

WP7: Strategic work. Industrial, financial and legal issues

Description

Work package number	WP7	Lead beneficiary	1 - IAC
Work package title	Strategic work. Industrial, financial and legal issues		
Start month	1	End month	36

Objectives

- Evaluate the expertise and size of the scientific community in the field of solar physics in each country.
- Analyse the technological expertise of European companies and how it can fit the construction needs of EST.
- Study the impact of the potential involvement of the industry of the different European countries participating in EST.
- Revise and update the construction budget of EST.
- Promote a discussion of all these aspects within the consortium EAST that may finally lead to a proposal of construction and operation funding scheme that best fits the scientific and technological goals of all countries involved, together with the different options for a legal governance body.

Description of work and role of partners

WP7 - Strategic work. Industrial, financial and legal issues [Months: 1-36] (IAC)

The IAC will lead this multidisciplinary work package, but all partners will be involved to provide key inputs or to act as national contact point for gathering relevant information. The specific task to be executed are:

Task 7.1 Determination of the European Solar Physics Community and expertise.

It is essential that the expected provision of resources provided by EST (instruments, observing time, services) will match (in both qualitative and quantitative terms) the size of the European solar physics community. In addition, it is a big value to policymakers as they seek to develop balanced and coherent research portfolios. Under this task we will carry out a census of active researchers (PhD students, post-docs and senior researchers) in the field of solar physics, including statistical information about expertise, international collaborations, involved research institutions, gender, etc.). To that aim, the national astronomy societies of all countries will be contacted. The continuous contact of the IAC with many researchers and research centres as a result of its management of the Canarian observatories, hosting the most advanced solar telescopes, of the coordination of the EST-DS and SOLARNET projects and its active participation in the EAST association ensures the feasibility of this task.

Task 7.2 To highlight the technological expertise throughout Europe which matches with EST requirements.

Innovations of technological and industrial interest from a telescope of this kind, include, during the construction phase, the production of the mirrors, actuators and sensors, large mechanical structures, adaptive optics and postfocal instruments, active support systems and high precision large mass pointing and guiding mechanisms. The critical technologies for the telescope's instruments will include precision mechanics, highly dimensionally stable materials, mechanical integration and thermal regulation and multi-conjugate optics. This task will provide a list of all the companies in Europe hosting the expertise and/or innovation capacity to actively participate in EST construction. A matrix correlation between the degree of specialization required for an identified technology, expected business size and estimated expertise occupied by each identified company will be reported.

Task 7.3 Industrial impact associated to EST construction and operation.

The technologies needed to build EST will largely be developed during the telescope's construction phase and will come from across the whole of Europe. It is hoped that the construction of the telescope will create new applications for technology and creation of highly skilled jobs and related industry. EST, viewed worldwide as one of the most important projects for ground-based solar physics, is a highly technological project. It will give rise to many new technologies with potential applications for industry and will provide opportunities for companies to work on contracts with unprecedented technological challenges. We will carried out an exhaustive analysis of such industrial opportunities an its expected impacts in related sectors.

Task 7.4 Update of the EST construction and operation budget

The 2011 estimate for the cost of building EST was approximately € 135 million. This included the costs of civil works, optics, mechanics, control systems, the dome, etc. and allows for a construction period of 6 years. The budget also included development of the main instruments that will operate during the life of the telescope, a reasonable allowance for contingencies and assembly and testing costs during the last year of construction. Subsequent progress already carried out in several aspects of the telescope, including the proposed analysis of the technologies for its instruments require now to deliver un updated estimate for the EST construction and operation budget.

Task 7.5 Financial model and legal framework to operate EST

The consortium unanimously agrees that the appropriate legal framework for EST must be formalised before any kind of initial investment is made for its construction. This step will assure effective governance, resource management and optimal operation for EST. Most relevant legal bodies will be discussed, compared, and classified according EST particular circumstances. Likewise we will analyse the feasibility of cash versus in-kind contributions to discern the most likely financial model for EST.

Documentation

At the footer of this page you can find next documentation of this workpackage:

- [GREEST_D7.4_Summary.pdf](#): "Legal entity, Governance bodies and operation, Funding scheme for EST" brochure.

Files

GREEST_D7.4_Summary.pdf	4.62 MB	2017-09-18	GREEST EST
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