

## Gas Flow Metering

**‘Identify solutions to effectively measure gas flow according to market demand changes’**

### Background

Our client is the main carrier of natural gas in one European country. It is also certified as independent TSO European Union, which homologates the company to gas transmission network operators of other European countries.



The company gets revenues according to the transport of gas according to regulated prices. They sell to gas retailers for final commercialization to homes and industries.



## **The challenge**

Market demand has dropped in the last years and this is affecting the measurement accuracy of the conveyed gas flows. This is due to gas counters working below the minimum range for which they are designed.

You can see real gas flow variations and current P&ID of a typical Regulating and Metering Station (RMS) in attachments.

In some cases our client has been able to reach an agreement with the clients located downstream, like reducing the pressure of the gas delivered, or partial pressurizations of the gas networks, but in other cases this has not been possible.

## **What the client is looking for**

Our client is looking for new solutions that will help to adapt the current Regulating and Metering Station (RMS) to be able to measure the flows under the regulation conditions with a minimal impact on costs.

This tournament will have the following rounds and submissions:

### First round

A 1-2 pages document including:

- Brief description of the proposed adaptation of current RMS.
- Feasibility evidences (e.g. how this has been solved in other countries or industries).

You might also include relevant information in an Annex.

### Second round

- RMS PID (Process instrument diagram).
- Specification of measuring devices, e.g. including sample suppliers' quotations or market public prices.
- Impact on current RMS (required adaptations and estimated costs).

### Third round

- Clarifications on round 2 submission.



## **Evaluation criteria**

Submissions will be assessed according to the following criteria:

- Compliance with target specification according to the measurement ranges.
- Compliance with the national regulation: General requirements for metering and regulation stations:
  - The flow meter shall never operate below the minimum flow ( $Q_{min}$ ), which is equivalent to the 5% of the maximum flow ( $Q_{max}$ ).
  - The flow meter shall operate above the transition flow ( $Q_t$ ) at least 80% of the time.
- Minimum cost to adapt RMS.

## **Timeline**

This is a 3 Rounds tournament:

- 1<sup>st</sup> round: 4 weeks + 1 week for evaluation
- 2<sup>nd</sup> round: 3 weeks + 1 weeks for evaluation
- 3<sup>rd</sup> round: 2 weeks + 1 week for final evaluation

## **The Prize**

12.000 € cash prize for the winner

## **Confidentiality**

All attached information to the challenge is confidential. You, as a participant will not disclose and share this information during and after the course of this challenge.

## **Intellectual Property**

N/A