

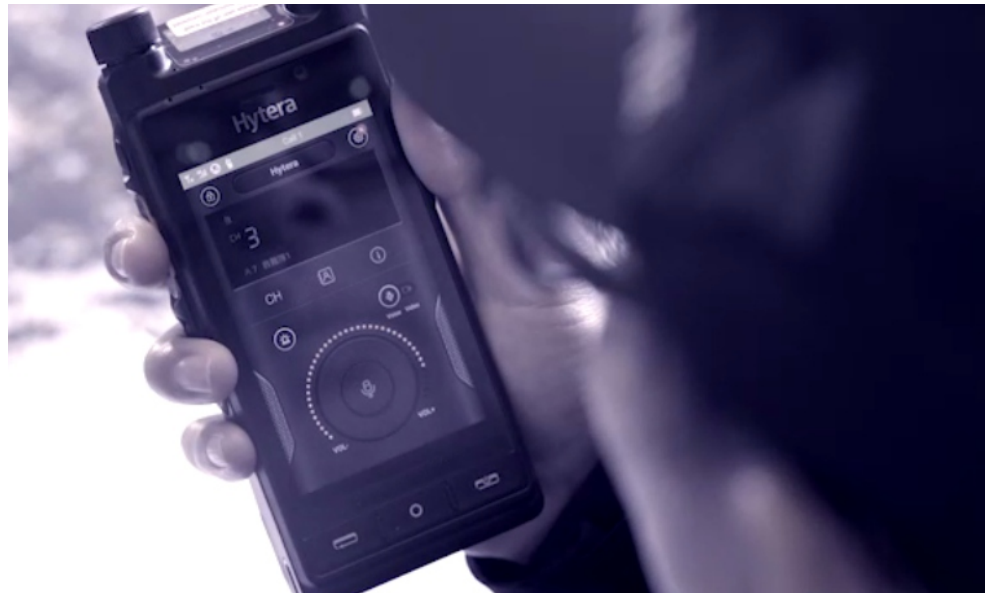
# Hytera Multi-mode Radios Provide the Vital Link for Taiwan's Smart Clothing Industry

**User**  
Taiwan Textile Research Institute

**Industry**  
Commercial, Textile

**Project time**  
2017-2020

**Products**  
Hytera DMR/LTE PDC760 multi-mode advanced radio  
Hytera PNC370 PoC radio



## Introduction >>

Hytera multi-mode advanced radios have provided the Taiwan Textile Research Institute with a way to transmit data from physiological bio-sensors embedded in outdoor clothing, thereby opening up new markets for Taiwan's textile industry.

## Background >>

Taiwan Textile Research Institute (TTTRI) is a government funded research institute in Taiwan which supports the textile industry. TTTRI focuses on the development of key textile materials, functional apparel and home textiles, high value-added technical textiles, environmentally-friendly and energy-saving textile technologies, as well as textile testing and certification.

The Institute offers customized services to various textile businesses to provide them with R&D technology and other services to help them to upgrade and transform their companies. But developments in information technology are opening up new opportunities, especially in the 'smart' outdoor clothing market.

TTTRI put together a cross-industry alliance to address this opportunity, including textiles manufacturer Formosa Taffeta Corporation, network video manufacturer Brickcom Corporation, garment manufacturer Quang Viet Enterprise, and broadband system integrator and network services provider HwaCom Systems.



PDC760

PNC370





## The Challenge

The main challenge facing TTRI was that while the alliance had excellent capabilities in textile and biological sensor technologies, it lacked the capability to transmit the data from the smart wearable devices embedded in the textiles. This lack of knowledge threatened the future commercialization of the project.

To overcome this problem, TTRI brought in Hytera to help the alliance find a way to overcome the communication bottleneck between the smart wearable sensors in the clothing and the smart data application, which collected and analysed the information sent from the clothing.

## The Solution

Hytera supplied its high-end PDC760 multi-mode advanced radios, which combine and converge broadband LTE and narrowband Digital Mobile Radio (DMR) two-way radio communication technology onto a single device. Hytera also provided its compact, light Push-to-Talk over Cellular (PoC) PNC370 radios as well. The PNC370 provides 3G and 4G services over public commercial mobile phone networks, as well as Wi-Fi and Bluetooth.

The PDC760 delivers reliable voice and real-time positioning services over the DMR narrowband function. At the same time, data from the sensors built into the smart clothes could be sent via the radio's broadband LTE or Wi-Fi capability to the internet application provided by HwaCom Systems.

Software upgrades can also be sent over the air to the radios, along with instructions to the sensors as well. Hytera was thus able to provide a solution that delivered integrated narrowband voice services, location services and broadband data transmissions.

## The Results

The Hytera PDC760 multi-mode radios are therefore the most critical part of the entire project, as they connect up and integrate the networking, sensor and voice elements. Thanks to this integrated technical support provided by Hytera, the entire use case was able to achieve its goal and further the commercial expansion of Taiwan's textile industry into new markets.

Outdoor sports have become popular in Taiwan, as well as all around the world in recent years. Hytera communication technology has aided the ability to monitor human physiological functions via wearable technology integrated into smart outdoor clothing. This will bring about major changes in areas like disaster relief operations, as well as helping to transform other sectors where physiological monitoring systems are useful.

## Voice from Customer

*"The Taiwanese textile industry is upgrading to the next generation. By combining smart wearable devices and multifunctional clothing, it will bring about significant industrial changes and the expansion of business opportunities. We are very pleased that we have received solid technical support from Hytera, making this dream of industrial transformation come true. Hytera products have allowed us to complete our work goals and meet users' requirements for smart outdoor clothing!"*

——Jimmy Hsueh, Project Manager from HwaCom Systems Company.



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