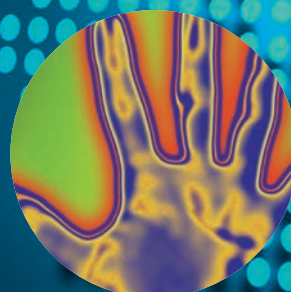
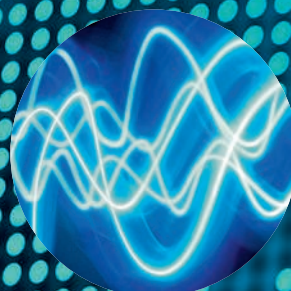


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# State of Biometrics Report

October 2019



## What is the state of biometrics?

Over the past 12 months we have seen the use of biometrics increase dramatically in both the public and private sector. We have also seen far greater emphasis on the important themes of privacy, ethics, and the proportionate and responsible use of the technology across the biometrics arena. The US National Institute of Standards and Technology (NIST) said in November 2018 that facial recognition software has undergone an “industrial revolution”, with performance 20 times better than four years previously. We have also seen uses of biometric technologies, such as mass surveillance for social credit systems, that raise ethical questions.

A contrast has emerged between the apparent acceptance of the ubiquitous use of biometrics in the private sector, and public concerns regarding the use of the technology for security, identification and e-government services in the public sector. Public opinion has played a big role in influencing policy directions. In parts of the US, there has been a strong regulatory response to limit the public use of biometrics. In comparison, user take up of a broad range of private sector systems is high, and often unrelated to the quality of assurances regarding privacy and data protection policies provided.

Artificial intelligence and biometric technologies are becoming pervasive in all sections of society, integrated into everyday life. Is the technology so readily available now that the ability to pick up and run with it without due care for good practice is too easy? And are the public well informed about the privacy risks associated with the technology they’re using?

Confusion and uncertainty have grown, caused by fears about the potential of intrusive surveillance capabilities, lack of knowledge about how technologies are configured and managed for particular scenarios, and misinformation about technology accuracy. Decision-makers are challenged in balancing convenience with risk, privacy and data protection. Governance and policy are playing catch up.

Behind the headlines, there are organisations working to use the technology for good with this precious data protected by responsible and ethical policies, important security protections and good practices. Its potential is great, from providing a meaningful identity record for the one billion digitally unregistered people, through to the ease of performing life tasks in a quick and more secure manner.

This is an exciting time for biometrics and our community is well aware of the many positive use cases of the technology. There is a clear need to bring together all stakeholders from around the globe, so we can have an informed, open and inclusive debate. This will help us to agree on the necessary controls to make the world a better and safer place through the responsible and ethical use of biometrics.

## Key events 2018-19

A look at what has made headlines in biometrics in the last year.

### February 2018

- > MIT researchers announce that face biometrics demonstrate skin type and gender bias and evoke headlines like the New York Times' *Facial Recognition Is Accurate, if You're a White Guy*.

### March 2018

- > British Airways says new biometric boarding gates at Orlando International Airport, is enabling them to board almost 240 customers in around 10 minutes.
- > Lufthansa launches one-step biometric boarding using facial recognition and says in its initial trial it boarded an A380 in about 20 minutes.

### May 2018

- > GDPR comes into force with fines for non-compliance of up to £20 million or 4% of global turnover – whichever is greater. An increase from the previous maximum ICO fine of £500,000.



Credit: European Parliament

### July 2018

- > The New York Times runs a story on China's use of facial recognition and AI in trials of its social credit system. The system, which will be fully operational by 2020, monitors and rates citizens based on their behaviour.
- > Two legal challenges are launched against South Wales and the Metropolitan Police forces over their use of automated facial recognition technology in trials, on the grounds that surveillance is unregulated and violates privacy.
- > The Information Commissioner's Office (ICO) says it is fining Facebook £500,000 for two breaches of the Data Protection Act following its part in the Cambridge Analytica scandal. The ICO said Facebook failed to safeguard its users' information and failed to be transparent about how that data was harvested by others.
- > Microsoft's president Brad Smith urges Congress to study face biometrics and oversee its use in a blog post saying, "The more powerful the tool, the greater the benefit or damage it can cause."



About the ICO / News and events / News and blogs /

#### ICO issues maximum £500,000 fine to Facebook for failing to protect users' personal information

#### Skripal Suspect Boshirov Identified as GRU Colonel Anatoliy Chepiga

September 26, 2018 By Bellingcat Investigation Team  
Translations: Русский



### September 2018

- > Bellingcat investigative website says it has used facial recognition technology to identify two Russian spies who poisoned Russian ex-spy Sergei Skripal in Salisbury.

#### NIST Evaluation Shows Advance in Face Recognition Software's Capabilities

### November 2018

- > China adds gait recognition to its surveillance network that includes an estimated 170 million cameras.
- > NIST announces face recognition software has undergone an "industrial revolution" with algorithms increasingly tolerant of poor-quality images, in its Ongoing Face Recognition Vendor Test (FRVT).



## December 2018

- > Microsoft president Brad Smith writes a blog titled, “It’s time for action”, calling for regulation of facial recognition technology.

## April 2019

- > European Parliament adopts new measures to identify criminals. These include a shared biometric matching service that will use fingerprints and facial images to search across existing information systems, and a common identity repository which will store biographical data of non-EU citizens.

## May 2019

- > Amazon shareholders are defeated by investors over the sale of Amazon’s facial recognition technology to US government. Amazon’s AGM notes say, “New technology should not be banned or condemned because of its potential misuse; instead, there should be open, honest, and earnest dialogue among all parties involved to ensure that the technology is applied appropriately and is continuously enhanced.”
- > Legal challenge heard against South Wales Police, by a man claiming his human rights were breached when he was photographed shopping, by police using facial recognition technology.
- > San Francisco becomes the first US city to ban the use of facial recognition. The technology will not be allowed to be used by local agencies, such as the city’s transport authority, or law enforcement.



## June 2019

- > US Customs and Border Protection (CBP) says traveller photos and license plate images have been stolen in a cyber attack on a CBP subcontractor.
- > Twenty US House Democrats write a letter to the Department of Homeland Security (DHS), asking for clarification of the laws granting DHS the authority to use facial recognition on American citizens, what efforts have been made to notify travellers and its opt-out procedures and the nature of the contracts between CBP and airport and airline partners.
- > UK biometrics commissioner criticises police’s “chaotic” use of facial recognition technology and calls for government guidance on whether and how to use the technology.

## What we've done

In the last year, the Biometrics Institute has focused on raising awareness of the importance of good practices. In 2018, we released our Understanding Biometrics reference guide, produced by our Technology Innovation Expert Group and other professionals in the field of biometrics. We were asked to be the penholder for the compendium for good practices in using biometrics in counter-terrorism, released by the United Nations in 2018. In March 2019, we released our Ethical Principles for Biometrics, seven principles we believe are important to consider. In May, we released our updated Privacy Guidelines, for the first time addressing the significant international implications of GDPR, applied to biometrics. We have signed formal agreements with 10 international organisations including UNICEF, The World Bank and the United Nations Development Programme (UNDP) to enable them to benefit from the work we do and for us to collaborate with them in reaching new regions and groups.

Here's a closer look at what we've been doing.

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### July 2018

- > Biometrics Institute runs webinar on GDPR as a follow up to its June Biometrics and GDPR seminar in Brussels.

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### September 2018

- > Biometrics Institute releases Understanding Biometrics: Considerations for implementing a biometric system guide.
- > Biometrics Institute publishes blog: A procedural view on the responsible use of biometrics and some key questions to ask.

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### October 2018

- > Nearly 250 delegates attend the Biometrics Institute annual Congress, which includes a panel on balancing public interests and national security and the safeguards needed.
- > Biometrics Institute holds first privacy impact assessment (PIA) workshop in London.
- > Biometrics Institute attends the International Conference of Data Protection and Privacy Commissioners in Brussels, meeting privacy professionals from around the world.



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### November 2018

- > Biometrics Institute participates in OSCE seminar on Passenger Data Exchange in Vienna.
- > Biometrics Institute delivers webinar on good practices to International Organization for Migration (IOM).

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### December 2018

- > Biometrics Institute presents on good practices at IOM's Border Management and Identity conference in Bangkok.
- > Biometrics Institute presents to a United Nations meeting in New York on the good practices outlined in the jointly-authored compendium for responsible use of biometrics in counter-terrorism. The institute has been working with the United Nations Counter-Terrorism Committee Executive Directorate (CTED) and the Office of Counter-Terrorism (OCT) since 2017.
- > Biometrics Institute takes part in a discussion at Microsoft Brussels HQ on the responsible use of biometrics.

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### March 2019

- > Biometrics Institute briefs United Nations Member States in New York on the practical use of the compendium.
- > Biometrics Institute releases Ethical Principles for Biometrics at its US Conference in Washington.



2019

**April 2019**

- > Biometrics Institute holds ID@Borders conference and and Biometrics at the Border training course for 200 delegates of OSCE participating states in Vienna - all simultaneously translated into Russian.



**May 2019**

- > Biometrics Institute releases updated Privacy Guidelines. Updated every two years, for the first time, they include the implications introduced by GDPR, applied to biometrics.



**June 2019**

- > Biometrics Institute holds the Great Debate on responsible use at Microsoft's HQ in Brussels, who joins the institute.

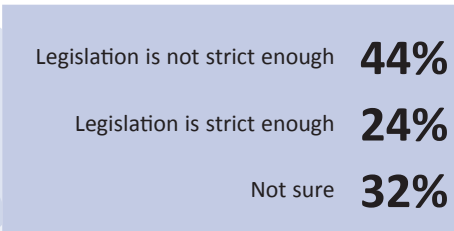
**What our members think**

This year, the Biometrics Institute Annual Survey went out for the tenth year running.

Privacy, data protection and legislation concerns dominated this year's survey.

Nearly twice as many people who completed the annual survey said controls were not tight enough, as said they were.

However, answers to further questions revealed that the industry does not think stricter regulation of the biometrics industry would stifle innovation and investment. And overall, they said they felt optimistic about future opportunities



While just under half of respondents were Biometrics Institute members, there was a parity on views between members and non-members on most topics.

74% agreed that privacy concerns are holding back the market for biometrics. So it's unsurprising then that when asked which area was restraining the market to the greatest extent privacy and data protection concerns dominated.

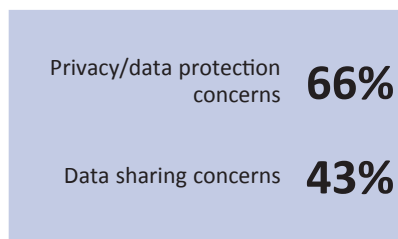
The two other main mentions were around lack of - or poor - information.

Privacy, data protection and ethics are clearly areas that resonate with the biometric community.

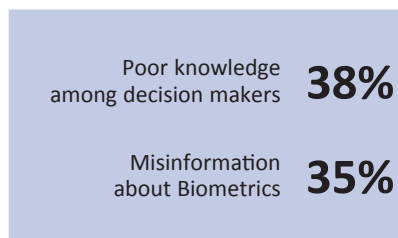
In later questions, 56% agreed that there are too many instances of biometric use where informed consent hasn't been properly obtained.

When asked where biometrics should not have been implemented the top responses were social media and school administration - each mentioned by 22%.

38% of the survey respondents agreed that the use of biometrics is growing too rapidly for existing controls to be effective - those in Australia and New Zealand were particularly of this view. A slightly lower proportion disagreed.



#### Restraining the market



## Our focus for 2019-20

The institute will continue its role of providing an independent thought leadership platform for the biometrics community to air their voices and take part in open and informed debate with key stakeholders.

Our Washington DC member meeting in September 2019 really proved to be a much-needed impartial forum for off-the-record discussion, during what is a testing time for those operating in biometrics. This momentum will be carried on to our annual Congress in London in October during Biometrics Week. High level influencers and stakeholders from around the world will bring their diverse views to this unique meeting.

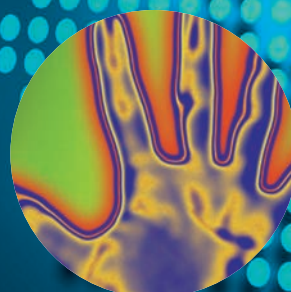
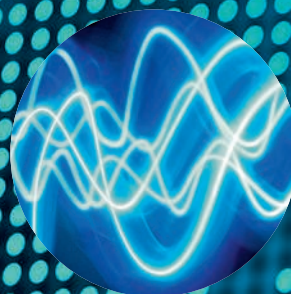
We will launch our Good Practice Framework for Biometrics (working title) to get members' input on this work in progress at the end of Biometrics Week. The framework is a tool that outlines the various stages of the strategic planning, procurement and operation of a biometric system or network. Its primary function is to provide a structured pathway through the factors that may influence or constrain any biometric application.

Following member feedback, we plan to launch this framework later in the year.

Our member communications have shown us that thought leadership and good practice guidance is of particular interest. The institute, with its 18-year track record and its variety of stakeholders, is best placed to provide this. During Congress and Showcase Australia our discussions with members and our expert and sector groups will enable us to identify gaps and plan guiding documents, thought leadership pieces and blogs accordingly.

Translating these good practices into a language that a broad range of stakeholders, including the public, understand will be a key role for the institute in the coming year. Our aim is to highlight the risks and their mitigation to a broader audience in the biometrics sphere, which will help improve public trust in the technology as well as the technology itself.

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