

If a picture is worth a thousand words, what is 30 billion pictures worth?

Image capture and related technology is speeding up exponentially and changing the world of communication and creativity as we know it. It's estimated that globally more pictures were taken every two minutes of 2012 than all of the photographs taken in the entire 19th century. Last year we snapped an estimated trillion photos - in a single year! And by 2017, Infotrends estimates that 78.8% (or just over three-quarters) of all photos will be taken using our phones.

By [Hitendra Naik](#) 29 Apr 2016



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If the 20th century saw an explosion of text-based information, the start of this new century will be defined by two things - data and visual communication. The entire ecosystem around visual technology has to evolve not least of all in terms of storage and device processing power. And that's just a drop in the ocean of what's to come - 360-degree photography, augmented reality, and more...

The evolution of photography

Photography has come a long way since the days of film cameras. The expense of buying and developing film meant we had to put a lot more thought into capturing the perfect shot. Once exposed, the film was used – a finite creative resource. And then, after a long wait to get photos developed by a third party service provider, we'd carefully arrange the best shots in albums to be looked at over and over again. There was no preview for shots as you take them, no secure process for developing them that kept them private, and no fail-proof backup solution either.

Today, technology has solved all of those problems and put a camera in the hand of every person with a smartphone. Not only are the photographic devices generally cheaper and easier to use, they're smaller or built into phones, making them inherently portable. Furthermore, in the past, our photos were for our use, not a way to curate communities and share emotion as they are now. The ubiquity of images – not just our own but an entire internet full of images – has created a new way of communicating.

The birth of digital photography

In the 1970s, the world's first digital cameras were invented. The potential use for these was clear, but it would take almost three decades for these to start going mainstream in the consumer market. It was the boom of personal computing and the internet in the 90s that drove adoption. As people became more technically savvy and connected, so their need and desire to capture, store, sort and share images digitally increased – sparked a wave of innovation – image quality improved, and cameras and sensors shrunk. The next step was the camera phone – which first appeared in the market in 2000 – and arguably launched the next wave of exponential change. Today, digital photography is virtually instantaneous. Don't like that picture? Review delete it and retake it.

Evolution drives a revolution

This revolution in thinking about photography – as ubiquitous, instant, changeable and sharable – means that photos are now as much about recording our everyday moments and communicating with others online, as they are about preserving memories. Furthermore, mobile technology, including smartphones, tablets, and tiny video recorders, have put advanced photography tools into the hands of just about everyone. Everywhere we go, people are taking photos – of their food, of a book they want to read, of themselves. Our digital albums have become extensions of our brains, holding not just memories but also functioning as repositories of information and knowledge. And image search puts this world of visual stories at our fingertips, to use, transform and replicate.

The role of technology

Did you know an estimated 70 million photos are uploaded to [Instagram](#) every day? [Facebook](#) users upload 300 million photos a day, and a whopping 8,796 photos are shared on [SnapChat](#) every single second. This is only possible because of the processing power of today's mobile devices, as well as exponentially improved categorisation and search capabilities.

In less than 20 years we've gone from the [first camera phone](#) featuring a minuscule 176x208 pixel colour display, to "budget" devices with 10MP cameras and HD displays. Today's top devices frequently offer two cameras, at 16MP quality or higher. It's no wonder we can't stop snapping. And, as discussed, it's not just about capturing the world around us - photography has enabled a new kind of instant visual communication that we create, reference, remix and reuse (like memes) to convey emotions and experiences – a visual narrative tool.

Rethinking storage and linkages

The result is that most people have thousands of images dispersed across multiple devices and no real organisation or filing system – until we bring the PC into the mix. With more storage space, faster processing power and enhanced graphics, the PC is the one place where all our images can be stored and organised into albums, catalogued by search engines, easily edited and remixed, and uploaded to social media or cloud storage.

Moving image storage to the cloud has become a game changer for photography. No longer are our precious images locked in physical storage, such as a box of unsorted images in the back of a cupboard. Cloud storage can enable easy sharing, often has built-in backup options, and is inherently searchable – which again links to the transformation of photography from something of image capture to an element of communication.

This is demonstrated in the power of visual memes and gifs that convey emotions and responses. Today, you're as likely to see someone share an image linked to an emotion as you are to see them respond in text. I believe that this is fundamentally related to the explosion of uptake of emojis (and before that emoticons). The power of the visual image now lies in its instant recognition factor – the thing that makes you immediately identify with the emotion being conveyed.

The future of photography

We're proud that Intel's innovations have enabled every one of these touch points, and helped transform photography over the ages. The next generation of photography devices and software will demand even more processing and storage capacity, as images continue to get bigger and more detailed, and as new ways of capturing photos come on to the mainstream market.

[360 degree photography](#) is one such innovative method, creating immersive, experiential images and video – but these come with huge file sizes and require market-leading processing speeds to edit (and even, to lesser degree, to experience).

[Augmented reality](#) is also rewriting the script on photography, using still images to layer on top of the “real world” or image recognition to provide information about the buildings, streets, signs, and art right in front of you. Not only can we layer on information, we can now refocus and transform already taken images. Yes, the power of something like [Intel's RealSense Depth Enabled Photography](#) (DEP) means you can even shift focal points after you press the shutter button.

In combining these types of image capture and image analysis tools, and incorporating them into devices, not only will your smart glasses (as one example) talk you through what you're seeing, they could be used to capture images for a “my view of the world” perspective, promoting narrative style photography. Imagine the power of these next frontier photographic stories for embedded journalists, NGOs, and even tourism! The next layer (driven by image capture and processing) is this powerful form of visual communication, and with that, visual recognition – transforming communication platforms like social media, analytics, machine learning, and even artificial intelligence. The future looks bright. Capture it.

ABOUT THE AUTHOR

Hitendra Naik, director of innovation, Middle East, Turkey and Africa at Intel

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