Artificial Intelligence

# Chinese tech groups shaping UN facial recognition standards

Companies hope to gain an edge by laying the groundwork for global rules

Anna Gross and Madhumita Murgia in London and Yuan Yang in Beijing, December 1, 2019

Chinese technology companies are shaping new facial recognition and surveillance standards at the UN, according to leaked documents obtained by the Financial Times, as they try to open up new markets in the developing world for their cutting-edge technologies.

Companies such as ZTE, Dahua and China Telecom are among those proposing new international standards — specifications aimed at creating universally consistent technology — in the UN's International Telecommunication Union (ITU) for facial recognition, video monitoring, city and vehicle surveillance.

Standards ratified in the ITU, which comprises nearly 200 member states, are commonly adopted as policy by developing nations in Africa, the Middle East and Asia, where the Chinese government has agreed to supply infrastructure and surveillance tech under its "Belt and Road Initiative", according to experts.

"African states tend to go along with what is being put forward by China and the ITU as they don't have the resources to develop standards themselves," said Richard Wingfield, head of legal at Global Partners Digital, a company working on human rights on the internet.

Europe and North America have their own regional standards setting bodies, such as the IETF, IEEE and 3GPP, which are dominated by domestic industry players. The ITU, on the other hand, is a space where companies outside of North America and Europe tend to shape and drive standard development.

Standard writing gives companies an edge in the market by aligning global rules with the specifications of their own proprietary technology, say experts.

Over the past few years, Chinese surveillance infrastructure has swept across regions from Angola to Zimbabwe. For example, this year South African company Vumacam said it planned to install 15,000 surveillance cameras with crowd analytics and number plate recognition capabilities in Johannesburg, supplied by Hikvision, among others.

In August, Uganda confirmed the nationwide installation of Huawei surveillance cameras with face recognition capabilities. Similarly, the Singapore government plans to install facial recognition cameras on its lampposts, a contract that Chinese start-up Yitu has bid for, according to local reports.

## The global spread of Chinese facial recognition technologies*

- ■ Chinese (may include tech from other countries of origin)
- ■ Non-Chinese
- ■ n.a.
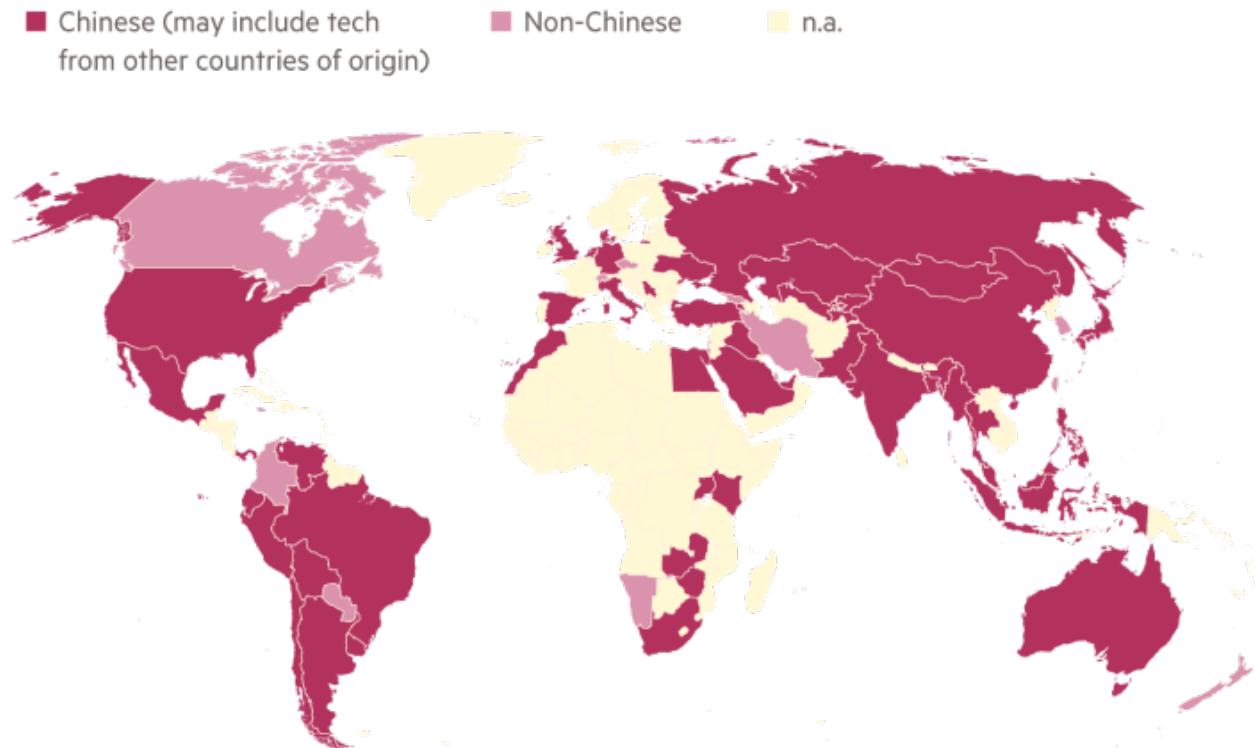


* 67 countries listed using facial recognition linked to public security/surveillance objectives. This does not include facial recognition used in airports and similar border crossings

Source: Carnegie Endowment for International Peace/Steven Feldstein
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ITU standards are increasingly being authored by companies as opposed to government officials, according to members of international ITU delegations, and China's influence in drafting and setting the standards at the UN has grown in recent years.

ITU standards, which usually take around two years to be drafted and adopted, are highly influential in setting the rules around how tech is developed and used, particularly in the developing world. Drafts are put forward by companies and governments, and are then discussed at meetings involving representatives from several member states, before final approval.

"A number of Chinese companies have really started to rise and seize market share around the world in these areas [such as face recognition and visual surveillance]," said Steven Feldstein, a fellow at the Carnegie Endowment for International Peace, an American think-tank, where he recently published a study about the global expansion of AI surveillance. "It's a deliberate investment prioritization by the Chinese state to help flourish the [AI] sector, and we are now seeing the fruits of that."

Data from African markets is of particular interest to Chinese companies, who are looking to improve the accuracy of their facial recognition algorithms, particularly to identify people of color. For instance, a deal between Chinese facial recognition company CloudWalk and the government of Zimbabwe means the latter will send data on millions of African faces to the Chinese company to help train the technology.

Developing standards to improve the quality of AI products and services may also increase social acceptance of new technologies in new markets. "Specifying methods for testing and assessing facial recognition systems or service robots to prevent high-profile accidents could cultivate societal trust in these new technologies," according to a 2018 report from US think-tank the New America Foundation.

According to academics, the Chinese government views standards as playing a significant role in the country's aspirations for AI leadership.

"The drive to shape international standards...reflects longstanding concerns that Chinese representatives were not at the table to help set the rules of the game for the global Internet," the authors of the New America report wrote. "The Chinese government wants to make sure that this does not happen in other ICT spheres, now that China has become a technology power with a sizeable market and leading technology companies, including in AI."

The proposals currently being discussed at the ITU have been criticized by human rights lawyers as crossing the line from technical specifications to policy recommendations, including outlining use cases and data requirements for facial recognition and other surveillance technologies.

"There are virtually no human rights, consumer protection, or data protection experts present in ITU standards meetings so many of the technologies that threaten privacy and freedom of expression remain unchallenged in these spaces," said Mehwish Ansari, who leads ITU work at Article 19, a digital human rights non-profit. "When it comes to facial recognition [these standards are] extremely dangerous from a human rights perspective."

Requirements in the draft standard for facial recognition, which is expected to be completed before the end of 2019 and will be fast-tracked for approval, stipulate a requirement to store detected facial features in a database, including race, skin color, face style, birthmarks, scars and other demographic features.

Suggested uses for facial recognition technology include the examination of people in public spaces by the police, confirmation of employee attendance at work, and the arrest of criminals, specifically by comparing "the country's fugitive library with the local population library" to smoke out "local hiding criminal fugitives".

Other use cases outlined include "black list alarms" that can be used to spot specific targets in schools, temples, airports, hospitals, malls, neighborhoods and "other crowded places".

Another proposal put forward by ZTE and China Mobile, which was accepted as a standard in June, laid out "requirements and functional architecture of a smart street light service", including an option to "add video monitoring capabilities when deploying smart street lights".

"Unsurprisingly the requirements set out in the [standard] reflect the design of ZTE's Smart Street 2.0 street light, including back-end architecture and functionality," said one source who works closely with the ITU. "This places ZTE at a significant advantage over its competitors."

The American Civil Liberties Union and others have raised concerns about street light surveillance, which can be used to ubiquitously identify and track people in public, as protesters in Hong Kong recently complained.

"You've got competing ideas about standards — they aren't purely neutral from a human rights perspective," said Mr. Wingfield, who raised concerns that at the ITU there is a lack of transparency about how decisions are reached and very limited participation from civil society.

Bilel Jamoussi, chief of the ITU Study Groups Department, said in a statement: "The principles underlying the ITU standardization process aim to ensure that all voices are heard and that resulting standards have the consensus-derived support of the diverse, globally representative ITU membership." But he noted that it is rare for civil society and consumer protection organizations to attend standards setting meetings.

*This article has been amended to reflect the fact that Vumacam has not yet installed 15,000 surveillance cameras in Johannesburg.*