16 METROLOGY IN A GLOBAL MARKET

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When talking about 2020, we must imagine how long twenty years is. I have looked at the Dutch situation (and maybe the European situation but I don't think it is a worldwide situation because many countries have a completely different background) in the 1920's. It was the so-called 'class-society'. Everybody lived in small villages and everything was available there: doctor, church, etc. There were other villages across the river but nobody went there.

In the 1950's at the peak of the 'comportmentalization' period, meaning that society was organized along political and social lines, when you were part of one group, you were living in that group and even your sports club or your church was in this group, and the group remained separate from other groups.

Then in the 1960's, we encountered a new world called the 'flower-power period' and idealism was the real force behind it and the structures disappeared.

In the 1980's, we had in The Netherlands a 'no-nonsense' period based on business, everything had to have a sense, and that was the start of globalization.

And now in the 2000's, I think that the economy rules the world; it is already a global economy, but it is not finished yet, and shareholders are very important. Our world is more and more money driven and also the individual is central.

We have now to make the next step and try to know what it will be. I think that the world will become a village again, but the whole world will be this village. Networks and network economies will be very important and will be global. And also because of technological developments, communication will become easier and easier and we will be getting closer. Countries and borders will reduce in value; global ideas and global values will be developed. So why should we not develop a global idea about measuring instruments?

Mobility will become huge and I think that there will be some global culture, besides or above the national cultures which will stay there as well.

Manufacturers will produce more or less universal products. Of course, requirements for conditions of temperature, etc. will differ but in principle it will be universal products, produced at low cost.

Manufacturers will be centralizing their R&D activities as they are already doing. Product life-cycles will become shorter and shorter and IT and internet will be dominant but above that we will have a new revolution which will be sensor technology which is just starting: the equipment will "look around", will see what is happening, and will inform us accordingly. We will have to deal with these technical developments.

What will be the manufacturers' demands? An efficient certification process because it is time and money consuming. They want global acceptance of type approvals (or something like type approval) and global acceptance of self-verification.

So we will change our focus more to the process than to the end control as self-verification involves looking at the process. Manufacturers' responsibilities will increase.

Certification bodies will reduce in number, perhaps one or two on each continent depending on where the industry is located and these laboratories will form a network, even a kind of virtual institute. They will connect their operations more intensively and they will operate as consultants providing market access. What they will deliver will be quality, proven confidence and proven improved quality. Efficiency and service levels will have to be high too. Certification bodies will get closer to manufacturers, almost working together. That means that there is something else to do in metrology: there will be a focus on inspection and enforcement, and market surveillance by others than the certification bodies. Also the involvement in regulations, i.e. the harmonization of technical requirements, will be a job that is performed by somebody other than the certification bodies. It will be the same for drawing up criteria to recognize certification bodies. So what are the rules of the game?

Some and even most of these tasks will be part of governmental activities, or at least paid by government.

At the product development level, there will be a training and consultancy instruction relation with test laboratories in the form of a network; then directly after or even during the development there will be an approval process with the aim to reach global acceptance; then when the production is started, everything is running on the quality system of the manufacturer; then the distribution to the sales agents of the manufacturer or agents on other continents takes place and when the product is sold on the target market the approval network has already performed its work so the approvals are there, contrary to what exists now where most approvals are still business between the local agents of manufacturers and local governments.

So you have to start with a definition of the target markets, then you do an investigation about requirements, thirdly you make an integrated test and type plan for the manufacturer and give this to the manufacturer; fourth you have to make a test report; fifth you do the application for all countries and sixth you have to collect the tools. And that is the job you have to do for the manufacturer.

So what are the things we have to do now?

We are able to decide more or less what the future will be and how to envisage where we will be in twenty years because we are all metrologists. If we agree on this then the world becomes an easier place for us. Global acceptance is very important and so will continue with all kinds of mutual and bilateral agreements I think. But we have to shift it more to the test laboratories themselves. We have to invest in global knowledge so there must be a way to be made aware of how complex all the requirements are. Then we have to work on approval competence so I think the way of accreditation is the most logical way - though there may be others. We should work on the harmonization of regulations and the universal approach on self-verification is fairly important - it is strange that we do not talk about that so much. We have to harmonize the use of quality manuals and systems for delegating responsibilities to manufacturers and we have to focus on market surveillance (though that is the job of governments or other bodies).

So my conclusion is that if you make the right decisions now, you have to choose what you want to be in 2020. Do you want to hold a government regulator function, an inspection body for market surveillance or other kinds of enforcement, or do you want to be a part of the network as a certification body.

Maybe we can talk together and start setting up this network in the near future.

Discussion

Comment: Is it not possible to extend the argument even further and to say that in 2020 we will no longer need any certification of products for type approval but just rely on the manufacturer's self-declaration on type compliance?

Reaction: It is possible that the classical type approval system will no longer exist but I think that there will be something else, software analysis, or paper examination… anyway there will be a need for a third party who can use its network to make information available to all regulators to issue approval.

Comment: The scheme concerning product certification leaves things unclear concerning the respective responsibilities of the authorities and those of the manufacturers. It would be preferable to use the ISO guide for product certification which answers those problems.

Reaction: This is may be a good alternative possibility which has to be considered.

Comment: You have shown a very interesting scenario for market access of products. Measuring instruments are not just simple products. They change in time, they drift, so we need permanent control. What is your scheme there?

Reaction: When the instrument is operating in place, it is the responsibility of local governments to establish surveillance or re-verification programs and there are several methods for this.