



By LI Linxu

As the rapid development of generative AI is garnering headlines, regulators around the world are grappling with how to manage this disruptive technology.

China has begun to solicit public opinion on a draft regulation for the management of generative AI products or services like ChatGPT or ERNIE Bot.

The so-called generative AI refers to a kind of technology based on algorithms or models that are able to generate content such as images, texts, voice, video and codes.

The draft regulation lays out a series of ground rules that generative AI services have to follow, including the type of content they are allowed to generate, and the procedures of putting them into the market.

For the governance of generative AI, the draft regulation is pioneering in many ways, particularly in proposing principles, drawing boundaries and clarifying responsibilities, which will set guardrails for the healthy development of this fast-evolving technology, said Rao Gaoqi, research fellow at the Institute of Language Intelligence under Beijing Language and Culture University, during an interview with S&T Daily.

#### Curbing disinformation

Cracking down on disinformation has long been a focus for tech regulators across the globe. With the emergence of

generative AI, the task of fighting off disinformation is more urgent than ever.

ChatGPT's propensity to fabricate quotes and false facts has already raised huge issues on trust and reliability.

Disinformation is prohibited under the draft regulation, specifying that AI-generated content shall not disrupt economic and social order.

Product or service providers shall ensure that content generated from generative AI is true, accurate, and shall take measures to prevent the generation of disinformation, as per the draft regulation.

From the point of rule design and enforcement, the key to understanding this requirement lies in the latter half of the clause, that is, taking countermeasures against disinformation, said Xiao Youdan, research fellow at the Institutes of Science and Development under the Chinese Academy of Sciences, in an interview with S&T Daily.

The draft regulation proposes a full set of prevention rules to take aim at disinformation along the whole process, said Teng Rui, associate professor of law in Huazhong University of Science and Technology, during an interview with S&T Daily, noting that in its enforcement, attention should be paid to the cohesion between the new regulation and relevant laws and regulations.

Clearly, preventing disinformation is one of the most important compliance requirements in the draft regulation, said Shi Xiaonan, partner at Merits & Tree, in an interview with S&T

Daily. Given AI's black box effects, regulators should take full account of the regulation's enforceability.

#### Protecting IPR

The protection of intellectual property rights (IPR) is also highlighted in the draft regulation.

This month, news of an AI-generated image winning a prestigious photography award shocked the world, causing an outcry in the art circle and exposing the IPR dilemma associated with generative AI.

Generative AI is not a lawless territory, said Rao, noting that given its complex application scenarios, how to properly define the boundaries of IPR is testing the wisdom of regulators.

China has now drawn IPR red lines for generative AI. Providers of generative AI products or services should respect IPR and business ethics, and avoid IPR infringement, according to the draft regulation.

Meanwhile, the pre-training and optimized training data used for generative AI shall not contain content that infringes IPR.

Focusing on data source, data processing and content generation, the draft regulation sets up a series of targeted IPR protection measures, said Teng, adding that the regulation philosophy behind these measures is in line with relevant laws and regulations, and is conducive to cultivating an environment of science for goodness.

#### Addressing privacy concerns

As the popularity of generative AI rises, so do concerns over violation of personal privacy.

Italy has chosen to temporarily ban ChatGPT over privacy concerns.

Compared to an outright ban, China's regulation effort is a tentative and beneficial direction toward reining in such technology, Tian Jingqiao, lawyer specialized in cybersecurity law, said to S&T Daily, adding that the regulation's real effects remain to be seen and some of the enforcement rules may still require further elaboration and refinement.

Illegal acquisition, disclosure, and use of personal information, privacy and business secrets are prohibited by the draft regulation. Service providers shall establish a mechanism to handle user complaints and make timely remedies.

Although there are some worries regarding the compliance costs, all experts agree that establishing a robust regulation system is critical for the healthy development of generative AI.

If the technology is left unregulated, the consequences could be dangerous, said Teng, though this means that relevant companies need to invest more resources on compliance, it is essential to ensure the development of generative AI on the right way.

"It is absolutely right to install brake systems in a car before letting it hit the road," said Xiao.

## Hefei Through the Lens of International Talents



A group of swans swim in Chao Lake, which is one of the China's largest fresh-water lakes and located in the southwestern part of Hefei, Anhui province. (PHOTO: VCG)

By GONG Qian

Nine years ago, Christian Lee had never heard of Hefei, capital city of China's Anhui province. But with a thirst for adventure and a desire to work in an international school, Lee eagerly set his sights on Hefei.

"Now, it's a place that I call home," said Lee, vice principal of Elementary and Primary Years Programme Coordinator at Canada International School of Hefei (CISH). Lee is raising a family in the city and his daughter is studying at CISH.

In recent years, a growing number of international talents like Lee have chosen to live in Hefei as they see the city's potential. Hefei was also recognized as one of the most attractive

cities in the eyes of foreign experts from 2019 to 2021, according to the State Administration of Foreign Experts Affairs.

#### A comfortable place to live

Foreigners who have lived in Hefei for many years say they are very impressed by the city's rapid development and that they have witnessed significant changes in the city.

When Low Jing Xiang from Malaysia first came to Hefei, he found that there was no subway. Today, however, there are 14 subway systems in the city. "It's a big change," said Low. The infrastructure of the city has been continuously improving, said Low, who worked as a postdoctoral researcher at the University of Science and Technology of China (USTC) from 2018 to 2021. Currently,

he serves as a research associate of USTC.

Shao Jian, CHO of Volkswagen (Anhui) Automotive Company Ltd., revealed that some overseas employees who had living experiences in Beijing or Shanghai say that Hefei surprised them in how international it is. Their life in Hefei is very convenient, and it is a green city with a pleasant living environment, said Shao.

Hefei has many parks that were built over the past decade, including Hefei Swan Lake and Xiaoyaojin Park. The southwestern part of the city is home to one of the China's largest fresh-water lakes — Chao Lake.

Tilly Erguder, principal of Middle/High School at CISH, believes that Hefei is a safe city. She came to Hefei with her son, and is not concerned with him hanging out at night or going by walks by herself in the evening. It's not so easy to find a safe city in any part of the world nowadays, said Erguder.

#### A city of sci-tech innovation

From a professional point of view, Stanley Lim thought moving to Hefei would be worthwhile for his career. "My endeavor in wide-band gap semiconductor nanotechnology matches Hefei's aspiration to develop same industry," said Lim.

Lim serves as the director and founder of wide-band gap semiconductor research center of China-Europe Electronic Materials International Innovation Center, a novel research and development institution founded by Hefei Municipal Government, Administration of Hefei National Hi-Tech District and

Hefei Institutes of Physical Science at Chinese Academy of Sciences.

Hefei is known as the national pilot city in science-technology innovation and the national base of research and education due to its strong R&D and learning institutions.

The local government puts a lot of efforts into push forward the development of the hi-tech institutions and companies and gives them strong support, said Low Jing Xiang.

Over the past decade, Hefei has made great progress in both economic growth and industrial development. Advanced manufacturing and hi-tech technology have become the "business cards" of Hefei as the city is leading in hi-tech fields such as new-energy vehicles and artificial intelligence, said Dr. Erwin Gabardi, CEO of Volkswagen Anhui, adding that it was a major factor in the company's decision to select Hefei as a site for its operations.

Gabardi said he is thankful for favorable investment policies and market environment created by the local government for foreign enterprises. The government has also provided attractive policies to support Volkswagen Anhui to recruit and cultivate more talents.

On April 18, Volkswagen Group announced that it will invest around one billion euros to set up a new company called 100% TechCo in Hefei, focusing on electric vehicle development, innovation and sourcing.

It is expected that more foreign talents will join the global community in Hefei.

## Youth on Tech

Editor's Notes:

*Youth on Tech is a brand-new program produced by Science and Technology Daily. In this program, we invite young scientists from around the world to discuss trending sci-tech topics, with the aim to promote understanding among youth worldwide and work together to make our planet a better place.*

*During the 2023 World Immunization Week (April 24 to 30), we invited four guests in different specializations to offer their insights on how to prevent the next pandemic, covering vaccine development, traditional Chinese medicine practice, international scientific collaboration, and guide for individuals.*

## Preventing the Next Pandemic

By ZHONG Jianli

Throughout history, humans have faced an ongoing fight against pandemics. The recent COVID-19 pandemic once again made us realize how vulnerable humans are in face of a pandemic.

#### Why are there so many pandemics?

Since 2009, the World Health Organization (WHO) has declared six public health emergencies of international concern — H1N1, poliovirus, Ebola (twice), Zika, and COVID-19. Since 2014, the WHO has declared an outbreak every two years on average.

"There are many factors that contribute to the occurrence of pandemics, including the climate change and globalization," said Lei Yuqing, a doctoral student in vaccine research and development at Tsinghua University.

Lei stated that the growing interaction between humans and wild animals has increased the possibility of pathogens jumping from animals to humans, leading to the emergence of many infectious diseases.

Lack of preparedness can also lead an outbreak to progress into a pandemic, said Christian Karol Saputra, head of the R&D department of Etana Biotechnologies in Indonesia, adding that outbreaks that are not treated with proper coordination and cooperation among governments, health authorities, and communities can easily turn into pandemics.

#### How to be better prepared?

Vaccines play an important role in pandemic control in public health and social governance, said Lei, adding that at this time, scientists are aimed at developing universal vaccines, such as pan-variant or even pan-coronavirus vaccines for SARS-CoV-2, to broadly protect people against virus variants.

Susan Bueno, full professor in molecular genetics and microbiology at Pontificia Universidad Católica de Chile, agreed that vaccines are the most cost-effective way to prevent infectious diseases.

She stressed the importance of strengthening research capacities of all countries to quickly develop new pathogen-fighting vaccines and enhance the capacity to produce and test these vaccines in clinical trials.

Having been engaged in the biomedicine industry for many years, Saputra suggested that it is necessary to promote academic-business-government (ABG) partnerships. Through ABG, public and private sectors can work together to promote collaborative research and development of vaccines.

As for how traditional Chinese medicine (TCM) helps fight pandemics, Qi Yingzhou, a TCM doctor, offered his insights.

He said in the past three years, during which COVID-19 was rampant in many countries, TCM relief supplies provided great help to the treatment of patients around the world.

Explaining how TCM works, he said TCM treatment pays more attention to improving patients' internal environment, in order to enhance their own disease resistance.

#### How to strengthen international cooperation?

"The COVID-19 pandemic has shown that the cooperation between scientists around the world was key for the identification of virus and the development of vaccines," said Bueno, stressing that one of the important things for scientific collaboration was a full sharing of scientific results and knowledge.

Lei also believes collaboration is significant to the progress of scientific research. She hopes universities, research institutes and governments could give more opportunities to the youth to join in sci-tech collaborations and communications.

Regarding how to narrow gaps in vaccine distribution internationally, Saputra proposed several strategies, including increasing production capacities, improving supply chains, and supporting technology and knowledge transfer between countries.

#### What can individuals do?

Developing a healthy lifestyle — eat regularly, live regularly, exercise moderately, and feel good — is the key to reducing the incidence of all kinds of diseases, including transmissible ones, said Qi.

He also mentioned both TCM and the Western medicine theories believe it is very important to cut off epidemic sources and that proper quarantine measures are needed in the early stage of an outbreak.

Lei suggested individuals, especially the youth, to be cautious about disinformation or misleading information on social media when a pandemic occurs.

Getting a better knowledge of what scientific research is doing and what needs to be done is essential for people to address the challenges now and in the future, noted Bueno.

She thus called for young people to join into research careers and learn more about infectious diseases, public health, as well as vaccine development and production.

