



## Digital Pen and Paper saves 450 hours of police time every day in Chinese city

### FACTS

**Customer:** Wuhu City Police bureau, AnHui province, China.

**Challenge:** To speed up the process of recording traffic violations.

**Solution:** Long Hope's digital pen and paper solution, based on Anoto functionality. It is a mobile solution enabling data to be sent directly from the field.

**Benefits:** The system is user-friendly, so police officers adapt to it quickly. Information is securely transmitted in real time from the scene of the incident back to the police database. As a result, 450 hours of police time is saved in Wuhu every day. This means officers can spend more time policing the streets.

*"The pen is very simple to use and there are very few implications regarding training. The most important advantage for the police is the way it saves crucial time in really valuable work, and speeds up the work flow."*

**Li Gang, Director of the Wuhu city police digital pen project**

#### Background

In Wuhu city in China, a digital pen and paper solution from Long Hope (Anoto Service Providers in China) has radically reduced the amount of time that police officers spend on paperwork, allowing them to focus their efforts on the streets where they are most needed. Instead of taking notes on paper with carbon paper copies, these days the Wuhu police write on special forms using a digital pen. The pen, which is equipped with a tiny infrared camera, picks up what is being written – including any diagrams – and transmits the data back to the police station for input into a database.

"This has revolutionised our data capture and transfer; I no longer need to carry paper notes back to the office to type them up, instead I can go home directly after a day's work", says Sheriff Li Gang who is in charge of the Wuhu city police digital pen project.

#### Earlier method used for recording information

Wuhu is a medium-sized Chinese city, where 250,000 fines are issued by the traffic police every year for various transgressions including speeding, incorrect parking and failure to respect the Highway Code. According to Chinese traffic law, the information about the fine needs to be available on the police website within 24 hours. Failure to respect this deadline results in the police having their salaries docked by 50 RMB (equivalent to approx 5 Euros or 7 US dollars).

Until recently, Wuhu's 300 traffic police officers had to record the details of traffic violations on ordinary paper forms while being at the scene of the incident. Then, at the end of their day's work, they had to return to their stations and type all the information from the forms into a database. This was a very time consuming process, which kept officers at the police station instead of out on the streets

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where they are most needed. Not only did the typing itself take around half an hour each day, but due to distance and heavy traffic, the trip back to the station could also add around 50 minutes to the officers' day. So on average, transferring daily data into the police database took around an hour and a half in total. The Wuhu city police were in need of a less time consuming and laborious solution and came into contact with the Anoto partner Long Hope.

### A digital solution

Long Hope developed a solution based on Anoto Digital Pen and Paper technology which has been successfully implemented by the Wuhu city police. Instead of writing notes with a ball-point pen on carbon paper, traffic police write on forms printed with a barely visible dot pattern, using a digital pen with Anoto functionality. The pen picks up the pen strokes – including any diagrams drawn on the paper. This data is digitally transferred back to the precinct without requiring the officer to return in person.

### How it works

- Each officer is equipped with a digital pen, paper forms with Anoto's dot pattern and a mobile phone. The officer fills out all the details of each incident that he or she attends to on the street.
- When the notes are complete, the traffic officer ticks the "send" box at the bottom of the form. The pen sends the data to the officer's mobile phone via Bluetooth®. The information is forwarded to the police web server via GPRS within seconds.
- A paper copy goes to the person who committed the offense and the police also keep a copy. All legal forms must be retained for 20 years, according to Chinese law.
- At the police station, there is a typing centre, staffed by six junior typists. They download an exact image of the completed form to their computers from the server. Then they enter the information from these images into the police database.
- The police officer at the scene needn't

do anything more, so he or she can stay "on the beat".

### The benefits

Police officers were quick to adopt the digital pen and paper solution since it didn't require any major change in behaviour. Taking notes and filling out forms are familiar procedures and the digital pen and paper have a similar feel to the traditional kind, so the new system was quickly implemented without the need for extensive retraining.

However, the main benefit for the police force is the amount of time saved, as officers no longer waste hours returning to the station for the sole purpose of typing up reports. Sending reports via Bluetooth® not only saves the time and effort associated with driving around; it also means less money spent on petrol and less pollution of the city's air.

Using this quick and smooth method for collecting information on site, the police tend to do their job more thoroughly and the quality of the information improves, which is of course in the interests of the general public. Also, officers can spend more time out on the streets where they are needed the most.

The junior typists back at the police station can ensure that data is correctly recorded in the police database. The form filled out on dot patterned paper by the officer at the scene is legally valid.

"The pen is very simple to use and there are very few implications regarding training. The most important advantage for the police is the way it saves crucial time in really valuable work, and speeds up the work flow", says Li Gang, Director of the Wuhu city police digital pen project.

### Future plans

Wuhu's 300 traffic police officers are currently using 150 digital pens. The solution is also being used by the city's criminal investigation department and furthermore there are plans to introduce a digital pen and paper system for accident investigation.

### Partner profile:

Long Hope are Anoto Service Providers in China, specialising in innovative and robust commercial "content centric" digital pen and paper solutions. Business sectors include police and local authorities.

<http://www.digitalpen.cn>

### Customer profile:

The Wuhu city police are responsible for public security in Wuhu city, which has a population of about 3 Million.

<http://gaj.wh.cn>

### Anoto Digital Pen and Paper technology

A digital pen looks and feels like a normal ball-point pen. However, it contains an integrated digital camera, an advanced image microprocessor and a Bluetooth® transmitter. Any paper can be used with a digital pen, if the Anoto dot pattern is added to the layout before printing the paper. The Anoto dot pattern consists of numerous black dots that can be read by the digital pen, but are almost invisible to the naked eye. The pen reads the pattern and registers what and where the user writes.