CPSC / OGP workshop

Standardisation trends and OGP position on development and use of standards

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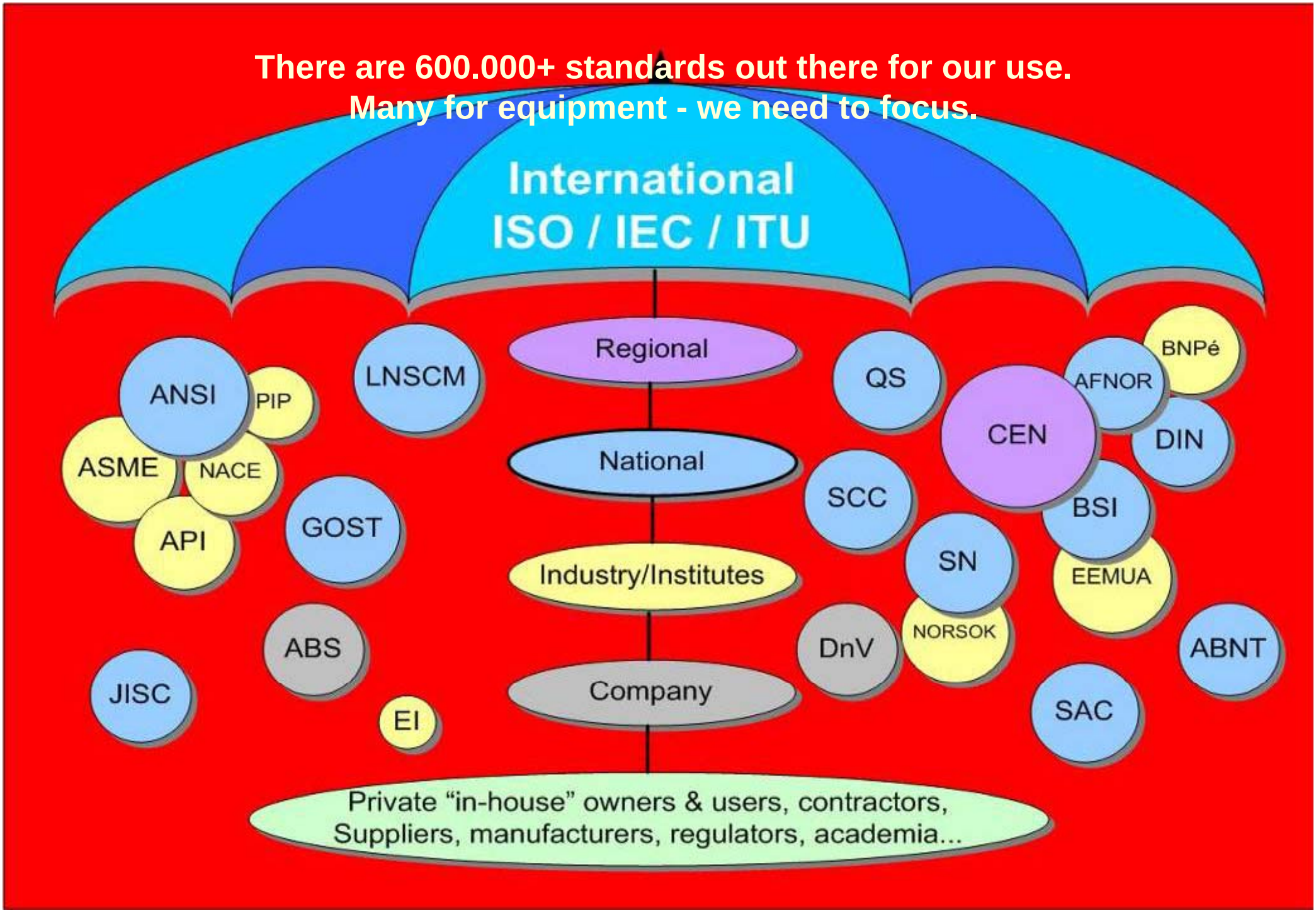
Oil & gas standards history & trend

- Historically, the American organisations like API, ANSI, ASME, ASTM & AWS etc. developed the standards frequently used by the world wide upstream oil & gas industry.
- North Sea operating companies developed in the 80's lots of in-house and project related specifications to fit their needs not covered by the American standards.
- Growing EU interest for developing European upstream standards emerged mid 80's in view of EU's "new approach" to writing directives with general safety requirements to be supported by technical standards.
- **A change in developing oil & gas standards & company specifications was required.**
- **ISO/TC67 was created.**

There are 600.000+ standards out there for our use.
Many for equipment - we need to focus.



ISO initiative & OGP support

- OGP supported the ISO initiative in 1987 to reactivate ISO/TC67 to develop ISO standards for the upstream – the petroleum & natural gas -industry.
- This created a **global arena** for standards development, open to all 157 ISO members and all oil & gas nations concerned.
- API were offered and accepted responsibility for the ISO/TC67 secretariat. Formally ANSI.
- First meeting of ISO/TC67 in Paris 1989.
- A **new era** in the global oil and gas industry standardisation had started.

OGP Summit meetings 1995-6

- The OGP hosted two Standards Summit Meetings.
- Gathered for the first time the leaders of key bodies for the E&P industry standardization efforts to discuss strategy and way forward.
- API, ISO, CEN, EUROPIA, CRINE, NORSOK, Energy Institute (IP) and EEMUA were represented.
- A number of actions were agreed and completed.
- One key actions was to develop a mission statement, subsequently adopted by ISO/TC67 in 1996:

Create value added standards for the oil and gas industry

OGP position

The OGP strongly supports the internationalisation of key standards.

OGP 's position on standards is among others:

- **Development and use of ISO and IEC standards should pre promoted, ISO or IEC should publish them.**
- **International standards should be used without modification wherever possible, but have flexibility to recognise regional variations.**
- **Available resources should be used efficiently, avoiding duplication of effort.**
- **Company specifications should be minimised.**

OGP Position - conclusion

- For full position, see OGP report No. 381, April 2007, 3rd edition.
- The adoption of this approach is expected to minimise barriers to trade, enable more efficient worldwide operations, and improve the technical integrity of equipment, materials, and offshore structures used by the Petroleum, Petrochemical and Natural Gas Industries.

What are the trends of standardisation?

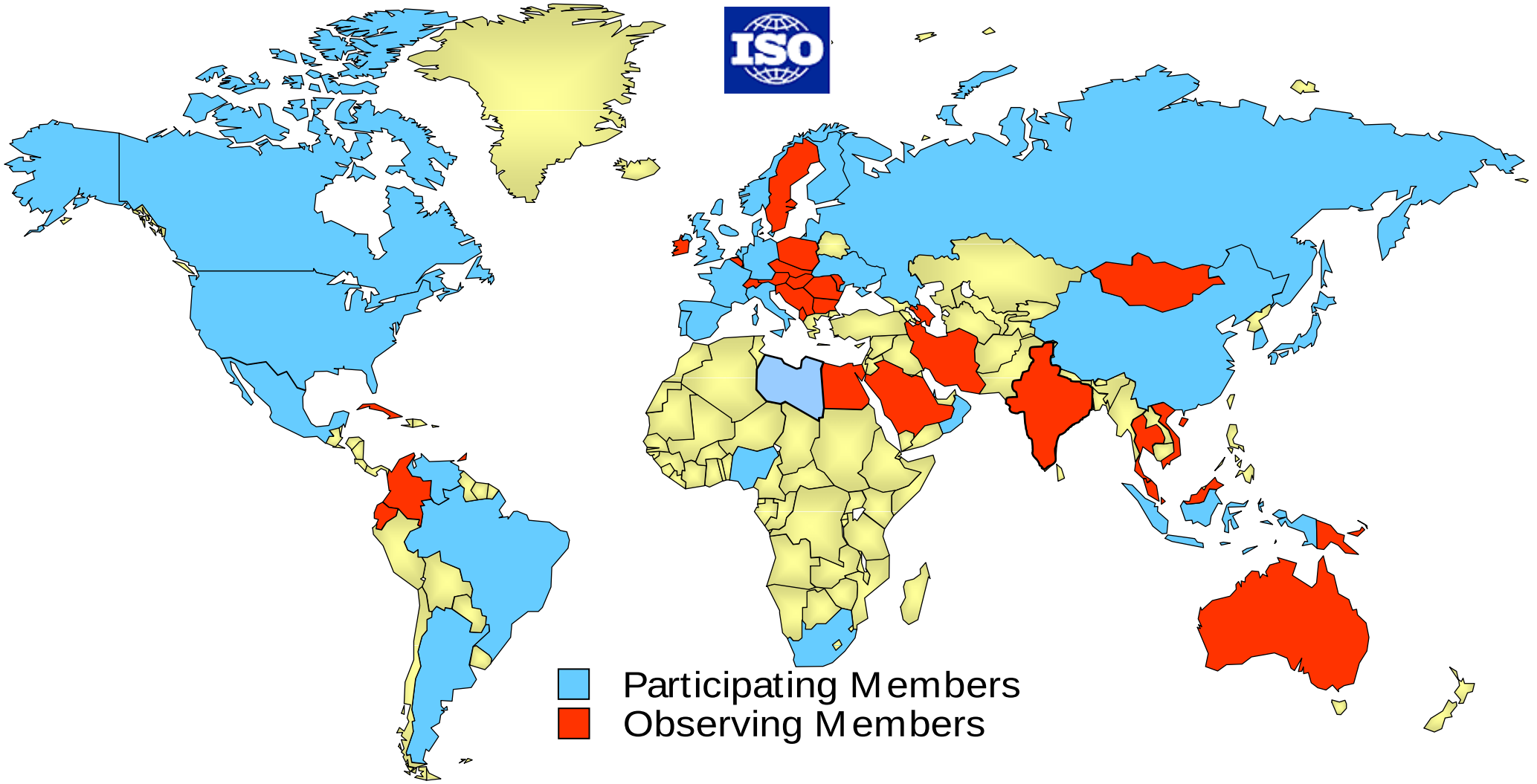
- Global overall
- For national standards -
  a patterns of change for BSI -
  typical for all European Standards Bodies
- Wider global base of participants
- Growing number of ISO standards published
- Growing number of adoptions of ISO standards
- Growing number of Company specifications
- Growing number of Company specifications based on external standards
- ISO/TC67 trends

Global overall trends

- Increased demand for energy
- Global warming – stricter environmental requirements
- Increasing challenges to find and produce oil and gas resources
- Growing demand for, drilling, transport and refining and equipment

The oil & gas industry is global

ISO/TC67 is one of the more important global committees



Wider base of participating countries

Global trends ISO / IEC standards with OGP

- Create common global agreements.
- Facilitate global trade/availability of equipment.
- Reduce design work, retooling and inventory.
- Accelerate product development and delivery.
- Global competition will reduce cost*)
- ISO & IEC offer a global arena for standards work and global professional experts networking possibilities.

*) Benchmark statistics report that using a coherent standards system saves projects 5 % on Capex and 13 % on schedule. Source: IPA

Tenaris ISO 11960 / API 5CT coupling

One resulting benefit:

OCTG parts and equipment for the oil & gas industry are now available according to globally relevant ISO standards

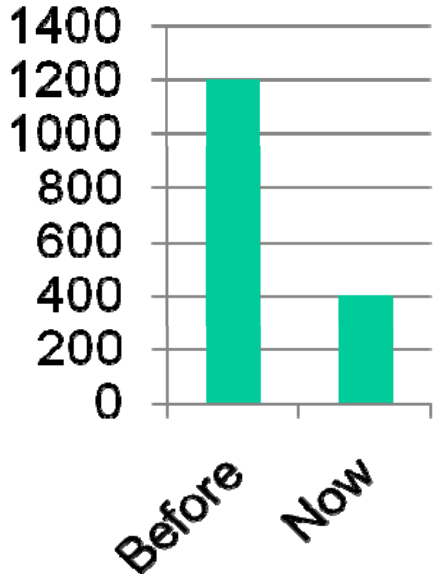
TENARIS ISO 11960 / API 5CT Casing coupling

- Made in Mexico
- By Italian company
- For Middle East buyer

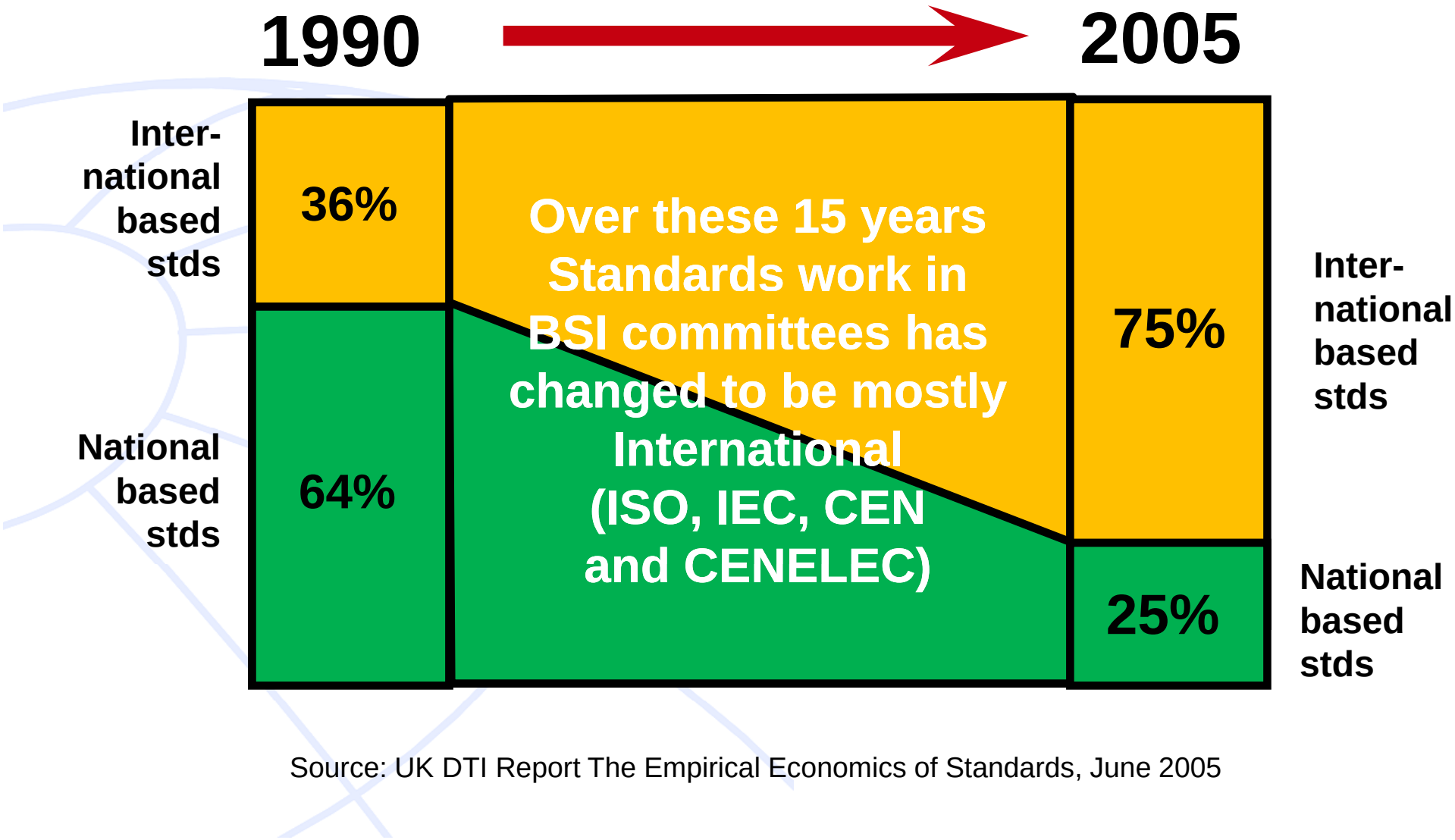
Global trends ISO / IEC standards with OGP

- Transfer & gain international experience.
- Reduce need for extensive company specifications.
- Can support national regulations and reduce text *) of national regulatory documents.

*) Norwegian Petroleum Safety Authority (PSA) reduced the volume of their regulations and guidelines from 1.200 pages a few years back to 400 pages by making more references to standards.

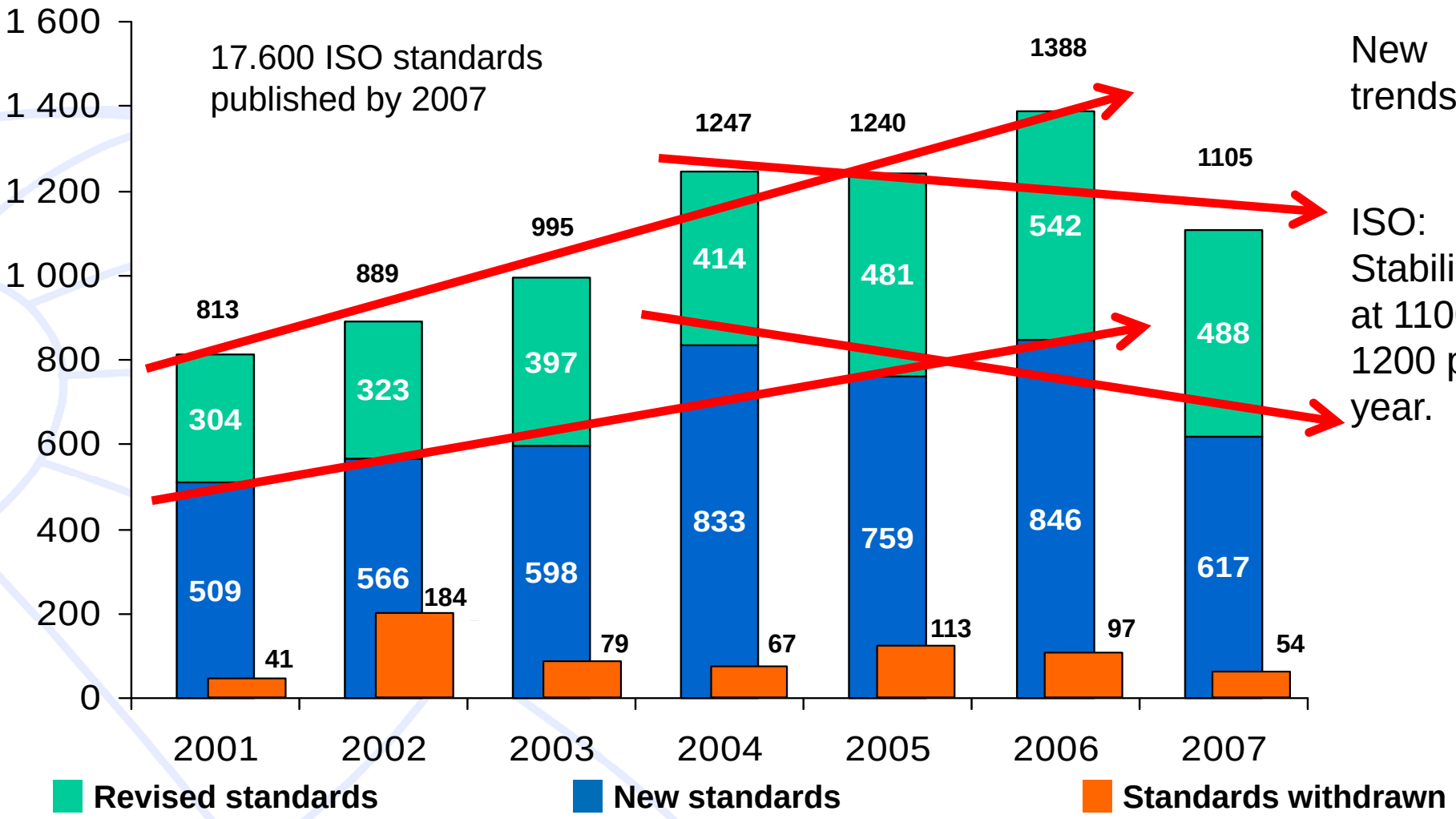


Pattern of change – British Standards Institute



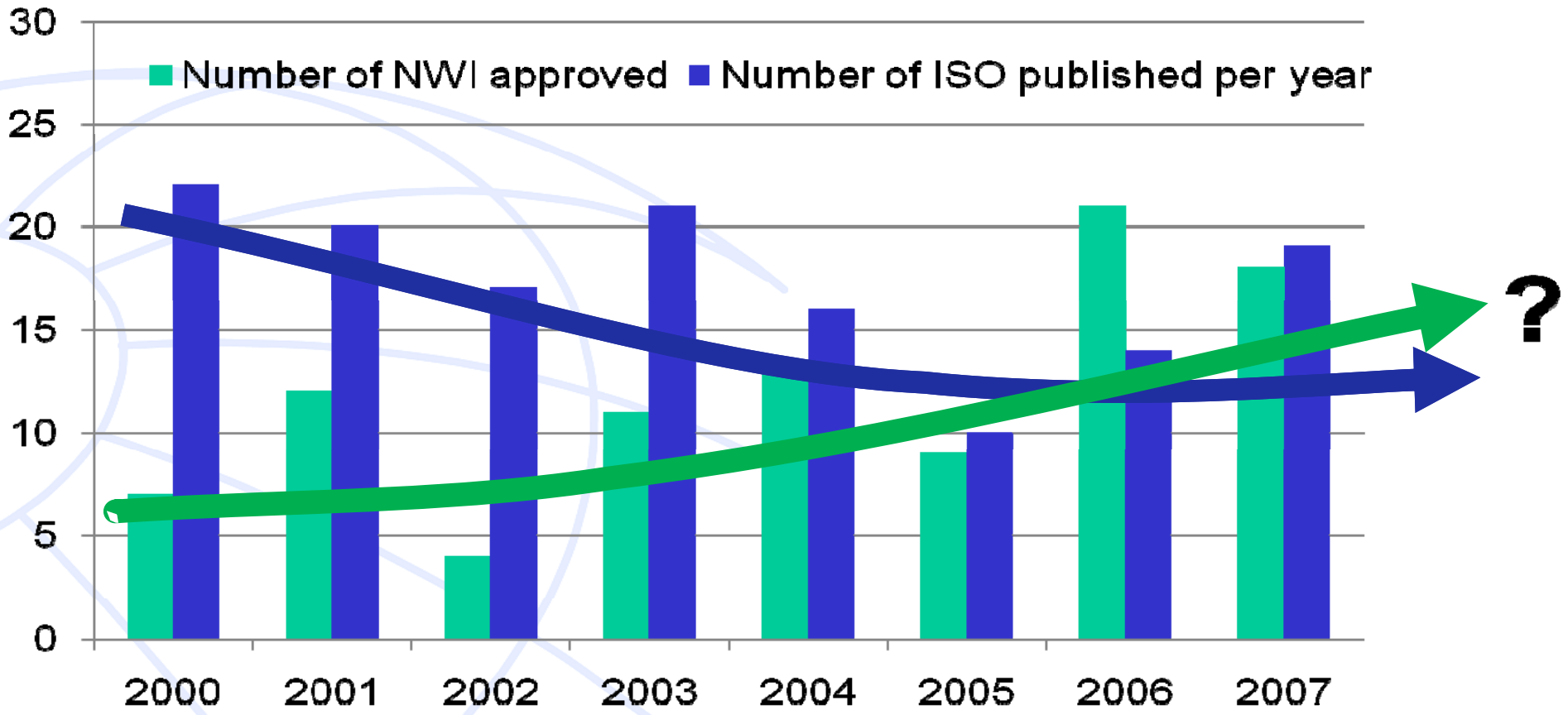
Source: UK DTI Report The Empirical Economics of Standards, June 2005

Yearly production of new and revised ISO standards 2001 – 2007



Source: ISO Central Secretariat

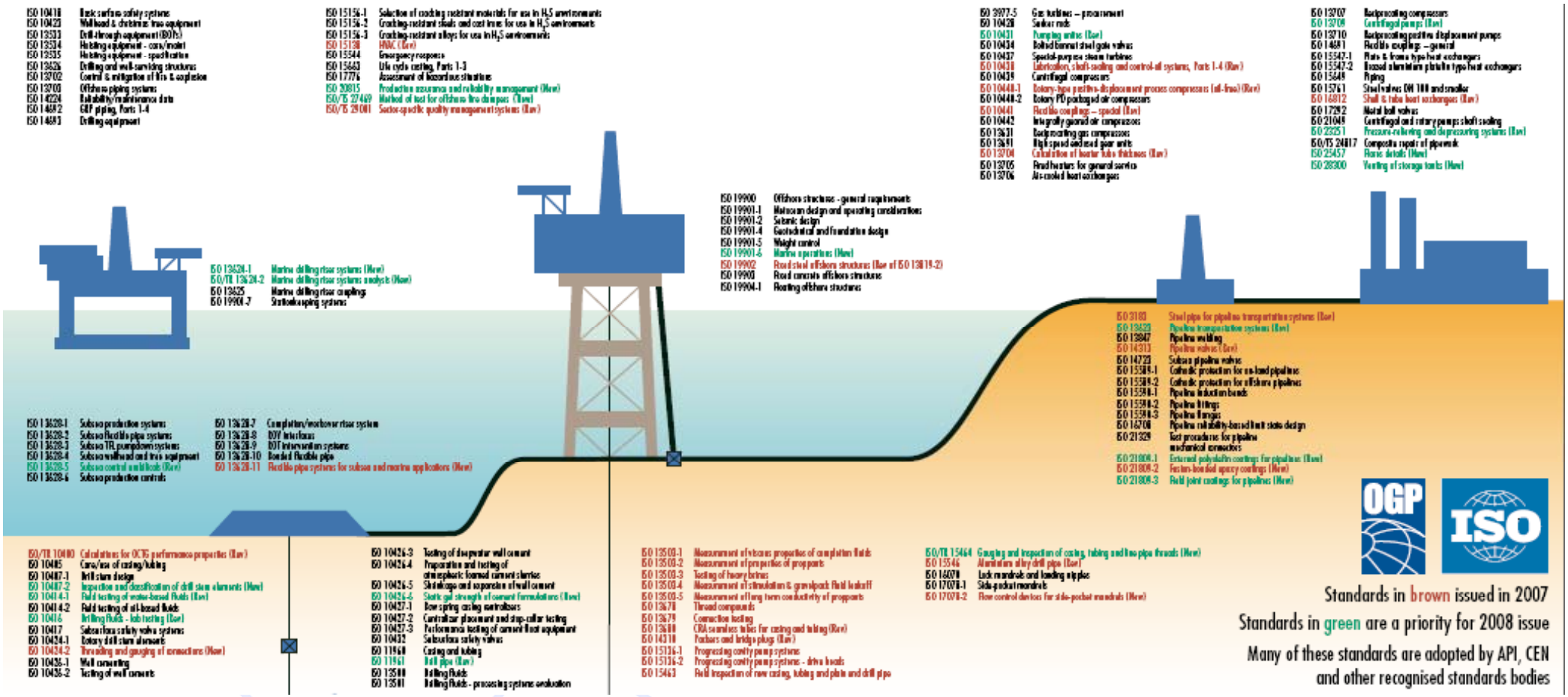
ISO/TC67 trends



Source: ISO/TC67 Metrics

ISO Standards for the oil & gas industry

OGP

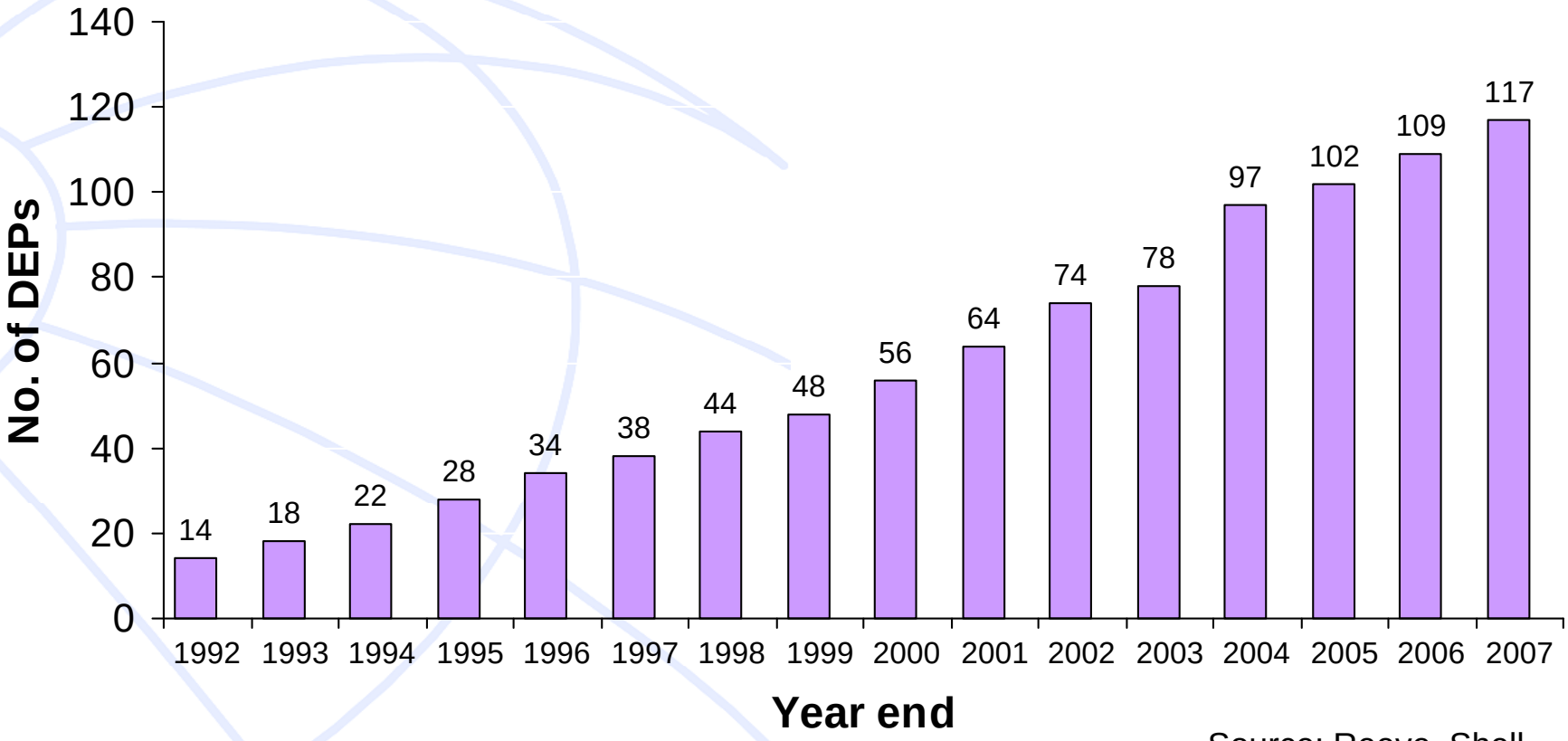


ISO TC67 has published 130+ standards.
API has adopted 60+ of these as joint API / ISO standards.
CEN has adopted 110+ of these as joint European EN ISO standards.
China, Middle East, Kazakhstan, India have also adopted many of these ISO standards.

Growing adoption!

Shell adoption of standards in their company specifications

Number of Shell Design & Engineering Practises based on external standards



Source: Reeve, Shell