



## Small Wind Turbines Optimization and Market Promotion (SWTOMP)

The main objective of the SWTOMP-project is the promotion, development and implementation of the utilization of small and medium size wind turbines for isolated applications and for connection to weak electric grids. This includes the optimization of small/medium-size wind turbines to meet the requirements of local wind conditions and regional infrastructure.

The main expected results are:

- Development of new small wind turbines specifically designed for very cold and tropical environments
- Promotion of the small/medium-size wind turbines market in the countries participating in the project
- Closer interregional links between R&D institutions, wind turbine manufacturers, policy makers and end-users

One of the main features of this project is its network conception among the many partners and countries included, giving the project the added value of a space for knowledge and experience exchange and strengthening links between research groups in different regions. The participating countries are Finland, Argentina, Dominican Republic, Mexico, Spain, Turkey and Uruguay. The main aspects identified in the project in order to increase wind energy penetration are: weak and isolated grid integration issues and the methodology to characterize wind resources for small/medium-size wind turbine applications. The latter is considered as one of the main barriers of the expansion of wind energy utilization at the community level.

VTT is the Operating Agent of Task 19 of the International Energy Association (IEA) “Wind Energy in Cold Climates” with the main target to determine the current state of cold climate solutions for wind turbines. In this project, this includes anti-icing and de-icing solutions that are presently available or entering the market. VTT will also estimate the production losses due to icing, which is critical to the feasibility of wind energy in cold regions, and will participate in solving the problems related to the integration of small wind energy production units to weak and isolated electric grids.

Partners:

Centro de Investigaciones Energéticas  
Medioambientales y Tecnológicas CIEMAT  
Centro de Investigación de Recursos y Consumos Energéticos - CIRCE  
Instituto de Investigaciones Eléctricas - IIE  
Instituto Tecnológico de Santo Domingo - INTEC  
Instituto Nacional de Tecnología Industrial - INTI  
Izmir Institute of Technology - IZTECH  
Universidad de la República - UdelaR  
Universitatea Tehnica din ClujNapoca - UTCN VTT Technical Research  
**Centre of Finland Ltd – VTT (Lasse Makkonen)**