



## Case Study

# Ceragon's Wireless Ethernet Boosts Backhaul Capacity for One of Europe's First Commercial WiMAX Networks

**Worldmax, a Wireless Telecom Provider in the Netherlands makes use of Ceragon's wireless Ethernet solutions for high-capacity backhauling of WiMAX traffic.**

### Background

Worldmax is the first Wireless Telecom Provider in the world that has deployed a Metropolitan WiMAX 16e network that gives customers seamless access to wireless broadband internet communications, wherever they are.

Designed to enable the delivery of personal mobile broadband, at home, the office or on the go, the Worldmax WiMAX Network dramatically enhances the speed and manner in which people access all that the internet has to offer. With mobile WiMAX, customers have on-the-go broadband internet and access to data-intensive applications, like online multimedia, video downloads, mobile TV and streaming music.

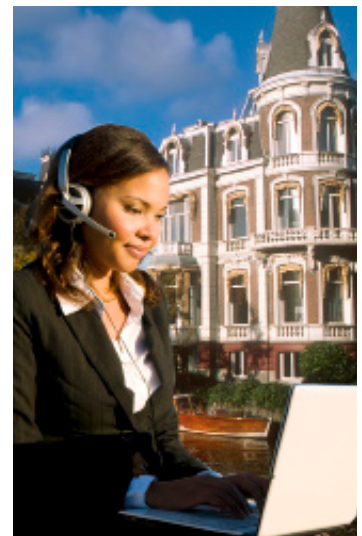
Worldmax is owner of the national and exclusive 3.5 Ghz license for the Dutch market. In 2007 the company was looking for a high-capacity backhaul solution to support the WiMAX network it was constructing in the city of Amsterdam.

### The Challenge

WiMAX networks, such as the one designed by Worldmax, are put in place to answer the need for additional – more available – data capacity and value added services. Worldmax base stations were designed to handle more than 20Mbps per site – four to five times the typical capacity of a typical cellular base-station. On the backhaul side of the network, these high-speed requirements would have to be multiplied. A WiMAX backhaul aggregation point for example may serve up to 20 Base stations. Hence, Worldmax had to choose its backhaul equipment vendor carefully to ensure that high-capacity is supported and high availability is maintained at all times.

As a relative new comer, Worldmax had no time to spare when moving to deploy its new backhaul network. In order to remain competitive, the new backhaul network had to be:

- Instant and easy to set-up
- Allow full coverage of the selected service area
- All-IP ready
- Rich services and VoIP ready
- Guarantee service delivery
- Enable service management
- Scalable



“Ceragon's FibeAir solutions enabled us to set up a reliable high-capacity backhaul network quickly and cost-efficiently” (Worldmax company official)

Worldmax opted for wireless (microwave) technology as the best means for setting up a network quickly and cost effectively. Using low-capacity links on the Access side, Worldmax engineers chose Ceragon's FibeAir® IP-MAX family of solutions for the high capacity aggregation portion of the network.

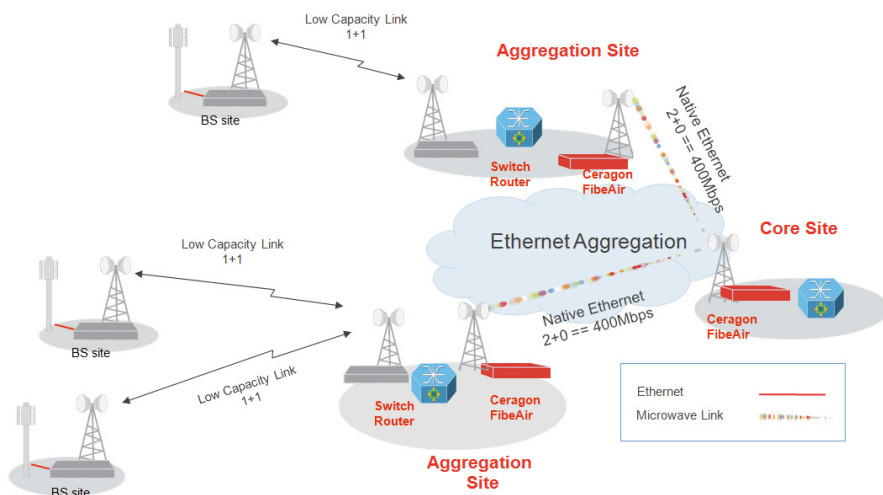
### Wireless IP Solutions for Fast and Reliable Backhaul Networks

New WiMAX networks are the first to be designed in an all-IP architecture. This is especially true in cases when the WiMAX operator has no legacy TDM-based assets. Taking advantage of Ceragon's native IP wireless backhaul systems, Worldmax designed a 400Mbps Ethernet aggregation network.

Ceragon's FibeAir IP-MAX utilizes full range, multi-level dynamic adaptive modulation for delivering maximum capacity at any given time. With a unique quality of service awareness mechanism, the system ensures that high priority voice and data packets are never "dropped", thus maintaining the most stringent service level agreement (SLAs) requirements.



**FibeAir IP-MAX<sup>2</sup>**, Carrier Ethernet Wireless Solution



### June 2008 – Successful Launch

After completing the deployment of 65 WiMAX base stations throughout the city of Amsterdam, Worldmax launched its first commercial service in June 2008. Currently providing high-speed Internet access, the operator plans to eventually expand the coverage of its network nationwide after setting up its own independent wireless network.

"Ceragon's FibeAir solutions enabled us to set up a reliable high-capacity backhaul network quickly and cost-efficiently," said Worldmax company official. "Our network was designed to allow users in Amsterdam's city center to use their high-speed wireless data devices while on the move, not having to stay still to enjoy the benefits of the network. With Ceragon's wireless Ethernet backhaul solutions we can ensure a constant delivery of high-bandwidth services to our customers – even during peak times."

### About Ceragon

*Ceragon Networks Ltd. (NASDAQ: CRNT) is a leading provider of high capacity wireless backhaul solutions that enable fiber-like connectivity for SONET/SDH networks, next generation IP-based networks and hybrid networks. Ceragon's FibeAir® family of products support all wired and wireless access technologies and address Service Providers' need to cost-effectively build-out and scale their networks to meet increasing demands for bandwidth and premium services. Ceragon solutions are deployed by more than 150 service providers of all sizes, as well as in hundreds of private networks, in nearly 100 countries. More information is available at [www.ceragon.com](http://www.ceragon.com).*

**Ceragon North America**  
Tel: +1-201-845-6955  
[infoNA@ceragon.com](mailto:infoNA@ceragon.com)

**Ceragon Asia Pacific**  
Tel: +65 6572 4170  
[infoAPAC@ceragon.com](mailto:infoAPAC@ceragon.com)

**Ceragon Europe**  
Tel: +44-0-1527-591900  
[infoeuro@ceragon.com](mailto:infoeuro@ceragon.com)

**Ceragon MEA**  
Tel.: 972 3 645 5733  
[infoMEA@ceragon.com](mailto:infoMEA@ceragon.com)

**Ceragon CALA**  
Tel: +52-55-5663-2914  
[infoLA@ceragon.com](mailto:infoLA@ceragon.com)