

Ethiopia Accelerates National Development Through Information and Communications Technology

Executive Summary

CUSTOMER NAME

Government of Ethiopia

INDUSTRY

Public Sector

BUSINESS CHALLENGE

- One of the poorest nations on Earth, with four-fifths of its people working the land, Ethiopia intends to transform its social and economic prospects through a bold IT networking development plan.

SOLUTIONS

- Ethiopia is investing 10 percent of its GDP in modern information and communications technology (ICT) over five years.
- Cisco IBSG helped the Ethiopian Government clarify strategic needs, in both equipment and training, to attain national reach.
- One of the most sophisticated IP network infrastructures based on Cisco products and services in Africa has laid the foundation for key projects in government, education, agriculture, and health.

BUSINESS RESULTS

- Ethiopia's ultimate ambition is an end to poverty, using the national ICT platform to support better services, wider access to education, more productive farming, and a healthier population—pointing the way forward for other African nations.

One of the poorest nations on Earth is committing scarce economic resources and strong political will to a bold investment program that uses IP-based networking as a long-term solution to poverty. Cisco® worked closely with the Ethiopian Government to design and build a modern, flexible infrastructure that will help fulfill that vision.

BUSINESS CHALLENGE

Ethiopia is one of the world's poorest nations—a landlocked country with a population of 73 million and an estimated per-capita income in 2004 of just US\$100. While mineral and energy resources abound, the mountainous terrain makes such natural advantages hard to exploit. The economy is based primarily on agriculture, much of it subsistence farming, which has been disrupted by decades of civil unrest and famine. Many have been forced out of traditional homelands to settle elsewhere and rebuild their lives as best they can.

To break the cycle of poverty and take advantage of opportunities offered by technology, the Ethiopian Government made a bold decision to invest in a knowledge-based economy, starting from a base of just 1.2 percent of the population having a telephone. "Our vision is to make comprehensive use of information and communications technology (ICT) to accelerate the democratization and development of the country," explains Tefera Waluwa, minister of capacity building for the Government of Ethiopia, who is charged with implementing the country's ICT vision.



Prepared by Cisco Systems, Inc.
Internet Business Solutions Group

SOLUTIONS

From an early stage, the Ethiopian Government worked closely with Cisco and the [Internet Business Solutions Group \(IBSG\)](#) to lay the groundwork for a radical, sustainable transformation of the nation's social and economic prospects through appropriate ICT deployment. Early in 2003, the country's Ministry of Capacity Building and Planning issued a tender for equipment and services for the first two major projects:

- *WoredaNet*: An e-government network linking nearly 600 local administrations (“woreda”) with 11 regional government offices and the federal government headquarters in the nation's capital, Addis Ababa. Includes e-mail, Internet access, file-sharing, and videoconferencing facilities.
- *Schoolnet*: An education network providing more than 450 secondary educational institutions with access to general ICT, e-mail, and the Internet.

“OUR VISION IS TO MAKE COMPREHENSIVE USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY TO ACCELERATE THE DEMOCRATIZATION AND DEVELOPMENT OF THE COUNTRY.”

**Tefrera Waluwa, minister of capacity building
Government of Ethiopia**

Rather than develop separate technology projects, IBSG worked with Ethiopian Government ministers and managers to translate the overall vision into a single, deliverable strategy. Key objectives ranged from positioning Ethiopia as a leader for IT-driven transformation in Africa, to building plenty of future capacity into the new infrastructure, to the training and knowledge-transfer necessary to support sustainable development.

The government-owned [Ethiopian Telecommunications Corporation \(ETC\)](#) chose a flexible solution designed by [Cisco Systems®](#) and its African partners, Business Connexion and GCS-NCR. The high-speed core network delivers services to remote areas by using very small aperture terminal (VSAT) satellite technology. IBSG also worked with government stakeholders to share best practices, gained from multiple partnerships with companies and governments around the world, to help define the long-term strategy.

The government of Ethiopia is now focusing on four critical areas of transformation—education, rural connectivity, capacity expansion, and e-government—with further plans for agriculture (Agrinet) and telemedicine (Healthnet) networks.

Accelerating Rural Connectivity

Cisco strategic, technical, and network design expertise has been an indispensable element in the creation of WoredaNet. The aim is to have 16,000 villages connected on broadband by 2007, with every citizen no more than five kilometers from an access point. IBSG has worked to incorporate best practices, from Cisco and elsewhere, to support the cultural aspects of this initiative. For example, Cisco customers in South Korea and India have shared best practices for harnessing ICT in rural communities.

TRANSFORMING EDUCATION

SchoolNet aims to connect no fewer than 600 schools. IBSG worked closely as a trusted adviser to the Ministry for Education to spread the benefits of network-based education and e-learning, especially in rural communities. Closing the digital divide between Africa and the West promises a huge economic uplift. It will help to eliminate poverty because the gap between the rich and poor is not just about money; it is about knowing how to create technology, rather than simply using it.

One of the first steps was an E-Compliant Network (ECN) assessment, conducted by Cisco, to identify the infrastructure needed to support the project. Other initiatives include training teachers to use ICT and bring Internet-delivered content into the classroom—a significant challenge in a country where technology can be seen as alien or threatening.

Crucially, the project will enable simple village schools to receive streamed Internet and TV-based educational content, creating a strong foundation for e-learning. Many students are already making significant strides, as quality educational content is transmitted via satellite and shown on flat-panel plasma screens in remote, rural classrooms—some situated three days' travel from the nearest town.

Building Capacity

The government recognized the need for skilled people to transform an ancient, diverse, materially impoverished culture into a modern knowledge economy. The Cisco [Networking Academy® Program](#) has assumed a leading role in the knowledge transfer, passing on IT skills such as PC operation, maintenance, and troubleshooting, as well as the design, construction, and maintenance of [IP-based networks](#). One hundred such Academies are opening, with graduates going on to instruct others in order to reach critical mass as fast as possible. The program also has a strong focus on the inclusion of women, an objective given much support by the minister of education.

“THE USE OF THIS TECHNOLOGY MUST NOT BE PIECEMEAL. IT MUST BE HOLISTIC. IT HAS TO ENCOMPASS EVERY ASPECT OF LIFE. WE ALSO HAVE TO HAVE PEOPLE WHO UNDERSTAND AND CAN OPERATE, MANAGE, AND TROUBLESHOOT THE CISCO PRODUCTS. THE BEST WAY TO GET THOSE SKILLS IS VIA THE CISCO NETWORKING ACADEMY.”

**Tesfaye Birru, general manager
Ethiopian Telecommunications Corporation**

To support the regional Networking Academy programs, Cisco is also working with nongovernment agencies, such as the Digital Opportunities Trust and CTG (Close The Gap), to supply high schools with more than 10,000 refurbished PCs, collected in Western Europe and bought for between US\$50 and \$90. In addition, a volunteer program enables Cisco employees and their children to work with Ethiopian schoolteachers and students, sharing their knowledge and experience of e-learning.

“The use of this technology must not be piecemeal—it must be holistic,” explains Tesfaye Birru, general manager, Ethiopian Telecommunications Corporation. “It has to encompass every aspect

of life. We also have to have people who understand and can operate, manage, and troubleshoot the Cisco products. The best way to get those skills is via the Cisco Networking Academy.”

E-Government Transformation

In a country as large as Ethiopia, e-government is developing an especially local flavor. Years of famine and conflict have displaced many communities, and government support is seen as an important means of encouraging people to settle outside traditional homelands. Internet access to weather reports, agricultural best practices, and market information is creating new opportunities and increasing the productivity of farmers.

Efficient government, meanwhile, will be promoted by centralized initiatives, such as a new register of births and deaths. Cisco is also working in partnership with the minister of capacity building and [Graduate School for Telecommunication and Information Technology \(GSTIT\)](#) to deliver leadership and management training for key government leaders. The first Ethiopian trainers attended a skills-transfer session in Cairo and are now working toward creating a cascaded learning program using materials developed by IBSG and other parts of Cisco.

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Meles Zenaw, prime minister, Government of Ethiopia

BUSINESS RESULTS

Ethiopia’s audacious commitment to ICT is not only creating the basis for a long-term transformation of the country’s prospects; it is also earning interest and admiration from other African governments, as many share the need to create more modern economies and establish better connections between governmental processes and people.

In 2005, the “E-Enablement of Ethiopia: Transformation in Africa” conference—a pan-African meeting to share the lessons of Ethiopia’s transformation plan—was organized by the government of Ethiopia and Cisco in Addis Ababa. It attracted more than 300 delegates, including 24 ministers from Ethiopia and other African nations, to take part in a successful forum for sharing best practices. Cisco brought in customers from Latin America, India, the Middle East, the United Kingdom, and Denmark to speak about ICT transformation initiatives in their own countries.

In the keynote address, the prime minister of Ethiopia, Meles Zenawi, issued a powerful endorsement of Ethiopia’s commitment to ICT-driven transformation. He declared, “Not long ago, many of us felt that we were too poor to seriously invest in information and communication technology. Now we believe that we are too poor not to invest as much as we can in ICT. We realize that while ICT may be a luxury for the rich, for us—the poor countries—it is a crucial weapon to fight poverty and thus ensure our survival.”

MORE INFORMATION

The Cisco Internet Business Solutions Group (IBSG) is a global consulting team that helps customers transform their organizations by strategically applying business process innovation and advanced technologies. A unique combination of industry experience and business and technical knowledge enables IBSG consultants to serve as trusted advisers to many of the world's top organizations.

For further information about IBSG, visit <http://www.cisco.com/go/ibsg>



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