Qatar Foundation
for Education, Science and Community Development

“Unlocking Human Potential”
Qatar Foundation

An independent, chartered, nonprofit organization.

Committed to the development of Qatar and its people.

Founded in 1995 by HH Sheikh Hamad bin Khalifa Al-Thani.

Chairperson: HH Sheikha Mozah bint Nasser Al-Missned.
Mission and Vision

Guided by the principle that a nation’s true wealth is its people. Our goal is to develop human potential:

- By creating a network of centers committed to delivering first-rate education, supporting science/research and promoting community development.
- By partnering with world-class educational and research institutions specialized & focused in various area.
- By building a unique Education City, featuring state-of-the-art technology and facilities, that is a hub for creating, sharing and finding practical uses of knowledge.
Education City Master Plan

Site Area approx: 13,000,000 m²
Serving the Whole Citizen

- Early Years Education
- Specialized Education Program
- Primary, Secondary, College Programs
- University Branch Campuses
- Media & Education
- Public Policy Research
- Commercial Research & Development
- Community Outreach
Members of Qatar Foundation

+ 28

Qatar Academy
Qatar Science & Technology Park
MEEZA
Rand-Qatar Policy Institute
QMDI
Carnegie Mellon Qatar Campus
United States International University Qatar
GBI
Northwestern University in Qatar

Additional logos and institutions associated with Qatar Foundation.
“The sharing of knowledge, ideas and values is the noblest way to transcend barriers...”

HH Sheikha Mozah, Chairperson of QF
### QF Research - Long Term Vision

|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Phase 1:** Pursuit of cutting-edge science

**Phase 2:** Position Qatar as major regional contributor to science

**Phase 3:** Become a magnet for innovative R&D companies

Building Qatar’s research strength through in parallel tracks
Qatar Science & Technology Park

- 600,000 m² campus
- State-of-art facilities
- Established research and training centers
- Business incubator, promotes economic diversity
- Anchor tenants include Shell, ExxonMobil, Total, Rolls-Royce and Gartner Lee, Microsoft, Cisco, GE, EADS
Qatar National Research Fund (QNRF)

• Is guiding the creation of the country's research programs, which will be a catalyst for a new knowledge-based economy.

• Qatar National Research Fund will advance knowledge and education by supporting original, competitively selected research in the sciences, arts and humanities.

Unlocking human potential.
The Sidra Digital Hospital

- Application of genetic coding in advanced scientific research.
- Incorporate the most sophisticated digital technology in all areas.
- World-class biomedical research center.
- 8 billion US dollar endowment.
Top Universities

Throughout the world, universities are among the main creators of knowledge. The universities that were selected and invited to join Education City were assessed to a large extent on the basis of their research records.
The Challenge ...

• The vision and scope of Qatar Foundation is massive.

• Our Research Needs are:
  – Real
  – Growing
  – Urgent
  – Substantial

How can we support QF Research Needs?
What will be the needed IT Infrastructure?
QF Research & Education Network

QFREN  A Strategic Asset …@ the core of QF
A Foundational Network Technology Platform to support the Vision & Growth of QF whilst enabling continuous delivery of Services, Programs & Centres.
A Cutting-Edge Technology Platform

Dual Core
CRS-1/16

Directionless Optical routing
Based on Cisco DWDM Technology
Multi-level of protection
50ms recovery for link failure
A Cutting-Edge Technology Platform

- **High Speed Core:** Can scale up to 92Tbps x 2, Total = 184Tbps
- Current Backbone speed is 160Gbps (4 x 40Gbps at the core) **upgradable**
- Current speed at each zone hub is 40Gbps (2 x 10Gbps on EACH ring x 2) **upgradable**
- Multiple layer of high Availability/Redundancy
- Fast Service Provisioning.
QFREN Benefits

Scalability  ➔  Agility  ➔  Reliability  ➔  Performance
Collaborative Model

Qatar Foundation

Regional

International

National
International Connectivity

- International Service Provider
- 1 Gbps MPLS/IP Backbone
- Tertiary backup through Pacific Route-LA
- 99.9 % Availability SLA with Q-Tel

Multiple landing points within US

QTEL

1 Gbps tails provided by QTEL

Qatar Foundation Network, Doha

POP, Doha

Abilene (32 Avenues of Americas)

Cornell (1300 York Avenue)

Metro Network NY

POP @ 111 8th Avenue NY

QTEL

POP @ 60 Hudson, NY

Quarterly

Abilene (32 Avenues of Americas)

Cornell (1300 York Avenue)

Metro Network NY

POP @ 111 8th Avenue NY

QTEL

POP, Doha

Qatar Foundation Network, Doha
Gulf Bridge International

• Middle East's first privately owned submarine cable operator.
• GBI's undersea cable network will connect the Gulf region states in a 'Gulf Ring' system and will have an onward connectivity to Far East via India and Europe via Italy.
• GBI plan to invest $445m into the project.
GBI Gulf Ring

Regional Connectivity map
GBI’s Undersea Cable

• The network is planned to have **Two Fibre Pairs** throughout the Gulf and uses DWDM technology state-of-art technology.

• 128 x 10 Gb/s wavelengths per fibre pair to achieve a total system design capacity of **2.56 Terabits / Sec**

• The GBI Network is designed to satisfy the following four key design criteria:
  – Local & Global Connectivity
  – Availability & Resiliency
  – Long-Term Capacity Planning
  – Affordability
Connectivity To Far East & Europe
GBI’s Undersea Cable Project Status

• GBI’s landing stations in Italy and at Alexandria in Egypt have been built.

• MOU’s have been signed with leading operators in all GCC countries.

• The cable has been laid in the Mediterranean Sea and the connecting cable is being laid in the Red Sea.

• Service will be ready by 2011
MEEZA: Managed IT Service Provider

• A privately-held joint venture with the Qatar Foundation.
• MEEZA is a managed IT Services and Solutions provider that offers a wide range of services to clients.
• Responsible for Managing & Operating QFREN.
MEEZA’s Tier-III Datacenters

First Tier-3 Data Centre in Qatar

Offering 99.98% Availability

Simultaneously Building 2 Additional DCs
MEEZA’s Command & Control Center

C3 State-of-art Command & Control Center → 24x7 Service Support → Highly Automated → Qualified Personnel Driven by ITIL methodology
QFREN in Summary

• Qatar’s first Research & Education focused Network:
  – Designed to meet QF service requirements and growth demand for the next 10 years.
  – High-availability design, and next-generation underlying technology.
  – Information collaboration/capabilities attracts knowledge capital, educational and research institutions and programmes.
  – Facilitate research opportunities through/with established global Research and Education Networks
QFREN in Summary

- A Global Technology Innovation from Qatar
- Service Enablement:
  - Research and Collaboration
  - Grid Computing
  - Distance Education/Learning
    - Streaming High Quality Education Programs
  - High Definition TV
    - Medical Procedural training
  - High Definition Media Sharing
  - Supercomputing