

Message from Stephen Patoray, Director of the BIML



I began my appointment as Director of the International Bureau of Legal Metrology (BIML) on January 1, 2011. With this new role came a number of opportunities to both utilize my experiences and to learn new things. My background is mainly in the area of scales and weighing instruments. So when I first learned of the theme for World Metrology Day (WMD) 2011 *Chemical measurements for our life, our future*, my initial thought was: What can I contribute and what does legal metrology have to do with chemistry? This initial thought lasted for only a few moments as I began to reflect on the many links that exist between the International Organization of Legal Metrology (OIML) and chemistry. Then even more common elements began to appear as I spoke with a number of colleagues; it was now very clear to me that the OIML has a long history as well as current and future work with respect to legal metrology and measurements in chemistry.

The work of the OIML as it relates to chemical measurement goes back a long time. In fact, several of the very first Recommendations, R 4 *One mark flask* and R 8 *Standard method for the verification of instruments for the measurement of humidity in grains* were approved in 1968. But the work did not stop there, and over the years the OIML has developed and approved more than twenty-five Recommendations for a wide range of methods and instruments which apply directly to chemical measurements. From the safety of our water (R 83, R 100 and R 116), safe and healthy food (R 59, R 82, R 108, and R 112), a healthy atmosphere (R 99, R 113, R 123, and R 143), more consistent wine (R 22 and R 124), law enforcement (R 126) and health care (R 135) the OIML has developed Recommendations to meet these important global challenges. May I invite you to take the time to review some of these [Recommendations](#) and to consider how they may be useful to you in your everyday activities.

The role of chemistry in legal metrology became even more clear to me as I began to reflect on my past work relating to grain moisture and constituents in grain. In many transactions related to grain, measurement of both the level of moisture and the levels of the constituents such as protein or starch is required. These measurements are then used to directly affect the price of these commodities. As a result of this, in many countries, the requirements of these

measurements as well as the equipment used to measure these values are regulated. An accurate measurement of moisture is also required to ensure the grain can be properly stored. The technology and equipment needed to determine these measurements is very complex. The OIML has developed several Recommendations to address these issues and continues to work in this area to ensure that there are appropriate written standards for these vital areas relating to trade.

Caring for the environment requires not only agreed standards, but also homogeneity of the results produced by the measuring instruments. In many countries the maximum emission values are regulated by law, one common one being that of automobile exhaust emissions. Automobiles that do not comply with the required limits may need adjustments, and their owners may be fined or, in some cases, the vehicles may be taken out of service. The instruments that make these measurements are covered by OIML Recommendation R 99 *Instruments for measuring vehicle exhaust emissions*.

One additional area to discuss is that of the content of alcohol in blood while driving. This condition is regulated in most countries around the world and is sadly one of the most common causes of road accidents. However, the exact level of alcohol content in the blood is not easy to measure and many different types of instruments are used to accomplish this task. OIML R 126 *Evidential breath analyzers* was developed to cover the requirements that these instruments must comply with to ensure that when the test is carried out, the results can be trusted and therefore the right actions are taken.

It would be very easy for me to continue providing additional examples of where chemical measurements directly apply to the world of legal metrology and how the OIML has been contributing to these areas. I hope, however, to have provided you with some basic examples that will enable you to begin thinking of how this very important topic might also apply to the area in which you yourself are involved.

I hope that you will take the opportunity of World Metrology Day 2011, to take a fresh look at how your work may be linked to that of others and how we can strive to all work together to make our life and our future a much better place.