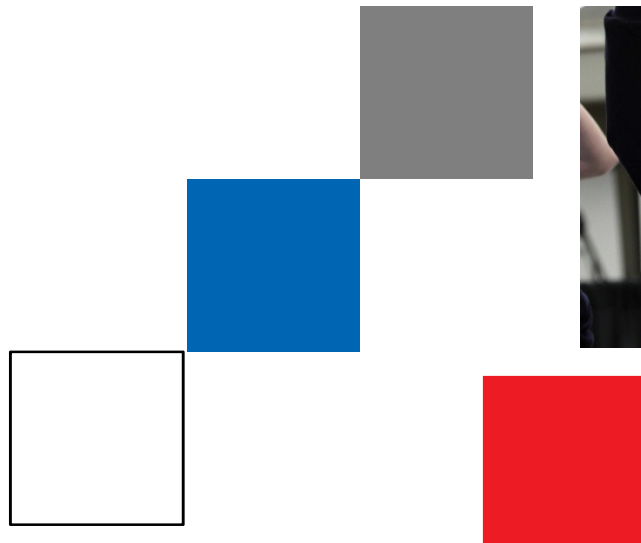


FIRST[®] LEGO[®] League





FIRST LEGO League is one of four programs that makes up **FIRST**



FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY



FIRST LEGO League is an Alliance



+



FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY





For Inspiration and Recognition of Science and Technology is a U.S. based non-profit organization whose mission is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.





“ We want to change the culture by celebrating the mind. We need to show kids that it’s more fun to design and create a video game than it is to play one.”

“... creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders.”

Dean Kamen

Founder of FIRST





LEGO Education is a part of the LEGO Group that works to improve the learning of our youth by creating solutions for the classroom in a way that enables students to be active, creative and collaborative solution-seekers.



“ FLL encourages children to design, construct, and program their own intelligent inventions. This allows them not only to understand technology, but to become masters of it.”

Kjeld Kirk Kristiansen

Owner & Vice Chairman
The LEGO Group

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FIRST LEGO League is a...



A science & technology program, using robotics,
For 9 to 16 year olds (9-14 in North America)

Where kids...

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- ... Design, build, program and test an autonomous robot
- ... Apply real-world math and science concepts
- ... Stimulate their creativity in the problem solving process



- ... Design, build, program and test an autonomous robot
- ... Apply real-world math and science concepts
- ... Stimulate their use of creativity in the problem solving process
- ... Create innovative solutions to challenges facing today's scientists
- ... Become involved in the local and global community



- ... Design, build, program and test an autonomous robot
- ... Apply real-world math and science concepts
- ... Stimulate their use of creativity in the problem solving process
- ... Create innovative solutions to challenges facing today's scientists
- ... Become involved in the local and global community
- ... Develop valuable career and life skills
- ... Utilize inquiry-based learning
- ... Develop their ability to work in teams



FIRST LEGO League ...



INSPIRES children to participate in science and technology

ENGAGES children in playful and meaningful learning

PROVIDES a fun, creative, hands-on and minds-on learning experience

CHALLENGES children to solve real-world problems using robotics

TEACHES children to experiment and overcome obstacles

BUILDS self-esteem, confidence and teamwork

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FIRST LEGO League is an Annual Challenge



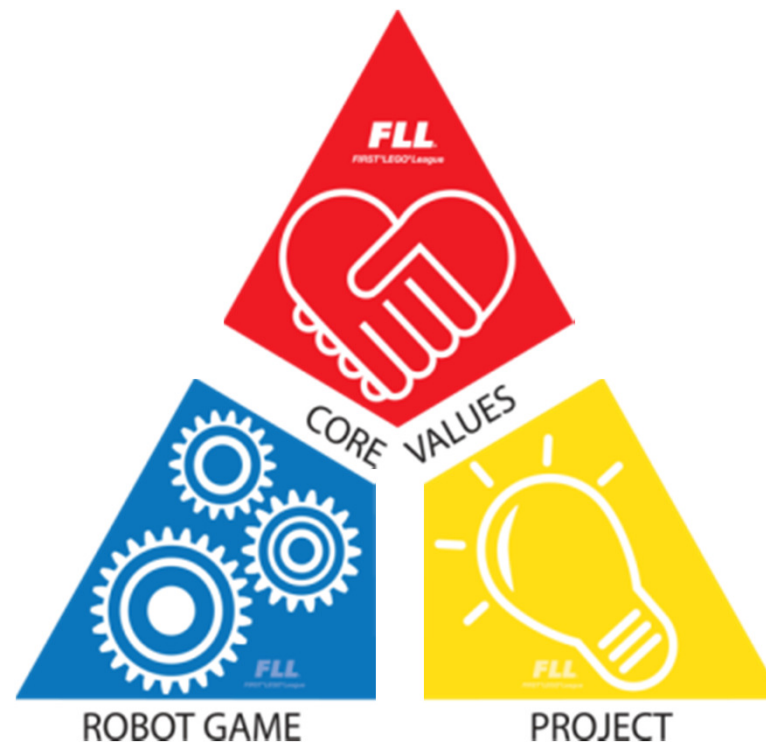
- ❑ Based on Real-World Scientific Topics
- ❑ Kicks Off in September
- ❑ Teams = Up to 10 Children + 1 Adult Coach
- ❑ Competitions Feel Like Sporting Events
- ❑ Tournaments Run by our Operational Partners

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FIRST LEGO League has Three Components



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What We Do



ROBOT GAME



PROJECT

How We Do It





Design, Build & Program Autonomous Robots
Test, Learn and Improve
Problem Solving and Critical Thinking



Explore Real World Problems
Research the Challenge Topic
Identify a Problem
Develop Innovative Solutions
Share Your Findings



Teamwork
Good Sportsmanship
Cooperation
Respect
Team Spirit
Gracious Professionalism™

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- ❑ We are a team.
- ❑ We do the work to find solutions with guidance from our coaches and mentors.
- ❑ We know our coaches and mentors don't have all the answers; we learn together.
- ❑ We honor the spirit of friendly competition.
- ❑ What we discover is more important than what we win.
- ❑ We share our experiences with others.
- ❑ We display Gracious Professionalism™ and Coopertition™ in everything we do.
- ❑ We have FUN!



The Tournament Experience



Robot Rounds on a Themed Playing Field



Judging Robot Design, Project, Core Values



Sporting Event Feel DJ, Master of Ceremonies, Music, Dancing, Cheering

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Mechanical Design

- Durability
- Mechanical Efficiency
- Mechanization

Programming

- Programming Quality
- Programming Efficiency
- Automation/Navigation

Strategy and Innovation

- Design Process
- Mission Strategy
- Innovation



Research

- Problem Identification
- Sources of Information
- Problem Analysis
- Review Existing Solutions

Innovative Solution

- Team Solution
- Innovation
- Implementation

Presentation

- Presentation Effectiveness
- Creativity
- Sharing



Inspiration

- Discovery
- Team Spirit
- Integration

Teamwork

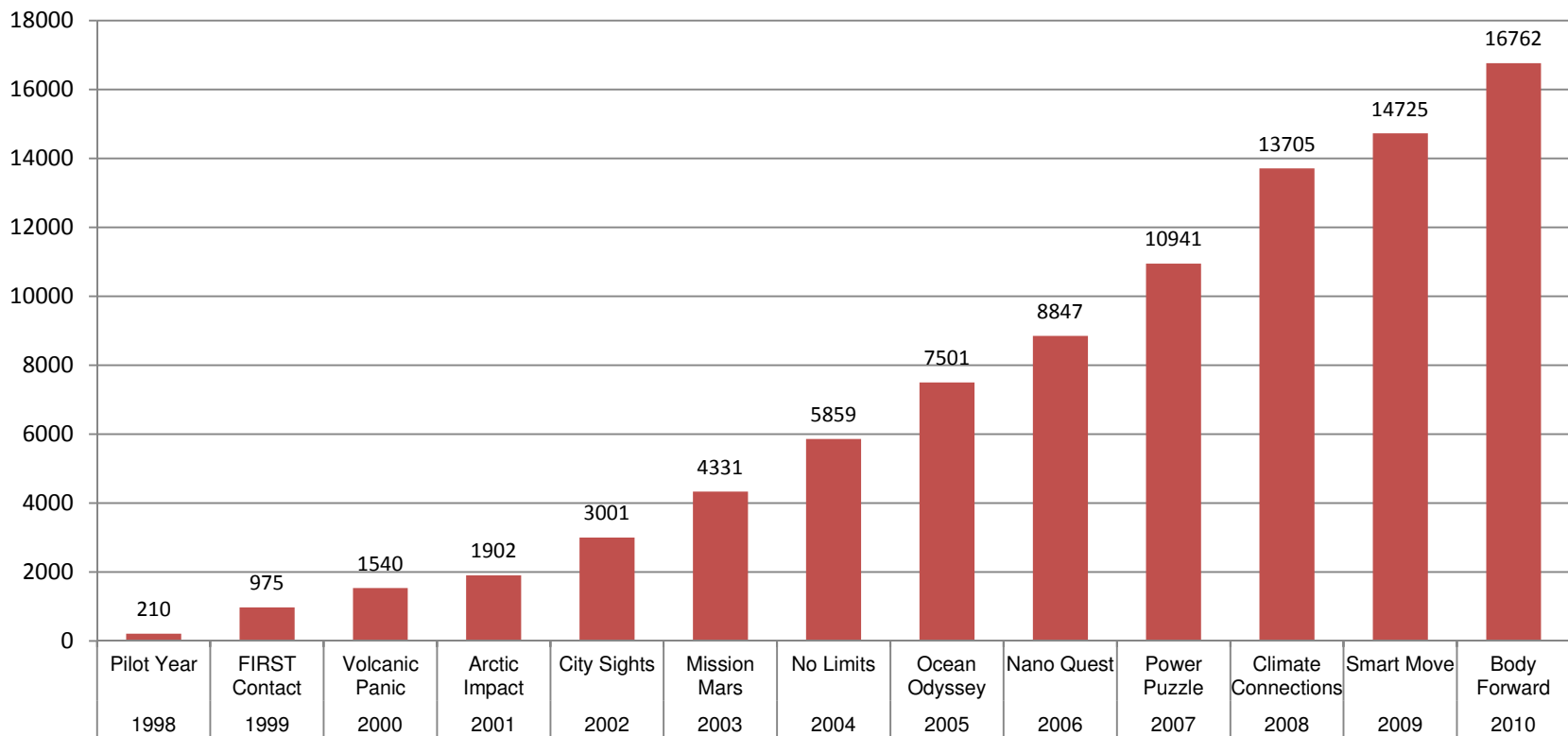
- Effectiveness
- Efficiency
- Kids Do the Work

Gracious Professionalism

- Inclusion
- Respect
- Coopertition

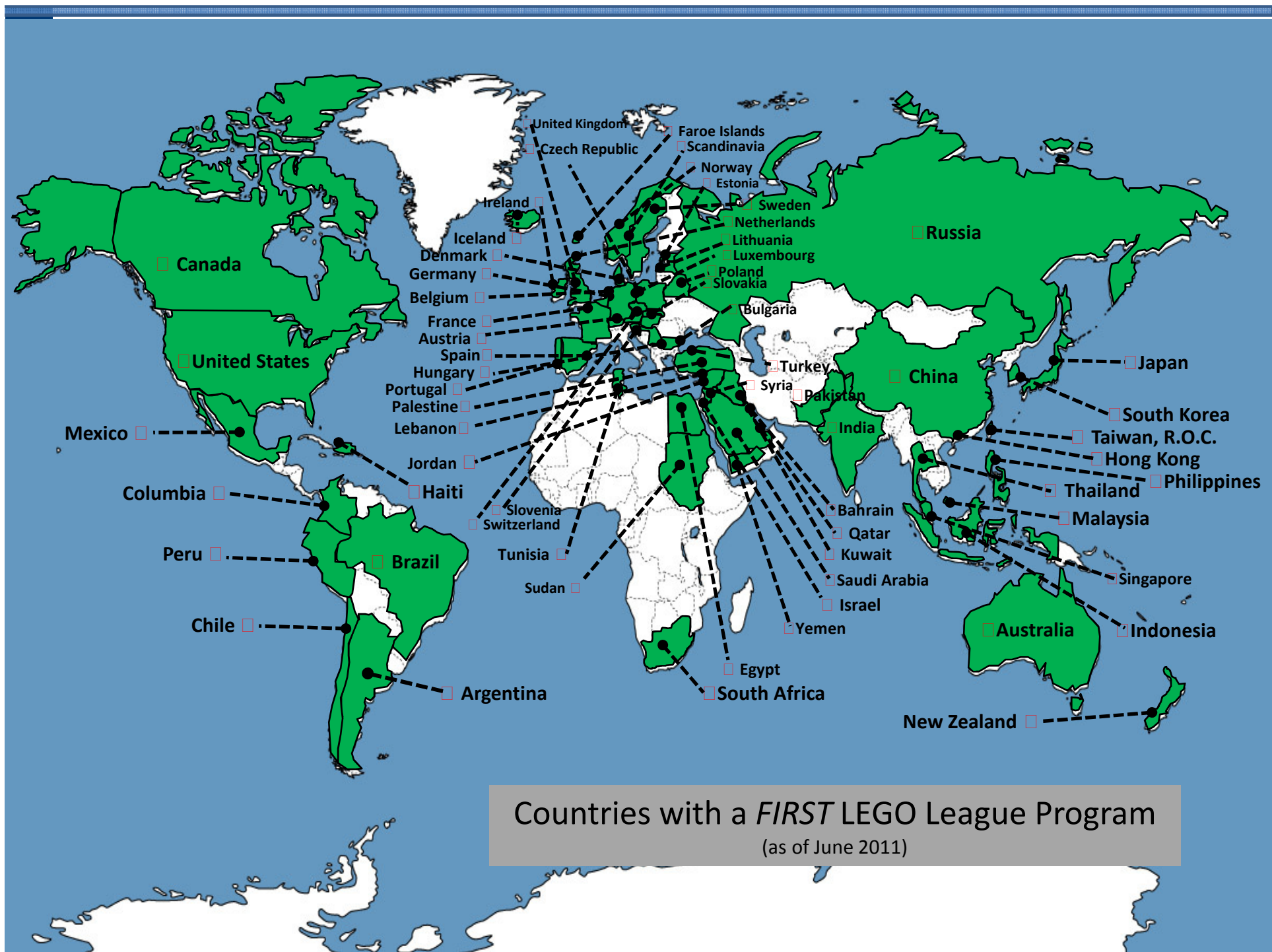


FIRST LEGO League Global Team Growth



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Countries with a *FIRST* LEGO League Program

(as of June 2011)

Global Innovation Award



- ❑ Teams submit their Project solutions online
- ❑ Public votes on their favorite
- ❑ Top 10 vote-getters advance to semi-finals
- ❑ Additional 10 semi-finalist teams selected by expert judges



- ❑ Finalists attend an award ceremony in Washington, D.C.
- ❑ The winning team works with a product development company to take their invention to market
- ❑ <http://fllinnovationaward.firstlegoleague.org/>

Why **FIRST LEGO League** is needed



Name a product or service you use
that did not involve an engineer or
scientist at some level.

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FIRST LEGO League is needed because ...



- ❑ Engineers and scientists make the technological world in which we live possible.
- ❑ Science and technology play key roles in our society.
- ❑ Innovation and problem-solving are essential to advancing.
- ❑ Even those who do not pursue a STEM career will likely interact with people in STEM. Innovation and problem-solving are important to everyone.
- ❑ If fewer young people pursue careers within STEM fields, companies will find it increasingly difficult to attract and maintain the right workforce in the future.



Trends in Science, Technology, Engineering, Math

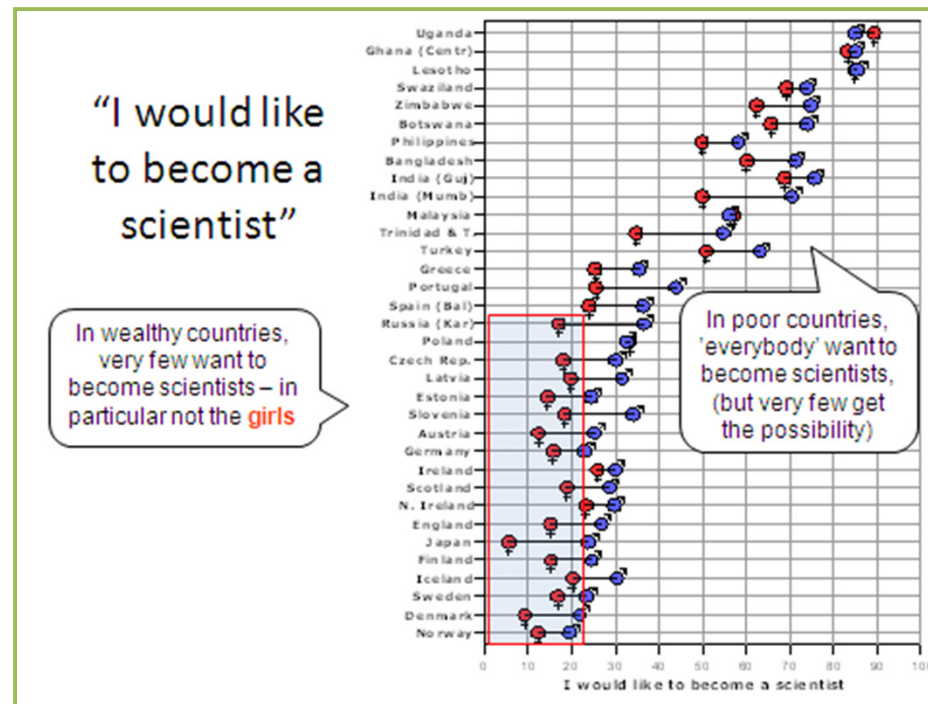


Numerous studies worldwide have highlighted a decline in student interest and proficiency in science, technology and mathematics.

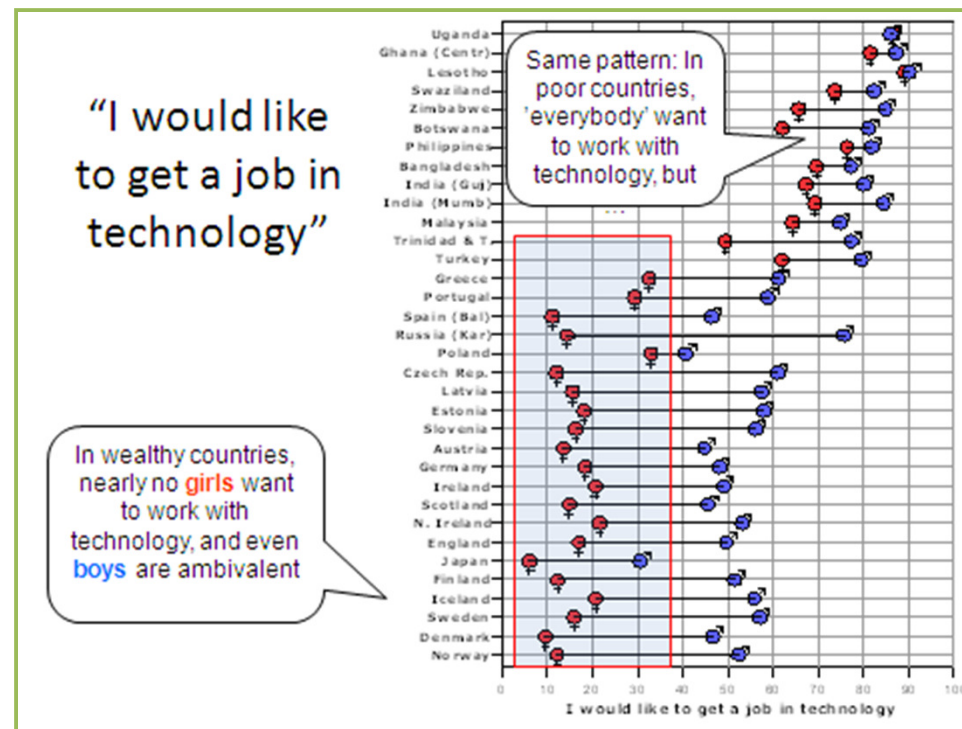
- ❏ Organization for Economic Co-operation and Development (OECD) Reports
- ❏ Programme for International Student Assessment (PISA), France, 2011
- ❏ Relevance of Science Education (ROSE), Oslo, 2010
- ❏ Rising Above the Gathering Storm, Washington, DC, 2010



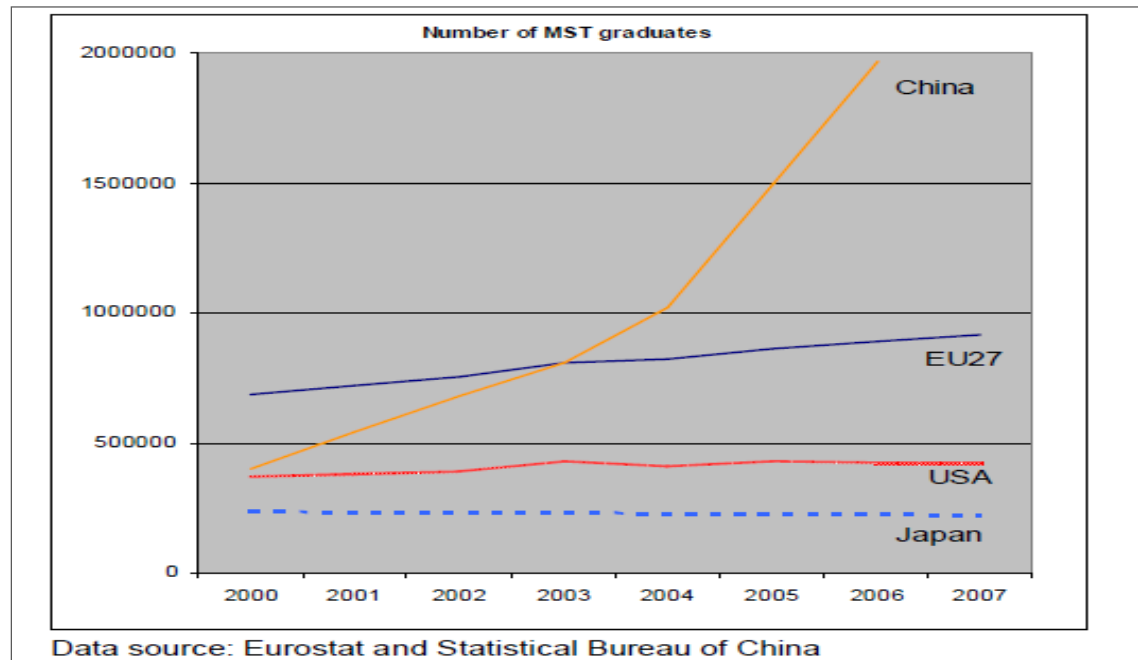
Relevance of Science Education (ROSE), Oslo, 2010



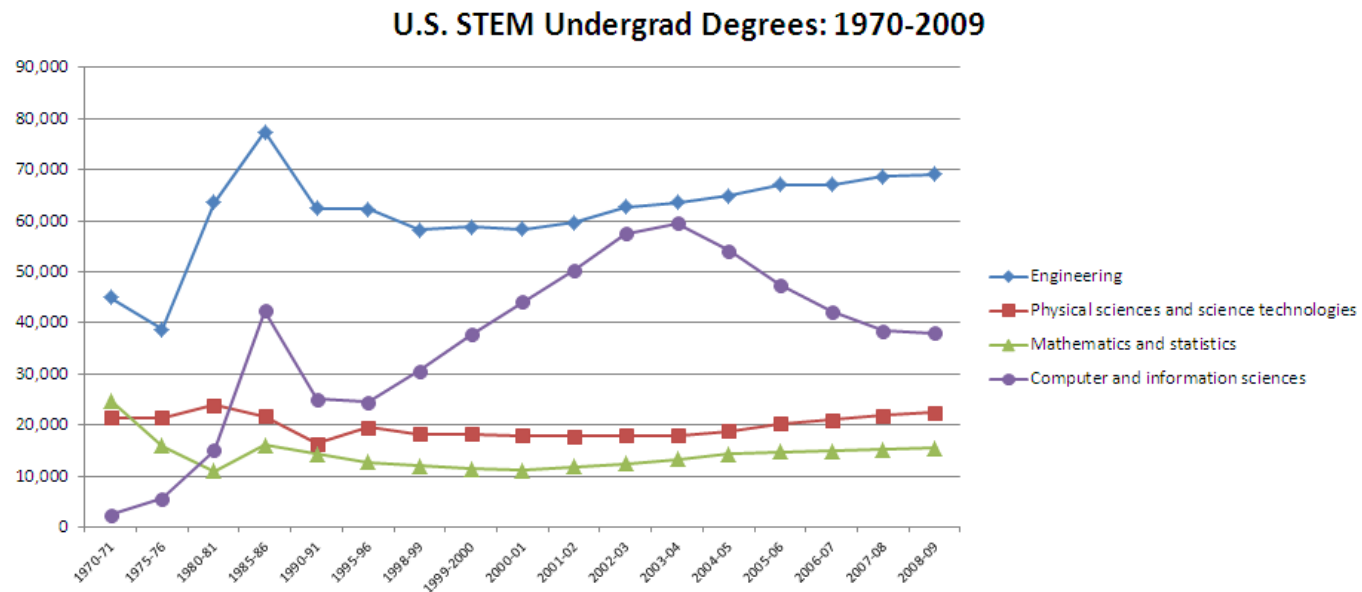
Relevance of Science Education (ROSE), Oslo, 2010



A comparison of Math, Science and Technology graduates

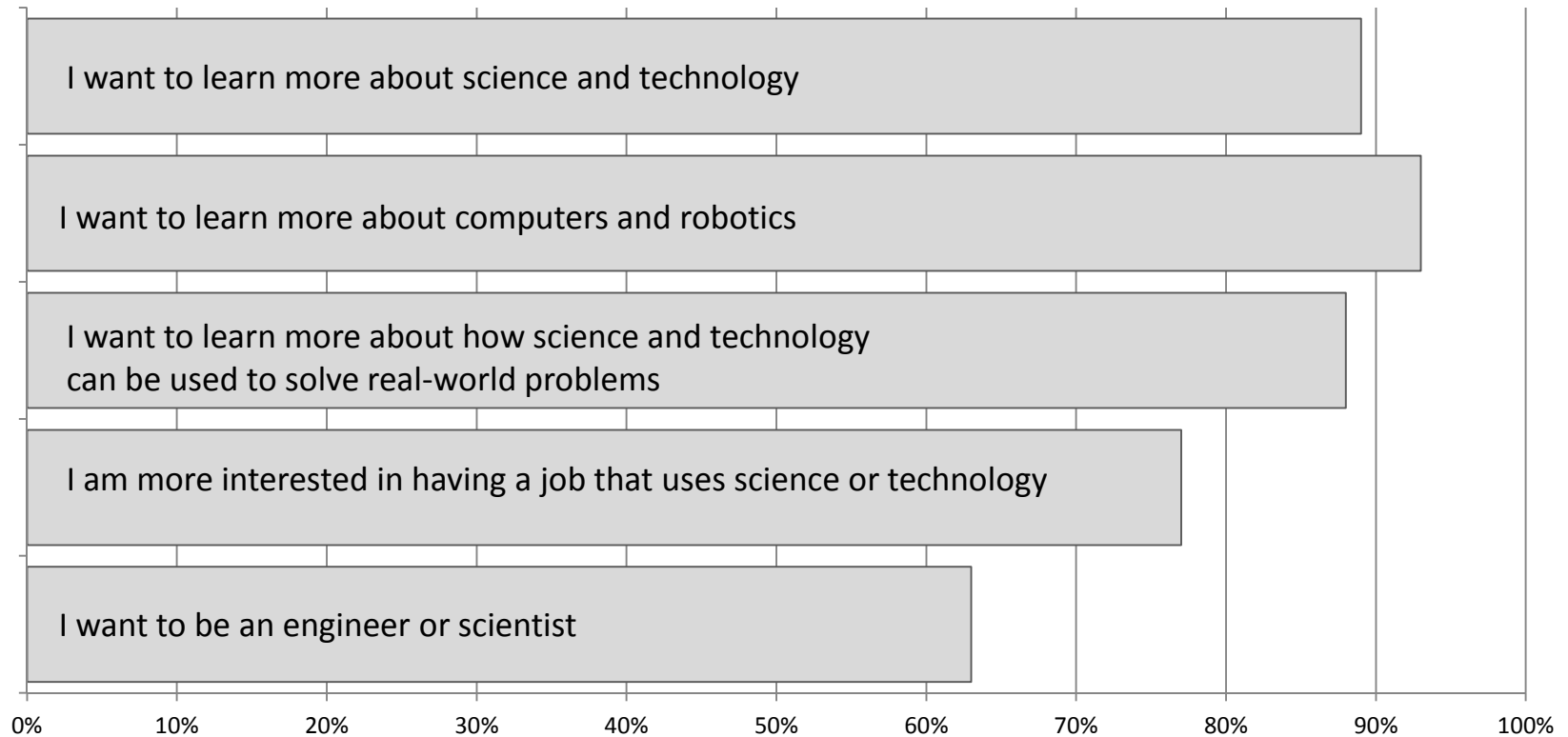


A comparison of Math, Science and Technology graduates



Source: National Center for Educational Statistics, U.S. Department of Education

FIRST LEGO League Impact



Source: Center for Youth and Communities, Brandeis University. Evaluation of the 2008 FLL program in the U.S. and Canada. 188 teams participated.

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