



## EXECUTIVE SUMMARY

**Customer Name**  
Qatar Foundation

**Industry**  
Public Sector

**Location**  
Qatar

### Challenge

- Prepare the people of Qatar and the region to meet the challenges of an ever-changing world, by maximizing each individual's potential
- Enable Qatar to be a leader in innovative education and research
- Help transform the country into one of the world's most advanced knowledge-based societies

### Solution

- Research and Education Network (REN) creates a community of world-leading universities, researchers, and students and promotes a worldwide collaboration
- State-of-the-art, 40 Gbps-ready fiber optic network supports video-based collaborations, computer-intensive research projects, and end-to-end Cisco advanced technologies
- MEEZA, a new Managed IT Services and Solutions provider formed as a commercial joint venture with the Foundation, operates the REN and provides data center and managed IT services to Qatar Foundation and other customers in Qatar

### Results

- The network positions Qatar as a communications hub for the region and makes a cloud computing model possible
- Many of world's leading universities and companies have set up campuses and branches in Qatar
- Reliable and secure technology platform supports Qatar Foundation's immediate and future needs
- The network creates the foundations for a knowledge-based society

## Gulf State, Qatar, Transforms into Knowledge-based Society

Qatar uses advanced communications technology as the foundation for innovative education and research.

### Challenge

With 15 percent of the world's proven gas reserves, and a gross domestic product of more than \$28 billion, the State of Qatar is one of the world's richest countries. It is also one of the most forward thinking.

While other hydrocarbon-rich states in the Gulf have focused on large real estate projects, Qatar is laying the foundations for the post-carbon era by investing \$15 to \$20 billion in creating the enablers for a sustainable, knowledge-based society. The state's Amir, His Highness Sheikh Hamad Bin Khalifa Al Thani, and Her Highness Sheikha Mozah bint Nasser Al Missned are leading the country in an ambitious transformation program, which Qatar Foundation lies at the center of.

Qatar Foundation focuses on education, research, and community development in a conscious desire to touch every citizen. Founded in 1995 by the Amir, it is a young organization with big ambitions, guided by the principle that a nation's true wealth is its people. Qatar Foundation, a non-profit organization, is chaired by Sheikha Mozah who affirms, "the sharing of knowledge, ideas, and values is the noblest way to transcend barriers."

Located on the outskirts of Doha, the capital of Qatar, Education City covers 14 million square meters, houses educational facilities from school age to research level, and includes branch campuses of some of the world's leading universities. Education City aims to be the center of educational excellence in the region, instructing students in

fields of critical importance. It is also seen as a forum for universities to share research and forge relationships with businesses and institutions in the public and private sectors.

Qatar is harnessing the expertise of the people and organizations in Education City as the catalyst for transformation by enabling people to share ideas and collaborate, not just on campus but also with the best minds anywhere in the world. To create such a center of excellence, Qatar Foundation envisioned at an early stage that it would need a world-class information and communications infrastructure.



**"The sharing of knowledge, ideas, and values is the noblest way to transcend barriers. In this sense, globalization is the architect which constructs academic bridges across cultural and geographical landscapes."**

**Her Highness Sheikha Mozah bint Nasser Al Missned  
Chairperson, Qatar Foundation**

## Solution

The rapid growth of Education City and the diversity of operations meant that it was only a matter of time before it outgrew its original network. Sa'di Awienat, Qatar Foundation's Information Technology Director, explains: "To collaborate in today's world, people in Education City need to be able to go wherever they want and know that they have the same access to the same set of services, anywhere in the world. We are on an endless journey to design and implement innovative ICT solutions that fulfill the growing needs of our customers and enable our elite universities and the research centers of excellence to further collaborate and innovate." To realize this vision, Qatar Foundation invested in MEEZA.

MEEZA is a managed IT services and solutions provider, formed as a commercial joint venture with Qatar Foundation to develop the state's ability to provide IT services to the country and the region. Qatar Foundation and MEEZA's search for a trusted advisor ended with the selection of Cisco. James Fanella, VP Sales and Marketing of MEEZA, comments: "There are many global companies with a presence in the Gulf that don't really understand, or are not truly committed to the region. One of the things that I found unique in my discussions with Cisco was their commitment from day one. It wasn't what they said, it was what they did. They have a local team that has grown significantly since we first met. They have balanced regional and local need with global expertise and subject matter experts to really drive catalytic change."



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**Sa’di Awienat**

**Director, Information Technology, Qatar Foundation**

Awienat continues: “The key to such transformation was creating a secure, and high-capacity network foundation which is always available. The traditional way of creating such a campus infrastructure is to build two networks: an IP network for routing and an optical ring for data transport. Rather than trying to “catch-up” with best practice around the world, Qatar Foundation wanted to seize the opportunity to jump ahead. As the world was thinking about moving to 10 Gbps, Qatar Foundation and the Cisco team decided to adopt a 40 Gbps-ready solution.”

The result is the region’s first Research and Education Network (REN). The new ultra high-speed network will connect many research facilities and higher education institutes in Qatar as well as providing access to the most powerful research powerhouses worldwide, including the European Organization for Nuclear Research’s (CERN’s) Large Hadron Collider in Switzerland and the Biological Electron Microscope Facility in Hawaii. It will deliver 96 Tbps core capacity and 3.2 Tbps transmission capabilities on a single fiber pair, using 40 Gbps IP over dense wavelength-division multiplexing (DWDM) technologies.

The network technology is based on the Cisco® CRS-1 Carrier Routing System and the Cisco ONS 15454 Multiservice Transport Platform. This technology gives Qatar Foundation simplified operations with omnidirectional configuration.

The solution converges the routing and transport networks to create a less complex, easier to manage, and inherently more flexible infrastructure. Enabling the routers to effectively “see” the transport layer allows them to act intelligently (using pre-forward error correction) in the event of multiple fiber outages, switching to backup links in less than 15 milliseconds, something that was impossible with traditional fiber networks.

The network foundation supports a broad range of end-to-end Cisco solutions including Unified Communications, Mobility, and Digital Media. Cisco provides ongoing support services together with consultancy for complex engagements.

## Results

Mr Rashid Al Naimi, Vice President for Administration at Qatar Foundation, says: “The creation of intellectual property will drive transformational change. The network is fundamentally important because innovation depends on people being able to communicate and collaborate, on the ability to attract world-class research and science and to be a valuable, active member of a worldwide community.”

Al-Naimi continues: “Qatar Foundation is extremely proud that we will be using the world’s most powerful, scalable, and flexible REN. Most importantly, this network will support our world-class universities here at Qatar Foundation and help us to prepare the next generation of leaders. The REN project shows that Qatar Foundation is at the forefront of implementing innovative technologies not only for the region, but also for the world. Additionally, it highlights the important role that Information Technology service providers such as MEEZA will play in furthering the development and success of Qatar as a knowledge-based society. MEEZA will monitor and manage the REN and deliver key IT services across the network, ensuring that Qatar Foundation can focus on achieving its vision for education, science, and community development.”

Leading academic institutions such as Carnegie Mellon University, Georgetown University, Weill Cornell Medical College, and Texas A&M University have branch campuses at Education City. Qatar Foundation has selected key programs from each university following its long-term objective to attract a significant number of institutions and create the world’s first “multiversity,” where graduate and postgraduates can learn, collaborate, and innovate in a web 2.0 environment.

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**Mr Rashid Al-Naimi**  
**Vice President for Administration, Qatar Foundation**



The high-speed REN will make it possible for the colleges to virtualize classrooms, for example, via high-quality Cisco TelePresence™ video connections between a U.S.-based professor at a parent campus and students in Qatar. High-bandwidth connections to the world's powerful academic computing resources will also enable the region to play a role in the most important international research projects. Importantly, this secure, high-performance infrastructure will also be available to companies based at the Qatar Science & Technology Park site within Education City. Companies such as Cisco have research teams working on commercially attractive innovations.

Education City is much more than a high-tech campus; it is also home to several thousand students and staff who benefit from Qatar Foundation's holistic approach to the network as the platform for ICT services. In addition to providing access to the same services wherever people are, the network will also support innovative trials including a wireless community inside and outside the home, connected by fiber to the home. Taken to the next level, this technology could include full home automation and even child location services.

Education City will also house Sidra Medical and Research Center, an initiative led by Her Highness Sheikha Mozah that will open in 2011. Sidra will offer world-class clinical care, medical education, and biomedical research facilities. Secure, advanced communications will play a fundamental role in aligning this center with the nation's e-health strategy and providing telemedicine-based services to the region.

The importance of ICT to the nation's socioeconomic development was underlined by the creation of MEEZA. Set up as a commercial company, it provides a range of data center services, managed services, and application and consulting services.



## Next Steps

Qatar Foundation IT Directorate will work closely with MEEZA and Cisco to ensure that all of the research functions at Qatar Foundation are able to get maximum benefit from the REN, thus supporting the overall vision of Qatar Foundation and aligning the IT strategy with its objectives. New services will be designed and rolled out in the near future based on cutting-edge technology, and MEEZA will continue to support the REN and implement innovative methods to improve operations efficiency via automation and advanced management tools.

Cisco is also supporting another major initiative announced by Her Highness Sheikha Mozah. "Silatech," which means "your connection" in Arabic, represents the mission of Her Highness to stimulate the creation of some 100 million new jobs needed in the Middle East and North Africa region over the next 20 years. Silatech's goal will be to implement a unique and comprehensive strategy that includes providing links to jobs and placements, a call center, market-related training, access to business development services and capital for aspiring entrepreneurs, and employment attachments such as internships and apprenticeships

## For More Information

Cisco.com website for:

**Optical Networking**

MEEZA, Managed IT Services and Solutions:

**[www.meeza.com.qa](http://www.meeza.com.qa)**

## Product List

### Routing and Switching

- Cisco CRS-1 Series Carrier Routing System, 16-Slot Single-Shelf System, with multiple 10 G interfaces and 40 G IPoDWDM interfaces
- Cisco CRS-1 Series Carrier Routing System, 8-Slot Single-Shelf System, with multiple 10 G interfaces and 40 G IPoDWDM interfaces
- Cisco 7604 Series Routers, with multiple 10 G interfaces
- Cisco Catalyst 6500 Series Switches
- Cisco 7600 Series Routers

### Optical

- Cisco ONS 15454 Multiservice Transport Platform



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