QUALITY OF MEASURING AND URBAN ENVIROMENTAL STATIONS

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Society is daily influenced by analytical measurements on which legal, commercial and social decisions are based. The accuracy of a chemical measurement is fundamental, depending on its purpose, but it becomes still more important when analysis concerns the state of the environment and human health. Industrialised countries generally spend about 6% of their gross internal balance on measurements and related operations. Much of these costs are wasted as they duplicate analysis already performed and relate to untraceable analytical data.

One might assume that the results obtained today are more reliable than those obtained in the past. This can be true. The technology has improved, instruments for quality control are available and new methods have been set up. The introduction of total quality techniques certification has enlarged intervention fields from products to services and producing systems. With reference to environmental problems the voluntary evaluation has grown, fulfilled by the same companies towards their laboratories with the aim of ensuring and maintaining an environmental friendly management. This approach needs a preliminary analysis of all the factors of the environmental impact bound to the activity of the company that on the basis of environmental analysis establishes the actions to be performed and the controls to be adopted in order to reach the objectives of the programme – a friendly approach to the environment.

Nevertheless it is demonstrated that sometimes the produced data are unreliable. The problem is that the level of the quality control applied in the past by the analysts for the measurements is not sufficient to satisfy the contemporary analytical problems. The outcome of wrong results can be duo to calculation errors, uncalibrated instruments, inaccurate methods or inaccurate use (e.g. new pollutants, determined concentration out of the useful range, interfering analytes not removed), unproper location.

Urban environment s tations are a perfect example of all the above considerations.