



# ISO/TC67 Update

- Together for the World -

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**Chairman ISO/TC67**

**BSEE Domestic and International Standards Workshop**  
**New Orleans**  
**14-15 November 2012**

# Objective



- Provide a grounding to participants on ISO/TC67 activities as input to the break out sessions
- Explain where ISO/TC67 fits in today's world

# ISO/TC67 Scope



Standardization of the **materials, equipment** and offshore structures used in the drilling, production, transport by pipelines and processing of liquid and gaseous hydrocarbons within the **petroleum, petrochemical and natural gas industries.**

Excluded: aspects of offshore structures subject to IMO requirements (ISO/TC 8).

So: **Upstream & Downstream, Onshore & Offshore**

# ISO/TC67 Vision

A stylized globe with green continents and blue oceans, centered on the Atlantic Ocean. The text is overlaid on the globe in a yellow, sans-serif font.

Global  
Standards Used  
Locally  
Worldwide

# ISO/TC67 Goals



- Prepare standards required by the industry
- Prepare standards that are adopted worldwide by bodies such as:
  - ABNT (Brazil)
  - API (USA)
  - CEN (Europe)
  - GOST R (Russian Federation)
  - GSO (Gulf Region)
  - SAC (China)
- Prepare standards that are recognized by regulators
- Publish standards that enable companies to minimize their specifications
- Deliver standards to the agreed work programme

# ISO/TC67 Facts



- Created: 1947
- Published standards: 161
- Current work programme: 105
- Experts: 2500+
- Liaison with external stakeholders
  - International Regulators Forum (IRF)
  - International Association of Oil and Gas Producers (OGP)
  - International Association of Drilling Contractors (IADC)
  - Regional standardisation organisations (CEN, GSO)
  - Other standardisation organisations (e.g. NACE)
- Liaison with 19 TCs e.g.
  - ISO/TC153 (Valves)
  - ISO/TC118 (Compressors)
  - IEC/TC18 (Electrical installations of ships and of mobile and fixed offshore units)

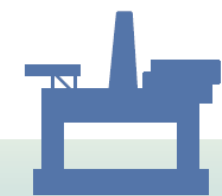
# ISO Standards for use in the oil & gas industry

ISO 10418 Basic surface safety systems  
 ISO 10423 Wellhead & Christmas tree equipment  
 ISO/TR 12499 Reliability modelling (Safety systems) (Rev)  
 ISO 13533 Drill-through equipment (ROFs)  
 ISO 13534 Hoisting equipment - core/main (Rev)  
 ISO 13535 Hoisting equipment - specialisation (Rev)  
 ISO 13626 Drilling and well-servicing structures  
 ISO 13702 Control & mitigation of fire & explosion  
 ISO 13703 Offshore piping systems  
 ISO 14224 Reliability/maintenance data  
 ISO 14692 GRP piping, Parts 1-4  
 ISO 14693 Drilling equipment

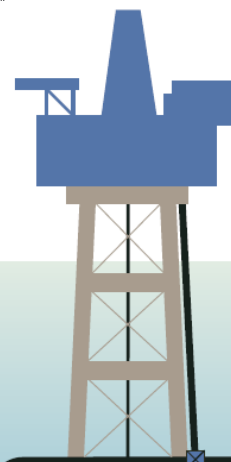
ISO 15156-1 Selection of cracking resistant materials for use in H<sub>2</sub>S environments  
 ISO 15156-2 Cracking resistant steels and cast irons for use in H<sub>2</sub>S environments  
 ISO 15156-3 Cracking resistant alloys for use in H<sub>2</sub>S environments  
 ISO 15138 BVMC  
 ISO 151544 Emergency response  
 ISO 15463 Life cycle costing, Parts 1-3  
 ISO 17774 Assessment of hazardous situations  
 ISO 20015 Production assurance and reliability management  
 ISO 21457 Materials selection  
 ISO 23934-1 Thermoplastics  
 ISO 23934-2 Elastomers (Rev)  
 ISO/TS 27469 Method of test for offshore line dampers  
 ISO/TS 29001 Sector-specific quality management systems

ISO 3977-5 Gas turbines - procurement  
 ISO 10428 Sucker rods  
 ISO 10431 Pumping units  
 ISO 10434 Bolted bonnet steel gate valves  
 ISO 10437 Special-purpose steam turbines (Rev)  
 ISO 10438 Lubrication, shaft-sealing and control-oil systems, Parts 1-4  
 ISO 10439 Centrifugal compressors (Rev)  
 ISO 10440-1 Rotary-type positive-displacement process compressors (oil-free)  
 ISO 10440-2 Rotary-PI packaged air compressors  
 ISO 10441 Flexible couplings - general  
 ISO 10442 Integrally geared air compressors  
 ISO 12211 Spiral plate heat exchangers (Rev)  
 ISO 12212 Krapin heat exchangers (Rev)  
 ISO 12213 Reciprocating gas compressors  
 ISO 13631 High speed enclosed gear units  
 ISO 13704 Calculation of heater tube thickness  
 ISO 13705 Fired heaters for general service (Rev)  
 ISO 13706 Air-cooled heat exchangers (Rev)  
 ISO 13707 Reciprocating compressors  
 ISO 13709 Centrifugal pumps  
 ISO 13710 Reciprocating positive displacement pumps (Rev)

ISO 14891 Flexible couplings - general  
 ISO 15547-1 Plate & frame type heat exchangers  
 ISO 15547-2 Brazed aluminium plate-in type heat exchangers  
 ISO 15649 Flaring  
 ISO 15761 Steel valves DN 100 and smaller  
 ISO 16812 Shell & tube heat exchangers  
 ISO 17292 Centrifugal and rotary pumps shaft sealing (Rev)  
 ISO 21049 Pressure-relieving and depressuring systems (Rev)  
 ISO 23251 Composite repair of pipework  
 ISO/TS 24017 Flare details  
 ISO 25457 Comport flanged cones (Rev)  
 ISO 27509 Wining of storage tanks  
 ISO 28300 Wining of storage tanks  
 ISO 28460 UFG - Ship to shore interface



ISO 13424-1 Marine drilling riser systems  
 ISO/TR 13424-2 Marine drilling riser system analysis  
 ISO 13425 Marine drilling riser couplings  
 ISO 19901-7 Station-keeping systems for floating offshore structures (Rev)  
 ISO 19904-1 Floating offshore structures



ISO 19900 Offshore structures - general requirements  
 ISO 19901-1 Platform design and operating considerations  
 ISO 19901-2 Seismic design  
 ISO 19901-3 Topside structure  
 ISO 19901-4 Geotechnical and foundation design  
 ISO 19901-5 Weight control  
 ISO 19901-6 Platform operations  
 ISO 19902 Fixed steel offshore structures  
 ISO 19903 Fixed concrete offshore structures  
 ISO 19905-1 Jack-ups (Rev)  
 ISO/TR 19905-2 Jack-ups commentary (Rev)  
 ISO 19906 Arctic offshore structures

ISO 3183 Steel pipe for pipeline transportation systems (Rev)  
 ISO 12490 Actuation, mechanical integrity and sizing for pipeline valves (Rev)  
 ISO/TS 12747 Pipeline life extension (Rev)  
 ISO 13623 Pipeline transportation systems  
 ISO 13647 Pipeline welding (Rev)  
 ISO 14313 Pipeline valves  
 ISO 14723 Subsea pipeline valves  
 ISO 15594-1 Cathodic protection for onshore pipelines (Rev)  
 ISO 15594-2 Cathodic protection for offshore pipelines (Rev)  
 ISO 15590-1 Pipeline induction bends  
 ISO 15590-2 Pipeline fittings (Rev)  
 ISO 15590-3 Pipeline flanges (Rev)  
 ISO 16708 Pipeline reliability-based limit state design  
 ISO 21329 Test procedures for pipeline external corrosion  
 ISO 21809-1 Polyethylene coatings (3-layer PE and 3-layer PP) (Rev)  
 ISO 21809-2 Fusion-bonded epoxy coatings (Rev)  
 ISO 21809-3 Field joint coatings (Lead)  
 ISO 21809-4 Polyethylene coatings (2-layer PE)  
 ISO 21809-5 External concrete coatings

ISO 13628-1 Subsea production systems (Fund)  
 ISO 13628-2 Subsea flexible pipe systems  
 ISO 13628-3 Subsea FR pump-down systems  
 ISO 13628-4 Subsea wellhead and tree equipment  
 ISO 13628-5 Subsea control umbilicals  
 ISO 13628-6 Subsea production controls  
 ISO 13628-7 Completion/workover riser system  
 ISO 13628-8 ROV and interface (Rev)

ISO 13628-9 ROV intervention systems  
 ISO 13628-10 Bonded flexible pipe  
 ISO 13628-11 Flexible pipe systems for subsea and marine applications  
 ISO 13628-12 Subsea structures and manifolds (Rev)  
 ISO 13628-13 Spec for flexible pipe auxiliary equipment (Rev)  
 ISO 13628-14 RP for flexible pipe auxiliary equipment (Rev)

ISO 10427-2 Centralizer placement and slip-collar testing  
 ISO 10427-3 Performance testing of cement float equipment  
 ISO 10432 Subsurface safety valves  
 ISO 11940 Casing and tubing (Rev)  
 ISO 11961 Drill pipe  
 ISO 13015 Tubing/aluminium alloy pipes (Rev)  
 ISO 13500 Drilling fluids (Fund)  
 ISO 13501 Drilling fluids - processing systems evaluation (Rev)  
 ISO 13503-1 Measurement of viscous properties of completion fluids (Rev)  
 ISO 13503-2 Measurement of proper ties of proppants  
 ISO 13503-3 Testing of heavy brines  
 ISO 13503-4 Measurement of stimulation & gravel-pack fluid leak-off  
 ISO 13503-5 Measurement of long-term conductivity of proppants  
 ISO 13503-6 Measurement of leak-off of completion fluids under dynamic conditions (Rev)  
 ISO 13678 Thread compounds  
 ISO 13679 Casing and tubing concrete core testing (Rev)

ISO 13680 OHL seam less tubes for casing & tubing  
 ISO 14310 Packers and bridge plugs  
 ISO 15136-1 Progressing cavity pump systems  
 ISO 15136-2 Progressing cavity pump systems - drive heads  
 ISO 15463 Field inspection of new casing, tubing and plan and drill pipe  
 ISO 15464 Gauging and inspection of floats  
 ISO 15464 Aluminium alloy drill pipe (Rev)  
 ISO 16070 Lock mandrels and landing nipples  
 ISO 17078-1 Side-pocket mandrels (Fund)  
 ISO 17078-2 Flow control devices for side-pocket mandrels  
 ISO 17078-3 Latchers & seals for side-pocket mandrels & flow control devices  
 ISO 17078-4 Side-pocket mandrels and related equipment  
 ISO 17424 Sand control screens  
 ISO 20312 Design of aluminium drill string (Rev)  
 ISO 27427 Aluminium drill pipe thread gauging (Rev)  
 ISO 28781 Subsurface tubing-mounted formation barriers

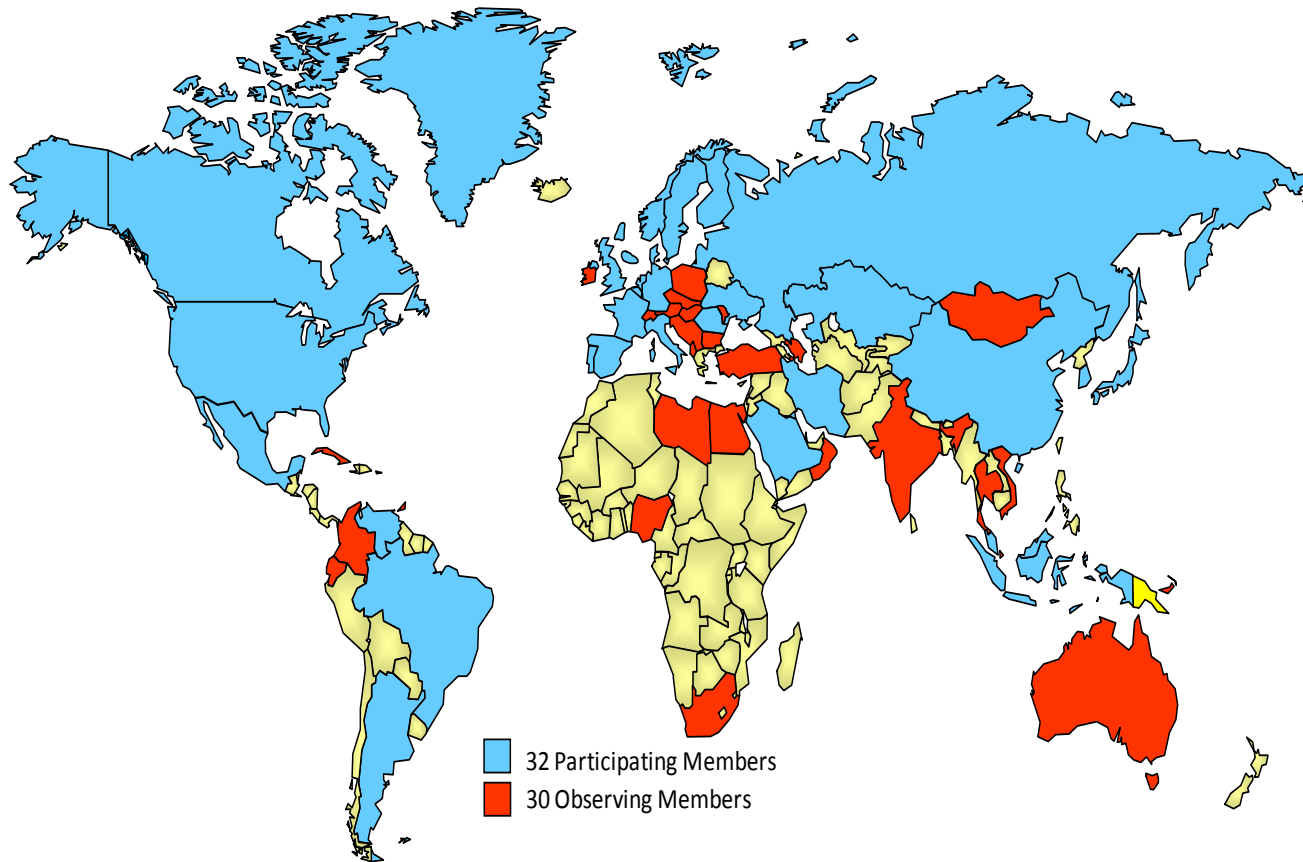
ISO/TR 10400 Calculations for OTC performance properties  
 ISO 10405 Care/use of casing/tubing  
 ISO 10407-1 Drill stem design  
 ISO 10407-2 Inspection and classification of drill stem elements  
 ISO 10414-1 Field testing of water-based fluids  
 ISO 10414-2 Field testing of oil-based drilling fluids (Rev)  
 ISO 10416 Drilling fluids - lab testing  
 ISO 10417 Subsurface safety valve systems  
 ISO 10424-1 Rotary drill stem elements

ISO 10424-2 Threading and gauging of cement lines  
 ISO 10426-1 Well cementing  
 ISO 10426-2 Testing of well cements (Rev)  
 ISO 10426-3 Testing of deepwater well cement  
 ISO 10426-4 Preparation and testing of cement slurries  
 ISO 10426-5 Shrinkage and expansion of well cement  
 ISO 10426-6 Slack-gal strength of cement formulations  
 ISO 10427-1 Blow spring casing centralizers



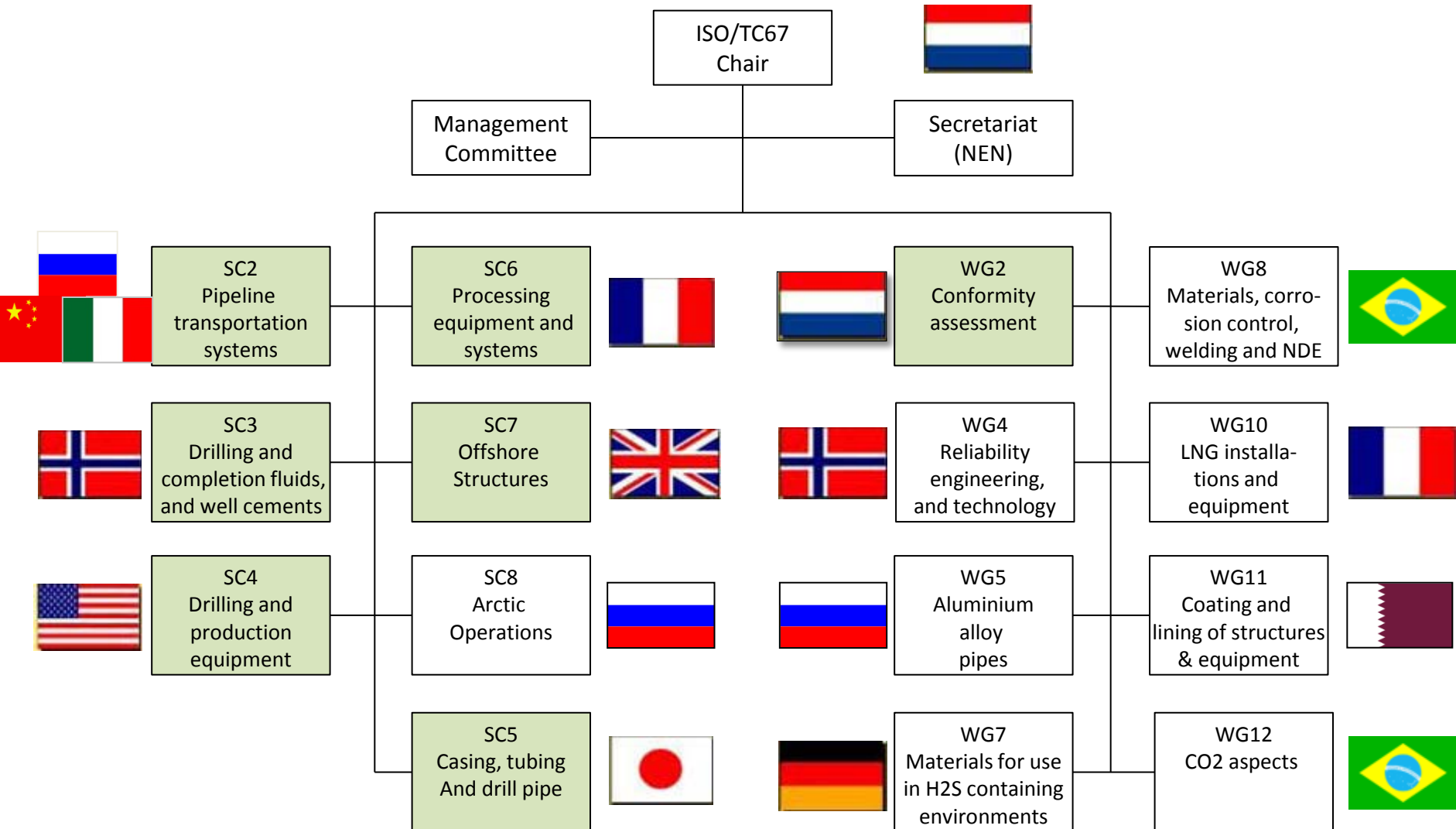
Standards in **brown** issued in 2011  
 Standards in **green** are a priority for 2012 issue  
 These ISO standards are only a core collection of several hundreds of International Standards available for the oil & gas industry

# ISO/TC67 Membership





# ISO/TC67 Structure



# ISO/API Mapping



ISO	API
SC2: Pipeline Transportation Systems	SC5 (partly – line pipe)
SC3: Drilling and Completion Fluids	SC10
SC4: Drilling and Production Equipment	SC6, SC16, SC17
SC5: Casing, Tubing and Drill Pipe	SC5
SC6: Processing Equipment and Systems	CRE subcommittees
SC7: Offshore Structures	SC2
WG2: Conformity Assessment	SC18

# Global developments



- Increased global energy demand as economies around the world continue to expand
  - Hydrocarbon sector will remain important
- New economies are eager to participate in all parts of the industry
- Regulators continue to be very interested in the normative aspects of standards
- Expectations on the performance of the industry will only increase
- The world is more and more connected

**=> The role of ISO/TC67 is as vital as ever before**

# Current issues (1)



ISO/TC 67 response after Macondo and Montara incidents (2010):

- Identification of short and long term actions (ISO/TC67 document N 1119) – December 2010.
- 30 ISO standards under revision (10 high priority)
- Lessons need to be used in the entire world
- International standards are an essential tool in this
- However, needs close cooperation with others - API, IRF and OGP

# Current issues (2)



- Cooperation between API and ISO suspended
- European and US trade regulations
  - Temporary solution for experts to continue their ISO work through OGP
  - API & OGP looking at industry options for global standardization
  - Positive decisions from OFAC (USA) and European Commission on ISO work

International  
standards

Creating  
**CONFIDENCE**  
globally



World  
Standards  
Day

14  
October  
2011



# Simplified flow chart OGP interim solution compared to ISO route

