

# Developing API/ISO Standards

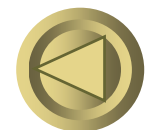
## **International Standards Coordinating Committee**

**Paul Eichamer, Chairman**



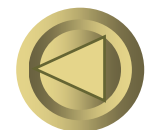
# Recent Developments

- **Both API Upstream and Downstream Standards Committees initiated Strategic Vision Program Overviews**
- **Program overviews include consideration of these items:**
  - **Resource constraints and opportunities for work process improvements**
  - **The impact of globalization and the 1993 value equation**



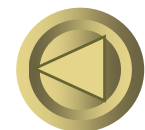
# Recent Developments

- **An Ad Hoc Group is reviewing program status, considering options, and will make recommendations presentation for an API CEO-level Committee Meeting.**
- **Topics could include:**
  - **Methods to improve user participation**
  - **Standards ongoing strategic business importance to the industry**
  - **Review and implementation of current program**
  - **Possible mid-course adjustments**
- **Anticipated completion is 1st quarter 2004**
- **Discussion is also underway regarding establishing an API Executive Standards Board to better coordinate on these and similar cross-cutting issues**



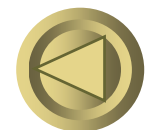
# Summary of this presentation

- **Recent developments**
- **Background**
- **What is the ISO organization?**
- **How do Subcommittees develop API/ISO Standards?**
- **How does the ISCC assist?**
- **What has been ISO-ization performance 1993-2003?**



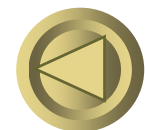
# Background

- **Since 1924 API Standards have been “de facto” international standards**
- **In the 1970s North Sea Discoveries led to different, more stringent requirements**
- **In the 1980s this trend accelerated with new frontier areas becoming available and new downstream opportunities in developing economies**
- **ISO/TC 67 reactivated in 1989, ANSI accepts secretariat**
- **In the 1990s the EU “New Approach” created additional initiative for global standards**



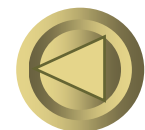
# 1993 API Executive Committee Action

- **API Chairman of the Board Pete Silas presented recommendations and the API Executive Committee endorsed three principles to guide the internationalization of API standards:**
  - **Long term interests of petroleum industry best served by a common set of standards**
  - **Standards must be timely and responsive to the technical, economic and environmental needs of the international user community**
  - **A cooperative effort of American, European and Asian petroleum companies, affiliates, and contractors/suppliers are needed to do the job efficiently**



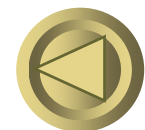
# 1993 API GCR Ballot

- **The API GCR then balloted a CRE participation proposal**
  - **Proposal had four parts: Communication, Limited Participation, Standards Writing Process, and Editorial Policy**
- **Ballot Approved and three API CRE Subcommittees became active in ISO/TC 67 SC 6 work**



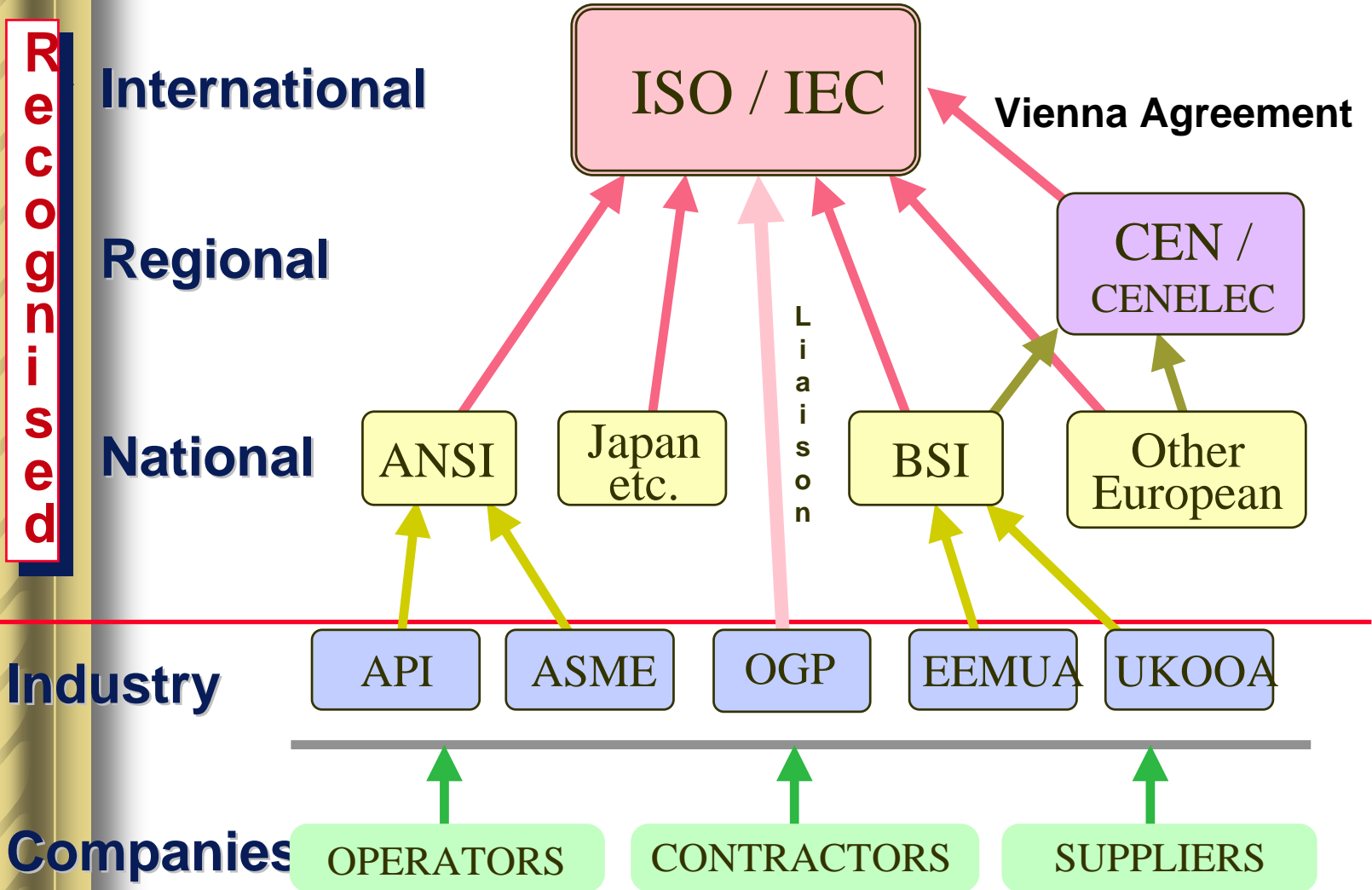
# What is ISO Organization?

- “The International Organization for Standardization is a worldwide federation of national standards bodies from some 100 countries.
- Its mission promotes the development of standardization and related activities in the world with a view to facilitate the international exchange of goods and services, and to develop cooperation in the spheres of intellectual, scientific, technological and economic activity.”<sup>(1)</sup>
- Founded in 1946, ISO has 85 Member countries who have fully developed national standards activity, 29 Correspondent members who have partially developed national standards activity, and 10 Subscriber members.
- ISO Standards cover many, many fields of which refineries and petrochemical plants are just one area. There are about 9,300 ISO Standards which have 170,000 pages.



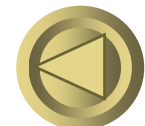
# STANDARDISATION BODIES - RELATIONSHIPS

Research

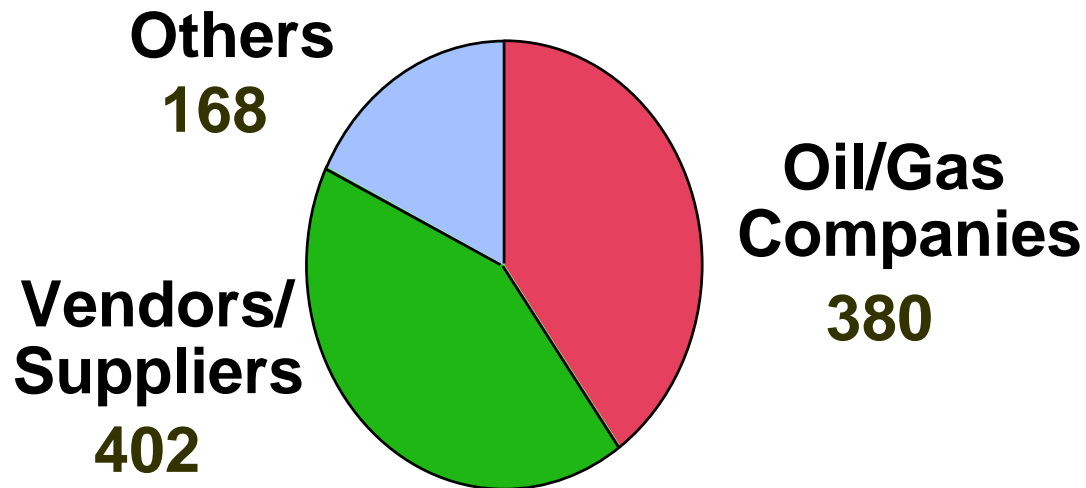


# **INTERNATIONAL STANDARDS SYSTEM ESTABLISHED AND OPERATING**

- **ISO/TC 67:**
  - **Oil, Petrochemical, and Natural Gas Industries materials, equipment, offshore structures**
  - **Drilling, Production, Refining, Transport by Pipelines**
  - **2000 Position: 130 work items, 950 experts**
  - **20 Participating and 22 Observing member countries from 6 continents**
  - **Includes taking “best” of API content and promoting to ISO with global input**

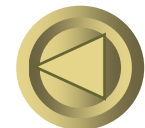


# ● WORLDWIDE PARTICIPATION IN ISO/TC67



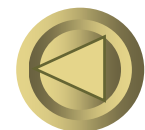
“Others” includes Certifying Bodies, Legislators,  
National Standards Bodies, Academics etc.

Estimated total of 950 people participating in ISO/TC67  
from 20 Participating Member Countries and 22 Observer  
Members



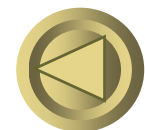
# How Subcommittees develop API/ISO Standards

- **CRE's International Standards Coordinating Committee interprets the GCR policy to Subcommittees and help determine ways to implement policy.**
- **Strategy for CRE participation in ISO have been issued, e.g. API "Standards in a Global Environment" Paper**
- **API would offer to be project leader for ISO Stds**
- **ISCC has issued several documents intended to implement the GCR policy. Posted to ISCC website.**



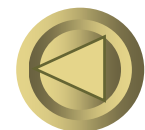
# How Subcommittees develop API/ISO Standards (cont.)

- **Submit API Std as an ISO New Work Item and designate a Project Leader. Obtain CRE Project Coordinating Committee approval.**
- **Project leader must have support internationally from at least four other ISO country P-members.**
- **API forwards NWI proposal to ISO TC Secretary. NWI proceeds through approval steps. Joint API/ISO Task Force commences work.**
- **ISO document proceeds through stages (Committee Draft to Draft International Standard to Final DIS).**



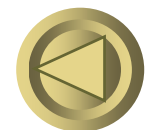
# How Subcommittees develop API/ISO Standards (cont.)

- **Once FDIS vote is positive, CRE subcommittee determines if ISO Standard is technically acceptable.**
- ➔ **Standard can be issued as API/ISO co-branded document after passing API ballot process, endorsement by CRE, and may/may not have a national addendum if necessary.**
- ➔ **Standard can be rejected by CRE subcommittee that will continue to maintain a discrete API standard.**



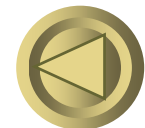
# ISCC Assistance to SC's as they develop global standards that are suitable for ISO adoption

- Recommend a level of participation by CRE subcommittees.
- Monitor the effectiveness of CRE involvement in international standards-writing activities and recommend improvements as appropriate.
- Recommend changes to CRE practices and processes, as appropriate, to be responsive to and supportive of international standards-writing activities that impact the refining sector.
- Monitor the effectiveness and responsiveness of CRE practices and processes as they change to meet the needs of the international community and recommend improvements as appropriate.
- Recommend appropriate participation, communication and coordination with non-US organizations such as EEMUA, Europia and CEN.



# ISCC 2002 Survey Results

- **Globalization produces worldwide accepted Standards that are beneficial for end users, contractors, and vendors.**
- **Globalization trend is still accelerating, and can be expected to continue to increase.**
- **ISO-ization requires direct involvement to make it happen. Reliance on procedures alone won't be successful.**
- **An API/ISO Standard must be a “we” attitude. A “us” and “them” approach will fail.**



# ISCC 2002 Survey Results

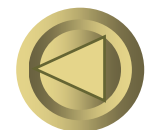
- **API and ISO Collaboration between API and ISO begins with some “teething” issues**
  - **“Trust” must be earned**
  - **Publication times improve with repetition**
  - **Improved manufacturing and operational techniques are included in co-branded Standards**
  - **Decision making is best done by discussion and consensus**
  - **Formal API/ISO interface procedures**
  - **European Union and European economic Area have adopted the co-branded Standards**



# **ISO-ization performance 1993-2003**

## **Subcommittee feedback varied in September 2002**

- **Subcommittee on Mechanical Equipment indicated that ISO-ization is a resource drain and considers the associated costs to be excessive. SOME believes more efficient processes are possible within and outside of ISO.**
- **Subcommittee on Heat Transfer Equipment believes that ISO-ization is a Potential Positive for a Multinational Company. SCHTE experienced and addressed challenges in developing five co-branded Standards.**
- **Subcommittee on Piping published two equivalent ISO standards, and two Piping standards have passed DIS ballot.**



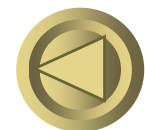
# Deliverables

- **Heat Transfer Subcommittee completed five Standards. Two API/ISO co-branded standards issued, remaining three approved to be issued as co-branded Standards.**
- **NWI's approved for two published Standards**
- **NWI's raised for other three Standards**
- **API Task Force is Project Leader for co-branded API/ISO Standard reaffirmation.**



# Deliverables (cont.)



- **Mechanical Subcommittee - 14 API standards being worked. Various stages between Approved Work Item through ISO only publication.**
- **Subcommittee on Piping feels that ISO-ization is on-track. System is working with TC153 for schedule and cost in developing four standards.**



# ISO Refinery Equipment Standards Status at September 2002

Published



 = US Leadership  
 = in Synch

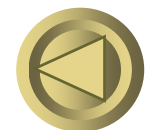
| API | ISO       | CEN WI                              | ISO Status |       |      | Publ'n date | Committee responsible | Remark             |
|-----|-----------|-------------------------------------|------------|-------|------|-------------|-----------------------|--------------------|
|     |           |                                     | 1998       | 2000  | 2002 |             |                       |                    |
| 530 | 13704     |                                     | WD         | DIS   | IS   | 2001-12-13  | SC6/WG8               | API to adopt?      |
| 560 | 13705     | 012041                              | CD         | DIS   | IS   | 2001-12-20  | SC6/WG8               | Rev NWI by API     |
| 600 | 10434     | 012019                              | FDIS       | IS    | IS   | 1998-11-15  | TC153                 | Modified by API    |
| 602 | 15761     | 012101                              | WD         | DIS   | IS   | 2002        | TC153                 | IS Nov'02?         |
| 610 | 13709     | 012042                              | DIS        | DIS   | DIS  | 2003        | TC115                 | FDIS Jan'03?       |
| 611 | 10436     | 012020                              | NP         | NP    | AWI  | --          | SC6/WG3               | to be withdrawn?   |
| 612 | 10437     | 012021                              | CD         | DIS   | DIS  | 2003        | SC6/WG3               | FDIS Jan'03?       |
| 613 | 13691     | 012043                              | CD         | DIS   | IS   | 2002-08-01  | TC60                  | not in synch       |
| 614 | 10438-1/4 | 012104/7                            | CD         | DIS   | DIS  | 2003?       | SC6/WG2               | delayed            |
| 616 | 3977-5    | 012047                              | DIS        | DIS.2 | IS   | 2001-12-20  | TC192                 | not in synch       |
| 617 | 10439     | 012023                              | DIS        | DIS.2 | FDIS | 2002        | TC118                 | IS Nov'02?         |
| 618 | 13707     | 012044                              | DIS        | IS    | NWIP | 2000-12-21  | TC118                 | Rev NWI raised     |
| 619 | 10440-1   | 012142                              | DIS        | IS    | WD   | 2000-12-07  | TC118                 | Rev in synch       |
|     | 10440-2   | 012060                              | DIS        | DIS   | IS   | 2001-12-06  | TC118                 | no API             |
| 660 | 16812     | 012132                              | NWI        | DIS   | DIS  | 2002-07-11  | SC6/WG8               | API to adopt?      |
| •   | 13706     | 012129                              | DIS        | IS    | AWI  | 2000-04-15  | SC6/WG8               | Adopted by API     |
| 662 | 15547     | 012146                              | CD         | IS    | AWI  | 2000-04-15  | SC6/WG8               | Adopted by API     |
| 671 | 10441     | 012127                              | DIS        | IS    | AWI  | 1999-03-15  | SC6/WG9               | Revision started   |
|     | 14691     | 012128                              | DIS        | IS    | AWI  | 1999-11-01  | SC6/WG9               | Revision started   |
| 672 | 10442     | 012025                              | DIS        | DIS   | DIS  | 2002        | TC118                 | IS Dec'02?         |
| 674 | 13710     | 012046                              | CD         | CD    | CD   | 2003        | TC115                 | FDIS Mar'03?       |
| •   | 21049     | 012144                              |            |       | DIS  | 2004        | TC115                 | DIS May'02; API'02 |
| 689 | 14224     | ISO first edition published in 1999 |            |       |      | 2005        | TC67                  | Rev for Refineries |

 = published     = "Ready for FDIS" sent to ISO

# Globalization of Heat Transfer Standards

## Motivation for the Globalization Effort

- **Potential Positives for a Multinational Company**
  - Quality control of international projects
  - Simplification of international projects
  - Level the competitive playing field
  - Technical experts leverage effectiveness
  
- **Potential Positives for API**
  - Increase participation
  - Increase technical input
  - Provide international leadership
  - Broaden acceptance

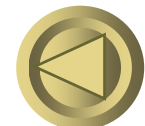


# Globalization of Heat Transfer Standards

## ● SCHTE Experience

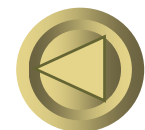
### • Challenges include:

- Initial negative response from committee members
- Some international travel
- Time to review DIS comments
- Accommodating US and European methods
- Synchronizing API and ISO timetables
- Need for patience and flexibility



# Globalization of Heat Transfer Standards

- **SCHTE Experience**
  - **Elements of a positive experience**
    - Unanimous support of subcommittee membership
    - Valuable contributions by vendors
    - Indispensable help by international subcommittee members
    - Tireless help by API Staff on details



# Globalization of Heat Transfer Standards

## ● SCHTE Experience

### • Positive Outcomes

- International members attending API meetings
- International technical contributions to documents
- Consensus reached on all issues
- Co-branded standards adopted in all 15 countries of the European Union
- ISO cycle time (NWI to publication) reduced to 60 months
- Format conversion reduced to one day

