

# FP7 E-ELT Preparation – Grant Agreement Funded by the European Commission is Underway

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The aim of the FP7 E-ELT Preparation Programme is to complement the 2007–2009 Phase B (detailed design) of the European Extremely Large Telescope (E-ELT), which is presently conducted by ESO as mandated by the ESO Council representing the 13 member states. The FP7 E-ELT Preparation Programme has a total budget of 6.013 M€, including a 5 M€ contribution from the European Commission under the 7th Framework Programme and will run for two years, from 1 January 2008 to 31 December 2009. The ESO executive has been directed by Council to act as a mono-partner in this endeavour, acting on behalf of all member states. The E-ELT Preparation Programme activities will thus be conducted by ESO, in collaboration with 25 third-party institutes in eight member states. Figure 1 shows ESO's Director General, Tim de Zeeuw, and the EC Scientific Officer, Elena Righi-Steele, exchanging the grant agreement to mark the start of the project.

The aim of the E-ELT Preparation Programme Work Packages (WP) is to help ESO to be fully prepared for the anticipated early 2010 decision by the funding agencies in the member states to give a go-ahead for building the facility. Some of the Work Packages deal with organisational matters such as: setting-up of the internal structure of the project office (WP8); management of the full financial package (WP7) to build the 800 M€ plus facility; close links with critical industries (WP3); and establishment of efficient coordination with other similar projects world-wide (WP2). Optimising the science output of the E-ELT is paramount, and further development of the Design Reference Mission (WP4) and a detailed blueprint for Science Access (WP5) will occur. Finally, the basic R&D knowledge for crucial upgrades of the E-ELT observing capabilities, e.g. for exo-planet detection, study of the first light in the Universe, etc., will be developed (WP9) and the ESO community will organise itself in networks (WP6) to be fully prepared for its future crucial role in building powerful and innovative focal instruments for the E-ELT facility.

Photo: H. H. Heyer, ESO



Figure 1. The formal exchange of the grant agreement for the FP7 E-ELT Preparation Programme between Tim de Zeeuw, ESO Director General, and the EC Scientific Officer, Elena Righi-Steele.

Key to the E-ELT endeavour is the high level of involvement and commitment of the ESO member states throughout the life cycle of the E-ELT, making it a facility “for the community and by the community”. This is invaluable for the establishment of a comprehensive science case and the development of crucial enabling technologies. It is also the vehicle by which the complex post-focal instruments will start their respective development phases.

## Overall strategy and general description

The FP7 E-ELT Preparation Programme comprises a number of *transnational activities* for which EC support will be integral in establishing the appropriate framework to conduct them. Apart from “E-ELT Preparation Management” (WP1), these are:

*International Cooperation* (WP2) will explore the possibilities of involving external partners for the E-ELT development and link it with the other planned ELT projects to optimise their combined scientific output.

*Industrial Links* (WP3) will maximise the links with industrial partners and establish policies on connected issues, e.g. public relations and knowledge transfer.

*Design Reference Mission* (WP4) will develop a comprehensive set of observing proposals and simulated science data, in particular to maintain the alignment of the E-ELT Project with its community's scientific aspirations.

*Science Access* (WP5) will define scientific requirements on key areas of the interaction between science users and the E-ELT facility.

*Networks of Nodes of Expertise* (WP6) will help the European institutes with prime expertise in the technologies crucial to the Upgrade Paths Work Package (WP9) to coordinate their work and co-opt newly formed groups inside and outside ESO member states.

*Financial Mechanisms* (WP7) will explore external public and private funding possibilities.

*Project Structure and Planning* (WP8) is focused on the preparation of the organisation of the E-ELT project structure.

*Upgrade Paths* (WP9) will pursue, by design and prototyping, the development of the advanced Instrumentation and Adaptive Optics subsystems required to further enhance the E-ELT scientific capabilities five to ten years after the start of operations.

The strategic goal of the FP7 E-ELT Preparation Programme is to ensure that by 2010 the level of legal, financial, managerial and technical maturity required to launch the E-ELT construction is met. The project PI is Roberto Gilmozzi, the project manager is Mark Robinson and his deputy is Guy Monnet. The project web site is <http://www.eso.org/sci/facilities/eelt/fp7-elt/>.

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