



## **STRATEGIC BUSINESS PLAN**

### **ISO/TC 153 "Valves"**

#### **EXECUTIVE SUMMARY**

ISO/TC 153 « Valves » has been vacant for a long time. Therefore no Business Plan was developed.

#### ***Scope of ISO/TC 153***

Standardization in the field of industrial valves and steam traps.

It includes parameters covering design, testing, marking, quality requirements, interchangeability, details for actuator mounting, terminology and other relevant parameters.

Are excluded:

- safety and relief valves and other pressure relief devices which are the responsibility of ISO/TC 185;
- production valves for wellhead equipment and valves for cross country pipelines for the petroleum and natural gas industries which are the responsibility of ISO/TC 67;
- valves forming the final control element used for industrial process control systems which are the responsibility of IEC/TC 65;
- valves having an envelope predominantly made of plastics which are the responsibility of ISO/TC 138;
- valves for sanitary use.

ISO/TC 153 is divided in two sub-committees: SC 1 "Design, manufacture, marking and testing" and SC 2 "Valve actuator attachment".

#### ***Business Environment***

- The world valve industry is still highly segmented particularly in emerging countries. But it is under the process of concentration in developed countries.
- The market of industrial valves is international.
- In spite of the increasing number of international or worldwide used standards, more and more key accounts develop their own specifications and standards developers are bound to consider their most stringent requirements.
- There are national legislation/regulations to be taken into account.
- Stakeholders are end-users, manufacturers, EPC companies and national authorities.



### ***Benefits***

- Manufacturers of industrial valves and steam traps, together with end-users, can meet in a well-known structure, to develop together standards used by all.
- International standards are expected to remove technical barriers to trade and open new markets throughout the world.
- International standards allow maintaining a high level of quality, reliability and functional safety.

### ***Objectives of ISO/TC 153***

ISO/TC 153 first objective is to develop new standards in line with market technical, environmental and safety requests and to update its published standards to meet the industry evolutions.

ISO/TC 153 second objective is to ensure that the revised and/or upgraded standards are not in technical conflicts with similar standards produced by worldwide-used national/professional standardization organizations, while covering broader fields of application.

ISO/TC 153 third objective is to promote the use of ISO standards within all markets and particularly in the emerging countries.



## 1. INTRODUCTION

### 1.1 *ISO technical committees and business planning*

The extension of formal business planning to ISO Technical Committees (ISO/TCs) is an important measure which forms part of a major review of business. The aim is to align the ISO work programme with expressed business environment needs and trends and to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of International Standards, and to ensure adequate resources for projects throughout their development.

### 1.2 *International standardization and the role of ISO*

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade.

Three bodies are responsible for the planning, development and adoption of International Standards: [ISO](#) (International Organization for Standardization) is responsible for all sectors excluding Electrotechnical, which is the responsibility of [IEC](#) (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of [ITU](#) (International Telecommunication Union).

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of some 140 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland.

The principal deliverable of ISO is the [International Standard](#).

An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. These are safeguarded through its development in an ISO Technical Committee (ISO/TC), representative of all interested parties, supported by a public comment phase (the ISO Technical Enquiry). ISO and its [Technical Committees](#) are also able to offer the ISO Technical Specification (ISO/TS), the ISO Public Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) as solutions to market needs. These ISO products represent lower levels of consensus and have therefore not the same status as an International Standard.

ISO offers also the International Workshop Agreement (IWA) as a deliverable which aims to bridge the gap between the activities of consortia and the formal process of standardization represented by ISO and its national members. An important distinction is that the IWA is developed by ISO workshops and fora, comprising only participants with direct interest, and so it is not accorded the status of an International Standard.



## 2. BUSINESS ENVIRONMENT OF ISO/TC 153

### 2.1 *Description of the Business Environment*

The following political, economic, technical, regulatory, legal and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this ISO/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

The world valve industry is still highly segmented particularly in emerging countries. But it is under the process of concentration in developed countries.

The market of industrial valves is largely international with some local manufacturing and use in emerging countries

In spite of the increasing number of international or worldwide used standards, more and more key accounts develop their own specifications and standards developers are bound to consider their most stringent requirements.

Simultaneously, the major oil companies wish to have a single set of standards combining the ISO and the API portfolios for the relevant standards. This task became very difficult after the recent disengagement of API and the necessity to involve OGP in the standards production (for reported compliance with trade sanctioned countries issue ). We expect ISO Geneva to clarify this situation such as to allow our TC working groups to operate in a safe environment, while entirely following the ISO procedures.

The valve business did not show recently any significant technical innovation, except the introduction of RFID (Radio Frequency Identification) technology.

The end users are more and more requiring metal-seated quarter-turn valves, due to the continuous increase in size, pressure & temperature rating and abrasion capability requirements.

There are national legislation/regulations to be taken into account. For example 'Boiler and pressure vessel manufacture licensing and type testing regulation' in China, 'High pressure gas regulation' in Japan, 'Pressure Equipment Directive' in Europe.

Despite the international feature of the valve market, we noticed efforts towards national trade protection and local-manufacturing preference in some parts of the world, in particular in emerging/transition countries.

Relevant stakeholders are end-users, manufacturers, EPC (Engineering, Procurement and Construction) companies and national authorities.

## 2.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the ISO/TC 153:

### Industrial valve market

The following market values come from a study prepared in 2012 by *European Industrial Forecasting* (in billion of US \$):

Market estimation per type of industry in 2012	
General industry	27,9
Oil and gas	12,7
Chemicals	8,6
Power generation	4,3
Water and sewage	5,2
<b>TOTAL MARKET (in billion of US \$)</b>	<b>58,7</b>

*European Industrial Forecasting* forecasted the following world market (in billion of US \$):

Market per geographical areas in 2012	
West Europe	12,92
East Europe	1,92
Russia	2,49
USA/Canada	8,65
Latin America	4,22
China	8,20
Japan	3,80
Pacific	5,91
India	2,50
Africa	1,98
Middel East	4,25
Other Asian countries	1,81
<b>TOTAL MARKET (in billion of US \$)</b>	<b>58,65</b>

*European Industrial Forecasting* forecasted the following world market (in billion of US \$):

	2011	2012	2013
World market	54,5	58,7	66,6

There was an increase in the world market in 2012 compared to the forecast of *European Industrial Forecasting* for 2011, which was 54,5 billion of US \$.



### 3. BENEFITS EXPECTED FROM THE WORK OF ISO/TC 153

The first benefit of the standardization within ISO/TC 153 is to allow manufacturers of industrial valves, valve actuator attachment and steam traps, together with end-users, to meet in a well-known structure, to develop together standards which are used by all.

The second benefit is that International standards are expected to remove technical barriers to trade and open new markets throughout the world. Since the beginning of ISO/TC 153 work in 1971, 26 ISO standards were published, some of them are under revision. Eight of these standards were developed in common with Europe, via the Vienna Agreement with CEN.

The third benefit is that International standards allow maintaining a high level of quality, reliability and functional safety. On the International market, industrial valves in compliance with International standards respect a high level of performance, are safe for use by customers, are friendly for the environment and are efficient.

International standardization allows manufacturers to promote innovation.

Active involvement in the standardization process, helps companies:

- to meet the requirements of customers and markets
- to increase productivity and lower the cost of major contracts
- to meet possible suppliers and customers in the creation process
- to get in touch with knowledgeable research organizations
- to gain insight into future requirements by regulatory bodies
- to increase the value of their own intellectual property rights
- to shape the framework conditions for future markets

### 4. REPRESENTATION AND PARTICIPATION IN ISO/TC 153

#### Countries/ISO member bodies that are P and O members of the ISO committee

#### **4.2 Analysis of the participation**

The active members are the following:

- **European countries:** France (AFNOR), Germany (DIN), Italy (UNI), Netherlands (NEN), United Kingdom (BSI).
- **Asian countries:** China (SAC), Japan (JISC), Republic of Korea (KATS)
- **American countries:** Canada (SCC) and United States (ANSI)
- **African countries:** Israel (SII) and South Africa (SABS)

More and more Asian countries are involved in the standard development, particularly China, Republic of Korea and Japan.

On the other side there is no effective participation from African and Latin-America countries.

In the past, some European countries were not involved in ISO/TC 153 standardization work. They are now coming back.



ISO/TC 153 has faced difficulties to involve end-users in the technical work within its sub-committees and their working groups. During the last 5 years, only a few major oil companies have participated in the meetings of SC 1 working groups.

## **5. OBJECTIVES OF ISO/TC 153 AND STRATEGIES FOR THEIR ACHIEVEMENT**

### **5.1 *Defined objectives of ISO/TC 153***

The scope of ISO/TC 153 is the following:

Standardization in the field of industrial valves and steam traps.

It includes parameters covering design, testing, marking, quality requirements, interchangeability, details for actuator mounting, terminology and other relevant parameters.

Are excluded:

- safety and relief valves and other pressure relief devices which are the responsibility of ISO/TC 185;
- production valves for wellhead equipment and valves for cross country pipelines for the petroleum and natural gas industries which are the responsibility of ISO/TC 67;
- valves forming the final control element used for industrial process control systems which are the responsibility of IEC/TC 65;
- valves having an envelope predominantly made of plastics which are the responsibility of ISO/TC 138;
- valves for sanitary use.

ISO/TC 153 first objective is to develop, within defined ISO timeframe, new standards in line with market technical, environmental and safety requests and to update its published standards to meet the industry evolutions."

For example ISO/TC 153/SC 1 has decided to develop three new standards

- one standard on inspection, testing and safety use of valves, with the collaboration of end-users by collecting their needs;
- one standard for type-testing of valves, to facilitate communication between manufacturers and end-users;
- one standard for lined metal quarter turn industrial valves to cover the specific needs of the chemical process and related industries.

ISO/TC 153/SC 1 is willing to launch investigations on the interest on the market for a standard on metal-seated ball valves.

ISO/TC 153 second objective is to ensure that the revised and/or upgraded standards are not in technical conflicts with similar standards produced by worldwide-used national/professional standardization organizations, while covering broader fields of application.

ISO/TC 153 third objective is to promote the use of ISO standards within all markets and particularly in the emerging countries. The aim is to ensure that ISO/TC 153 standards are better known and more-largely used world-wide.

## **5.2 Identified strategies to achieve ISO/TC 153's defined objectives**

ISO/TC 153 and its sub-committees will use national or professional existing standards as primary basic documents.

The sub-committees of ISO/TC 153 have created working groups to develop revised and new standards. This allows constructive discussions among technical experts within specialized groups.

ISO/TC 153 and its sub-committees have been trying to involve more emerging countries.

ISO/TC 153 and its sub-committees have set liaison with other ISO Committees which activity is of interest and could be profitable to the development of standards:

- ISO/TC 1 "Screw threads"
- ISO/TC 5 "Ferrous metal pipes and metallic fittings", ISO/TC 5/SC 5 "Threaded or plain end butt welding fittings, threads, gauging of threads", and ISO/TC 5/SC 10 "Metallic flanges and their joints"
- ISO/TC 11 "Boilers and pressure vessels"
- ISO/TC 21/SC 5 "Fixed firefighting systems using water"
- ISO/TC 23/SC 18 "Irrigation and drainage equipment and systems"
- ISO/TC 25 "Cast irons and pig irons"
- ISO/TC 26 "Copper and copper alloys"
- ISO/TC 30 "Measurement of fluid flow in closed conduits"
- ISO/TC 44 "Welding and allied processes"
- ISO/TC 61 "Plastics"
- ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" and ISO/TC 67/SC 6 "Processing equipment and systems"
- ISO/TC 131 "Fluid power systems"
- ISO/TC 135 "Non-destructive testing"
- ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids" and ISO/TC 138/SC 7 "Valves and auxiliary equipment of plastics materials"
- ISO/TC 197 "Hydrogen technologies"
- ISO/TC 220 "Cryogenic vessels"
- IEC/SC 65A "Industrial-process measurement and control – System aspects"
- IEC/SC 65B "Industrial-process measurement and control – Devices"

ISO/TC 153 and its sub-committees have also set A-liaison with the following organizations representing major stakeholders:

- CEIR "European Committee for the Valves Industry"
- ECTA "European Chemical Transport Association"
- WCO "World custom Organization"

Regarding the maintenance of the published standards, ISO/TC 153/SC 1 created in 2012 a group to deal with the requests for clarification of its published standards.

This group is convened by SC 1 chairman, with the participation of WG convenors, Project Leaders and technical experts nominated by the P-members. This group is aimed to work by electronic mailing and conference-calls.

One of the results of this clarification process could be the necessity to revise the published standards.

## **6. FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF ISO/TC 153 WORK PROGRAMME**

The following factors have been affecting the completion and implementation of the work programme of ISO/TC 153 and its sub-committees:

- the vacancy of convenorship or no real convenorship involvement;
- for active working groups, the convenorship is an extremely time-consuming activity,
- not enough experts from end-users side and from large variety of countries – always the same experts are actively involved;
- regulatory issues – some regional requirements might not be mandatory for other regions;
- market significant changes and subsequent end-users requirements.

## **7. STRUCTURE, CURRENT PROJECTS AND PUBLICATIONS OF ISO/TC 153**

This section gives an overview of ISO/TC 153's structure, scope, projects and publications. All of this information is updated regularly and is available on ISO's website, ISO Online.

The link below is to the TC's page on ISO's website: [ISO TC 153 on ISO Online](#)

Click on the tabs and links on this page to find the following information:

- About (Secretariat, Secretary, Chair, Date of creation, Scope, etc.)
- Contact details
- Structure (Subcommittees and working groups)
- Liaisons
- Meetings
- Tools
- Work programme (published standards and standards under development)

### **Reference information**

[\*Glossary of terms and abbreviations used in ISO/TC Business Plans\*](#)

[\*General information on the principles of ISO's technical work\*](#)