Broadband benefits:
IMPROVING HEALTHCARE, EDUCATION AND SOCIAL INCLUSION

Access to high-speed Internet connections benefits communities by enhancing healthcare, education and social inclusion – resulting in better employment prospects, more responsive government, improved social mobility, and a healthier, wealthier population overall.

Enhanced healthcare

Healthcare supported by ICT – and delivered over broadband – introduces new ways of providing medical treatment that simplify procedures and communication between citizens and healthcare providers; reduce errors; encourage individuals to manage their own health; and provide data to manage risk and healthcare systems.

According to a 2008 article in Medical News Today ('Vital Signs via Broadband: Remote Health Monitoring Transmits Savings, Enhances Lives'), the USA could cut USD197 billion from its healthcare bill over the next 25 years with widespread broadband usage enabling remote monitoring to identify health problems sooner, reduce hospitalization and improve quality of life. Accounting for close to one-fifth of the country's GDP, the US healthcare system is more expensive than the average for developed countries – any scope for savings is worth looking at.

A 2007 report from the Alliance for Public Technology in the USA, highlighted the example of the small town of Winona in Minnesota, which implemented a network-based medical records system that stores health information and links medical records to a number of applications, to improve quality of care. The system maintains complete medical histories with immunizations, test results, measurements,

ERICSSON

surgical procedures, allergies and medication recorded for every resident.

Besides lower costs, mortality rates are lower and hospital stays are shorter in Winona as a result of efficient access to medical information. Care providers spend more time treating patients and less time on paperwork, and gaps or overlaps in care are avoided.

Using broadband, doctors in rural areas can be connected with experts in the central hospitals to provide faster, more effective treatment without the need to travel. The Alliance for Public Technology report highlights how the University of Arizona in Tucson, USA, uses broadband to connect rural doctors using videoconferencing for consultation, transmission of X-rays and other clinical services. This has been particularly successful in providing expert telepresence in rural emergency rooms. The program is also used to provide healthcare for Native American communities, Arizona prisons and other situations where access to medical expertise is traditionally restricted.

Telstra in Australia has taken the use of broadband in healthcare one step further and is helping to deliver medical services to people all over the country in co-operation with government authorities and private service providers. Special medical buses are used to provide services like breast screening and eye and ear examinations via the operator's NextG mobile broadband connections to central specialists.

In addition, children are able to use the NextG system to access education services online, while fire-fighters are able to send information from helicopters to ground forces when tackling bush fires, for example.

In Greece, Vodafone – in cooperation with the Athens Medical Centre, Vidavo and the Inter-Municipality Health & Welfare Network OTA – is providing mobile broadband technology for a telemedicine pilot program. This program overcomes geographical limitations to offer patients preventive medicine, with direct access to specialist doctors. Doctors in the regions can manage their patients better by providing specialist healthcare in remote areas, while also being able to communicate with – and transfer examinations to – specialists at the Athens Medical Centre.

Also in Greece, one of the finalists in the 2008 European e-Inclusion Awards (a European Commission initiative), the Sotiria Hospital in Athens has incorporated broadband into its clinical practice to help a largely elderly and socially disadvantaged community. The program includes home- and community-based health and social care solutions that use broadband to help manage chronic long-term illnesses, with impressive results:

- 28% of patients have reported a far better quality of life
- hospital re-admission rates and lengths of stay have fallen by more than 60%
- emergency room visits have been reduced by 40%
- 60% cost savings through fewer hospitalizations.

Improved education

Broadband is being used to improve education, both for students in the classroom and for those who have difficulty attending a school or university for whatever reason.

Virtual schools and universities enable people to study wherever they are, whether they are disabled, live in a remote area or simply do not have the time to travel to a school or university. Virtual university programs can be administered through web pages and e-mail, and professors can tutor online.

The Hayward eDistrict in California, USA, uses broadband to enhance the learning experience in the classroom. Teachers can enhance lessons with streamed video, interactive white-boards and other media. In addition, students can conduct research, complete homework assignments and review lessons in the library, at home or anywhere with broadband access. Having all class materials available online also makes it easier to review past lessons.

School district operations also benefit from the eDistrict. Over 2,000 VoIP phones handle all voice communication for the district over the broadband network, cutting communications costs significantly. A project is under way to store all student records in an online format, which will save

an estimated USD1.5 million per year through reduced paper, postage and fuel costs.

In Germany, the Virtual Global University (VGU) offers certificate courses, mini-programs and a full master program in IT via broadband connections. Lecturers collaborate and communicate with students through chat rooms, discussion forums and e-mail.

More connected, more included

Broadband facilitates social inclusion, especially for people disadvantaged by geography, disability or infirmity. For remote and rural communities, bridging the digital divide with broadband will be vital to their long-term sustainability, enabling them to access the same information and services available to people in cities.

In the Outer Hebrides of Scotland, for example, a next-generation mobile broadband network now connects businesses, teleworkers, schools, community centers, airports, post offices, remote learning centers, doctors, hospitals and citizens. The aim is to develop the concept of a 'Connected Hebrides', combining the quality of life offered by rural living with global connectivity, opportunities for employment and inward investment, business creation, skills and learning.

Likewise, Austria's Carinthian region aims to bridge the urban–rural digital divide with fast broadband access for all citizens. In addition to the roll-out of commercial services such as triple-play high-speed Internet, telephone and TV services, the program includes a wide range of social inclusion projects. For example, over-50s are offered access to targeted information and training through an initiative between the Carinthian Development Agency and the regional education network.

Many countries are realizing the importance of broadband for sustainability. Together with the International Network of E-Communities (INEC), representatives from the USA, South Africa, Malaysia and a number of European cities are working to develop sustainable 'broadband cities' of the future.

Greece will be the first country in which mayors of all local communities will sign the INEC Declaration on Open Networks. Trikala, the first digital city in Greece, has chosen Ericsson as a total solution provider for the delivery of high-speed broadband services. The 'e-Trikala' initiative aims to improve everyday life by simplifying public transactions, reducing telecommunications costs, delivering new electronic services and offering new methods to enable citizens to participate in policy-making.

Broadband provides opportunities for the elderly and disabled to enjoy greater 'connection' to family, friends, care-givers and society in general. For example in Spain, the Vodafone España Foundation is leading a project called '3G Connecting Generations' that uses HSPA to connect 100 elderly people to their care-givers and families through videoconferencing, voice and TV. Using a video conferencing system that involves a TV monitor, a web camera and an HSPA phone, people can stay in touch and maintain their independence in their own homes.

Broadband also enables blind and visually-impaired people to access content in alternative, non-visual formats. For example, the American Foundation for the Blind website provides information specially tailored to older people in a variety of multimedia formats – including video and spoken text.

Flexible working enabled by broadband delivers many benefits to society as a whole, enterprises and employees. Through facilities like videoconferencing people in different locations can collaborate electronically face-to-face in real time, and share all types of information.

A 2009 study of broadband users conducted by Ericsson in six countries around the world found that some 20% of the working population work at home using broadband at least once per week, and half of all respondents agreed that working from home increases their personal productivity.

Ericsson AB
164 80 Stockholm, Sweden
Telephone +46 10 719 0000
www.ericsson.com

EN/LZT 138 0251 R1A