

# Big Data in Basic Telecoms Help Resume Work and Production

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Basic telecom enterprises, as state-owned ones, shoulder not only economic but massive political and social responsibilities. In particular, amid the spread of the novel coronavirus (COVID-19), the three basic telecom enterprises, as guided by the Ministry of Industry and Information Technology, actively performed their social responsibilities, made full use of big data and technical superiority in communication network and spared no efforts to conduct big-data-based epidemic prevention and control, playing their roles due for scientific and precise work and production resumption.

## **1. The important significance of scientific and precise work and production resumption**

With the epidemic situation of COVID-19 aggravating, in order to safeguard the safety and health of the masses, regions around China have taken powerful measures one after another to enhance prevention and control of the disease, such as suspension of flights, blockage of expressways, extension of holidays and postponement of school opening as well as others. While helping avoid massive people flow and get-together, such measures may cause risks of shortage of various medical and domestic materials necessary, which has impacted stable and smooth economic operation and made work and production resumption extremely urgent. To better support prevention and control of the disease and consolidate effects of relevant efforts, some regions have moved ahead with work and production resumption step by step and in an orderly manner. Unfortunately, relevant enterprises have taken highly strict measures in the process, but the tragedy of “whole factory isolated for one infected” has been reported, making the disease situation more complicated and severe. Therefore, it becomes of vital importance to carry out work and production resumption scientifically and precisely by making full use of big data analysis and mining technologies.

## **2. Big data analysis by basic telecom enterprises boosts scientific, precise and safe work and production resumption**

(1) The big-data analysis on users' roam-in/roam-out is helpful to forecast risks relating to work and production resumption in relevant cities. The big-data analysis by basic telecom enterprise shows that users' roam-in/roam-out were directly related with the tendency of epidemic development and spreading. For example, in late January, the roam-out calls from Wuhan to Xiaogan and Huanggang, Hubei Province were distinctively higher than those in any other cities. In early February, Huanggang and Xiaogan were exposed as the two cities with the most serious epidemic situations next to Wuhan. Therefore, combining current disease situations in various regions, dynamic analysis on users' roam-in/roam-out under the aid of AI model deduction can forecast the disease development tendency and risks relating to work and production resumption in different regions, so as to prepare powerful supports for district/level-based real-time precise prevention and control and scientific work and production consumption in different cities.

(2) The big-data analysis on users' travel is helpful to guarantee safe work and production resumption of enterprises. In order to fuel safe work and production resumption during the disease prevention and control, the three basic telecom enterprises, based on big-data analysis, offer to users the public-welfare short-message service of "inquiring the roaming place", through which the authorized enquiry can display the cities relevant users visited in recent 14 days. The service is favorable for simplifying the flow that employees have to certify their travels upon return to work, and can assist enterprises make overall plans for employees to work according to epidemic situations in relevant regions and the work needs, and serve as a guarantee to ensure safety and healthy of other employees in enterprises.

(3) The big-data analysis on users' workplace and residence is helpful to monitor overall situations of work and production resumption. Based on the big-data analysis by basic telecom enterprises, relevant departments can carry out statistical analysis on information on the workplace and residence of the users in a region, namely their flow between the workplace and the residence, thus to monitor overall situations of work and production resumption in the region and prepare the reference for tailored policies and measures for the resumption in other regions.

(4) The big-data analysis on basic telecom enterprises can ensure the security of personal privacy data. Such enterprises, as state-owned ones, with the high sense of responsibility and

mission, have formulated sound regulations for data use and security for many years and adopted series of security technology approaches against data attack and data voyeur, able to effectively protect personal privacy of users. During the outbreak, basic telecom enterprises strictly follow requirements of relevant laws to carry out statistical analysis through big-data technologies, without involving the privacy of individual users and subject to personal authorization for inquiring any information on the users' travel and other aspects.

### **3. Proposals for driving big data of basic telecom enterprises to play greater roles in work and production resumption**

(1) Breaking enterprise barriers to keep pooling efforts of telecom enterprises against the epidemic. Works should be done to further enhance overall guidance of the competent departments of telecom, continuously give play to advantages of the three basic telecom enterprises and CAICT as well as other technical supporters in big data and communication network technology, and, on the premise of ensuring data security, strengthen organization, coordination and cooperation, for the whole industry to make concerted efforts to win the sniping action against the epidemic.

(2) Quickening data fusion to effectively uplift the precision of big-data-based epidemic analysis. On the basis of existing big-data analysis capabilities of basic telecom enterprises, multi-source COVID-19 data covering highway, railway, civil air, residence and clinical diagnosis should be collected to further improve the precision of big-data analysis on epidemic situation and provide key regions and groups with more scientific, precise and effective guidance to work and production resumption.

(3) Strengthening multi-party cooperation to actively popularize application of big data in work and production resumption. Basic telecom enterprises should enhance contacts and cooperation with the National Health Commission, local governments, enterprises and institutions, communities and sub-district offices, make full use of their big data to facilitate normal work and travel of the broad masses, serve enterprises for their orderly work and production resumption, ensure concerted progress in epidemic prevention and control and work and production resumption, and help people's life and social-economic development back to the normal track as soon as possible.

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