



**Forum: Metrology – Trade Facilitator  
Request for support**



**DPR of KOREA**

**Core Problem:**

At present, it is urgently required to develop the metrology, standardization and quality in the DPR of Korea. To know the time correctly is very important not only in the daily life of people, but also in economy. Time measurement is to correctly reproduce the second, the unit of time, one of 7 base units of the SI (international system of units).

At an early stage of mankind, people knew the time, date and month by the sun and constellations, and nowadays by TV and radio broadcasting.

The accurate measurement of time is of great importance for the synchronization of modern means of communication, the service of satellite communication and research in athletic and nautical sciences.

**Significance of the problem:**

The demand for the accurate measurement of time is getting greater than ever due to the development of science and technology and the introduction of computers.

Each country has its own time standard. However, the Central Institute of Metrology (CIM), which is responsible for guaranteeing the whole metrology of the country in a scientific and technical way, is only engaged in verifying stop watches, nautical clocks, low frequency generators and electronic clocks by means of a rubidium generator.

The time and frequency laboratory in CIM measures the time with an accuracy of 1 and frequency with the accuracy of  $1.5 \times 10^{-12}$ . It receives the time signals from the neighboring countries and transmits them to the TV and radio broadcasting centers.

In accordance with the improvement of people's living standard and advances in science and technology, the time measurement laboratory should, at least, establish the time standard by caesium generators and transmit the time signals through TV broadcasting, thus setting the time of whole country to international time.

However, owing to the lack of investment in this field due to the transient difficulties of the economy, time measurement accuracy is not high, thus adversely affecting various fields of people's lives, such as communication, transportation, science, etc.

In this situation, it is urgent to equip it with the necessary equipment and competent technicians.

**What is needed:**

CIM needs to reinforce the time measuring equipment and train technicians for its management and operation in its time measurement laboratory.

- a. required equipment:
  - 3 caesium atomic clocks;
  - time and frequency operating equipment (GPS receiver, time scale synchronizer, double-line oscillograph);
  - ancillary equipment( frequency and phase comparators).
- b. training of technicians:
  - invitation lecture for our experts by supporters; 1 person for 10 days;
  - training abroad of our experts; 3 persons for 20 days.

**Contributions:**

Input for this project: 400,000 Euros

- a. our input:
 

• building and facilities	73 000
• ancillary equipment and materials	40 000
• power supply and environment creation	27 000
• furniture	7 000
• transportation	40 000
• miscellaneous	13 000
<b>TOTAL</b>	<b>200 000 €</b>
- b. input from supporter:
 

• invitation lecture for foreign experts	30 000
• training of internal experts	40 000
• delivery of equipment	120 000
• miscellaneous	10 000
<b>TOTAL</b>	<b>200 000 €</b>

This project will be carried out with close cooperation between the international cooperation body and CIM. CIM will provide financial and material assistance relating to the buildings and conveniences necessary for the realization of the project and assure the safety of foreign experts.

There are no external influences on the realization of project.

**Whom to address:**

**During the Forum:**

Central institute of Metrology, State Administration for Quality Management, DPR of Korea

**After the Forum:**

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