Malaysia communicates securely with ACCESSNET®-T.

Hytera
Respond & Achieve

Countrywide mobile communications solution for public safety.

The state territory of Malaysia consists of the Malay Peninsula in the west and the Malay part of the island of Borneo in the east. So far, the communications networks of the state security agencies have been separated spatially and logistically. We solved the resulting communications problems with a homogenous digital mobile radio network: On behalf of the state of Malaysia, the integrator Nokia Siemens Networks (NSN) authorised Hytera Mobilfunk GmbH, formerly known as Rohde & Schwarz Professional Mobile Radio GmbH, in 2007 to integrate a countrywide trunked radio network.



Problems solved

The technology used heretofore had always caused communications breakdowns. Every user organization had its own communications system, which were not set up countrywide, but regionally subdivided. They delayed particularly the coordination of rescue forces in emergency and disaster situations. The mobile radio network we developed offers the current more than 10 user groups a common communication platform – and, at the same time, every authority the possibility to communicate independently.

To achieve the goal of a homogenous wireless system, we used a flexible ACCESSNET®-T network architecture to combine Virtual Private Networks (VPN) with our proven cluster technology. This allows it to cluster individual subnetworks, i.e. to bundle them. As a result, the number of required connection lines in the transport network could be significantly reduced in Malaysia and the costs lowered.

But any technology is only as good as the concept behind it. Particularly at this point, we were able to demonstrate all of our strength: the high degree of sophistication of our system technology and the flexible network architecture that allow integrators to develop their own solutions based on our technology. This allowed us to recognise the individual demand and implement it in customized solutions.

Developed for Malaysia – a selection

- Countrywide TETRA-based mobile communication solution for security agencies
- Homogenous communications platform for highly efficient coordination of task forces
- Bundling of independently operating subnetworks in a higher-level network hierarchy
- Reduction of connection paths in favour of a secure information flow

The details of our mobile radio solution

In close cooperation with the integrator NSN and the Sapura group as local partner, we implemented the project in several expansion stages. In the last phase, Sapura installed 70 ACCESSNET®-T switching nodes, the network features over more than 500 base stations each with up to eight TETRA carriers.

A decentralized architecture is meaningful particularly for such large networks to save connections in the transport network and rule out communication problems. For this reason, we are networking the regional base stations and switching nodes, such as those under the authority of the administrative district, in this project using cluster technology. They are connected with each other using highly available communication channels: The voice and data traffic is automatically redirected as soon as interferences occur on a connection path. For this purpose, the integrated network management system (NMS) permanently monitors all the components of the wireless system and analyses the current performance of the network using KPIs (Key Performance Indicators). This allows our solution to ensure that every piece of information always reaches its destination.

The network presently features twelve highly available switching centres with fully redundant components. Today, 10,000 mobile stations are registered in the network which can accommodate a total of 70,000 subscribers and can be expanded upon demand without any problems.

Malaysia: Facts and data

Total area:	329,847 km²
Capital:	Kuala Lumpur
Seat of government:	Putrajaya
Population:	27.7 mill. (as of July 2008)

Countrywide mobile radio network: Highlights of our solution

- Efficiency and economic efficiency through the use of cluster technology
- Independent networks for user organizations on a common platform by using Virtual Private Network (VPN) technology in the ACCESSNET®-T
- Maximum fault tolerance through highly redundant network concept
- Fully integrated network management system (NMS) with permanent network utilisation (Key Performance Indicators)
- Use of 500 base stations
- Network capacity for up to 70,000 subscribers
- Flexible, expandable network architecture

Exactly what you need: Solutions from Hytera Mobilfunk GmbH.

Each of our mobile radio systems is a tailored solution with optimal performance. No matter how tough the conditions are. Or from which manufacturer the mobile stations are.
Customers in 37 countries on four continents are already using our solutions: in industry, oil and gas business, public safety and local public transport, at airports and for military applications. Besides the first-class technology delivered by us, they treasure particularly one aspect: our comprehensive, customer-based project management with which we solve problems before they occur.

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