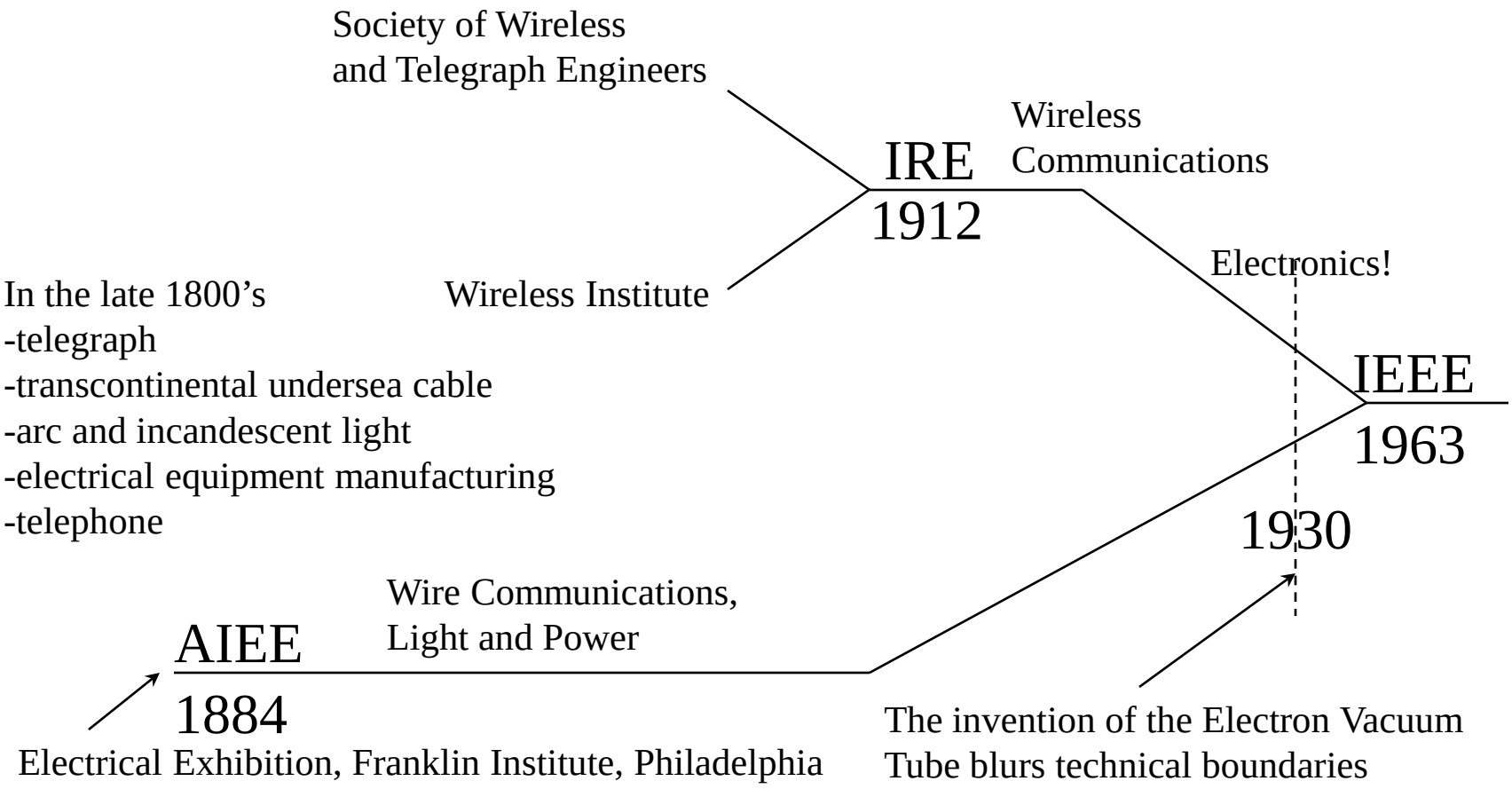
Institute of Electrical and Electronics Engineers

Revised January 4, 2011

IEEE Roots

- American Institute of Electrical Engineers
- Formed in 1884 at the Electrical exhibition, Franklin Institute, Philadelphia

The IEEE Yesterday



AIEE – American Institute of Electrical Engineers

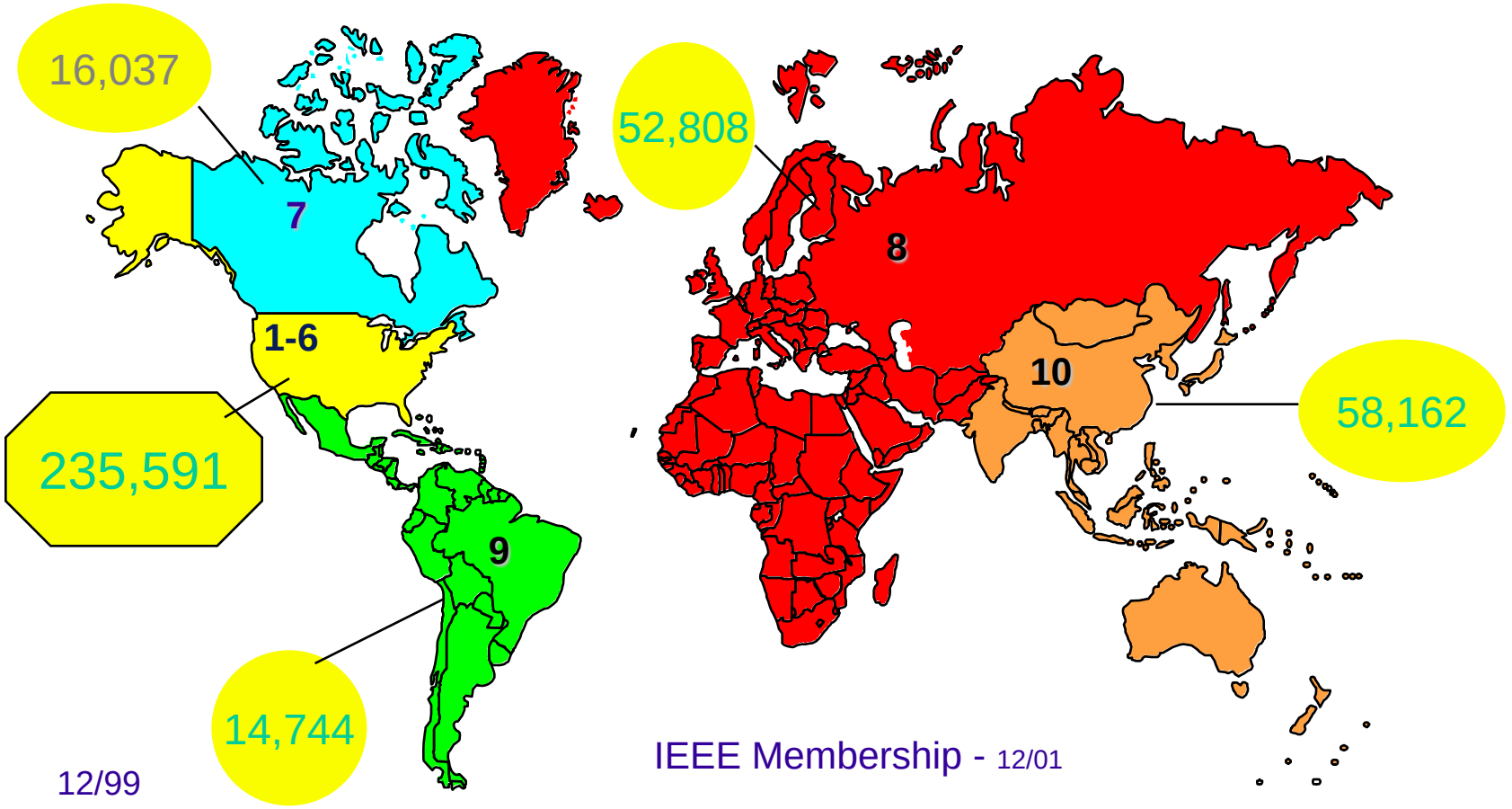
The IEEE Today

- 377,000 members in 150 countries.
- The world's largest technical & professional society.
- 1,400,000 subscribers to all IEEE publications.
- 350,000 attendees at conferences annually.
- 40,000+ participants in Standards.

IEEE Mission & Vision

- Promote technology & allied sciences
- Benefit humanity through electro-technology
- Promote advancement of the profession
- Facilitate networking
- Promote member interests

IEEE Regions & Membership



IEEE Organization

The IEEE is made up of

- 37Societies
- 4 Councils
- Approximately 1,283 individual and joint Society chapters and 298 Sections
- 1,156 Student Branches are located at colleges and universities worldwide.

Power & Energy Society (PES)

- The Power System Relaying Committee is under the PES
- PES is the third largest Society with 23,567 members
  - Computer society 97k
  - Communications society 57k

IEEE (37 Societies)

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Power & Energy Society (PES)
(21 Committees)

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Power System Relaying
Committee

Power System Relaying Committee

- Meets 3 times a year (Sept., May & Jan.)
- Consists of 6 technical Subcommittees
- Typical attendance 220
  - 50 Utilities
  - 28 Manufacturers
  - 10 Universities
  - 20 Consulting organizations

PSRC Officers
Main Committee (2011-2012)

- Chairman
- Vice Chairman
- Secretary

- Robert Pettigrew
- Roger Hedding
- Mike McDonald

PSRC Subcommittees

- Advisory
- Systems Protection
- Line Protection
- Relay Communications
- Relay Practices and Consumer Interface
- Rotating Machinery Protection
- Substation Protection

Advisory Subcommittee

Scope: Assist the Chair of the PSRC on all matters that he may request in the functioning, direction, and conduct of the work of the Main Committee. (Main Committee Officers, Subcommittee Chairs and past PSRC Chairs)

System Protection Subcommittee

Scope: Evaluate protection system responses to abnormal power system states. Evaluate and report on special protection schemes, remedial actions schemes, monitoring and control systems and their performance during abnormal power system conditions. Recommend corrective strategies and develop appropriate standards, guides, or special publications. Evaluate and report on new technologies which may have a bearing on protection system performance during abnormal power system conditions.

System Protection Subcommittee

Chair – Solveig Ward

Vice Chair – Jim O'Brien

- Software models for relays
- T&D protection new technologies
- Application of intelligent systems to power system protection

System Protection Subcommittee

- Mathematical models for CTs & VTs
- Wide area relaying
- EMTP applications to power system protection

Line Protection Subcommittee

Scope: Investigate and report on the relaying techniques and systems used for T&D line protection. Develop statistics and recommend protection practices for improving line relaying performance. Develop and maintain standards for line protection.

Line Protection Subcommittee

Chair – Russ Patterson

Vice Chair – Gary Kobet

- Effectiveness of distribution protection
- Fault locating
- Instantaneous overcurrent settings
- Transmission line protection guide
- High impedance fault detection technology

Relay Communications Subcommittee

Scope: Evaluate and report on the characteristics and performance of protective relaying communications. Recommend communication requirements and operating, test procedures which assure reliable performance of the overall protective system. Report on new relaying equipment designs tailored to specific communication requirements.

Relay Communications Subcommittee

Chair – Veselin Skendzic

Vice Chair – Eric Udren

- Power Line carrier applications
- Comtrade users group
- Protection using spread spectrum radios
- Applications of peer to peer communications in substations

Relay Communications Subcommittee

- High impedance fault detection technology
- Application of UCA (MMS/Ethernet) for protection and control
- Revision of the audio tone guide
- Revision of the synchrophasor standard
- Common format for IED data

Relaying Practices Subcommittee

Scope: Develop, recommend and establish standards on protective relaying practices which are compatible with the electrical environment, including, but not limited to, relay withstand capabilities to electromagnetic interference, characteristics and performance of instrument transformers, testing procedures, applications, performance criteria, and definitions of relays and relay systems.

Relaying Practices Subcommittee

Chair – Bob Beresh

Vice Chair – Jeff Pond

- Differential and polarizing relay circuit testing
- Terminology usage review
- IEC standards advisory

Relaying Practices Subcommittee

- Trial use standard for low energy inputs to protective relays
- Relays for electrical power apparatus
- Standard electro static discharge tests
- Standard surge withstand capability tests
- Standard for qualifying class 1E relays and auxiliaries for nuclear plants

Rotating Machinery Subcommittee

Scope: Evaluate and report on protective relaying concepts and practices applicable to generators, motors, synchronous condensers, associated auxiliary systems, and performance of plant protective systems. Develop and maintain related relaying standards.

Rotating Machinery Subcommittee

Chair – Kevin Stephen

Vice Chair – Murty Yalla

- Abnormal frequency guide
- Protection of small interconnected generators
- AC generator protection guide

Rotating Machinery Subcommittee

- Generator protection setting criteria
- Performance of generator protection during system disturbances
- Generator ground protection guide

Substation Protection Subcommittee

Scope: Evaluate and report on methods used in protective relaying of substations and the consumer or independent power producer, associated equipment and performance of these protective systems. Develop and maintain relaying standards which relate to this equipment and the utility-consumer interface.

Substation Protection Subcommittee

Chair – Pratap Mysore

Vice Chair – Mike Thompson

- Breaker failure protection
- Guide to protective relay applications to power system buses
- Guide to protection of network transformers

Substation Protection Subcommittee

- Shunt reactor protection guide
- SCC21 distributed resource standard coordination
- Guide for protective relay application to transmission line series capacitor banks
- Schemes & Measures to prevent / reduce outage durations for substation faults

Benefits of IEEE Membership

- 12 issues of Spectrum & The Institute.
- Access to IEEE Library and on-line journals & bibliographic services.
- Reduced rates on conferences, books, journals, videos, standards, etc.
- IEEE Financial Advantage Program.
- Networking opportunities.
- Recognition via Awards.

Benefits of PSRC Attendance Position Your Company

- Highlight your Company's expertise and best practices.

Benefits of PSRC Attendance Improve Practices:

- Learn about and influence standards that directly effect your designs.
- Gain advance knowledge on future guides and standards.
- Best practice sharing with other utilities, consultants and suppliers.

Benefits of PSRC Attendance Networking:

- With suppliers: Know key personnel from your suppliers.
- With consultants: Identify consultants that meet your requirements.
- With other utilities: Acquire key personnel recruiting ideas.

Benefits of PSRC Attendance Employee Betterment:

- Gain knowledge from interaction with industry leaders.
- Exposure to solutions or new and different protection practices.
- Acquire highest-level, inexpensive training