

EUROPEAN AND INTERNATIONAL HARMONIZATION OF TECHNICAL STANDARDS IN THE FIELD OF PRINTING AND PAPER CONVERTING MACHINES

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I am well aware of the fact that this contribution is a bit out of place; it does not claim to inform about new findings in research and development. Nevertheless, standardization which can be seen in so many fields of application also concerns research and development so that everybody taking international standardization work into consideration is well-advised.

The international division of labour is obviously speeding up, after all through the financial interlacings of the large international groups. American companies produce in Europe, European companies are related to American companies or even have manufacturing plants of their own in the US. The US, the European Community and Japan are the centres of economic power. The production figures in machinery building for the printing industry show the following market shares in % in 1989:

| | USA | Japan | EC |
|---|-----|-------|----|
| typesetting and reproduction technology | 22 | 44 | 33 |
| printing machinery | 25 | 24 | 49 |
| paper converting machinery | 36 | 12 | 51 |
| in total | 27 | 24 | 47 |

It may be assumed that this is a world marketshare of roughly 90 per cent.

A decisive contribution to a further improvement of the cooperation and for the creation of a free exchange of goods between these economic blocs is, among other things, the creation of international standards. This applies to standardization in the field of software and hardware, e.g. for data exchange, as well as the total electric and electronic guidance and control systems and the standardization of legal provisions on an international basis. In the technical field, the international harmonization of technical safety regulations is an economic must of great importance for the manufacturers of machinery and equipment and likewise for the users of their products.

Under the banner of the coming European internal market, the national European standardization organizations were requested by their Governments to compile uniform safety standards for all machinery by the year 1993. In the graphic arts field this applies to machines and equipment for typesetting and reproduction, printing and paper converting. This technical and legal harmonization shall remove trade barriers and shall create the preconditions for a free and unlimited exchange of goods within the member countries of the European Community.

In 1985, the EC-Commission gave the common European standardization organizations CEN And CENELEC the mandate to compile standards in order to

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- remove differences in the technical safety requirements for machinery in the member states;
- to provide the designers of machinery with detailed assistance in the form of concrete definitions for basic technical safety requirements; and
- to create unified documentation for the proof of conformity by manufacturers or by third parties.

The national standardization organizations of the twelve EC member states and the six EFTA states constitute the membership of CEN.

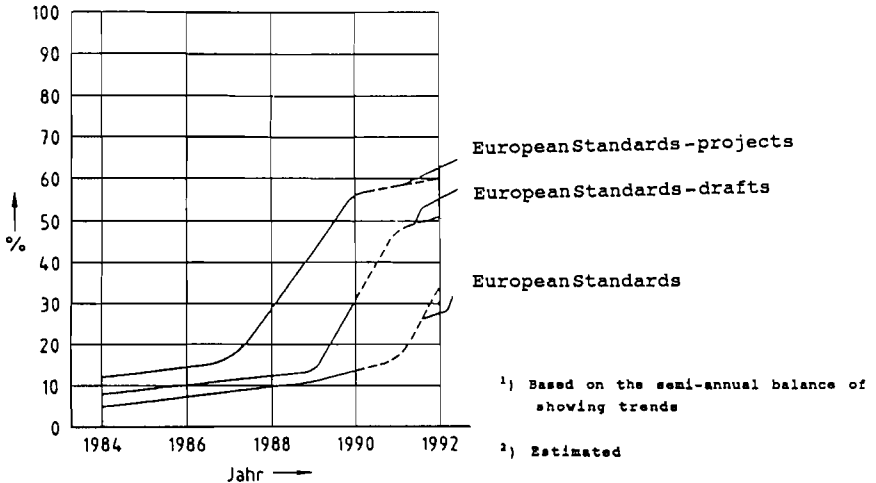


Figure 1: Shift of main themes in the European standardization work due to the development towards the Internal Market.

A Clear Set of Standards Through a Hierarchic Structure

The conception of the European Technical Safety Standards stipulates a group hierarchy. Depending on application, the standards are assigned to different levels according to the following hierarchy:

- type A standards contain basic technical safety concepts which apply to all machines in a similar way;
- type B standards contain safety aspects which are not specific for a certain type of machine, and they contain proposals for solutions which are not or cannot be relevant for an individual type of machine or a group of machines;
- type C standards include safety specifications applicable to a machine or a group of machines.

The Technical Committee 198 - Safety of Printing and Paper Converting Machines, established by CEN, is responsible for compiling harmonized product standards of type C. The Secretariat of this CEN-TC 198 is located within the Normenausschuß Maschinenbau of DIN, and I have the honour of being the Secretary.

The Preparatory Work for the Harmonization for Printing and Paper Converting Machines has been Accomplished

The national associations of machinery manufacturers combined in EUMAPRINT, the European Committee of Printing and Paper Converting Machinery Manufacturers - in which the US with the NPES - National Printing Equipment and Supply Association Inc. is a full member - have dealt with the harmonization of safety requirements for a long time and have worked out a proposal based on the existing national safety requirements. This proposal adopted by EUMAPRINT provides the basis for the work of CEN-TC 198. This draft also provided the basis for the draft of an EN standard dealt with at the constituent meeting of CEN TC 198 which met in Frankfurt on Main in March 1990 for the first time. To this meeting - contrary to the usual rules of CEN activities - we had also invited a representative of NPES in order to harmonize the contents of the standard to be compiled with the machinery industry of the US. The work program resolved stipulates the establishment of two standards in two working groups, i.e.

- technical safety requirements for the design and construction of printing and paper converting machinery (WG1)
- technical safety requirements for the design and construction of papermaking machines (WG2)

on the basis of the a/m standard proposal. The majority of TC 198 voted for the adoption of this concept and has thus avoided the creation of an intricate set of standards, too much puffed up and unwieldy for practical use, as would have been the case, if individual groups of machines had been standardized. This principle of combining all machines of the printing industry in one standard has proved successful for a number of years and will consequently be pursued in the future.

Concerning the subject and the goal, there is far-reaching consent that the declared aim of all work and safety regulations shall be to minimize the dangers at work and to ensure compliance with safety requirements. Furthermore this standard will facilitate the work of the designer through binding criteria and will thus help to guarantee legal certainty in the design phase already.

The Next Step - International Harmonization

There is no doubt that this future safety standard shall primarily be addressed to the manufacturers of machinery and shall serve the machinery designer as an instruction for the design of safe machines and safe equipment. This will also result in an adaptation of the legal provisions in the USA with regard to legal liability.

However, we see this standardization work not in an isolated manner. We know very well that the European standardization must not develop away from international standards. European standardization within CEN is considered as part of the international standards within ISO. One example is the close cooperation with the NPES in the preparation of safety standards for printing and paper converting machines in order to be able to consider the American safety interests to the largest possible extent. Furthermore it is planned to hand in these standards as ISO standards at the appropriate time.

In 1989, the Secretariat of ISO TC 130 which had been held by the French standardization organization AFNOR was taken by the German standardization organization DIN (Deutsches Institut für Normung). On the occasion of Drupa 90, after a long time

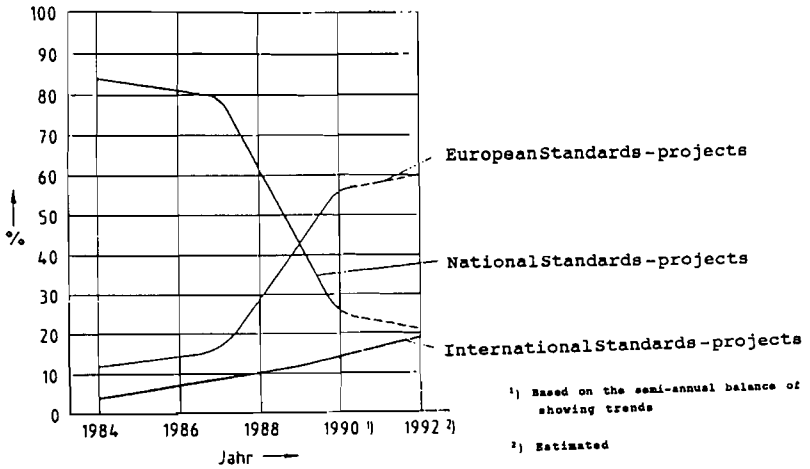


Figure 2: Shift of main themes in the standardization work compared with national standards, European standards and ISO standards. The development clearly shows that the importance of international standards is increasing.

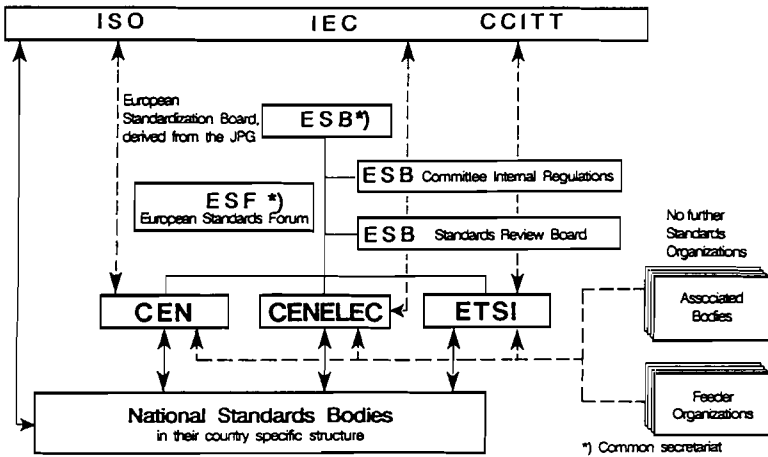


Figure 3: Organization of ISO/IEC in relation to CEN and national Standards bodies

ISO TC 130 took place at which the work schedules for the next years were laid down.

Five working groups have been created having the following main themes:

| | |
|---------------|----------------------------|
| Working Group | 1 Terminology |
| Working Group | 2 Prepress Data Exchange |
| Working Group | 3 Prepress Process Control |
| Working Group | 4 Media and Materials |
| Working Group | 5 Ergonomics/Safety |

Details of the standardization project can be obtained from the national standardization organizations or direct from DIN, Secretariat ISO TC 130, Burggrafenstr. 6, D - 1000 Berlin 30.

On principle, international standardization must be seen within the framework of the General Agreement on Tariffs and Trade (GATT) which is a code of conduct saying -

“Where international standards exist or their completion is imminent, the standardizing body shall use them, or their relevant parts of them, as a basis for the standards it develops, except where such international standards or relevant parts would be ineffective or inappropriate, for instance, because of an insufficient level of protection or fundamental climatic or geographical factors or fundamental technological problems

With a view to harmonizing standards on as wide a basis as possible, the standardizing body shall, in an appropriate way, play a full part within the limits of its resources in the preparation by relevant international standardizing bodies of international standards regarding subject matter for which it either has adopted or expects to adopt, standards.”

Besides the a/m standards of ISO (International Organization for Standardization), international standards are being developed by the following organizations:

IEC (International Electrotechnical Commission) of which the individual CENELEC (European Committee for Electrotechnical Standardization) members are members, too, and the UIT (the union of international telephone and telecommunication for the main fields of telecommunication).

89 countries are a member of ISO, and ISO must have authority over all standardization organization in all fields of standardization.

Efforts are being made to convert the CEN standards into internationally accepted ISO standards.

All interested parties - i.e. the machinery manufacturers, the users and the accident insurers - will have to deal with the topic of harmonization of legal provisions for a long time still. An international cooperation must grow on the basis of jointly compiled standards and agreements and the will to incorporate the standards in the national legal provisions in order to create a free international trade. We are prepared to cooperate with all wishing to cooperate with all wishing to collaborate in the solution of this problems.