

Wireless Trondheim

- A live laboratory for research and development on new wireless services and products

Wireless Trondheim is a private-public owned company with its roots from the Norwegian University of Science and Technology (NTNU). The owners of Wireless Trondheim are NTNU, the regional media company Adresseavisen, the regional bank SpareBank 1 Midt-Norge, Trondheim Electricity Utility. The city of Trondheim and Sor-Trondelag County.

Wireless Trondheims objective is to build and own wireless infrastructure and to arrange and facilitate research and development within wireless technologies and services.

As of today Wireless Trondheim provides outdoor coverage in most of downtown Trondheim (120 access points). In addition Wireless Trondheim offers coverage for quite a few cafes and some malls. The coverage is all based on an advanced Wi-Fi platform. This is a well suited platform for testing of new and innovative service because the platform supports:

- Mobility – the user can move across all the coverage area without losing connectivity
- High capacity – every access point has at least 10 Mbit/s symmetric connectivity to the backhaul network offering the possibility to test high bandwidth demanding services
- Location information – the network gathers location information from the users and offers the possibility of presenting services depending on the actual location of the user
- Security – the network supports all well known standards for security in Wi-Fi including WPA/WPA2 allowing services with a high demand for security

1/4th of the population of Trondheim has free access to the network. The lucky 1/4th includes students at NTNU and college and elementary school pupils in Trondheim - in other words, young people. This is no coincidence, students and young people are often sad to be early adopters eager to test new solutions. With free access for early adopters the service providers and researchers hope to see which services will skyrocket and succeed in the market well ahead of anyone else.

Together with NTNU Wireless Trondheim also provides a network laboratory. The network laboratory is well suited for research and development on new antennas, protocols and radio interfaces because it is situated in downtown of Trondheim, in other words in realistic city environments. The network laboratory includes:

- A handful of rooftops with antenna masts and Fiber to the Roof (RTTR) allowing testing on new radio interfaces with high demand for backhaul capacity
- Quite a few locations on walls in downtown of Trondheim with twisted pair (cat5e) interface allowing Gigabit to the wall for testing of new radio interfaces with short range

- Weather proof data cabinet with fiber backhaul and antenna masts along the main highway of Trondheim for research and development on wireless communication for vehicles

Wireless Trondheim and NTNU welcomes companies or institutions that either want to test new services in a city wide wireless network with real users, traditional services using Wireless Trondheim as a new distribution channel or new hardware within the network laboratory.

For more information about Wireless Trondheim se www.wirelesstrondheim.no

- The city of Trondheim is one of the owners of Wireless Trondheim
- The city of Trondheim provide free access to the network for their employees and pupils in the elementary school supporting mobile and nomadic work and study
- The city of Trondheim will participate in projects regarding use of Wireless Trondheim for new and innovative services to increase the efficiency of the city and its employees
- The city of Trondheim provide lamp posts and properties for mounting equipment
- The city of Trondheim supports Wireless Trondheim to make the city more attractive to students and technology based businesses