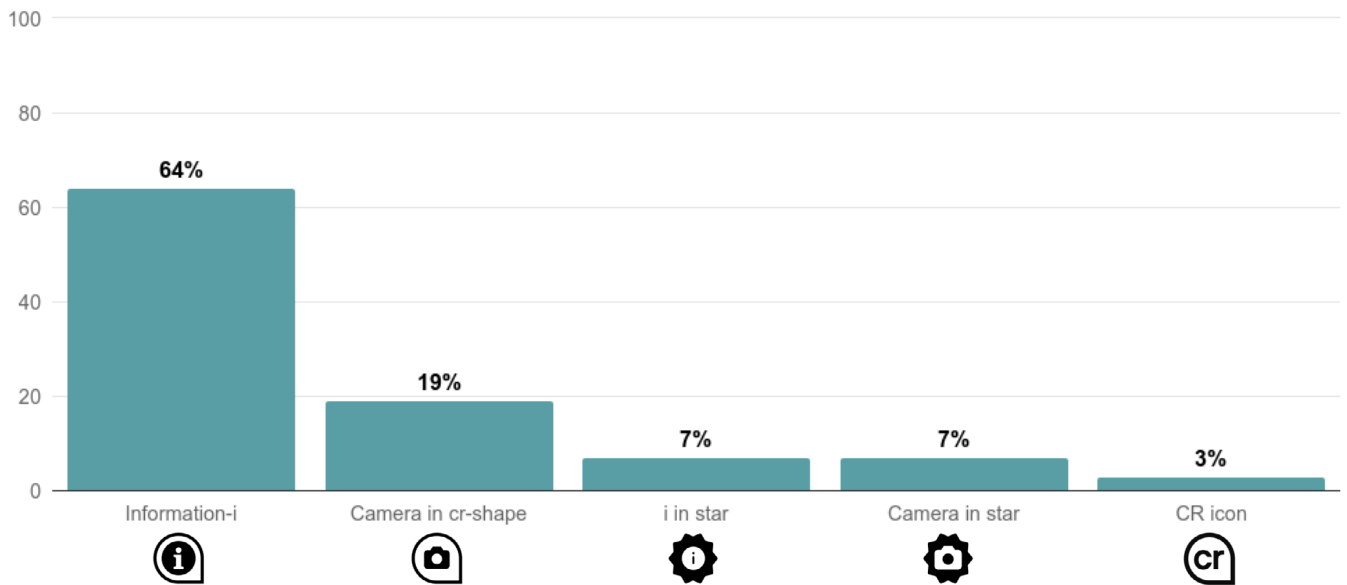


Chart created using everviz.com

Preferred icon placement

If you had to choose, would you like the icon under the image or on top of the image?

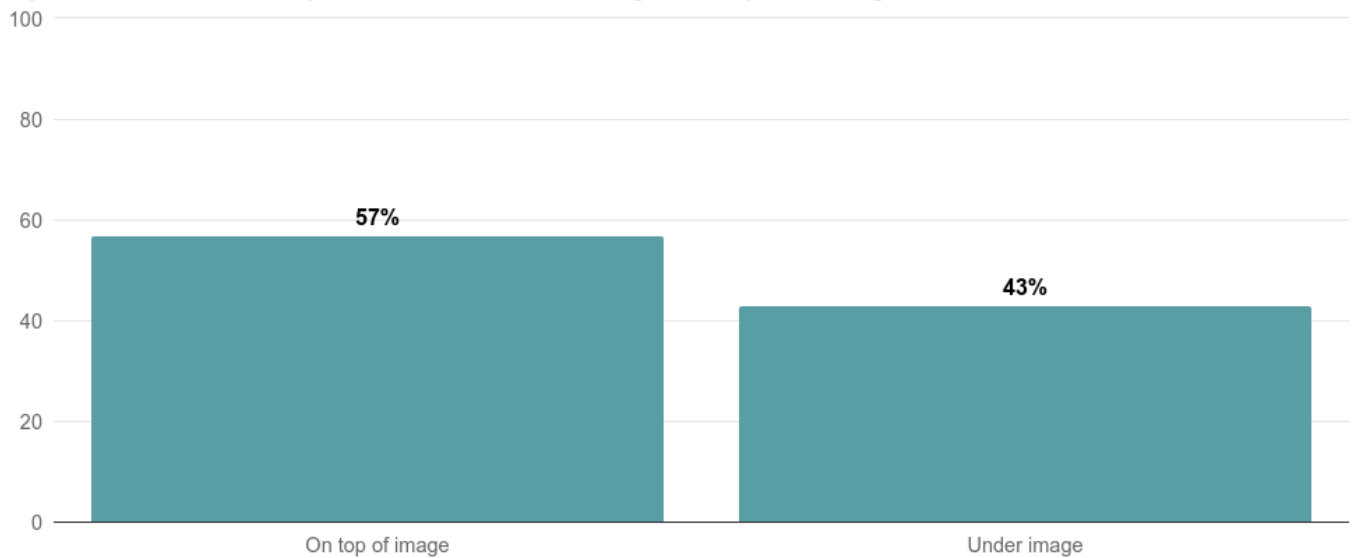


Chart created using everviz.com

Supplementary qualitative data

The qualitative interviews were conducted in the headquarters of Media Cluster Norway. Informants had no previous experience from the media industry, and were aged between 18 and 53. There were three women and three men, with educational backgrounds ranging from no higher education to masters degrees. They all reported to use online news several times a week or several times a day.

Usefulness

Informants talked about both the icon and the second level of information as useful. They found the information to be valuable for them at a general level, and useful when navigating the internet in the age of AI and what they perceived as a lot of fake images. All informants wanted the icon and the information on all content within articles, but when asked when it would be most useful they mentioned situations in which the credibility of an image or a video could be contested, for instance in high-stakes situations, breaking news, war and conflict.

“It is so easy these days to make fake images, it is really important to know that images are real, and that they are taken by a real photographer” (I4).

“The risk of things being tampered with is so high these days, so I think it should be a policy to use this branding on all images, it would provide some security for the user” (I1).

Amount and type of data

Almost all informants mentioned that adding camera info was perhaps a bit over the top. Conversely, they all wanted either time or location data. They did not necessarily need the exact time, but had a need to know if it was an older image, or a new image. For instance, was the image of Trump and Musk they were shown taken at the time of their argument, or previously when they were amicable?

Some suggested that one could include year and month, or just year. Furthermore, one user suggested that in some instances it would be useful to add a link to Google Maps/Street View so that one could inspect for oneself the place the image was taken, and compare. Others suggested it would be enough to know an approximate location, this could be done by mentioning the country, region of town for instance.

Preferred icon and placement

Informants preferred the information i-icon, and did not object to on-image placement. One informant said he would like it on the image, as long as it did not hide important information. Talking about an image that informants were shown of Trump at his desk, he mentioned that “if there is a gun there on the table, behind the icon, I want to see it”.

Summary and recommendations

All in all, we find that the proposed prototype of an i-icon based on the Content Credentials icon is close to striking a balance between detection and distraction, that the icon is intuitive, and that users find value in the metadata information. In the qualitative interviews, informants mentioned that camera information seemed unnecessary, mirroring findings from the [BBC study](#).

This leads us to formulate the following advice for Norwegian newsrooms wanting to implement C2PA:

- We recommend a common editorial C2PA-icon
- We recommend the information i-icon
- We recommend including provenance info on all images and video
- We recommend an editorial second level of information on-site
- We stress the need for user education during and after implementation
- We recommend icon placement on top of the image as long as it does not hide important information in the image
- We recommend exploring methods to include time and location data in ways that do not compromise workflow or safety

3: Metadata: Ethics and Guidelines

One of the first concerns raised by participants in Project Reynir was whether the increased transparency that comes with sharing C2PA information could pose a risk to safety and privacy concerns of the newsrooms. To address this, a dedicated group working on the topic has developed a set of metadata guidelines for newsrooms through a series of workshops and discussions. The aim of this is to increase transparency through implementing C2PA, while upholding journalistic integrity without exposing potential sensitive information.

The metadata and ethics working group in Project Reynir is led by Morten Langfeldt Dahlback (Faktisk.no), with participants from Schibsted, NTB, Wolftech, TV 2 Norway, NRK, Factiveverse and Media Cluster Norway.

The principles guiding the collaborative effort of developing the guidelines were that they:

- Must be easy to follow in practice for the newsroom staff
- Should rather share too little than too much information
- Must be in line with the [Code of Ethics of the Norwegian Press](#)

The guidelines were developed with the most common use cases in mind, covering most day-to-day scenarios encountered in the newsrooms. They also consider edge cases such as geodata that could reveal the location of a source. Importantly, the guidelines only apply when metadata is shared with end users (readers and viewers).

We acknowledge that editorial judgement and ethics may, in many cases, override these guidelines. The guidelines are meant to apply to materials that the publishing newsroom has sufficient reason to believe are authentic, and only to content made accessible to end users.

The guidelines for sharing C2PA metadata were originally designed for images, and differ on the origin of the material:

1. Content originating from the newsroom itself
2. Content originating from external sources

Guidelines for Sharing C2PA Metadata

Sharing C2PA data with end users is considered as publication of the information contained in the manifest. This means that editorial ethics may, in many cases, override the guidelines for sharing metadata.

The following guidelines apply to materials that the newsroom publishing has sufficient reason to believe are authentic. Presumed authentic material originating from the newsroom itself is subject to different guidelines than external material.

Guidelines for Editorial Material

1. As a **general rule**, end users should have access to metadata showing:

- Which camera was used to take the image
- Whether the image has been edited in accordance with the publishing newsroom's guidelines, including whether it has been edited using AI or similar tools
- Who took the image and which news organisation they are affiliated with
- The context in which the image was originally published, if it has been published previously

2. Consider sharing **less** data with the end user when:

- The metadata could contribute to identifying sources or exposing personal information about sources
- The metadata could put the photographer or other editorial staff at risk

3. Consider sharing **more** data with the end user when:

- Access to the metadata is important for the user's assessment of the image's credibility.
- The credibility of the image may be disputed.

Guidelines for External Material

1. As a **general rule**, end users should have access to metadata showing:

- How the newsroom obtained the image – for example, whether it was taken by a freelancer, submitted by a member of the public, released as a handout, found online, or sourced from another newsroom
- The source of the image, as precisely as possible, including a permalink to where it was found online, the context in which it was originally published by another newsroom, etc
- Whether the publishing newsroom has edited the image, and if so, whether the editing followed the newsroom's editorial guidelines

2. Consider sharing **less** data with the end user when:

- The metadata could contribute to identifying sources or exposing their personal information.
- The metadata could put sources or tipsters at risk or expose their personal information.

3. Consider sharing **more** data with the end user when:

- Access to the metadata is important for the user's assessment of the image's credibility.
- The credibility of the image may be disputed.

Conclusion:

With the current state of the information ecosystem and growing risks of disinformation, upholding and increasing trust in news media has never been more important. Project Reynir demonstrates how a collaborative effort between media organizations, media tech companies and academic institutions can drive progress in the practical implementation and adoption of C2PA to increase transparency through media provenance.

Findings from the studies so far indicate clear benefits of adoption for editorial media. The study conducted by SFI MediaFutures shows that adding provenance information improves credibility in the images and its source of origin across brands and countries.

The Project Reynir UX-study found that end users (readers and viewers) find media provenance information useful and desirable. They prefer an editorial C2PA icon using the i-icon over the CR-icon, understanding it to indicate “more information available”. The majority of users prefer news media to include provenance info on all images and video, placing the icon on top of the image and showing more information through an editorial second level of information native on site.

A conscious approach to what information to share and when is key to avoiding endangering sources or exposing sensitive information when increasing transparency through adopting C2PA. The Guidelines for sharing C2PA Metadata aim to provide a framework for newsrooms to help them balance transparency and protection in practice.

The insights from the work in Project Reynir provide a path to how C2PA can be integrated into the platforms of news media without compromising the user experience or journalistic integrity.

Trust in news media is not only an industry concern. News media is a cornerstone of a sustainable democracy. Implementing C2PA is an important step towards securing trust in the future, and something the news media industry should pursue together.



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