

Accreditation and Certification – a Contradiction?

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1. Introduction

The Federal Republic of Germany as before has been one of the countries highly export-oriented. Last year, goods in the amount of 498 billion EUR were exported Europe-wide and 786 billion EUR worldwide.

An important reason for this fact is the high quality of the exported products and services recognized for many years on a world scale. After the 2nd World War, the decision was taken to mark with enforcement German goods with the label “Made in Germany”. The intention that time was to discriminate German goods abroad. But it did not last long and the label “Made in Germany” was considered a quality symbol worldwide so that just the opposite was achieved as compared to what had been intended. A stigma symbol turned to be a quality symbol.

With the reconstruction after the war, the population was happy to have found a job again. The employed people were proud of the developing industry and they took it for granted to do their jobs with enthusiasm. In addition, they identified themselves with their employers. Their motto was: I am an employee of Siemens or AEG.

Therefore, it is not astonishing that the 1st Federal President, Theodor Heuss, defined in one his speeches the term “quality” in the following sentence.

„Quality is to do a decent/proper job.“

This simple definition continues to be valid. However, this definition cannot replace quality management systems as the production processes today are essentially larger and more complicate so that the term “quality” according to DIN EN ISO 9000:2005 had to be redefined:

„Degree to which a set of inherent characteristics fulfils requirements“

“Inherent”, as opposed to “assigned”, means existing in something, especially as a permanent characteristic.

Lots of people in Germany however doubt and mistrust the quality of products of neighbour countries. In people’s mind - due to examples of the automotive industry and goods of the daily life even within Europe - there was a North-South divide with regard to the quality of products and services. The consumer considered that products from foreign countries would not last as long as German products. At that time, the quality of products in Germany was not only regulated by laws, standards and technical rules; in part it was overregulated, a fact

which at first glance had protective effects for our industry because of a high quality and safety level. This development though was gradually turning into an obstacle for the industry.

One can imagine that given these conditions, the idea of establishing a Single European Market in association with the free traffic of goods within Europe must have affected the people.

Nevertheless, the planned implementation of the so-called economic fundamental liberty according to the Treaty of the European Union was started. After the conclusion of the Treaty of Rome in 1957, this fundamental liberty was the most urgent aim of the newly founded European Union. It meant the implementation of the free movement of goods as primary right of the Treaty of the European Union with the protection of health, labour, consumers and environment to be taken into consideration (1).

Shortly after it, the so-called Global Approach was established followed by the New Approach which had the idea that one product, one process or one service was certified in the country of origin with the certificate to be recognized in the whole economic area of the European Union. Last but not least, the principle „once tested – accepted everywhere” became the declared objective of the European Union and later of the international commercial and economic policy (2).

The accreditation and notification of certification bodies simultaneously brought into being should make sure that the certification would be done by authorized bodies. This meant that the issued certificates, in technical terms were sufficiently proven and authorized by the fulfilment of general requirements. That is why the accreditation is an effort of confidence-building in the activities of laboratories, certification and inspection bodies, without which the dismantling of technical trade barriers would not have been possible.

In the statement to follow, the systems of accreditation and certification are to be explained and examined with regard to their effects on the economy.

2. How to explain accreditation and certification?

Already before the introduction of the terms „accreditation“ and „certification“, systems of quality assurance had a good tradition in Germany and there were bodies for which we would give the name product certification nowadays. Recognized systems for the quality assurance existed e.g. the RAL, a voluntary industrial technical community for quality for approximately 140 product groups, the system of experts – in part public with swearing-in, the system of self-checking or external quality control in the production and the governmental nomination of institutions for the monitoring of foodstuffs or steam boilers. These systems were already activities in which impartial third parties confirmed the compliance with specified standards or other normative documents to duly named products, processes or services - nothing different as compared to certification nowadays.

For metrology purposes, the PTB Physikalisch-Technische Bundesanstalt (National Metrology Institute) with the DKD Deutscher Kalibrierdienst (German Calibration Service) established a system which has already accredited and monitored calibration laboratories for many years. This system already comprised the formal recognition of competence of a calibration laboratory to perform specified types of calibration. Therefore, it already was a

first accreditation system, although not according to the standard which at that time had not yet existed.

In addition, the Boards of Weights and Measures of the Laender monitored the measuring equipment in the mandatory area.

Despite of these bodies also of benefit for the population for many years, in our awareness the terms of certification and accreditation are manifested differently.

Nevertheless, it is evident that for the population the term „certification“ is much more known and has a higher level of recognition as compared to the term “accreditation”.

In the daily live one can find the term certification according to ISO 9001 much more often than the term accreditation - one reason of the awareness level. The scope of application of the certification comprises e.g. golf courses and their environmental impact as well garages of each kind and size. This development had additionally been accompanied by excellent PR campaigns and thus made known to the population.

Due to the size of the market for certification, the necessary resources for the public relations were available. So it is not amazing that already today there is an inflationary development of certification.

As compared to certification, the awareness level of accreditation in the daily life is much lower. The normal citizen frequently associates the term “accreditation” with the accreditation of journalists at the Federal Press Office or with the accreditation of foreign ambassadors – there normally is no association with the accreditation of laboratories or certification bodies although the citizen in his daily life is directly or indirectly confronted with products and services for which accredited laboratories proved their quality.

The vast application of accreditations is also evident having a look at the technical fields for which accreditation is granted.

The technical fields among others are:

- Acoustics and vibrations
- Air analyses and fibrous particles
- Assisted reproductive technologies
- Beef labelling
- Certification of products and services
- Chemical analyses and sampling
- Clearing of weapons
- Commodity testing
- Construction engineering and fire protection
- Food analyses
- Maritime technology and wind energy
- Mechanical-technological testing
- Medical diagnosis
- Medical engineering
- Metrology in testing
- Non-destructive testing
- Occupational medicine and occupational safety
- Organic production of agricultural products and animal husbandry
- Pathology / neuropathology
- Welding technology

An enumeration of technical fields of certification would probably fill pages and go beyond this lecture. It is also not possible to specify the number of certification bodies in Germany.

The number of accredited testing laboratories, certification and inspection bodies in Germany in the voluntary area however is published by the DAR Deutscher Akkreditierungsrat (German Accreditation Council) and therefore is accessible to everybody.

The affirmation that 70 % of the quality managers have not fully understood the difference between accreditation and certification surely is a bad rumour. Anyhow, it is recommendable to define again the terms as follows:

2.1. Definition „certification“

According to ISO/IEC 17000:2003 certification is to be defined as follows: third party attestation related to products, processes, systems or persons (3).

In other words: The certification is the result of a procedure with the confirmation given to a company that it has a quality management system, which complies with relevant standards.

The quality management system is the part of the superior management system which comprises the organisational structure, planned activities, responsibilities, methods, procedures, processes and resources to develop, implement, fulfil, assess and maintain the quality. In addition, the DIN EN ISO 9000:2005 defines that quality management is a leadership method of an organization with all staff to be involved. This leadership method focuses the quality, which is aimed at the satisfaction of the customers and their long-term business success. That way, the leadership method also has a benefit for the society (4). Independent and accredited certification bodies assess and monitor the management system and its operational sequences. The organisation based on the granted certificate confirms the compliance with the standard towards the customer, the general public and the staff.

Nowadays, the certificate's proof according to ISO 9001 or ISO 14001 frequently is an important prerequisite for the customer-supplier-relationship in the international economy.

The certification therefore primarily aims at establishing and implementing a quality management system. In comparison with the certification, the accreditation can be defined as follows:

2.2 Definition „accreditation“

According to ISO/IEC 17000:2003 the accreditation is the formal third-party attestation that a conformity assessment (e.g. a testing centre) complies with specified requirements and is competent to carry out specific conformity assessment tasks (e.g. tests).

Conformity assessment bodies perform services for the conformity assessment as there are:

- Testing laboratories
- Certification bodies
- Inspection bodies
- Calibration laboratories

Therefore, the accreditation is the highest level of conformity assessment as it checks and monitors the quality system and the competence of the centre.

2.3 Scope of application for accreditation and certification

It is common to the certification and accreditation that their scope of application has not been defined once for ever.

Only today, 25 years after the introduction of the accreditation in Germany the national and international accreditation bodies have given more thought in order to define the scope of application of the accreditation.

I do not know similar efforts with regard to the certification.

At the time being, the following areas of operation are accredited:

- Accreditation of laboratories according to EN ISO/IEC 17025, EN ISO 15189
- Accreditation of inspection bodies according to EN ISO/IEC 17020
- Accreditation of certification bodies according to EN 45011 and ISO/IEC Guide 65
- Accreditation of certification bodies for management systems according to EN 45012 (ISO 9001)
- Accreditation of certification bodies for environmental management systems according to ISO/IEC Guide 66 (ISO 14001)
- Accreditation of certification bodies for persons according to EN 45013, EN ISO/IEC 17024
- Accreditation of providers of proficiency testing

The accreditation of producers of reference materials is being discussed.

3. Comparison accreditation – certification

The question arising for a company is whether it wishes to be accredited or certified. The answer essentially depends on the purpose of such an activity.

In general the systems differ as follows:

The accreditation primarily is the attestation of competence for e.g. testing or inspection. The accreditation certificate, as a rule valid for 5 years, documents the result of the accreditation. In this period there are at least 3 assessments for surveillance.

As compared to the accreditation the certification of quality management systems is an attestation of conformity for the quality management system. After the certification, the customer is given a certificate which, as a rule, is valid for 3 years. The customer here is subject to an annual surveillance.

The legal fundamentals for the certification and accreditation are as follows:

Fundamentals for accreditation:

- EN ISO/IEC 17025:2005
“General requirements for the competence of testing and calibration laboratories“
- EN ISO 15189:2003
“Medical laboratories – Particular requirements for quality and competence“
- EN 45011:1998
„General requirements for bodies operating product certification systems“
- EN 45012:1998
„General requirements for bodies operating assessment and certification/registration of quality systems“
- EN ISO/IEC 17024:2003
„Conformity assessment – General requirements for bodies operating certification of persons“
- EN ISO/IEC 17020:2004
“General criteria for the operation of various types of bodies performing inspection“

The fundament for the certification of quality managements systems is:

- EN ISO 9001:2000
“Quality management systems – Requirements“

Both systems accreditation and certification differ in the fact that a certification according to ISO 9001 alone does not give evidence that a body has the competence to achieve well-founded results/assessments. During the preparation of the EN ISO/IEC 17025, applied worldwide as the basis for laboratory accreditation, with regard to the quality management requirements, special attention was attributed to gain a wide conformance with the certification standard ISO 9001:2000 whereas the technical requirements of the EN ISO/IEC 17025 as additional ones remained unconsidered in ISO 9001 (5). The requirements for the quality management system of a laboratory were widely adapted to ISO 9001:2000. The adaptation, however is not so far reaching as to say that a laboratory which fulfils the requirements of ISO/IEC 17025 simultaneously complies with the requirements of ISO 9001:2000.

If the requirements according to ISO/IEC 17025 are fulfilled, the laboratories for testing and calibration activities operate a quality management system which also fulfils the principles according to ISO 9001:2000.

To avoid misunderstandings, a Joint ISO-ILAC-IAF Communiqué of 18th July 2005 was agreed saying that the accreditation bodies upon request of the customer have the right to declare in a letter separated from the accreditation certificate that the accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system which meets the principles of ISO 9001:2000 and is aligned with its pertinent requirements.

We would like to emphasize once more that the introduction of the quality management according to ISO 9001:2000 for a laboratory that has to give evidence of its competence towards its customers is not sufficient as it is only the ISO/IEC 17025 that comprises requirements for the technical competence which are not covered by ISO 9001:2000. On the other hand, we have to clarify that the ISO/IEC 17025 is intended to be used for the accreditation and not for the certification.

In this respect, a company striving for quality has to decide whether it is sufficient to introduce of a management system and linked to it the certification e.g. in the case of the environmental impact of a golf course or whether it additionally has to give evidence of its competence as in the case of laboratories resulting then in the accreditation. Both systems lead to different results. (4)

The main aspect is how the customers assess both systems.

4. Accreditation and certification from the point of view of the customers

4.1 Certification

Last year the Swiss Accreditation Body SAS together with the trade association made a survey with respect to the topic:

„Benefit of the certification and satisfaction on the activities of accredited certification bodies“(6).

The same objective had EUROLAB-D with a similar customer survey in the area of accreditation (7).

The Permanent Liaison Group (PLG) of EUROLAB, Eurachem and EA (European Accreditation Co-operation) initiated and planned the survey on the customer satisfaction at the European level. The questionnaire was prepared during a long time of intense discussions. EUROLAB collected the questionnaires and compiled the results assuring confidentiality and not restraining the laboratories to answer frankly.

The result of the survey in Switzerland clearly shows that the customers were aware in the decision in favour of an accredited certification body. The international recognition, as a surprise played a minor role in comparison with the improvement of the competition and the customer confidence.

On the other hand, the practical experience showed that the European-wide and international degree of certification is very high.

The result on the question whether and how the certificate proved advantageous for the company due to an effective market position, efficient customer-supplier-relations, improvement of the competitive situation, was rather disappointing and worth being developed.

The figure for the external audit of the certification bodies showed similar results. With regard to the question whether the external audit paid off in financial matters, only 15 % of the interviewees answered completely yes and 55 % partially yes.

The answer is unequivocal referring to the audits as to localize non-recognized non-conformities or risks.

Furthermore, it is beyond dispute that due to the external audits the transparency and documentation of the business fields can improve.

The answers to the question whether due to the external audit a faster introduction of new staff might be possible was proved non-satisfactory. The result whether due to the external audit the motivation of the staff may increase was even worse. The questions with regard to the technical competence of the certification body show that the customers were very satis-

fied and that the expectations with respect to the competence, efficiency and reliability had been fulfilled.

4.2 Accreditation

The result of the customer survey of EUROLAB on the issue accreditation showed that 86 % of the customers appraised the accreditation being positive and that only 10 % were unsatisfied. It is interesting to know that the appraisal by the German customers only differed slightly in comparison with the one of the European customers. The appraisal of the technical and quality management part, the competence of the assessors and their assessment reports proved positive.

An issue appraised in a negative form – the laboratories consider that there is too much bureaucracy in the accreditation process instead of a practice-oriented approach (8).

The question with regard to the benefit of the accreditation showed that regarding the improvement of quality by the accreditation the expectations were fully satisfied. The same applies to the staff motivation and the customer requirements. Expectations regarding the advantages in the competition and the benefit for marketing purposes were fulfilled to a minor degree.

To sum up we can say that the customer survey with regard to the accreditation and certification did not show significant differences regarding the quality of the systems. As a common characteristic, the competence and the capabilities of the accreditation and certification bodies are well recognized. The result also shows that it is easier to put the certification on the market probably due to its higher awareness level.

It is interesting to know that the motivation of the staff in the conformity assessment bodies in the case of accreditation is higher as compared to the certification. The probable reason for this is the direct assessment of the staff competence in the accreditation process.

5. Quality assurance – product quality

It is indisputable that the quality assurance – by the accreditation or certification – generally has positive effects on the product quality. It is dangerous, however to overestimate this influence. The question is fully legitimate why it is possible that despite these systems again and again there are product recalls not only in the automotive engineering. Do we attribute too much importance to the normal handling of the quality assurance and do we neglect other factors with influence on the product quality? The fact that we make the companies assuring quality does not automatically mean that they necessarily provide product quality. In this connection, it is interesting to know that there is a survey which connects the number of certifications according to ISO 9000 with the number of automobile recalls. The results clearly show that the number of automobile recalls has increased and so has the number of quality management certificates (9). The consumer is primarily interested in state-of-the-art products and less interested in knowing that a manufacturer operates a top-quality management system.

The developments described above may well be seen in the fact that the cooperation between the quality management area and the product area is not ideally arranged and that the quality assurance is rather operated as a perfect end in itself which has lost the connection to the proper product (10). There are trends to more time and cost-consuming, more formal and more improved quality assurance systems. Our efforts have to oppose these trends.

6. Summary

After a short historical introduction regarding the topic quality in Germany, the terms of accreditation and certification are defined, explained in its details showing the essential contents. Subsequently accreditation and certification are compared one with the other from different points of view.

The conclusion is: „Accreditation and certification - no competitors“

It is unequivocal that where the competence is more in the foreground, the accreditation better satisfies the needs as compared to the certification. The certification is important in terms of the big spectrum of its use and in the fact that the most important elements of the required quality management system there have also entered in the area of accreditation comprising thus a significant part with a certain compatibility in the quality management. Two surveys at a national and Europe-wide level revealed the strengths and weaknesses of either system. Both systems essentially are services for the economy to maintain and improve the quality. This objective can only be achieved by the accreditation and certification working closely together for the benefit of the final consumer and for the benefit of the society.

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