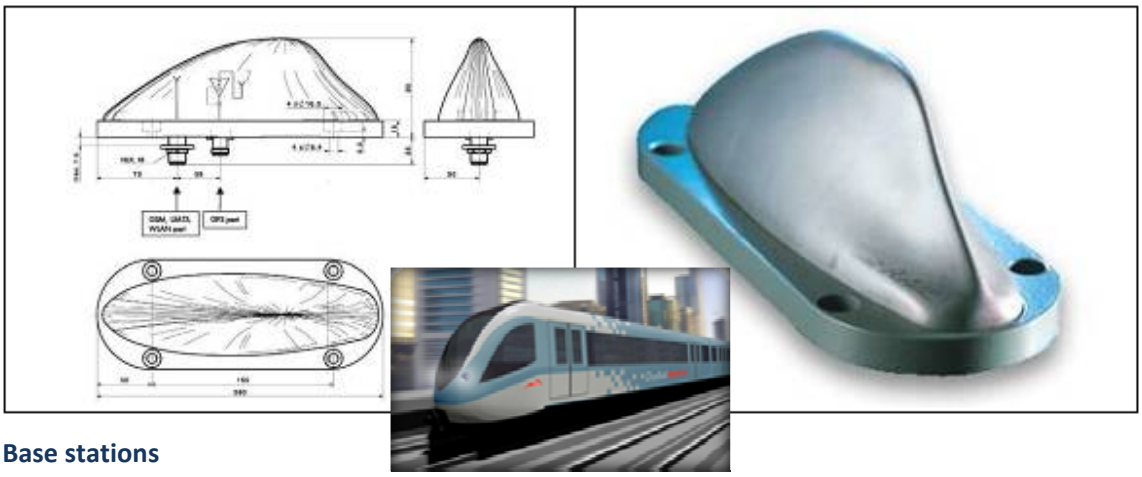
Transports Publics La Solution : Wirake Mobirake Déployé a Dubai.

مترو دبي
Dubaimetro

Mitsubishi Heavy Industries, Ltd
三菱重工業

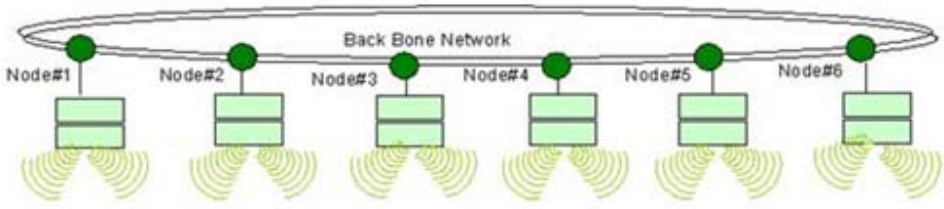
حكومة دبي الالكترونية
Dubai eGovernment

" Each train will typically be equipped with two rooftop antennas as shown below. They are mounted above existing roof voids close to their associated Wirake transceivers. The antenna mounting and housing is of a type specially designed for train roof installation which is fully homologated for railways in Europe and is rated to 330kph. Each antenna is then connected to one or two Wirake transceivers. Two different frequencies are used by the Wirake train transceivers.



Base stations

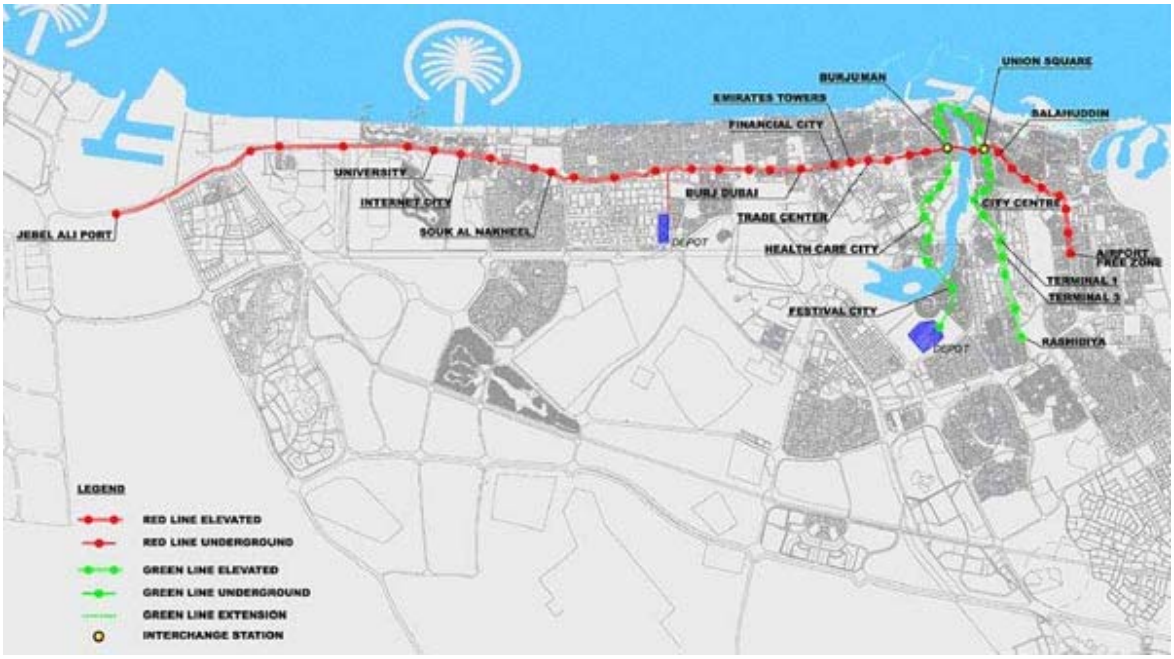
The position and frequency of base stations is designed carefully to reflect the requirements for capacity on the network and the presence of cellular services from pre-existing mast and towers for mobile network operators. Excellent coverage in tunnels and stations can be achieved by careful placement of the base stations. The trackside base stations are compact and require little additional mounting infrastructure. Lampposts, station buildings, signal or power gantries are all suitable sites for mounting these devices.



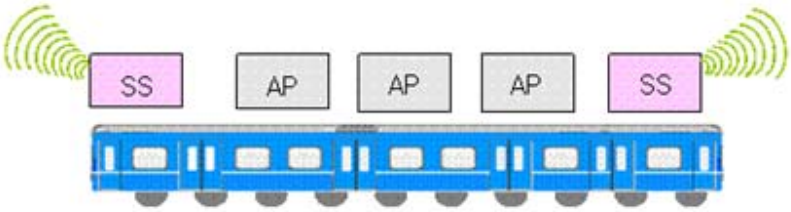
At the base station, two Wirake units are used, one inbound, one outbound, also using the two allotted radio frequencies. The base station antennas can be 60° or 90° sector antennas or less angle depending upon the angle of track coverage desired.

M/M/D/S *Hypercable* ® - 81 rue des Carrières - ZA La Ronze 69440 - Taluyers – France
TEL: + 33 (0) 4 78 48 74 75 - FAX: + 33 (0) 426 031 361 - Cell: +33 (0) 6 82 82 38 73 –
Mail: info@hypercable.fr Web:www.hypercable.fr – www.worldwave.eu

At the entrance to or within a tunnel, a sectorized antenna has proved to be successful although a system design may result in a flat directional 30x30 cm or 60x60 cm antenna or a sector panel or Corrugated Horns furtive Stealth Shielded antennas . A typical link budget is given on the next page.



This sophisticated system overcomes signal path and physical challenges to maintain a reliable connection in all environments by connecting multiple 802.11 type wireless access points together into a seamless wireless broadband network.



The system is unique in that it provides continuous high speed coverage, even through tunnels and on underground sections of track. Its high-bandwidth capabilities allow innovative applications such as CCTV and real time diagnostic data monitoring to be successfully delivered to and from the train.

The IP link to the train can be used for many different applications such as Internet access for passengers, on-board gaming, passenger information systems, and location specific information for staff. Each of these applications requires different additional on-board equipment (supplied by Hypercable) which is classified as on-train-ancillary systems. In the initial case the main example of on-train ancillary equipment are the WiFi access points which are linked back to the TCU via wireless links.

Backhaul

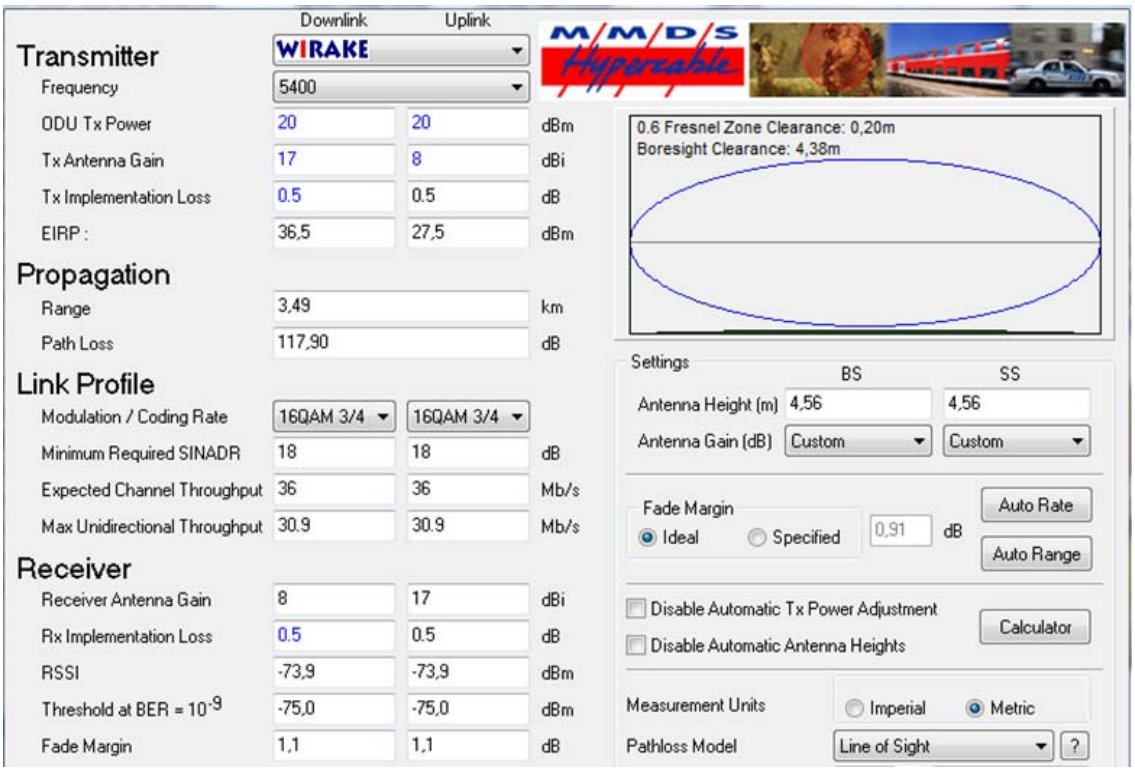
The fixed backhaul system is a subset of the mobile backhaul area. It is treated separately because, although it is has the simple logical task of transferring packets between the trackside base stations. Fixed backhaul can include elements such as leased lines, DSL, Fiber and wireless Wirake links either in PTP or PMP modes.

Scalability

Train-to-shore bandwidth is scaled using multiple carriers and/or improved modulation technologies and by installing larger number of smaller cells; it is purely a matter of radio planning and resource.

Backhaul bandwidth and QoS within existing system is scaled using the appropriate backhaul infrastructure. Where possible fibre is used but alternatives such as leased lines and radio links are also used depending on physical presence, cost of access and capacity. From an architecture perspective there are no limitations and it is purely a matter of sensible economics. To date there has been sufficient bandwidth available within existing deployments meaning that rationing is not required. ……."

Typical link budget :



M/M/D/S *Hypercable* ® - 81 rue des Carrières - ZA La Ronze 69440 - Taluyers – France
TEL: + 33 (0) 4 78 48 74 75 - FAX: + 33 (0) 426 031 361 - Cell: +33 (0) 6 82 82 38 73 –
Mail: info@hypercable.fr Web:www.hypercable.fr – www.worldwave.eu

Metro de Dubai, Wirake « La solution »

Dubai metro starts test running 01 Oct 2008

UAE Vice-President Sheikh Mohammed visits Jebel Ali station During his visit, Sheikh Mohammed also commissioned the metro's wi-fi internet service, which will cover all trains operating on the Red and Green lines, allowing passengers to use a laptop during their journey. The wireless system provide also Live Video Protection & security, VOIP and data streams from the Metro to the Head Station for global system control.

All stations will have platform doors to increase safety and allow a more comfortable, climate controlled environment for passengers.

The trains have a three-class layout and sections of open floor space.

Sheikh Mohammed launches Dubai Metro trial run

http://www.youtube.com/watch?v=TmF2Pgcr6P4

Chaque wagon, ou compartiments, sont équipés d'un ou de plusieurs Point d'Accès WiFi et Bluetooth, de puissance inférieure à 10 milliwatts rayonnés, afin de largement respecter les règles de sécurité en regard des rayonnements radioélectriques. Les bornes sont connectées au réseau filaire Ethernet 100 Mbits de la rame, géré par un commutateur routeur POE industriel fonctionnant en mode « Ring » via deux Wirake clients connectés en permanence ou à tour de rôle aux Points d'accès Wirake antagonistes, déployés le long de la voie selon la topographie, soit environ tous les 5 km. Aucun roaming au sens usuel du terme n'est requis, la cicatrisation du Ring intervenant en 2 Millisecondes sur ce réseau Wirake en dual Iso-fréquence.

M/M/D/S *Hypercable* ® - 81 rue des Carrières - ZA La Ronze 69440 - Taluyers – France
TEL: + 33 (0) 4 78 48 74 75 - FAX: + 33 (0) 426 031 361 - Cell: +33 (0) 6 82 82 38 73 –
Mail: info@hypercable.fr Web:www.hypercable.fr – www.worldwave.eu