

**Emergence and modernization of metrology.**

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**Abstract:** Through this article, you will get information about the emergence of metrology and its importance today. Every field needs thousands of years to develop and modernize. It took many years before the field of metrology became modern. Everyone who studies metrology should be aware of its origin and theory.

**Key words:** "king's cubit", foot, mile, yard, regulatory metrology.

**Аннотация:** Благодаря этой статье вы получите информацию о возникновении метрологии и ее значении сегодня. Каждой отрасли необходимы тысячи лет для развития и модернизации. Прошло много лет, прежде чем область метрологии стала современной. Каждый, кто изучает метрологию, должен знать ее происхождение и теорию.

**Ключевые слова:** «царский локоть», фут, миля, ярд, нормативная метрология.

Metrology is derived from Greek and means "measurement". Every process or thing in our life has its own definition and measure. All this is the task of metrology science. Through historical metrology, we get information about units of measurement that existed in ancient times. The emergence of measurement units dates back to the distant past. What was the measure used for in ancient times? In ancient countries, the development of trade and the achievements in the field of construction in the country also depended on metrology. In ancient Egypt, there was a unit of measurement called "King's cubit", which was 52.5 cm. The reforms of rulers are important in the development of metrology. The ancient ruler of Akkad, Sargon I, introduced uniform units of length, area, and weight for all cities in order to promote trade. The oldest branch of metrology that studies measurement units is antrometry.

Orgonoleptic measurements are said to receive approximate information about one or another physical property through one's sense organs.

The distance at which one person's voice can be heard by another in open field conditions.

Ladon is the width of the remaining four fingers without feeling the thumb.

Foot is the length of the base of the foot. Foot is the distance between the head and the index finger.

The English king Henry I (beginning of the 12th century) introduced the yard (~91.44 cm) unit of measurement. The yard is the distance from the tip of the king's nose to the tip of the middle finger of an outstretched hand. In ancient times, wheat grains, peas and similar things were used to measure weight. In Mesopotamia, silver, barley grain, cactus in America, wheat in Sumer, and leguminous plant in Africa were used as weights. Scholars of our country have made a significant contribution to the development of metrology. A number of information about Ochoy units are given in the works of Abu Abdullah Muhammad ibn Musa al-Khorazmi, while Ahmad Farghani was one of the first to discover Miqyas al-Nil in 861. By the 20th century, the science of metrology began to develop. In 1923, the "Rule on Weights and Scales" was approved by the decision of the Central Committee of the Republic of Turkestan, and the Bureau of Weights and Scales of Turkestan was established under the internal trade regulation committee. A few years later, the State Control Laboratory of Standard and Measuring Equipment of the Republic of Uzbekistan (UzRDNL) was established in Tashkent. In accordance with the decision of the President of the Republic of Uzbekistan dated April 28, 2017 "On measures to improve the activities of the standardization, metrology and certification agency in Uzbekistan" No. State enterprise "National Metrology Institute of Uzbekistan" ("UzMMI" DK) was established on the basis of the metrological units of the state enterprise "Demonstration Center" and the state institution "Research Institute of Standardization, Metrology and Certification". The modern metric system of the world was adopted on May 20, 1875 in Paris at a conference of representatives of 20 countries and was named "Metric Convention". The Metric Convention is the first international agreement on metrology. The Convention also established the International Bureau of Weights and Measures as a scientific institution for the maintenance and verification of metric standards. The founder of metrology, D. Mendeleev, said about the role of measurements: "Science begins when measurement begins." Thomson, the founder of metrology in England, wrote: "Any thing is known only to the extent that it can be measured."

The science of metrology is developing day by day. Nowadays, the creation and use of various technologies leads to high accuracy in the measurement system. The system of model gauges made with the highest level of precision in the science and technology of metrology is called Etalons. There is also the concept of regulatory metrology. It is a part of metrology and is a state requirement for units and equipment and measuring laboratories related to the activities carried out by the national metrology body. The International Organization for Regulatory Metrology (IORM) has existed since 1956 and currently includes more than 50 countries. Its main task is to ensure the uniformity of measurements on an international scale, to develop recommendations on measurement error estimation, measurement methods, terminology and conditional designations. Its supreme body is the International Conference. This conference is MBMV - the International Bureau of Weights and Measures, on the practice of ensuring the unity of measurements at the international level. In order to improve cooperation between the countries of the modern world and achieve great achievements in the field of commerce, to coordinate the activities of national agencies, to eliminate technical barriers in trade, in 1992 the Inter-State Council on Standardization, Metrology and Certification of the CIS countries (except the Baltic countries) Council (DAK) was formed. On March 13, 1992, the heads of governments of the CIS countries signed the Agreement on conducting an agreed policy in the

field of standardization, metrology and certification. When developing interstate regulatory documents, their requirements are harmonized with international, regional and advanced national standards. This will create conditions for the maintenance of uniform regulatory and technical support aimed at eliminating technical barriers in the trade-economic and scientific-technical cooperation of the CIS countries, as well as help to introduce the products produced in the WAC member states to the international market.

Many laws related to metrology have been adopted in our country. According to the Law of the Republic of Uzbekistan "On Metrology" (Article 11), metrological services of economic entities are necessary to ensure the unit of measurement and perform work on the implementation of metrological control. in cases of

As a result of the emergence of the field of metrology and the formation of its modern image, the communication and commercial system in the countries of the world also developed. Everyone who studies metrology should be aware of its origin and theory.

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