IEEE: Beyond the Section

Region 3 Meeting, 5 April 2013

David Green, IEEE Region 3 Director

IEEE
Advancing Technology for Humanity

IEEE: The Force Behind Innovation

IEEE Corporate Presentation

How we are seen (or wish to be seen)

IEEE
Advancing Technology for Humanity

Our Mission

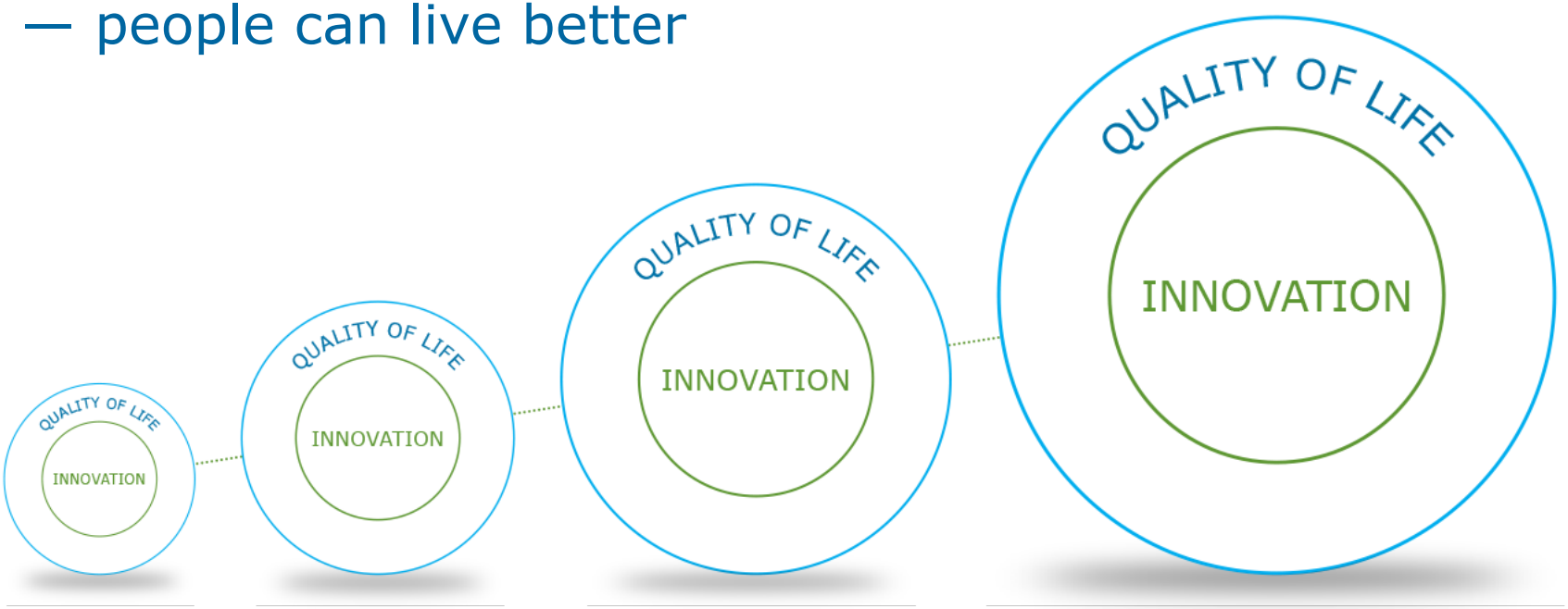
Advance technological innovation and excellence for the benefit of humanity.

Advancing Technology

- IEEE is behind the technology that drives innovation and better living.

Advancing Technology

- Technology drives innovation
  — people can do more, do better
- Technology drives higher quality of life
  — people can live better



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Advancing Technology

- IEEE facilitates the cross-pollination of ideas, giving people access to ideas developed in other disciplines.

IEEE information is more than just electrical engineering and computer science

IEEE TECHNICAL AREAS:

Aerospace
Biomedical Engineering
Circuits
Cloud Computing
Communications
Electronics
Imaging
Information Technology
LTE Wireless
Broadband
Nanotechnology
Optics
Renewable Energy
Semiconductors
Smart Grid
And more…

Over the past 125 years, great thinkers have relied on IEEE as they developed breakthrough ideas that have altered our lives.

Our History

Our story of innovation begins with our spirit of collaboration.

The Founding of IEEE

1884 ..... **1912** ..... **1963** ..... Present

AIEE
American Institute
of Electrical Engineers

IRE
Institute of Radio
Engineers

Th n, Ale Pioneers of wireless technologies
a bles f and electronics founded the
tut **Institute of Radio Engineers**.

AIEE and IRE merged to become the Institute of Electrical and Electronic Engineers, or **IEEE**.

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IEEE Today

1884 — 1912 — 1963 — **Present**

IEEE embodies the visions of its founders, applying them to the challenges of today and tomorrow.

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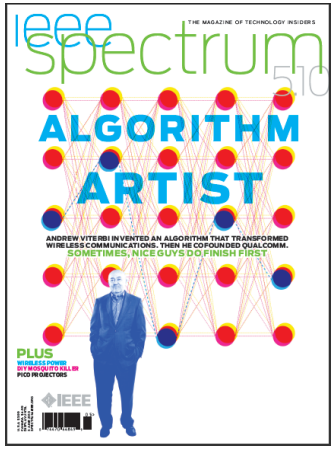
Today's Leaders

- IEEE recognizes contributions to the advancement of technology with the prestigious IEEE Medal of Honor.

2009
Robert Dennard
Dynamic Random Access Memory

2010
Andrew Viterbe
Algorithm for wireless, co-founder Qualcomm



2011
Morris Chang
Outstanding leadership in the semiconductor industry

2012
John L. Hennessy
Reduced Instruction Set Computer processor

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IEEE Today at a Glance

Our Global Reach

415,000+
Members

45
Technical Societies

160
Countries

Our Technical Breadth

1,200+
Annual Conferences

3,300,000+
Technical Documents

160+
Top-cited Periodicals

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How We Impact

IEEE drives the technologies that improve the quality of life.

IEEE Standards

- IEEE nurtures, develops, and advances building global technologies.

Can you name an IEEE Standard?

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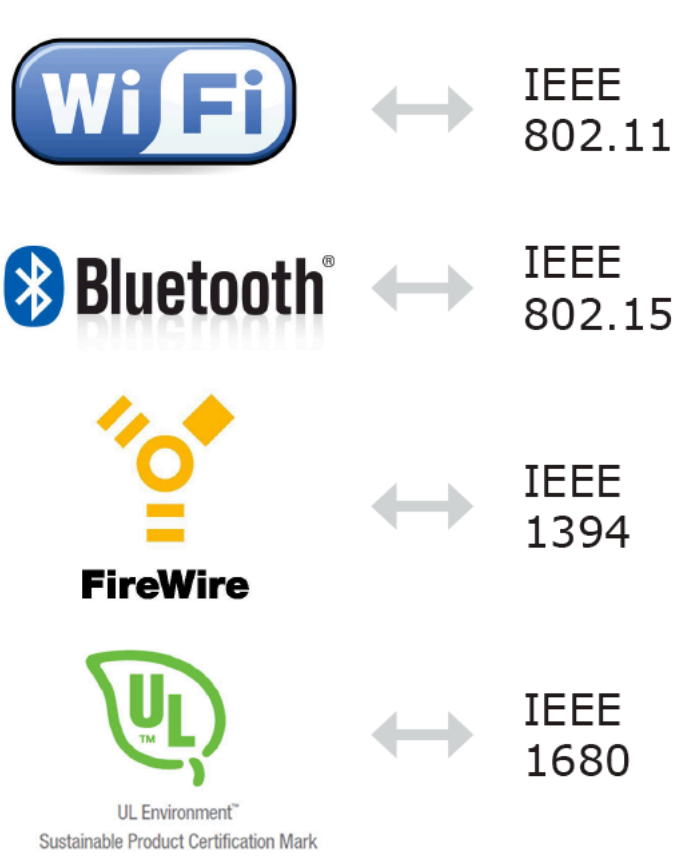
IEEE Standards

- Consumers around the world enjoy the benefits of IEEE's standards.

Here are a few you may recognize…



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IEEE Conferences

- Bright minds share the latest research at IEEE sponsored and co-sponsored conferences around the world.

1,300+ Annual Conferences

Research | **Collaboration** | **Publications**

IEEE Advancing Technology for Humanity

IEEE Conferences

- Bright minds share the latest research at IEEE sponsored and co-sponsored conferences around the world.

IEEE Conference Proceedings

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IEEE Publications

- IEEE advances author ideas by publishing research for delivery to key technical audiences.

IEEE is the premier source of journals in our fields of interest.

160+ top-cited periodicals

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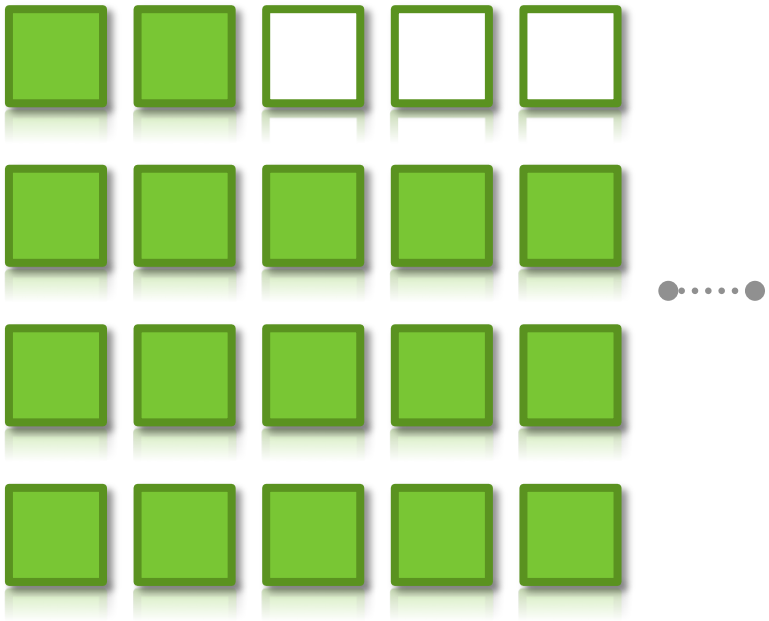
IEEE Publications

- 2011 JCR® study reveals IEEE journals continue to maintain rankings at the top of their fields.



17 of the top 20

journals in electrical engineering are published by IEEE.

Source: 2012 Thomson Reuters Journal Citation Reports® (JCR)

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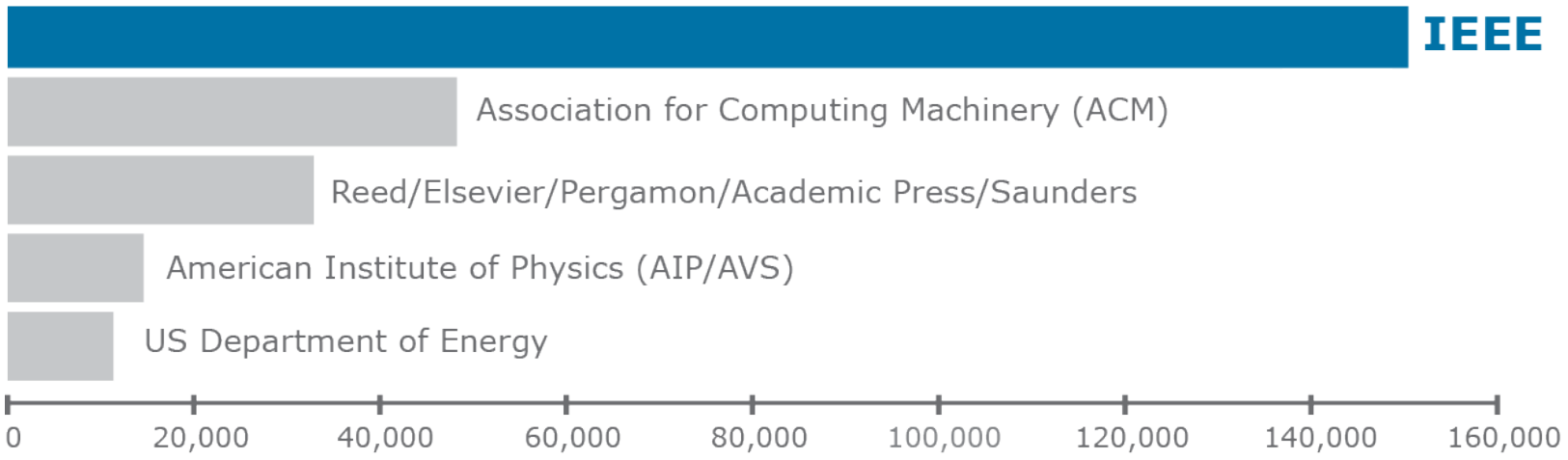
IEEE Patent Citations

- IEEE leads as the most-cited publisher in new patents from the top patenting organizations.



Publishers compiled from all journals referenced 100+ times from organizations in 2011 US Patent Office Filings.
Source: 1790 Analytics LLC. Copyright 2012.

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IEEE *Xplore*® Digital Library

- IEEE intellectual property, all searchable in one place.
  - Powerful search tools
  - Over 3 million full-text articles and papers
  - Users download more than 8 million documents per month

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IEEE Open Access

- Authors gain maximum exposure for their research and application-oriented articles with open access publications, freely available to readers.

Hybrid Journals

Subscription-based and Open Access

Mega Journal

Multidisciplinary Open Access

Fully Open Access Journals

Devoted to One Technology Topic

IEEE Authorship

- Behind technology are researchers who choose to publish with IEEE and contribute to IEEE conferences.

Dr. Deborah Frincke
IEEE Senior Member
Cyber Security Professional

PHOTO: Pacific Northwest National Laboratory

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Benefiting the Global Society

IEEE touches everyone in their everyday lives because technology touches everyone.

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Emerging Technologies

- IEEE focuses on what's next—enabling innovation and the creation of new technologies.

Cloud Computing

Renewable Energy

Smart Grid

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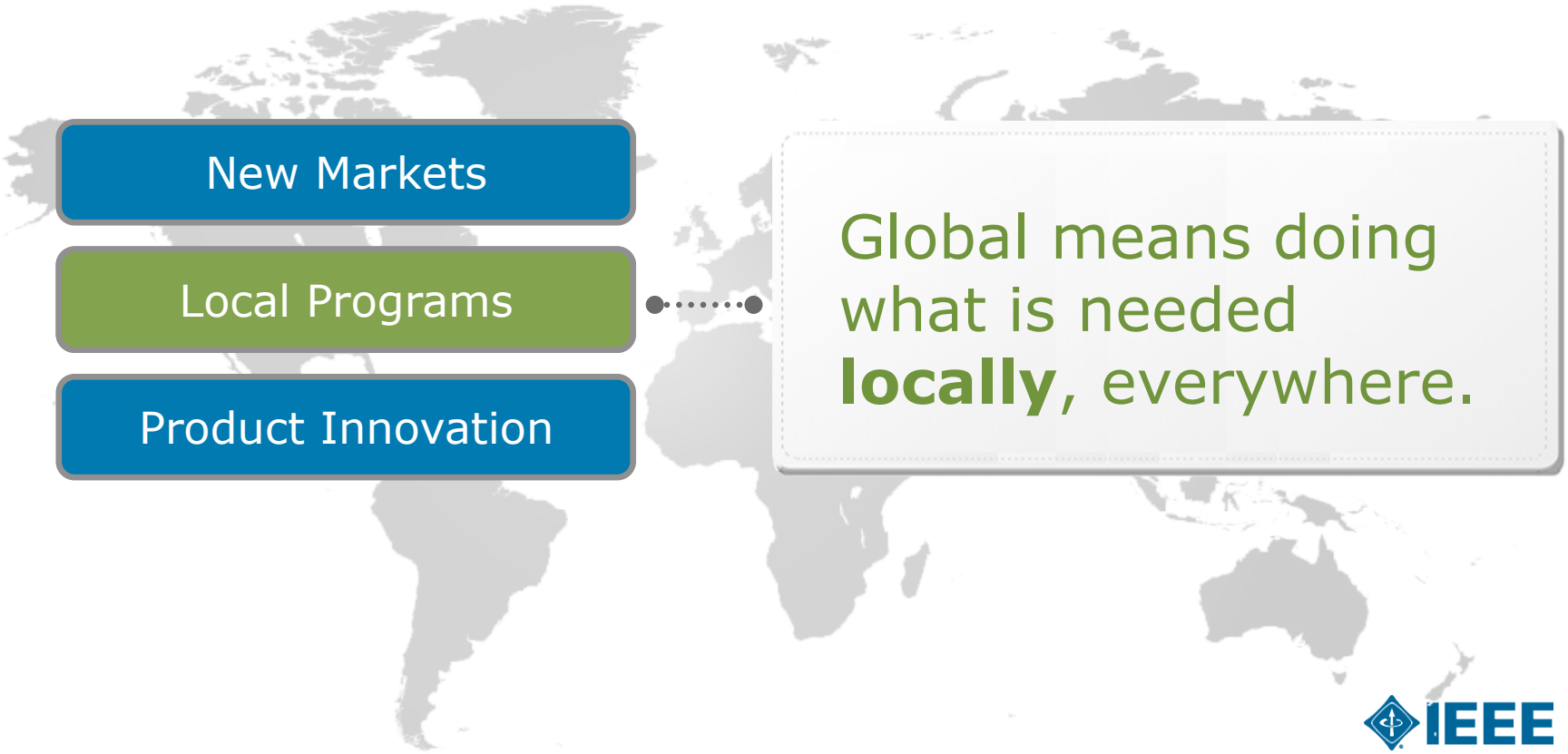
Expanding Global Outreach

- IEEE collaborations around the world inspire innovation for those who develop and deliver technology solutions.



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IEEE enables the human desire
to achieve, to learn, to know more,
and to help others.

Improving Quality of Life

- IEEE programs apply technology to improve conditions for people around the globe.

Rural Electricity

Haiti — Photovoltaic panels being installed on EFACAP school for a laptop charging station.

PHOTO: Laura Hosman

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Improving Quality of Life

- IEEE programs apply technology to improve conditions for people around the globe.

E-Health Program

India — RFID Individual Tracking and Records Management Solution (RFID-ITRM)

PHOTO: Ali Zalzala

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Improving Quality of Life

- IEEE programs apply technology to improve conditions for people around the globe.

Portable Power

Rwanda — Energy kiosk station uses renewable energy to charge portable batteries.

PHOTO: Photograph courtesy of Imperial College London.

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IEEE education programs provide opportunities for lifelong continuing education.

Educating for Success

- IEEE educational programs enable students and professionals to achieve their goals.

IEEE Educational Programs and Resources:

- Career Preparation
- Continuing Education
- iTunes U
- Pre-University Programs
- Professional Certification Programs
- and more

IEEE: The Next Generation

- IEEE programs open the eyes of youth to the possibilities of today's and tomorrow's technologies.

IEEE supports programs such as:

- TryEngineering.org
- TryComputing.org
- Teacher In-Service
- and others

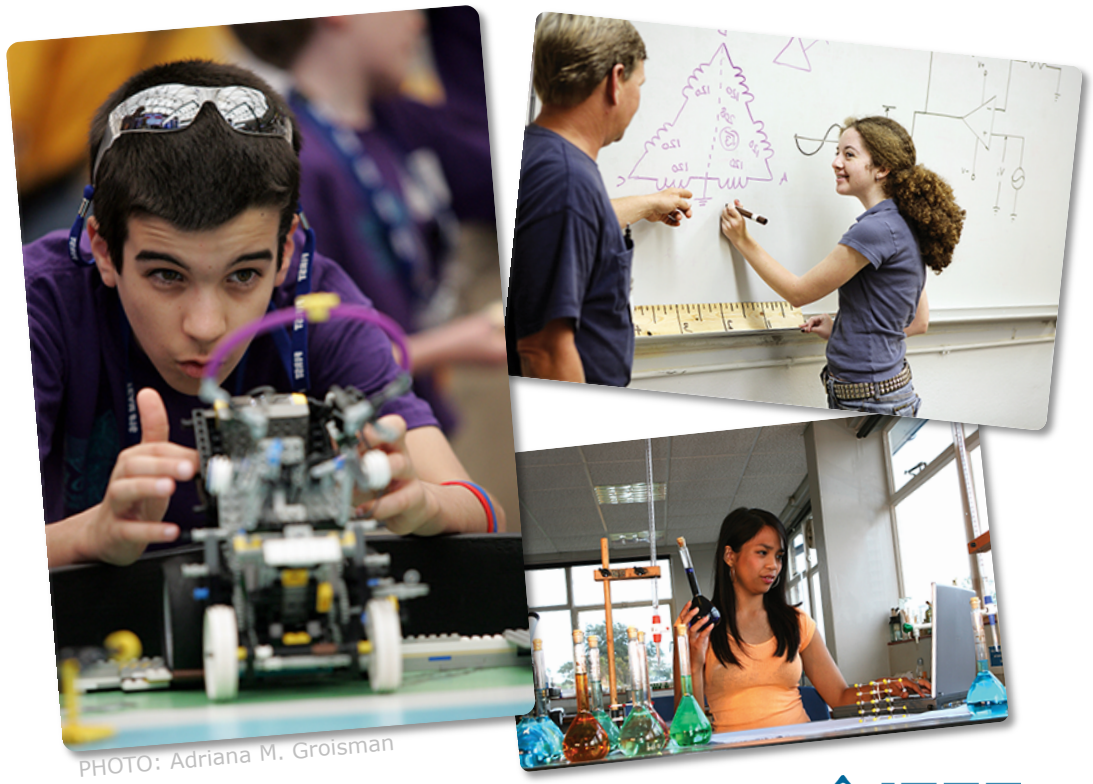

PHOTO: Adriana M. Groisman

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Collaboration is Our Foundation

IEEE brings people and technology together for mutual benefit.

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In Academia

In Industry

In The Field

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Collaboration opens opportunities.

Together, we engineer a brighter future.

IEEE: Beyond the Section

The Insider View

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IEEE Governance Organization

PSPB
Publication Services, and Products Board

MEMBERS

Assembly

Board of Directors

- **PSPB**
- **Educational Act. Board**
- **Standards Assoc. Board**
- **IEEE-USA Board**

Member & Geo Activities

- **Regions & Sections**
- **Student Branches**

Technical Activities

- **Societies & Tech. Councils**

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IEEE Volunteers

- Peter Staecker (2013), President and CEO
- Other corporate officers
- Board of Directors
- Major Boards
- Committees
- Other OU Leaders – like in sections and chapters, student branches
- Reviewers
- 50,000 – 200,000 people

IEEE Staff

- Led by Jim Prendergast, COO and Executive Director
- Over 1000 employees
- Most in the IEEE Operations Center in Piscataway, NJ
- Also Bangalore, Tokyo, Singapore, Canada, Washington DC, New York, California, others

Societies & Technical Councils

- Bring members together with similar technical interests
- Sponsor conferences, workshops tutorials, seminars, etc
- Develop publications: Journals, Magazines, Newsletters
- Recognize member accomplishments

TAB
Technical Activities Board

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Societies & Councils

- Aerospace & Electronic Systems
- Antennas & Propagation
- Broadcast Technology
- Circuits & Systems
- Communications
- Components, Packaging & Manufacturing Technology
- Computational Intelligence
- Computer
- Consumer Electronics
- Control Systems
- Dielectrics & Electrical Insulation
- Education
- Electromagnetic Compatibility
- Electron Devices
- Engineering in Medicine & Biology
- Geoscience & Remote Sensing
- Industrial Electronics
- Industry Applications
- Information Theory
- Instrumentation & Measurement
- Intelligent Transportation Systems
- Magnetics
- Microwave Theory & Techniques

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Societies & Councils

- Nuclear & Plasma Sciences
- Oceanic Engineering
- Photonics
- Power Electronics
- Power & Energy
- Product Safety Engineering
- Professional Communication
- Reliability
- Robotics & Automation
- Signal Processing
- Social Implications of Technology
- Solid-State Circuits
- Systems, Man, & Cybernetics
- Ultrasonics, Ferroelectrics & Frequency Control
- Vehicular Technology

Technical Councils

- Biometrics
- Electronic Design Automation
- Nanotechnology
- Sensors
- Super Conductivity
- Systems
- Technology Management

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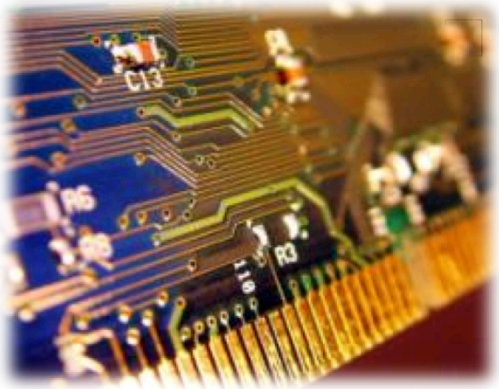
Organization

- **Grouped into geographic areas reflecting where we live and work …**
  - **10 Geographic Regions**
    - 333 Sections within Regions
    - 1,855 Student Branches at universities in 80 countries

MGA

Member & Geographic Activities

- **…and technical areas based on our fields and interests**
  - **38 Societies and 7 Technical Councils**
    - 2,081 Chapters (within local Sections)



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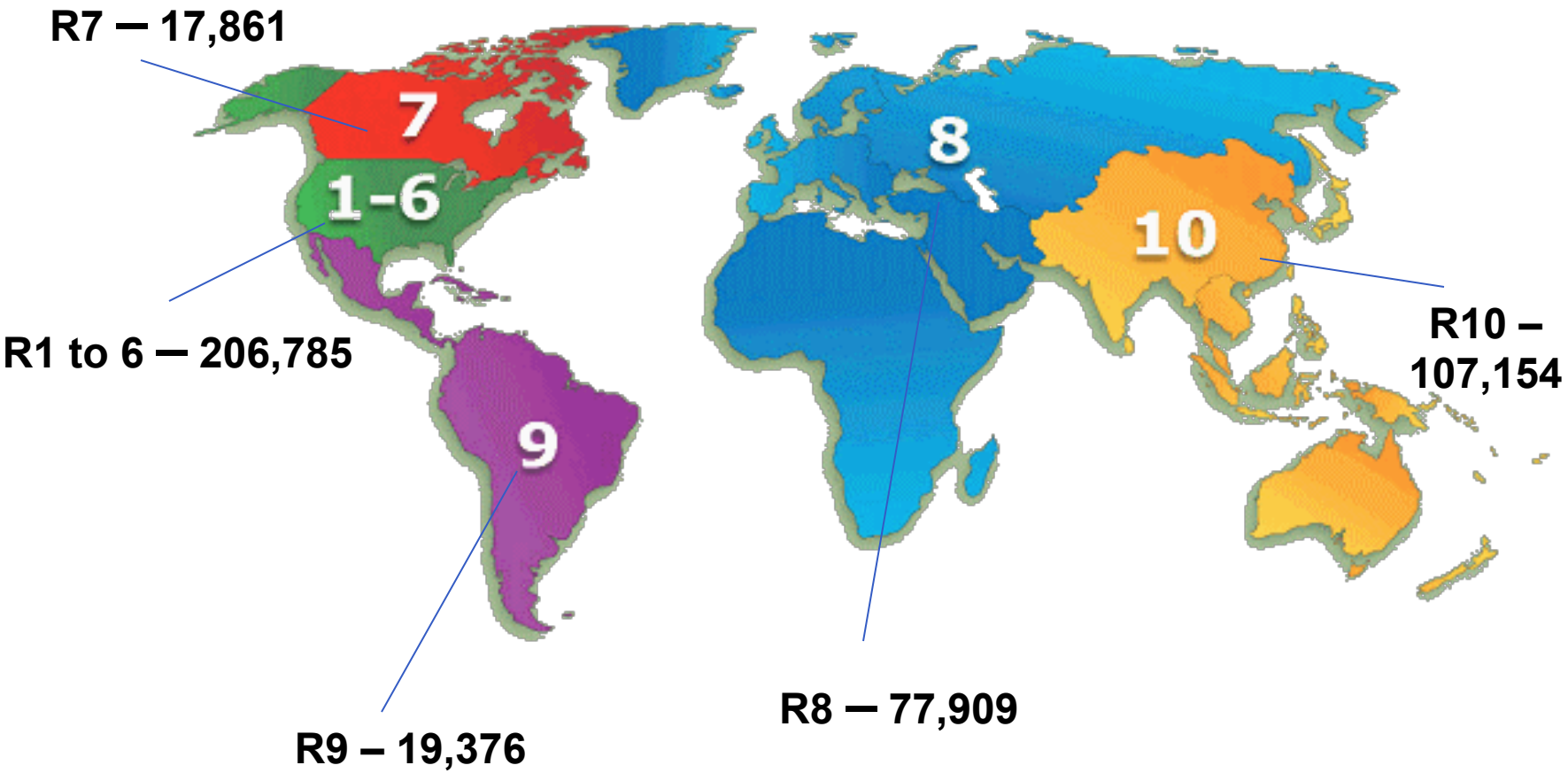
IEEE Membership By Region

31 December, 2012



TOTAL MEMBERSHIP – 429,085
(EOY 2012)

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IEEE REGION 3

- Area 1 - Virginia
- Area 2 – North Carolina (Council)
- Area 3 – Georgia
- Area 4 – Florida (Council)
- Area 5 – Tennessee (Council)
- Area 6 – Alabama, Mississippi
- Area 7 – South Carolina (Council)
- Area 8 – Kentucky, Indiana (portion)
- Area 9 –Jamaica

Sections

- Provide a community of colleagues
- Members build a network through local Section, Chapter, Student Branch activities
- Volunteer leaders develop new skills
  - Gain management, teamwork and leadership experience
- Provide local professional and technical activities
- Recognize achievements of members and others

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MGA Mission & Vision

Vision: Ensure Quality Member Opportunities Through Continuous Engagement

Mission: **I**nspire, **E**nable, **E**mpower and **E**ngage Members of **IEEE**

For the purpose of…

- Fulfilling the mission of **IEEE**
- Enhancing the member's growth and development through their life cycle
- Providing a professional home

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Region 3

Vision

Focus on the growth and development of the member throughout the life cycle of the individual. Every member is an active participant, an informed and a satisfied member.

Mission

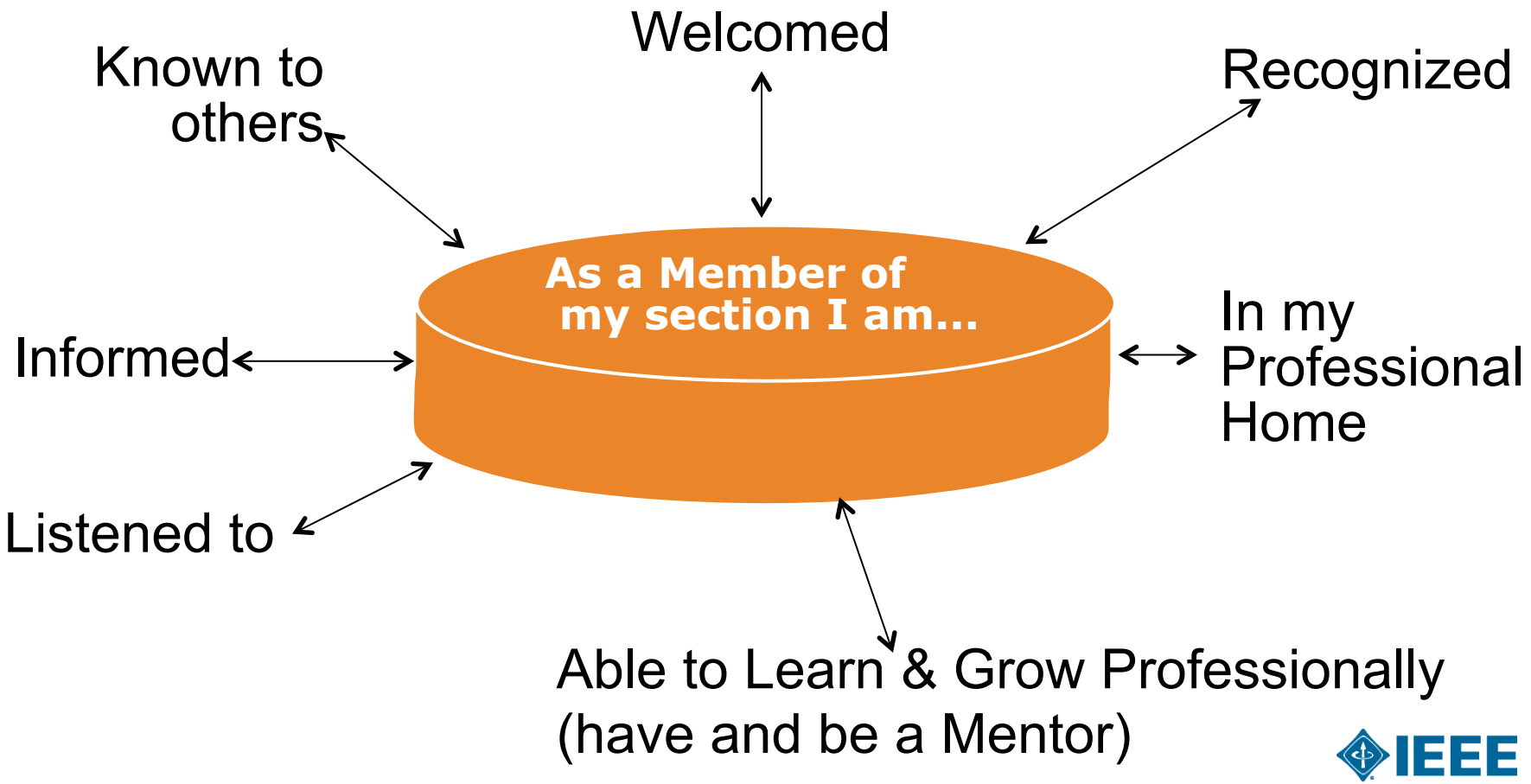
The Region shall fulfill the Member and Geographic Activities (MGA) strategic objectives at the local level by ensuring the enabling of the sections, chapters, and student branches to engage the member.

Region Focus

- **Help Sections Be Successful (Engaged Members)**
  - **Area/Councils are part of this too!**

- Secondary: Represents Sections (and associated members) to MGA, …
  - We have done this part pretty well for a long time (at least relative to participation)

Geographic:
Section Vitality Focuses on a Positive Member Experience at the Local Level



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Sections

- Sections (Chapters, Affinity Groups)
- Point of member contact
- Where engagement opportunities exist in GeoUnit aspect of IEEE
- 41 Sections in Region 3
  (A few without web presence)

Region 3 Membership

- Region 3 is currently the sixth largest IEEE region. At the end of February 2013 the Region had 24,175 total members:
  - Region 3 represents 7.8% of IEEE's total membership.
  - The Region has 19,571 Higher Grade Members, 2,270 Graduate Student Members and 2,334 Student Members.
- Membership in the Region is down by 1.8% from February 2012, representing a loss of 451 members.
- Higher grade membership is down by 2.7% from February 2012, representing a loss of 540 members.
- Graduate Student Membership is up by 9.6% from February 2012, representing a gain of 199.
- Student membership is up by 4.5% from February 2012, representing a loss of 110 members.

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Region 3 Membership
(as of 28 February 2013)

by Section

Section Name	# of Mbrs
Alabama Section	873
Atlanta Section	3565
Broward Section	444
Canaveral Section	170
Central Georgia Section	242
Central North Carolina Section	249
Central Savannah River Section	152
Central Tennessee Section	657
Central Virginia Section	523
Charlotte Section	639
Chattanooga Section	339
Coastal South Carolina Section	386
Columbia Section	372
Daytona Section	177
East Tennessee Section	819
Eastern North Carolina Section	2457
Evansville-Owensboro Section	172
Florida West Coast Section	1696
Gainesville Section	406
Hampton Roads Section	675

Section Name	# of Mbrs
Huntsville Section	1022
Jacksonville Section	333
Jamaica Section	127
Lexington Section	385
Louisville Section	359
Melbourne Section	583
Memphis Section	434
Miami Section	569
Mississippi Section	418
Mobile Section	183
Northwest Florida Section	286
Orlando Section	1078
Palm Beach Section	621
Piedmont Section	473
Richmond Section	671
Savannah Section	184
Tallahassee Area Section	288
Tri Cities Section	96
Virginia Mountain Section	599
Western North Carolina Section	303
Winston-Salem Section	150

by Grade

Region 3 - February 2013				
Grade	**Feb-13**	**Feb-12**	**Change**	**% Change**
Fellow	558	557	**1**	**0.2%**
Senior Member	3045	3009	**36**	**1.2%**
Member	15388	15753	**-365**	**-2.3%**
Associate	580	792	**-212**	**-26.8%**
GSM	2270	2071	**199**	**9.6%**
Undergraduate	2334	2444	**-110**	**-4.5%**
Total	**24,175**	**24,626**	**-451**	**-1.8%**

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