



Why a Career in Technology Matters for Women

Call to Action

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- CTO –Evangelist-New Frontiers-Engineering

April 7, 2015

1. The Situation

2. At Cisco

3. Call to Action

The Situation

Opening Doors of Opportunity

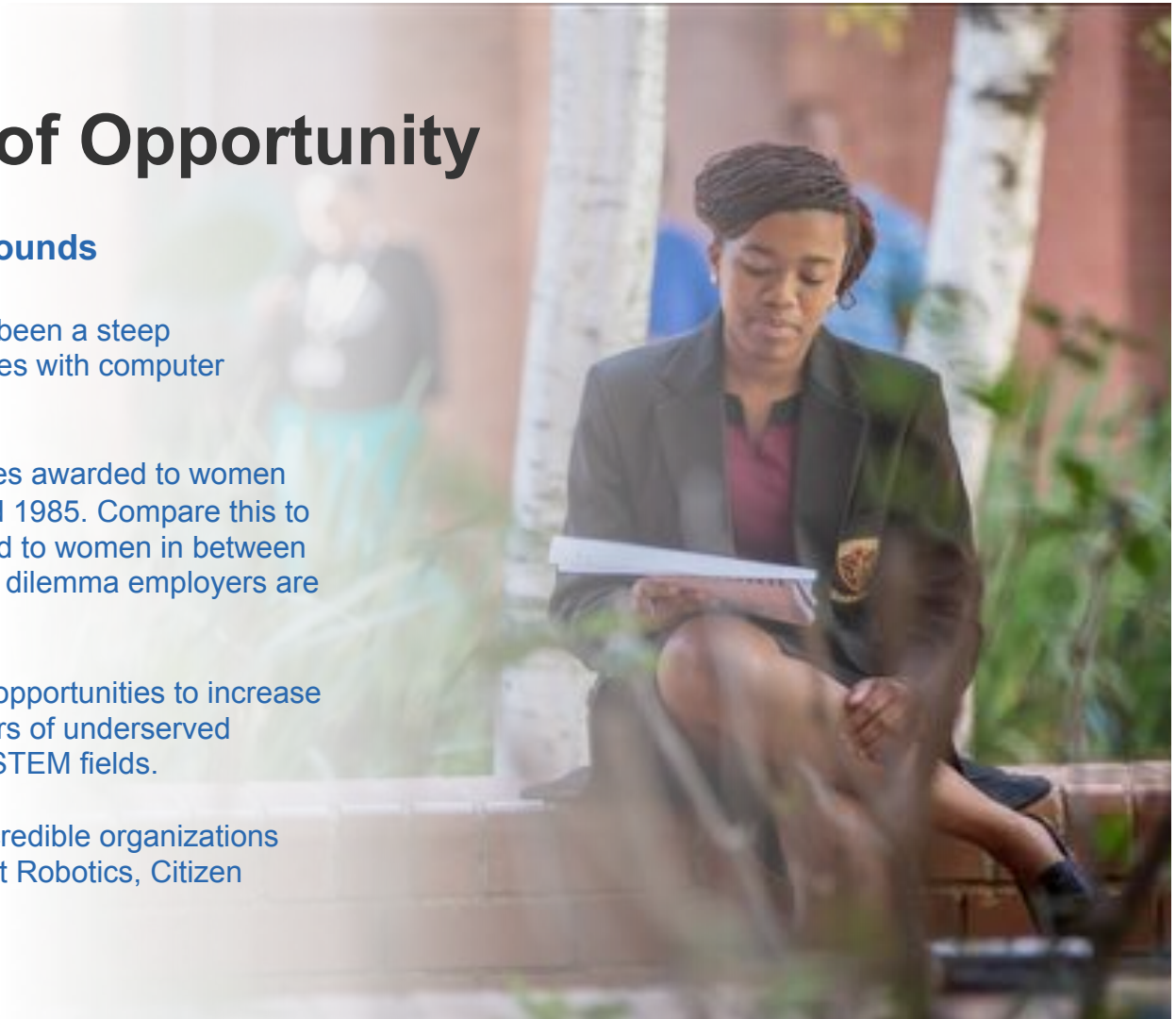
STEM for students of all backgrounds

Over the past three decades, there has been a steep decline in the number of female graduates with computer science degrees.

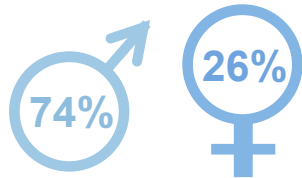
The number of computer science degrees awarded to women peaked at 37 percent between 1984 and 1985. Compare this to only 18 percent of C.S. degrees awarded to women in between 2008 and 2011, and it is easy to see the dilemma employers are facing today.

Cisco is committed to opening doors of opportunities to increase the number of women and girls, members of underserved communities and veterans who go into STEM fields.

We do this through partnerships with incredible organizations like Junior Achievement, Gooru, US First Robotics, Citizen Schools and many more.



STEM Facts



Only 26% of STEM workers are female.

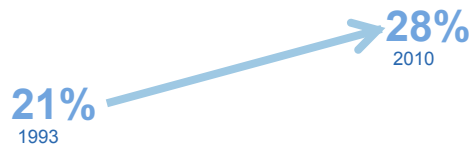


STEM workers

- White
- Asian
- Other Minorities

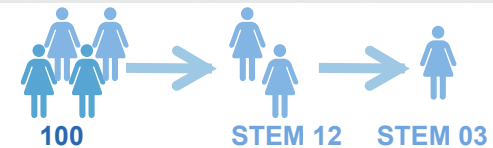


Women comprise more than 20% of engineering school graduates, yet only 11% of practicing engineers are women.



Women were 28% of all workers in S&E occupations in 2010, up from 21% in 1993.

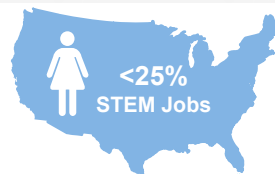
Women's presence among computer/mathematical scientists declined from 31% to 25% between 1993 and 2010, but only because men's rate of growth in this area was higher than women's. The number of women working in computer/mathematical sciences has increased more than in any other board occupational area.



Of 100 female bachelor students, 12 graduate with a STEM major but only 3 continue to work in STEM fields 10 years after graduation.



The wage gap between women and men is much smaller in STEM occupations than in other occupations. In STEM fields, women earn \$0.92 for every \$1 earned by the men, compared to \$0.77 for other fields.



Although women fill close to half of all jobs in the U.S. economy, they hold less than 25 percent of STEM jobs.

Women with STEM jobs earned 33 percent more than comparable women in non-STEM jobs, considerably higher than the STEM premium for men. As a result, the gender wage gap is smaller in STEM jobs than in non-STEM jobs.

Unprecedented STEM Education Crisis in U.S.

By 2018, there will be 1.2 million job openings¹ in the U.S. in the fields that make up STEM. There will be an acute shortage of qualified applicants without a major influx of talent.

In 2009, only

18%

of bachelor's degrees were STEM-related, down from 24% in 1985.²



75%

of students in community college don't graduate.³



Students in the U.S. rank only

18th

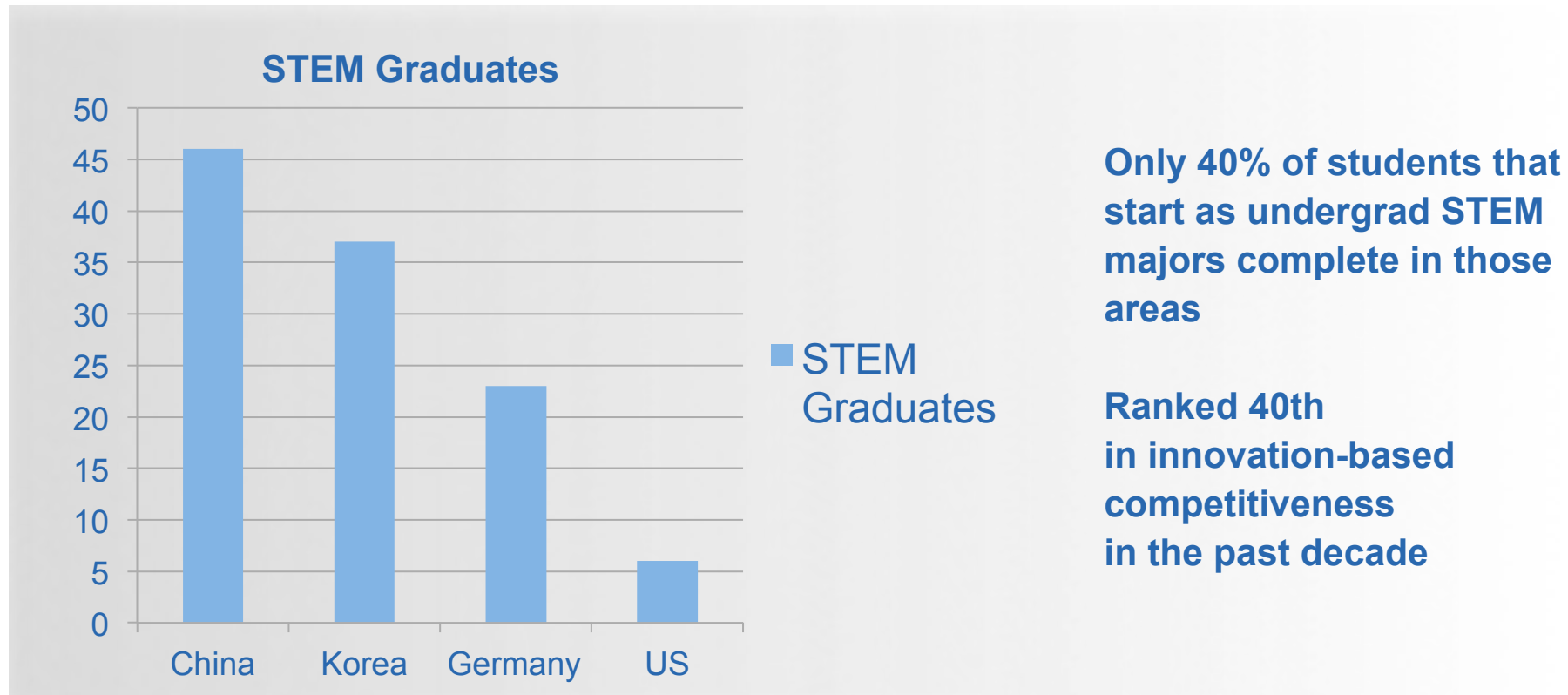


in math and 13th in science literacy.⁴

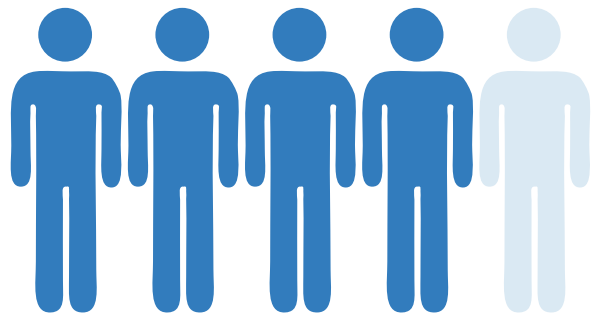
Sources:

1. U.S. Dept. of Labor 2. U.S. Congress Joint Economic Committee 3. Center for an Urban Future 4. Organization for Economic Cooperation and Development

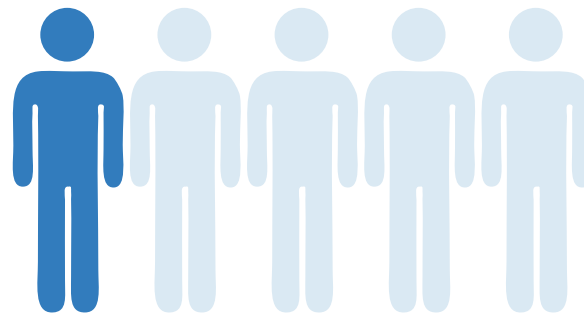
The U.S. Ranks Low Among Other Countries



Igniting the Fire



4 in 5 STEM college students made the decision to study STEM in high school or earlier.



1 in 5 STEM college students decided to study STEM in middle school or earlier.



51% of STEM college students and parents of K-12 students do not feel that preparing students for careers in STEM is a top priority for K-12 schools in the U.S.

Industry in Crisis...



www.zdnet.com/cybersecuritys-... NEWS BLOG 読売新聞(Japanese Edition)

TOP POLITICS SOCIETY BUSINESS WORLD SPORTS EDITORIAL FEATURES COL

Cybersecurity 'experts' lacking in numbers, skill

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Topic: Security

Cybersecurity troubling to

Summary: There is a severe - Leading industry experts believe



9:12 pm, August 11, 2014

By Toshimitsu Ishima and Mayumi Kamizono / Yomiuri Shimbun Staff Writers

Amid ever-increasing cyber-attacks, a shortage of cybersecurity experts has become a serious problem.

At least 80,000 more information security experts are reportedly needed with

“The information security discipline is not evolving fast enough. Most notable, women represent just 11% of this profession.”

[Agents of Change: Women in the Information Security Profession](#)

Why So Few Women?



Danielle Walker, Reporter

Follow @danieliewlkr

October 15, 2013

Study: Millennials not encouraged to fill security workforce demand

Share this article:



Only a meek showing of young people are being encouraged to pursue cyber security careers, a recent study on millennials' attitudes found.

According to the "Raytheon Millennial Cybersecurity Survey Report" (PDF) released on Tuesday, a staggering 82 percent of young people, aged 18 to 26, said that no high school teacher or guidance counselor ever mentioned to them career opportunities in the field.



Study: Among those interested in careers in IT security, far more were young men than women.

The Faces-Images



Women in Tech: The Facts*



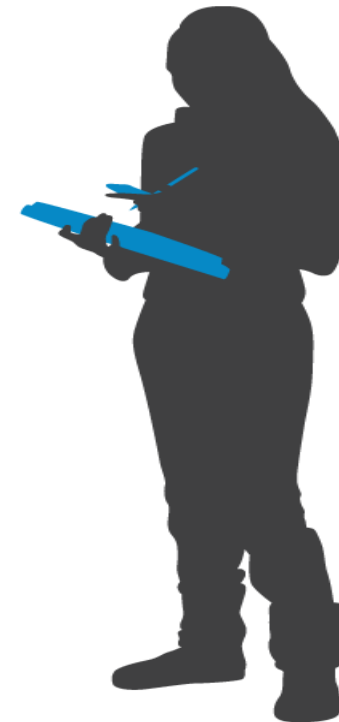
GIRLS COMPRISE
19% of AP CS exam-takers



WOMEN EARN
18% of CIS degrees



**TECHNICAL WOMEN
LEAVE**
at twice the rate of men:
56% by mid-career



Women In Tech: The Facts



WOMEN COMPRISE
57% of U.S. Professional
Occupations



WOMEN HOLD
25% of U.S. Technology
Jobs



WOMEN MAKE UP
19% of U.S. Software
Developers



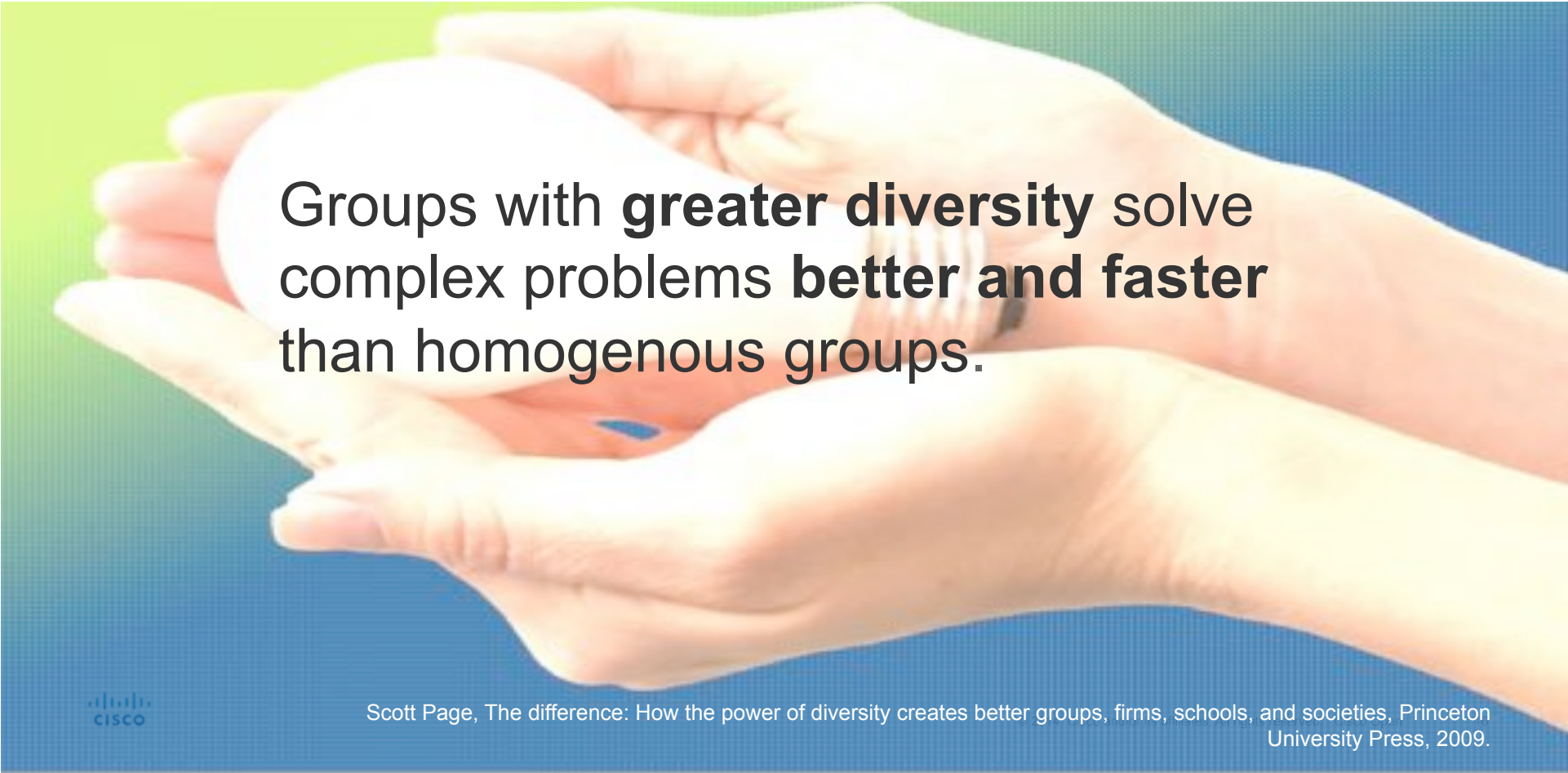
Only **5%** of **TECHNOLOGY**
LEADERSHIP Jobs Are
Held by Women



Why Women Matter



Diversity Enhances Teams

A photograph of two hands, one above the other, gently holding a white egg. The background is a soft gradient of green and blue. The text is overlaid on the egg.

Groups with **greater diversity** solve complex problems **better and faster** than homogenous groups.

What the Research Says



Let's Cut to the Chase

- Technical Women Aren't Broken
- Technical Men Aren't The Enemy
- Culprit = Societal Biases We All Share
- We Can Take Action Together



How Stereotype Threat Shows Up in Technical Environments

Not speak up in meetings

Be reluctant to take leadership positions

Be overly harsh about their own work

Discount their performance



Subtle Dynamics Example: Micro-inequities

Slights: “Actually, Susan has a good idea.”

Exclusion: “Oops, I forgot to cc her on the email about the architecture review.”

Recognition: “No, I’m pretty sure Jane would not have had the idea to use a link algorithm.”



Isolation: “Dude, let’s talk about it over a beer!”

Institutional Barriers

Hiring

Selecting people “like me”

Task Assignment

Women find themselves in “low status” jobs

Performance Appraisal

Men appraised for effort, skill; women for collaboration, luck

Promotion

Criteria modeled implicitly on existing senior male leaders

At Cisco

Cisco Networking Academy: Putting the “T” in STEM

Technology Skills



What You Learn

- Address the “T” for Technology
- Networking
- Security
- Wireless
- Configuration

21st Century Skills



How You Learn

- Collaboration
- Community
- Communication
- Problem-Solving
- Initiative-Taking

Entrepreneurial Skills



How You Think

- Mindset
- Innovative Thinking
- Personal and Social Responsibility
- Business Management

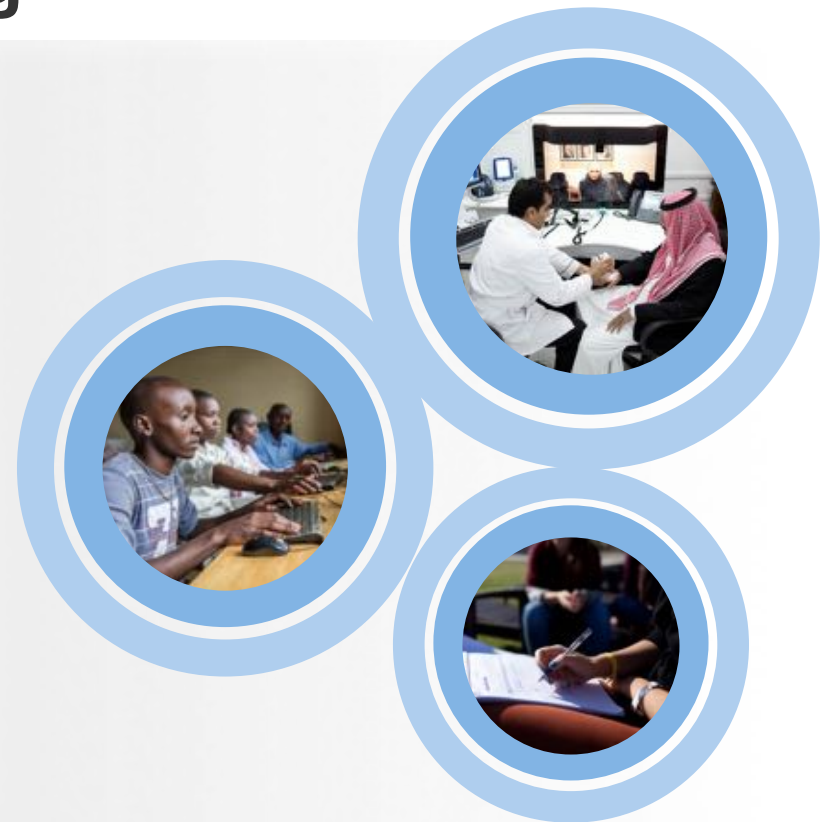
US2020: STEM Mentoring

U.S. 2020: Igniting a passion for STEM

Cisco is a founding partner of US2020, which grew out of a White House initiative to increase STEM mentoring across the country.

Cisco has pledged that 20% of our U.S. employees will provide at least 20 hours of STEM mentoring per year by 2020.

To meet this goal, we host events like Girls in ICT Day and partner with a range of nonprofit organizations, including the Girl Scouts, FIRST Robotics, Million Women Mentors and CyberPatriot.



Cisco Encourages & Trains Individuals in STEM Careers, Diminishing the Talent Gap

Through nonprofit partnerships and Cisco programs



Cisco's Veterans Programs

White House IT Training and Certification Program

Air Force Association's
CyberPatriot
The National High School Cyber Defense Competition



Cisco Published its Diversity Statistics 2014



Like most of its peers, Cisco's workforce is overwhelmingly comprised of Caucasian and Asian men.

A full 77% of its employee base is male, with 54% of total workers (male and female combined) identifying as Caucasian and 36% as Asian.

The number of employees identifying as Hispanic and African American was 5% and 3%, respectively.

For the first time, Cisco has also released the gender breakdown for specific roles, and the numbers there are even bleaker.

A full 85% of the company's technical roles are filled by men.

When it comes to managers, just 19% are female.

http://www.cisco.com/assets/csr/pdf/CSR_Report_2014.pdf



“The worst thing for people to say is that it's going to take time,” says Warrior. “In technology, we pride ourselves on the pace of change. Why can't we talk about that same pace of change when it comes to women in leadership?”

The Men's Pledge

- As a member of Cisco For Inclusion:

I will serve as an Ally to women colleagues in the company through these four vows:

- I commit to building a relationship of trust and respect with you.
- I commit to helping you find and secure opportunity.
- I commit to seeking your feedback and being candid with you.
- I commit to helping other men do the same.

The Women's Pledge

- As a member of Cisco Men For Inclusion

I will serve as an Ally to women colleagues in the company through these four vows:

- I commit to building a relationship of trust and respect with you.
- I commit to helping you find and secure opportunity.
- I commit to seeking your feedback and being candid with you.
- I commit to growing relationships of reciprocity with male Allies, so they do these things as well.

Call to Action

If you don't like the way the world is, you change it. You have an obligation to change it. You just do it one step at a time.

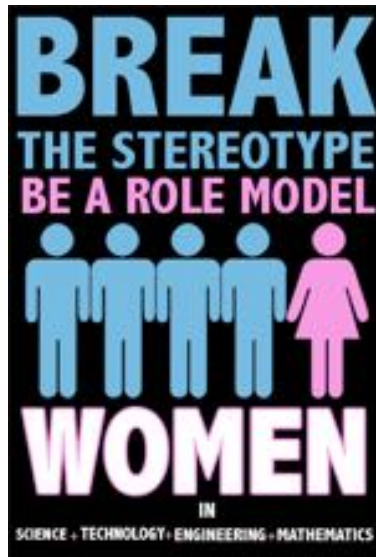
– Marian Wright Edelman



We WANT You!

IEEE Women in Engineering:

http://www.ieee.org/membership_services/membership/women/index.html



What Does Success Look Like?



WOMEN ENGINEERS IN DEVELOPMENT



Call for Action: “ You Can’t See It, You Can’t Be It”!

