

SADCSTAN STUDY VISIT – EUROPEAN REGIONAL STANDARDIZATION SYSTEM



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## 1. INTRODUCTION

### 1.1 Background

The Southern African Developing Community (SADC) was established by a Treaty, which was signed in 1992. Currently SADC consists of 14 member countries namely: Angola, Botswana, Democratic Republic of Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The key objective of SADC is to achieve development and economic growth. In order to achieve this objective, member states signed the SADC Protocol on Trade in 1996. The ultimate aim of SADC Protocol on Trade is free movement of goods and services within the region.

Article 17 of the SADC Protocol on Trade deals with standards and technical regulations on trade and promotes compatibility of conformity assessment procedures in order to facilitate trade within the community. In order to ensure that these requirements are met thus remove technical barriers to trade, the SADC Council of Ministers agreed that cooperation amongst member states in the fields of standardization and conformity assessment be embodied in a Memorandum of Understanding (MoU). Thus an MoU on standards, quality assurance, accreditation and metrology (SQAM) was signed by the SADC Ministers responsible for industry and trade matters on behalf of member states in 2000.

The MoU establishes a formal framework in which cooperation amongst SQAM institutions in the region shall take place and this framework is referred to as the SADC SQAM Programme. The objectives of SADC SQAM Programme are to progressively eliminate Technical Barriers to Trade (TBT) amongst member states and between SADC and other regional and international trading blocs and to promote quality and an infrastructure for quality in member states.

In order to implement the SADC SQAM Programme, the SADC SQAM MoU provides for five structures namely:

- SADC SQAM Expert Group (SQAMEG), which coordinates regional SQAM activities and provides a forum where conformity assessment issues are dealt with.
- SADC cooperation in Measurement Traceability (SADCMET), which coordinates metrology activities and services in the region.
- SADC cooperation in Legal Metrology (SADCMEL), which facilitates the harmonization of national legal metrology regulations of member states and between SADC and other regional and international trading blocs.

- SADC cooperation in Accreditation (SADCA) which facilitates the creation of a pool of internationally acceptable accredited laboratories (test and calibration), certification and inspection bodies in the region and provides member states with accreditation as a tool for the removal of TBTs in both the voluntary and regulatory areas; and
- SADC cooperation in Standardization (SADCSTAN).

## 1.2 SADCSTAN

SADCSTAN is the sole body mandated by the SADC Council of Ministers to coordinate standardization activities and services in the region with the purpose of achieving harmonization of standards and technical regulations except legal metrology regulations. SADCSTAN was established in 1992 in Port Louis, Mauritius. The main aims of SADCSTAN are to:

- Promote regional cooperation in the development of harmonized standards and technical regulations;
- Facilitate the exchange of information on existing standards, draft standards and technical regulations among member s; and
- Facilitate the adoption of regional standards by member states.

The main functions of SADCSTAN are to:

- Develop and adopt mechanisms for the formulation of regional standards;
- Examine the need for and develop regional product standards;
- Develop mechanisms to facilitate the adoption of regional standards as national standards; and
- Develop standards in support of harmonized technical regulations.

SADCSTAN ordinary membership is open to National Standards Bodies (NSBs) of member states. Where an NSB does not exist, membership is open to any other institution designated by its Minister responsible for industry and trade. SADCSTAN allows for other categories of membership namely associate and stakeholder. Associate membership is open to institutions of non-SADC states, which meets the criteria of ordinary membership whilst stakeholder membership includes industry associations, government representatives, standards developing organizations, other regional and international cooperations in standardization, representatives from other

SQAM committees and any other regional bodies with an interest in standardization.

The governing body of SADCSTAN is the SADCSTAN Committee, which consists of ordinary members. Out of the SADCSTAN Committee is elected an Executive Committee, which is responsible for the day-to-day management of SADCSTAN and its activities including project management. The SADCSTAN Executive Committee consists of the chairperson, vice chairperson, two other ordinary member representatives and the SADCSTAN Secretariat. The SADCSTAN Secretariat is headed by a Regional Coordinator. The SADCSTAN Committee meets in a General Assembly at least annually in coordination with the meeting of the other SQAM regional structures.

Since its establishment in 1997, SADCSTAN has developed procedures for the development of SADC Harmonized standards and these were adopted in 2001 in Maseru, Lesotho. Basic rules for the operation of SADCSTAN have also been developed and adopted in 2005 in Maputo, Mozambique. Up to date 51 standards covering the following products/areas have been harmonized: common and masonry cements, tyres, fish and fish products, electrical installations, safety signs in buildings, quality management standards and conformity assessment standards and guides and metrology documents. The Executive Committee was established in 2005 and consists of Zimbabwe (chair), Mozambique (vice chair), Botswana and Lesotho as the two other members with Standards South Africa as the Secretariat. The first Executive Committee meeting was held in June 2005 in Zimbabwe with the second meeting scheduled for January 2006 in Botswana. A SADCSTAN logo has been designed and will be presented for approval at the ninth SADCSTAN meeting to be held in Namibia in April 2006.

For the purpose of harmonizing standards within the SADC region and in line with the approved procedures, seven members have taken up the functions of Secretariatship and two members have expressed their willingness to take up secretariat. Thirteen Technical Committees (TCs) have been established as follows:

- TC 1 Construction (Botswana)
- TC 2 Automotive and transportation (South Africa)
- TC 3 Foods and agriculture (Mauritius)
- TC 4 Electrotechnical (South Africa)
- TC 5 Environment (Zimbabwe)
- TC 6 Health & safety (Mauritius)
- TC 7 Packaged goods (Botswana)
- TC 8 Hospitality and tourism (South Africa)
- TC 9 Non-destructive testing (Mauritius)
- TC 10 Conformity assessment (Zimbabwe)

- TC 11 Quality (Tanzania)
- TC 12 Metrology (Malawi)
- TC 13 Geographical information systems (South Africa)

Various projects are currently in progress including bricks, labeling of pre-packaged foods/goods, HIV/AIDS, power utilities, metrology and ground water.

Although some progress has been made in the harmonization efforts, SADCSTAN faces a number of challenges. The key challenges have been; lack of capacity in member states especially lack of infrastructure/facilities, inadequate resources (manpower and financial etc.) and lack of skilled staff; communication problems due to limited IT infrastructure and slow connectivity; business language diversity and very poor adoption and implementation of harmonized standards by member states.

It is on this background of these challenges that the study visit to Europe was designed.

## 2. PROGRAMME PURPOSE

The study visit was designed to expose SADCSTAN delegates to the European regional standardization system and how it works from all angles. The study visit was designed in two parts:

- A two week study visit to the:
  - European Committee for Standardization (CEN) and European Committee for Electrotechnical Standardization (CENELEC) in Brussels, Belgium (2 days)
  - Note – Arrangements to visit the European Commission in Brussels did not materialize hence visit not undertaken. However a presentation was made at CEN by a representative from the European Commission.*
  - Austrian Standards Institute (ON) in Vienna, Austria (2 days)
  - Physikalisch – Technische Bundesanstalt (PTB) in Berlin, Germany (1 day)
  - Volkswagen Factory in Wolfsburg, Germany (1 day)
  - German Standards Institute (DIN) in Berlin, Germany (1 day)
  - Consumer Protection Body (Stiftung Warentest) in Berlin, Germany (½ day)

[Refer to Appendices A and B for the detailed study visit professional and social programme].

- A two-month attachment at CEN/CENELEC for Mr Tsupoeng Mosane (SADCSTAN Secretariat).

The two-week study visit was attended by SADCSTAN and East African Community (EAC) delegates.

The SADCSTAN delegation consisted of:

- Mrs Maureen P Mutasa - Chair SADCSTAN and Head of SADCSTAN Delegation  
SAZ Director General & Chair of ISO Policy Committee for developing countries (DEVCO)
- Mr Donald Masuku - SADCSTAN Regional Coordinator
- Mr Justice Kobe - SADCSTAN Secretariat
- Mr Tshupoeng F Mosane - SADCSTAN Secretariat

The EAC delegation consisted of:

- Mrs Eva Odour - Kenya Bureau of Standards
- Mr Charles Ekelege - Tanzania Bureau of Standards
- Mr Patrick Ssekitoleko - Uganda Bureau of Standards

The delegation was accompanied throughout the two-week study period by Mr Alex Inklaar a management consultant who has been working with SADCSTAN. Mr Inklaar designed the study visit based on SADCSTAN input on areas of focus. The study visit was financed by PTB through its projects on support to SADC/EAC in establishing a regional system for SQAM.

## 4. STUDY VISIT

### 4.1 Visit to CEN

#### Background

The visit to CEN was the key part of the overall visit to appraise regional standardization system in Europe. The concept of European regional standardisation was initiated around 1960s in France by AFNOR (Association Française de Normalisation) and later CEN Management Centre was established around 1975 in Belgium Brussels where it stands with about 50 employees to date.

We were welcomed at the CEN Management Centre by Mr. Hugues Plissart, Director of Standards Development.

## **CEN institutional organization**

CEN is a legal association, the members of which are the National Standards Bodies (NSBs) from twenty-eight European countries and eight Associates (organizations representing social and economic interest at European level), supported by a Management Centre based in Brussels. CEN depends upon the strong support and dedication of its national members and the European Commission funding with the aim of facilitating the exchange of goods and service through the elimination of technical barriers to trade.

Just like a tree, CEN has strengthened its different branches by offering the co-operation opportunities to worldwide standardization partners and to facilitate their participation in European standardization so that they apply it in practice. CEN co-operates with CENELEC and ETSI at policy level (Joined Presidents' Group) and at technical level (Joined Co-ordination Group, and Information Technology Standards Board). The organization has five modes of co-operation between Technical Committees (i.e. Information relation, Contributive relation, Sub-contracting relation and Integrated relation). CEN has a formal relationship with the International Organization for Standardization (ISO) through the 'Vienna Agreement' to facilitate technical co-operation.

The principal deliverable of CEN is the European standard (EN), which must be published by each of the NSBs as an identical national standard, with any existing national standards in conflict being withdrawn. This process is designed to achieve European harmonization through the creation of the broad based possible consensus and the representation of all the interested parties. Hence the EN is a recognised tool to support the implementation of European legislation (directives).

## **CEN Technical Work**

### ***CEN structure***

The registered office of CEN, which represents the hub of the organization, is in the heart of Europe in Brussels, Belgium and is called the CEN Management Centre (CMC). The CMC is headed by the CEN Secretary General (Mr Ahls). The CEN structure denotes the national members (NSBs) as the key decision makers that have delegated some responsibilities to committees like the Technical Board (BT), which is responsible for the standards programme. The BT promotes speedy execution of standards by TCs, CMC, and other participating bodies e.g. sector forums and Working Groups (WG),

### ***CEN principles***

CEN is committed to the timeous development of market relevant standards by a TC, standards which are approved by the CEN members and feature a public comment stage in their development, an adopted European standard must be published as an identical national standard by the participating NSBs which are CEN members. CEN also support specific needs of different sectors that produce high quality reference documents, and promotes EN in the international arena.

### ***Development of EN***

A proposal for an EN may come from a member. However, the users routes are through the NSBs or, where EU legislation is concerned, the EC or EFTA Secretariat. Taking in to account pan-European need, the timescale required for the delivery of the standards and the resource available, the appropriate CEN TC takes a decision on the adoption of the proposal. An adopted standardization project is allocated to one of the WG responsible to the TC for the drafting of standard. If the proposal is for a new field of standardization activity, a decision is first made by the CEN BT. If its decision is positive, the BT will send the work to the existing TC or establish a new TC, as appropriate that will be given three years timeframe. Then the standstill principle immediately applies with all CEN members. The progress of the project will be regularly reported to the BT as the standard is going through the different stages of development, i.e. CEN Enquiry stage (Public comments), Formal voting, Publication, Withdrawal of conflicting national standard, etc.

### ***CEN deliverables***

CEN has broadened its scope beyond delivering ENs (Harmonized standards) but also the Technical Specification (CEN/TS) as an alternative to an EN when agreement on a standard cannot be reached quickly enough or where technology is not sufficiently mature; CEN Workshop Agreements (CWA) which was introduced as a fast solution to meet the need of the information technology community which is now available to all of CEN sectors; CEN Guides; and Technical Reports (TR)

### **Role of European standards in support of EU legislation**

Standardization in EU played until mid eighties, no major role in Community policies and legislation. It was exclusively the National Standardization Bodies that contributed through their legislation. The first experience was gained through the New Approach support to the Single Market legislation. The New Approach was introduced in 1985 as a feature of sharing of task between the EU legislator and the standards organizations. The essential requirements are specified in more detail by harmonized standards elaborated by the European Standards Organization (ESO) following a mandate from the EC. The application for standards is voluntary. However, if

the manufacturer uses harmonised standards, the conformity of their products with respective “*New Approach*” legislation is presumed.

In the context of the Commission’s ‘better regulation policy’, the principles of the New Approach were expanded to the other areas of EU legislation and standards used to support the EU policies beyond legislation. Standards are therefore confirmed to provide added value and increase competitiveness in the EU market. The Commission is promoting the use of international standards as a tool to remove barriers to trade at international level.

### **CEN and the international level, the Vienna Agreement**

The Vienna Agreement (VA) was signed in 1991 and the ‘codified version’ was later approved in 2001. The agreement was to avoid duplication between standardization at international and EU level, for the benefit of both contributors to, and users of, standards. The VA is a type of cooperation between ISO and CEN that deals with mutual representation at meeting and adoption of the same text, both as ISO and CEN i.e. adoption by CEN of an available ISO standards and / or adoption by ISO of an available ENs. When either of the two organizations starts a project, the other one cannot start a similar project but rather will support the running project and will take it through enquiry and voting stages for both organizations. Thus, it will be published, adopted and implemented as ISO EN document. And this process is called ‘Parallel ISO/CEN approval procedure’. Therefore there is full exchange of work programme information between the two organizations.

### **CENELEC institutional organization in the electrotechnical field**

CENELEC, the **European Committee for Electrotechnical Standardization**, was created in 1973 as a non-profit technical organization set up under Belgian law and composed of the National Electrotechnical Committees of 28 European countries. In addition, 8 National Committees from Eastern Europe and the Balkans are participating in CENELEC work with an Affiliate status. CENELEC members are working together in creating both standards requested by the market and harmonized standards in support of European legislation and which have helped to shape the European Internal Market. CENELEC works with 15,000 technical experts from 28 European countries. Its work directly increases market potential, encourages technological development and guarantees the safety and health of consumers and workers.

CENELEC prepare voluntary electrotechnical standards that help develop the Single European Market/European Economic Area for electrical and electronic goods and services removing barriers to trade, creating new markets and cutting compliance costs. These documents are published and

implemented without change in all members and conflicting standards are withdrawn as such.

A resolution of 7th May 1985 of the European Council formally endorsed the principle of reference to European standards within the relevant European Directives, in support of New Approach concept. In the light of this New Approach, CENELEC is developing voluntary electrotechnical standards as a basis for the creation of the Single European Market/European Economic Area without internal frontiers for goods and services. In addition to the traditional European standard deliverables, CWA – CENELEC Workshop Agreement has been included in its portfolio, offering an open platform to foster the development of pre-standards for short lifetime products where time-to-market is critical, which is very similar to the CEN Workshop Agreement. CENELEC is the European counter part of IEC (International Electrotechnical Commission) with which it has a standing protocol (the 'Dresden Agreement') to facilitate technical co-operation.

### **CEN standardization and certification**

The main common goal of the EC approaches is “free movement of goods through EU” by removing technical barriers to internal EC trade, derived from national technical regulations, standards and test and certification procedures. And this was tackled through two approaches: the 'Old Approach' and the 'New and Global Approach'. The principles of New Approach became more essential to the certification processes and manufacturers are responsible for conformity. The declaration of conformity is drawn up and signed by the manufacturers on his/her own responsibility, which means manufacturers can affix the CE marking (E mark) with presumption of conformity, but the CE marking is not a mark of origin and not a quality mark!!!

Once the product is tested and certified to obtain the Keymark in one country, there should be no need for re-testing in other countries participating in the scheme. The manufacturers and retailers should be able effectively to market their product. Consumers and users also will be confident on the quality, safety, health and environmental requirements of the product. As matter of development, the EC are currently examining ways in which the implementation of the New Approach directives could be enhanced.

### **CEN standards delivery: editing and delivering European standards; administration of voting procedures; systematic approach to quality**

This department of CMC is responsible for editing and publishing of ENs and related normative and informative publications at the different stages of development of publication; administration of voting procedures (on EN drafts and related publications including parallel ISI/CEN procedure; and

provision of direct support for the development of electronic and administrative tools to improve the overall efficiency of the standards development process (e.g. templates for draft standards, enquiry and voting forms, etc.)). CEN standards delivery section also take care of management of all records concerning standards projects in progress, both within the TC and within CMC; administration of the decision procedures of BT (including the follow-up of decisions taken by Tcs and periodic review of published standards; and provision of the statistics data related to published standards and related publications). Statistically CEN systems is growing, in 1992 about 300 documents where in circulation for publication and in 2005 around 10 000 documents are due for circulation.

### **The business operations support system (BOSS). The CEN quality system**

The BOSS system is the source of reference for all CEN's System Operations. It gives information on the key processes and structure in the CEN System Operation. CEN Customers and Stakeholders find information about the functioning of EU standardization system and the role and responsibilities of the standardization actors i.e. who does What, When and How? Thus, the BOSS is the key route to Total Quality Management that CEN is following to improve customer satisfaction. The following are some of the factors covered by the BOSS system, which is available for the public:

- Corporate – information on the CEN mission, business environment etc...
- Management processes – processes used by management committee to direct and control CEN
- Production process – standards making processes

The CMC is presently certified only on standards department for ISO 9001 *Quality Management System* and is in the processes to prepare the entire organization to be certified in the near future.

### **Twist and shout information about CEN and where to get it.**

CEN has come up with a marketing strategy called "Twist and Shout" that will help to overcome the following challenges:

- The perception of standardization as more technical, bureaucratic, complicated and boring;
  - Misunderstanding the difference between standardization and law; and
  - The perception of Europe as a distanced entity that only cost money and reduces peoples' rights;

CEN has therefore published the following documents as part of its marketing strategy:

- CEN Annual report – 10,000 copies distributed annually by the NSBs;
- CEN Compass – Available through out CEN events in three official languages (English, French and German) and AENOR (Spain) also translate it into Spanish for free publication;
- CEN Booklets – Four information booklets on benefits of standards, directives & related standards, EU standardization in global context, and marking of products & system certifications;
- Networking – Published bimonthly & distributed free of charge;
- CEN Sector News – Published monthly with information about latest developments in the technical sectors;
- CEN Conferences – Usually one major conference per year; and
- CEN Catalogue – Published twice per year with complete list of EN.

CEN also uses its website ([www.cenorm.be](http://www.cenorm.be)) as a marketing tool. The Website allows you to navigate around and get information about technical work, all CEN sectors, and the BOSS system that contains CEN general procedures. It is also the responsibility of all CEN members to market CEN system and make it known to both EU public and the world. During the visit to CEN, the SADCSTAN delegation raised the idea of entering into a formal cooperation agreement with CEN, which would improve accessibility of CEN standards for use as basis of SADCSTAN harmonized texts.

#### 4.2 **Visit to Austrian Standards Institute**

The ON founded in 1920 is a non-profit organization and founder of CEN. It is a medium sized organization with 125 employees. Its contribution to the European system of harmonization is very critical to our understanding of the integration of the CEN system of harmonization.

The visit to ON consisted of two days of informative presentations from ON management. The first day dealt with overview and broad activities of ON as a member of both CEN and ISO. The second day dealt with how ON participate in CEN technical committees.

The programme for the first day was as follows:

- Welcome at ON, ON and Europe
- Lunch offered by ON
- ON and national stakeholders
- Dinner offered by ON at NOVIS restaurant

Dr Stampfl-Blaha, who is responsible for International relations and two other Standards Managers, welcomed us. An overview of the structure of ON was presented together with information session of the profile of ON. ON

is the empowered body for the European Mark and is empowered to licence the keymark for 20 product families ranging from construction to scuba diving. The concept of empowering NSB's for the keymark was explained in details during our visit to CEN.

Austria is a member of the European Union (EU) and it has to abide by all the directives promulgated by the European Commission. Harmonization of technical regulations and standards is referred to in the EU directives. ON creates mirror committees for projects, which are discussed at both ISO and CEN level and for which Austria has interest. It was also mentioned that effective mirror committees need effective awareness program. Both industry and politicians should be able to buy into your work program. It should be explained clearly to all interest groups the change in working methods. i.e. national vs. regional.

Standards institutions in the EU face a number of challenges, which are similar to the SADC region.

The CEN Management Centre avails the documents in three languages, which are English, French and Germany. The translation by member states to any other language common in the national TC's is the responsibility of the particular member states and the cost associated with that is carried out by the member state itself.

ON has 6 178 experts in technical bodies who participate in national, regional and international standardization. All of them fund their own participation in these meetings.

The EU directives enforce the harmonization of standards. Once the Commission completes the directives, CEN must develop both harmonized technical regulations and standards to support the directives. With the introduction of the New Approach, the directives only contain the essential requirements as opposed to technical details and all the technical details are referenced to in standards. This principle makes it easy for EU standards to be implemented. All conflicting standards are identified and withdrawn as soon as CEN standards become available.

It was emphasized that the benefits are not for ON but rather for the Austrian economy and the stakeholders participating. It is very difficult to quantify the benefits as opposed to calculating the cost which involve the development of internal procedures compatible with CEN/CENELEC regulations, awareness raising and training, both internal staff and external stakeholders, restructuring of technical committees and explosion of documents.

The level of participation of the industry in Austria is very high. That is evident on the number of technical expertise available and participating in ON technical committees nationally, regionally and internationally. Government also supports the process and its support is political, technical and financial. ON is involved in a number of awareness creation activities, which include personal contacts at high level, lectures, brochures, internet, events and studies on economic benefits of standardization.

After a day of informative session, we were treated to a dinner at the classy Halian Novis restaurant, courtesy of ON. The meals were sumptuous and the management of ON made us feel at home during the dinner.

The presentation on the second day covered the following areas:

- Standstill
- Weighted voting
- Implementation
- Withdrawal of conflicting standards
- Deliverables

The principle of standstill stipulates that if a regional standard is developed at CEN level, member states are required to stop any parallel process of developing the same standard as national standards. e.g. If CEN is elaborating a standards on fish that particular standard cannot be elaborated by any member state at national level but rather at CEN level. By so doing all national resources invested on national level are channelled to regional activity.

The CEN voting system is based on the weighted average system. Bigger countries get more voting points than smaller countries. e.g. England, Germany and France each have 29 points and Austria has only 10 points. There is no one country one vote. A certain number of points are required for the project to be regarded as harmonized and all positives should be added to make up the number. Voting is done electronically on the CEN balloting system that is based on the ISO e-balloting system. Whether a member voted or not, once the standard is harmonized, each member has to implement the harmonized standard regardless of the level of participation. ON supports the user of the standards to manage the transition.

Member states are obliged to identify and withdraw any conflicting standards within a specified period of three months. Even if a member voted negatively for the project(s) members are still obliged to adopt the standard(s) and withdraw all conflicting projects.

ON issues the following harmonized documents deliverables:

- EN, which is the European Standard;
- TS, which is technical specification;
- TR, which is technical report;
- Guide;
- CWA CEN Workshop Agreements; and
- ES, which is European Specification not for sale.

ON maintains the EN numbering system. The cover page is peculiar to ON. The ENV (European pre-standard), which no longer exists, is now regarded as technical specification.

On Saturday, the whole group went sight seeing on the historical sites of Austria. Austria is a wonderful city, full of history. Noticeable sites were the cathedral build in the 14-century, the emperor palace which is now used as a museum and covers the area of approximately 100 hectares, the market place which operates only from 14h00 in Saturdays and several other historical buildings

#### 4.3 **Visit to PTB**

The one-day visit to PTB involved four main sessions namely:

- Welcome and introduction to PTB by Professor Dr M Kuhne a member of the PTB Presidential Board and Dr H Scherer from the Presidential staff office.
- Meeting and discussions with PTB standards experts Professor Dr H Brinkmann, Dr T Fedtke – Head of Sound in Air Section and Dr E Brandes – Head of the Working Group on Safety Characteristics.
- Debriefing of SADC and EAC delegations with the regions' respective project coordinators – Dr Kai Stoll Malke (SADC) and Mr S Wallerath (EAC).
- Visit to the Sound in Air and Safety Characteristics Laboratories.

During the visit, delegates were informed about the PTB's organizational structure, funding, its role as the National Metrology Institute and in the

worldwide securing of correct measures and measurements and PTB's role in international technical cooperation. Over a period of four decades, more than 70 countries have been assisted with more than 130 million Euros in setting up metrology standardization, testing and quality (MSTQ) infrastructures. To achieve this, PTB has cooperated with many specialist institutions and organizations in and outside German. The main German partners have been the Federal Institute for Material Research and Testing (BAM), German Institute for standardization (DIN), German Calibration Service (DKD), Society for Electrical Engineering, Electronics and Information Technology (VDE) to name a few. Outside German, PTB has cooperated with international organizations such as BIPM, ILAC, ISO, OIML, UNIDO and WTO and with national institutions such as INMETRO (Brazil), KEBS (Kenya), NIST (United States of America) and SABS (South Africa).

Although PTB projects initially focused on the establishment of metrology institutions, the focus being demand driven has shifted over the years towards the establishment of regional metrology, standardization, testing and quality (MSTQ) structures in order to enable developing countries to effectively implement regional trade agreements and to create regional markets. Projects are currently being implemented in Africa, Central/South America, Asia and the ex-Soviet Union countries. Adequate technical infrastructures in developing countries are key for competitive production, conformity assessment procedures and in implementing trade agreements hence PTB's focus and preparedness to continue its technical cooperation in this regard.

Delegates were also informed about PTB's extensive participation in national [DIN and the German Commission for Electrical Electronic and Information Technology (DKE)], regional (CEN/CENELEC) and international standardization work by ISO, OIML etc.

PTB participates in 180 DIN TCs, 77 DKE TCs and 145 others. At regional and international level, PTB participates in more than 286 TCs. In the field of acoustics only, PTB participates in ISO/TC 43 - Acoustics, International Electrotechnical Commission (IEC) TC 29 Electroacoustics and OIML TC 13 Measuring Instruments for acoustics and vibrations. Dr Brinkmann ex-PTB staff is in fact the chairman of ISO/TC 43 and one of its subcommittees. In the field of explosions, PTB participates in CEN TC 305 on Explosion prevention and protection. PTB staff spend at least a third of their time in standardization work.

Following the presentations and discussions. A debriefing session was held to reflect on the study visit and also discuss future areas of cooperation between SADC/EAC and PTB. The visit was concluded with a tour of the Sound in Air and Safety Characteristics Laboratories in order to get an appreciation of PTB's very sophisticated laboratory work.

#### 4.4 Visit to Volkswagen Factory – Wolfsburg

A half-day visit to this Volkswagen Factory in Wolfsburg was undertaken on 2005-10-11. Volkswagen Group has 45 locations throughout the world and employees over 300 000 people. The Group has the capacity to produce 21 500 vehicles per day. The Wolfsburg plant is the largest production centre in the Volkswagen Group and also houses the Group management Headquarters. The visit started off with a video show covering the whole production process from conception, body construction, in the press shop, paint shop, assembly test rigs up to the release of the final product to the market. This was then followed by a tour of the factory. Because of the huge size of the factory, the tour was undertaken on a panorama train and escorted by one of the Volkswagen escorts. The tour escort drives the “Golf train” with microphone to explain every aspect of the production process.

Due to employees’ privacy rights and presumably for other security considerations, we were not allowed to take photographs in the factory. The tour started off in the press shop where every element of the Volkswagen car gets its shape from the coils of galvanized steel sheets. The finished body parts are stored carefully to avoid any damages. Presses are used to shape the body parts. Body construction starts from the bottom up and is carried out by robots. The body parts are joined by laser welding which is done behind closed doors. Apparently laser joins are more stable than spot-welds hence the adoption of the technology. In the paint shop, the car body is carefully given its gleaming colour based on customers’ demands. Various layers of coating are applied. Every Volkswagen gets a clear varnish to give it a gleaming finish. After painting, cables are laid, windows fitted, floors carpeted and walls decorated. This is followed by the fitting of wheels, seats, steering wheels, fuel trucks etc. The power train and gear are fitted in the operation when the car has been completely assembled. It then goes through a series of checks starting with its first 70 m journey to the test rig.

The visit gave us an insight into the highly automated car production by Volkswagen. Despite the high level of automation, Volkswagen Wolfsburg plant still employs 49000 employees, 9% of whom are women. Volkswagen truly pays attention to quality, environmental and occupational health and safety issues in all aspects of the production process. It is one of the cleanest and very organized factories have ever visited.

After the factory tour we were treated to Volkswagen’s hospitality and had the famous ‘curry sausage’ for lunch.

#### 4.5 Visit to German Standards Institute

The one day visit to DIN (Deutsches Institut für Normung) the German National Standards Institute was organized with the view to give delegates an

opportunity to understand the activities of DIN and the role that it plays in the European regional standardization system as one of the key standards body in Europe. During the visit several presentations were made covering the following areas:

- Welcome and introduction to DIN as the NSB in Germany by Mr. Ernst-Peter Ziethen – Director of Technical International Cooperation
- Presentation on standardization work through technical committees by Mr. Gunnar Zeisler
- Elaboration, adoption and implementation of European standards by Mr. Downe Simon
- Visit to the Library and Standard Sales

In his welcome address and introduction to DIN, Mr. Ziethen informed us that DIN is a registered non-profit association founded in 1917 and is recognized as the National Standards Body by the German Government through a Contract signed in 1974 between the Federal Republic and DIN. DIN represents German interest in the international and European standards organizations. DIN offers a forum in which representatives from manufacturing industries, consumer organizations, commerce and trade, science and technology, technical inspectorates and government meet in order to discuss and define their specific standardization requirements and to record the results as German Standards.

DIN has its headquarters in Berlin and its primary task is to cooperate with experts delegated by its stakeholders to develop consensus-based standards. DIN Standards are acknowledged rules of technology and are used to promote international trade and support rationalization, quality assurance, environment protection, safety and communication in industry, technology, science, administration and daily life.

In its organizational structure, a clear line is drawn between standardization as a core function of DIN on the one side and business activities on the other. The core activity of DIN is to develop standards for the benefit of the economy and society as a whole. The business activities of the companies within the DIN Group are profit –oriented. The income generated by the subsidiary companies of DIN, and from those companies in which it is a shareholder, represents the single largest contribution to the financing of the non-profit core activities of DIN. DIN has six subsidiary companies namely:

**Beuth Verlag GmbH** is one of the largest publishing houses in Germany for technical and scientific literature.

**DIN Software GmbH** is responsible for the management of the DIN databases.

**DIN IT Services GmbH** is responsible for providing IT services for members of the DIN Group and for other companies.

**DIN CERTCO GmbH** deals with all aspects of conformity assessment and offers certification of broad range of products and services as well as qualified enterprises and personnel.

**DQS GmbH** offers a wide variety of services of assessment and certification that are tailored to the customer's needs and take account of the industry sector, size of organization and the specific goals of their management system.

**DIN GOST TÜV GmbH** offers services relating to the certification of products for export to the Russian Federation and to CIS member countries.

DIN collaborates with a number of partners in standardization activities at a national, regional and international level. At a national level, DIN cooperates with DKE, PTB and VDE responsible for safety of electrotechnical standards in Germany. In consultation with the Federal Government and its cooperating partners DIN has developed a National Standardization Strategy in response to the challenges of globalization, technological convergence, interoperability, the dynamics of development and the continuing improvement of production processes facing standardization today. The German Standardization Strategy starts with a vision that standardization in Germany helps business and society strengthen, develop and open up regional and global markets and identifies five strategic goals, which will form the basis of DIN's work over the next five years and the course of action to be taken as follows:

**Goal 1: Standardization secures Germany's position as a leading industrial nation**

Standardization is an essential aspect of German economic policy and secures Germany's position as a leading industrial nation. Germany has taken on a leading role in strengthening, shaping and opening up strategically important regional and global markets in both Europe and the rest of the world. To achieve this goal the following activities will be taken.

- Increase awareness among decision-makers in business, politics and society
- Establish and develop networks between standards bodies, business, associations and politics
- Establish priority sectors with the highest development and growth potential for the German economy
- Integrate standardization in research and development
- Promote the European model for adopting international standards
- Work to establish the European standardization system in emerging economies and new and future EU members.

**Goal 2: Standardization as a strategic instrument supports a successful society and economy**

Decision-makers in all sectors of the economy are made aware of the effects of standardization, and management appreciates its impact on business and market. Consumers have become aware of the beneficial effects of standardization on society and for the economy. The following actions will be taken to further strengthen this goal:

- Increase targeted marketing
- Create networks for public relations and information activities
- Improve the flow of information on standardization in companies
- Intensify education and training in standardization.

**Goal 3: Standardization is an instrument of deregulation**

Associations and standardization experts in Germany have made a concerted effort to encourage political decision-makers, regulators and legislators to adopt the principle of referring to standards when drawing up legislation and how this approach benefits the state is duly appreciated. The New Approach where directives only cover essential requirements and make reference to standards for technical specifications has proved its worth and has played a major role in establishing the European single market. The following actions will be taken:

- Seek and continue dialogue with political decision-makers
- Make a clear distinction between standardization and legislation
- Improve the implementation of the New Approach
- Expand into new sectors such as service industries and some areas of public service

#### **Goal 4: Standardization and standards bodies promote technological convergence**

Technological convergence is happening on a global stage, and Germany is taking a responsible role at European and international levels and seeking to optimize the structures and processes of the standards bodies. In order to achieve this goal the following course of action will be taken:

- Develop standards for systems
- Identify scope for action in converging technologies
- Optimize structures
- Transfer to European and international levels

#### **Goal 5: Standards bodies provide efficient procedures and tools**

With innovation cycles of new technologies becoming shorter and shorter, the corresponding standards and specifications need to be available more quickly than ever. Standards bodies must provide efficient procedures and tools to meet these market needs. DIN seeks to do the following to provide efficient procedures and tools:

- Actively market the specification process which is a quicker process than the full-consensus process
- Encourage use of such specifications
- Assess market relevance of new standards projects
- Optimize processes to develop standards and specifications as quickly as possible in response to market needs
- Maintain quality of German standardization infrastructure

The German Standardization Strategy looks to the future and ties in consistently with the strategy developed by ISO and presented at the General Assembly in September 2004 in Geneva as the "ISO Strategic Plan 2005 – 2010".

In the second and third presentations on standardization work through technical committees and the participation of DIN in the European regional standardization system and in international standardization we were informed that DIN has been an active member of ISO since 1951 and has been on the ISO Council without interruption for over 50 years. Representatives from DIN are members of important ISO policy committees such as the TMB, CASCO, DEVCO and COPOLCO. German experts are active in 90% of ISO standards committees, with German delegates attending as observers in another 9%. DIN is responsible for project management and holds secretariat of 124 ISO technical committees and subcommittees, a share of 17%. Only ANSI (USA) with 19% of ISO TC and SC secretariats is more active.

In European standardization, the commitment of DIN and its stakeholders has remained constantly high. DIN plays a key role in the European standardization system and holds the secretariat in 107 of the 379 CEN technical committees and subcommittees and provides secretariat of over 400 working groups a share of 40% of CEN work, putting it first place before BSI (United Kingdom) 25% and AFNOR (France) 15%.

About 85% of the standardization work carried out by DIN is now concerned with developing European and International Standards. DIN's standardization projects are a response to the needs of the marketplace, and are a source of great economic benefit, contributing over 15.9 billion Euros a year, 1% of the Gross National Product (GDP) of Germany's economy.

The level of participation of the stakeholders in the standardization work is very high because of the economic benefits derived. DIN has more than 27 000 external experts drawn from all sectors of industry and society who participate in national, regional and international standardization work. At the national level the stakeholders (companies, service providers, consumers, public authorities, science) participate in the "national mirror committees". They co-ordinate the various national positions regarding a European or international work item. One or more delegates from this national mirror committee participate in the European or international TC or SC where they meet the delegates from other countries with whom they negotiate the content of the standard. After each meeting the delegates report back to their national mirror committee and prepare the next step of the process. All these external experts pay membership fees to DIN to belong to the national mirror committees and fund their own participation in standards development activities.

DIN has fully embraced all the four elements of European standardization system which are key to the development and implementation of the European standards. These four elements include:

- Standstill
- Weighted voting
- Implementation
- Withdrawal of conflicting standards

The last leg of the visit was a tour of the DIN offices where we were taken to the Library and the Standard Sales and Despatch Office. During this tour we were shown the different deliverables and documents including standards, specifications, technical reports, guides, publications and scientific journals that DIN produces and sells to the stakeholders and users of standardization deliverables. We were also introduced to the DIN webstore which gives users quick and efficient access to the documents they need for their work.

#### 4.6 Visit to Stiftung Warentest

On Thursday, 13 October 2005, we visited the Stiftung Warentest a Consumer Protection body. The Stiftung Warentest (SW) was founded in 1964 with the aim of providing independent and objective support for consumers through comparative investigation of goods and services. In addition, the Foundation gives advice on optimal household budgeting and provides information to promote a healthy, environmentally aware life style. The SW is headed by an Executive Director who deals with the Foundation's business and represents the Foundation in and out of court. The Executive Director reports to the Supervisory Board consisting of seven members and which is appointed by the Federal Government. The supervisory Board is responsible for monitoring the activities of the Executive Directors. An 18 member Advisory Council consumer, trade and industry and independent experts representatives advises the Foundation on pertinent issues.

At present SW has a total compliment of 280 staff. The Foundation is mainly self-funded through income from sells of publications but also receives funding from the Federal Government that amounts to 12% of its total budget.

The key task of SW is to carry out tests on products and undertaken surveys of services. A test programme is compiled by the project officer for specific products. The test programme is discussed with a special advisory group of experts. Samples for testing are purchased from the market. Since SW does not have its own laboratories, it subcontracts testing to independent test houses. Testing is based on standard test methods. Products tested range from IT and telecommunications products, body care, consumer electronics, photography, household appliances and food etc. Product tests are mainly into performance and safety issues as well as environmental impact and sensory aspects for food, service surveys include investigation of health, leisure, travel, insurance, investment products and mortgages. Credibility of the information supplied to consumers by SW is a critical factor in the effectiveness of SW. Independence of the organization, transparency in all its processes and use of reliable laboratories all contribute to the organization's credibility.

Stiftung Warentest does not handle consumer complaints. These are handled by the Consumer Advisory Centers throughout German.

Stiftung Warentest plays a key and practical role in providing the public with information to evaluate the market hence make informed purchasing decisions. Throughout its activities, SW has contributed to the improvement in the quality and competitiveness of products be they goods or services.

#### 5. LESSONS LEARNT

- The European regional standardization system allows for extensive stakeholder involvement at both governance and technical levels. At governance level, involvement is through the various Boards i.e. Administration and Technical established to run the affairs of CEN/CENELEC and various categories of membership including member, affiliate and associate. At technical levels, trade and professional bodies work in liaison with the technical committees.
- The link between the voluntary standardization system and legislation is well defined in the European standardization system through the New Approach. According to the New Approach concept, when a product conforms to a harmonized standard, it is deemed to meet the essential requirements of the New Approach Directives. European standards whilst remaining voluntary they are often referred to in legislation. This has greatly contributed to the successful implementation of harmonized standards within the European region.
- Both CEN and CENELEC have a formal relationship with ISO and IEC through the Vienna and Dresden Agreements respectively. These Agreements allow for parallel development of standards and adoption of same text. No wonder why so many European standards are already aligned to international standards. Up to one third of CEN standards are identical to ISO standards whilst 68% of CENELEC standards are identical to IEC standards. Through this relationship, CEN/CENELEC's Internet based voting system was developed with assistance from ISO. The weighted voting system works very well.
- A key principle of the European standardization system is the "standstill" principle which stipulates that if a regional standard is developed at CEN level, member states are required to stop any parallel process of developing the same standard as national standards. It also obliges member states to implement European standards as national standards in their own language or in one of the official European languages and to show evidence of the adoption of European standards developed by TCs in which they participate. The principle further obliges member states to withdraw any conflicting national standards when adopting a European standard and to inform the European standards body accordingly. All members actually sign up to this principle.
- Although there are 3 official working languages within the European standardization system, document translation is done by AFNOR (French), DIN (Germany) and BSI (English) at their own cost but within the CEN specified deadlines. Translations are done before the launch of the formal vote. Translations into other working languages are done by member states at their own cost.

- CEN/CENELEC devote a lot of time and resources to promote regional standardization activities through marketing, public relations and communication. This is done through brochures, booklets, newsletters, regalia e.g. pens, badges, neck holders, catalogues, annual report, website and conferences/seminars. The CEN website is updated daily. The strategy is to “TWIST and SHOUT” in order to get the message through.
- Regional standardization activities are funded mainly through membership dues (55% in the case of CEN) and by the European Commission (39% in the case of CEN).
- A lot of misconceptions surround the significance of the CE mark. In a presentation on the European declaration of conformity, it was clarified that the CE mark is neither a mark of origin nor of quality but an indication that a product complies with European Directives. The CE mark is neither registered nor copyrighted hence subject to misuse. The CE mark should be accompanied by the number of a notified body if such a body was indeed used for conformity assessment of the production phase.
- The visits to ON and DIN gave us an insight into regional standardization from member’s perspective and also from the national perspective. In all the cases visited it was noted that substantial development of regional standardization activities came with the New Approach and the standstill obligation to adopt and implement regional standardization.
- Commitment to regional standardization work by the members visited is remarkable and this is evident through holding secretariats to regional standardization work, participation in regional committees of social and economic importance to the member state and effective national consultations on regional standardization work through national mirror committees. Experts fund their participation in national, regional and international standardization work. In Germany for instance, committee members actually pay to participate in standards development activities.
- Members spend a lot of time and effort to raise awareness on the importance and benefits of standards. A number of initiatives such as prize to the best example of a standard that has benefited stakeholders, studies into the economic benefits of standards, conferences etc. have been undertaken, all in an effort to promote the benefits of standardization to all stakeholders including policy makers in government and business, and to keep in close contact with all stakeholders.
- Although government funding is decreasing with development of the national standards body, government funding was significant in the establishment stage of national standardization infrastructure.

## 6. RECOMMENDATIONS

- Involvement of stakeholders is a fundamental principle and key success factor that SADCSTAN has to adopt in order to ensure implementation of harmonized standards. Involvement of stakeholders applies at all levels i.e. governance and technical work. At governance level, the approved SADCSTAN by-laws allow for various other categories of membership i.e. associate and stakeholder besides ordinary member. Stakeholder member in particular includes industry associations, government representatives, standards developing organizations, other regional and international cooperations in standardization, representatives from other SQAM committees and any other regional bodies with an interest in standardization. SADCSTAN must move from being an exclusive club of NSBs to an inclusive club of stakeholders. At technical level, SADCSTAN procedures for the development of SADC harmonized standards adopted in 2001 require the establishment of regional committees and emphasize the need for national consultations. Some regional committees have been established and member states have to establish mirror committee structures through which extensive national consultations can be carried out.
- The value of harmonized standards is only realized through their implementation. SADCSTAN needs to find ways of promoting the implementation of harmonized standards. The New Approach is a plausible and effective way of ensuring the implementation of harmonized standards. Indeed initiatives are currently underway in SADC to have an Annex to the SADC Trade Protocol a draft of which attempts to address this very issue. SADCSTAN needs to consider the adequacy of this draft Annex in obliging member states to adopt regionally harmonized standards, withdrawing conflicting standards and implementing harmonized standards. The technical regulation framework for SADC member states must be promoted and implemented, as it is a way of linking voluntary standards to legislation.
- Despite it having been established in 1992 and already harmonized 51 standards, SADCSTAN is hardly known in the region. There is a need for SADCSTAN to raise its profile by creating awareness on its existence, aims and the importance of harmonizing standards amongst all stakeholders including high-level policy makers. There is a lot to learn from CEN's "Twist and Shout" strategy in promoting European standardization work. Raising the profile of SADCSTAN is not just the responsibility of SADCSTAN Secretariat but also the responsibility of all members in their own communities. The promotional package on

SADCSTAN needs to be further developed and disseminated amongst all stakeholders.

- With the experience from CEN, SADCSTAN needs to refine its procedure for technical work including a re-examination of the voting procedures. SADCSTAN should explore further the CEN voting system with a view to adopting it. The CEN voting system is electronic and was set up with assistance from ISO. SADCSTAN should explore possibilities of getting similar assistance from ISO to make its voting system electronic.
- Inevitably SADCSTAN members need to be capacitated especially with basic IT infrastructure to enable them to be effectively involved in the harmonization process. Donor assistance coupled with respective government assistance should be solicited for this purpose. The study visit was an opportunity to reprioritize SADCSTAN projects for donor support especially in terms of TC Secretariat support, promotional activities and implementation issues.
- Although efforts are currently underway to recruit translators at SADC Secretariat who will help in the translation of documents into the 3 SADC official languages English, French and Portuguese, the CEN's approach to translations is plausible and worthwhile pursuing.
- The idea of SADCSTAN entering into a cooperation agreement with CEN mooted during the study visit should be pursued as this will greatly assist in accessibility of CEN standards for use as basis for SADC harmonized standards.

## 7. CONCLUSION

The benefits derived from the study visit varied from the contacts made, the European model, the approach to regional standardization from the regional, national and member's perspective, and how the voluntary system of standardization links to legislation. SADCSTAN is now pursuing a cooperation agreement with CEN to cover information exchange, transfer of knowledge and exchange of views etc. This information will no doubt be of use as our NSBs, countries and SADC as a regional bloc face up to the challenges of globalization. We are honoured as a region to have participated in this successful study visit to Europe.

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APPENDIX A – STUDY VISIT PROFESSIONAL PROGRAMME

Date	Organization	Scope	City	Country
2005-10-01 to 2005-10-02		Arrival of delegates	Brussels	Belgium
2005-10-03	CEN	<ul style="list-style-type: none"> ▪ CEN institutional organization ▪ CEN Technical work ▪ Role of European standards in support of EU legislation <ul style="list-style-type: none"> - The single market - New Approach ▪ CEN and the international level, the Vienna Agreement 	Brussels	Belgium
2005-10-04	CEN/CENELEC	<ul style="list-style-type: none"> ▪ CENELEC institutional organization in the electrotechnical field ▪ CEN standardization and certification ▪ CEN standards delivery: editing and delivering European standards; administration of voting procedures; systematic approach to quality ▪ The business operations support system (BOSS). The CEN quality system ▪ Twist and shout information about CEN and where to get it. 	Brussels	Belgium
2005-10-05		<ul style="list-style-type: none"> ▪ Depart Belgium and arrival in Vienna, Austria 		
2005-10-06	Austrian Standard Institute (ON)	<ul style="list-style-type: none"> ▪ ON and the Austrian national quality infrastructure, participation of ON in European standardization network. ▪ Costs and benefits of involvement of ON in European standards work. ▪ Implementation of European harmonized standards at national level ▪ ON and its national stakeholders <ul style="list-style-type: none"> - Level of industry participation - Awareness raising and involvement of stakeholders - Cooperation between ON and the public sector ▪ Workflow of European standardization work. ▪ Implementation of European standards and other deliverables. 	Austria	Vienna

Date	Organization	Scope	City	Country
2005-10-09		Departure from Vienna and arrival in Germany		
2005-10-10	PTB	<ul style="list-style-type: none"> ▪ Welcome and introduction on PTB ▪ Meeting with Head of Technical Cooperation Department ▪ Meeting and discussion with standards experts ▪ Debriefing session ▪ Visit to laboratories <ul style="list-style-type: none"> - Sound and air - Safety characteristics 	Braunschweig Hannover	Germany
2005-10-11	Volkswagen Factory	<ul style="list-style-type: none"> ▪ Visit of Volkswagen Wolfsburg Factory 	Wolfsburg	Germany
2005-10-12	German Institute of Standards (DIN)	<ul style="list-style-type: none"> ▪ Welcome and introduction ▪ Presentation on standardization work through technical committees ▪ Elaboration, adoption and implementation of European standards 	Berlin	Germany
2005-10-13	Stiftung Warentest	<ul style="list-style-type: none"> ▪ Welcome and introduction ▪ Presentation on Stiftung Warentest ▪ International cooperation 	Berlin	Germany

APPENDIX B – SOCIAL PROGRAM HIGHLIGHTS

- Dinner with Mr A Inklaar in Brussels, Belgium on 2005-10-02
- Dinner at Novis Restaurant in Austria, Vienna with ON Management on 2005-10-06
- Sight seeing tour of Vienna including the Historical Centre of Vienna, Belvedere Castle and Schonbrunn Castle on Saturday, 2005-10-08
- Dinner with Mr A Inklaar and Dr T Kaiser (DIN) at the Telecommunication Tower Berlin on 2005-10-13.

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