





## Una manera de Bacer Europa



Project "Construction of the Astronomical Observatory" in Terrinches (Ciudad Real), Directorate General for Tourism, Trade and Crafts

# Programa Operativo de Castilla la Mancha

Año 2022

Fondo Europeo de Desarrollo Regional

The project "Construction of the Astronomical Observatory" in Terrinches (Ciudad Real) is presented as a Best Practice of the Directorate General for Tourism, Trade and Crafts.

#### **DESCRIPTION**

The purpose of the actions consisted of the construction of an astronomical observatory and the supply of related material for the investment project for the improvement of tourist infrastructures "Investment actions. Astronomical Observatory", financed by virtue of the Resolution of 29/05/2019, of the Directorate General for Tourism, Trade and Crafts, which approved the request for aid under the Agreement of 22/01/2018, of the Governing Council, by approving the regulatory rules of the calls for expressions of interest for the selection and implementation of projects under the Operational Programme ERDF Castilla-La Mancha 2014-2020.

The sky of Terrinches has the right quality to house an observatory of these characteristics, which will be located in the Hoces de San Isidro Natural Park. Furthermore, the importance of this project lies in the promotion and projection of economic and tourist activity in Terrinches.

The project "Construction of an astronomical observatory" has been a beneficiary of the Operational Programme ERDF 2014-2020 Castilla-La Mancha in the Call for Expressions of Interest for promoting the protection, promotion and development of cultural heritage. The total eligible cost amounts to 666,980.07, 80% of which is subsidised by the ERDF (653,584.06).

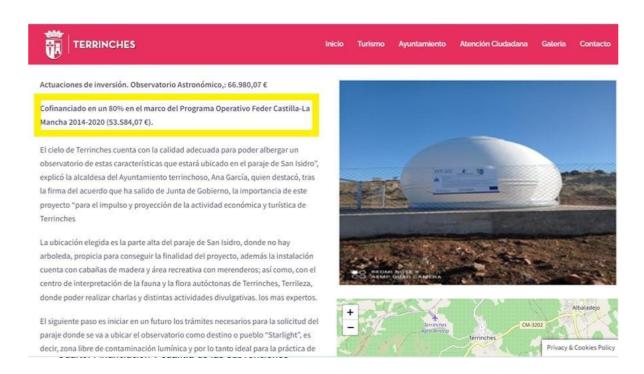


This action is considered a Best Practice because:

#### 1st High dissemination among beneficiaries, potential beneficiaries and the general public.

The Project for the Construction of the Astronomical Observatory of Terrinches (Ciudad Real) has had a high level of dissemination of the contribution of the funds to economic and social development among both potential beneficiaries and the general public through the following actions:

The Terrinches Town Council has included the action on its website (<a href="https://terrinches.com/observatorio-astronomico/">https://terrinches.com/observatorio-astronomico/</a> ), highlighting the fundamental role of the Operational Programme ERDF Castilla-La Mancha 2014-2020:



#### Complying with the reporting obligations, as shown in the following image:



- Publication of news in the national press concerning the project: <a href="https://www.europapress.es/castilla-lamancha/noticia-terrinches-dispondra-observatorio-astronomico-paraje-san-isidro-impulsar-turismo-estelar-20200818102113.html">https://www.europapress.es/castilla-lamancha/noticia-terrinches-dispondra-observatorio-astronomico-paraje-san-isidro-impulsar-turismo-estelar-20200818102113.html</a>

#### Terrinches dispondrá de un observatorio astronómico para ser enclave turístico estelar





Europa Press Castilla-La Mancha (f) (S) (S) Newsletter

CIUDAD REAL, 18 Ago. (EUROPA PRESS) - El municipio de Terrinches (Ciudad Real) tendrá a finales de este año un observatorio astronómico para impulsar el turismo estelar dentro de la comarca. La Junta de Gobiemo Local ha adjudicado recientemente por contrato de

procedimiento abierto las obras para la construcción de esta instalación en la localidad, con una inversión de 66.980,07 euros, financiada al 80% por fondos europeos FEDER y el 20% estante por el Ayuntamiento, y un plazo aproximado para su ejecución de tres meses.



Los manchegos recibirán formación gratuita para aprender a operar en bols



Llegan a Castilla La Manc cursos gratuitos para aprender a operar en bols

- Publication of news in regional press concerning the project: https://valderec.es/el-presidentede-la-diputacion-conoce-las-inversiones-en-materia-de-turismo-realizadas-en-terrinches/

#### El presidente de la Diputación conoce las inversiones en materia de turismo realizadas en **Terrinches**

ACTUALIDAD COMARCA PROVINCIA (\$ 30/03/2021 ) 0



La Corporación provincial refuerza la promoción turística de la zona con la construcción de un área de autocaravanas

El presidente de la Diputación de Ciudad Real, José Manuel Caballero, ha podido conocer de primera mano los diferentes proyectos en materia de turismo que se han llevado a cabo en Terrinches gracias a las inversiones realizadas por el Consistorio de la localidad con cargo al presupuesto de la Corporación provincial.

En concreto, el proyecto que ha visitado Caballero es un alojamiento rural formado por cabañas de madera con capacidad para 40 personas, situado en el Paraje de San Isidro, justo donde finaliza la altiplanicie del Campo de Montiel y comienzan las primeras estribaciones de Sierra Morena. Un complejo con amplias zonas verdes y espacios comunes de recreo y ocio.

Además, se ha reforzado el proyecto de promoción turística de la zona, con la construcción de un área de autocaravanas, cuyas obras finalizarán en las próximas semanas. La inversión total en Terrinches por parte de la Corporación en lo que va de mandato supera los 577.000 euros.

Caballero aprovechó la ocasión para visitar en las inmediaciones del complejo turístico el observatorio astronómico con el que cuenta el municipio, un proyecto financiado al 80% por fondos europeos Feder y el 20% restante por el Ayuntamiento.

#### Postings on social media:



 $\underline{https://www.facebook.com/FondosEstructuralesJCCM/posts/pfbid0371WDgijqgDH3gbTMyUahjnBXM2YcFaFn71eUYFEEGNrmdJUTvfW1GTxyHQgorwRhl}$ 

#### **2nd Incorporation of innovative elements.**

The dome of this observatory consists of a cladding with insulation between them made of sheet metal: It guarantees complete protection against all environmental influences and, at the same time, strength and durability, with special reinforcements on the inside of the construction, increasing the stability. The waterproofing of the dome will be guaranteed by the special design of the joints of the elements, thus preventing water from seeping into the dome, specifying at the same time that a large groove and the light colour of the dome will prevent the dome from overheating.

The large, two-metre wide observation window will enable unobstructed observation of the sky with telescopes up to 170 cm in diameter, allowing free viewing of the zenith through the telescope.

The dome will have an automatic system for rotating it in both directions and the observation window can be closed manually. In addition, it is possible to operate the dome completely through technological networks, and the software can be linked to weather stations, thus enabling the dome to be controlled.

The dome installation offers a high resistance to environmental effects and durability, the possibility to observe the zenith and an aesthetic design.

Under the dome itself, a stationary telescope of 500 mm diameter will be installed with an automatic GOTO localisation system, an aperture of 500 mm and a focal length of 2000 mm, thus multiplying the possibilities in light gathering and luminosity thanks to the fast-focal ratio of f/3.94. Its mount is provided with a smooth manual system of movements on both axes, altitude and azimuth, offering exceptional performance in both planetary and deep sky observation.

This telescope includes a high quality parabolic primary mirror that eliminates the spherical aberrations typical of short focal length reflectors. With a spherical primary mirror, being of the same DOBSON, parabolic so that all the light rays converge on the same focal point so that the observed image is perfectly endowed with image contrast and definition, obtaining images full of details.

On the other hand, it is necessary to carry out preliminary work to prepare the affected area of 16.33 metres and to build a work circumference for the installation and coupling of the dome and the telescope.

#### 3rd Adequacy of the results obtained to the established objectives.

The construction of an astronomical observatory has been carried out in order to bridge the cultural gap from the point of view of astronomy and science, achieving the following objectives:

#### Quantitative objectives:

- Astronomical data collection: An astronomical observatory can collect a large amount of astronomical data.
- Contribution to science: Data collected by an astronomical observatory can contribute to scientific research in areas such as astrophysics, cosmology and astrobiology.
- Discoveries: Data collected by an astronomical observatory can lead to the discovery of new celestial objects, such as planets, stars and galaxies, as well as to the identification of unique and rare astronomical phenomena.
- Improved measurement accuracy: Modern astronomical observatories have advanced instruments and technologies that allow them to measure celestial objects and conditions in the universe with high precision.
- Long-term data collection: Astronomical observatories often collect data over long periods of time, allowing astronomers to perform long-term analyses and study the evolution of the universe.

#### Qualitative objectives:

- Inspiration for science: The construction of an astronomical observatory can inspire people to study science and astronomy, and can generate greater interest in space exploration.
- Education: An astronomical observatory can serve as an educational tool to teach people about astronomy and science in general.
- Promoting international cooperation: The construction of an astronomical observatory can foster international cooperation between countries and scientific organisations, which can lead to a better understanding of the universe and important discoveries.

- Contribution to culture and heritage: Astronomical observatories can become cultural symbols and world heritage sites, and can be important tourist sites to visit and explore.
- Technological innovation: The construction of an astronomical observatory often leads to the development of new technologies and techniques, which can have wider applications in science and industry.

#### 4th Contribution to the resolution of a need in the region.

The construction of an astronomical observatory in a region like Castilla-La Mancha would cover several important needs.

Firstly, it would allow astronomers and scientists in the region and around the world to carry out high-quality research and studies of the night sky. The region of Castilla-La Mancha has a dry climate and dark skies, making it ideal for astronomical observation. An observatory in this region would provide an ideal location for the observation of astronomical objects, such as planets, stars, galaxies and nebulae.

Secondly, it could serve as a centre for science education and outreach for the region and the country. It would be an opportunity to bring astronomy closer to society and to foster interest and curiosity in science, especially among young people. Visitors to the observatory could learn about astronomy and physics, and could also see the telescopes and other equipment in operation.

Finally, it could also have economic and tourism benefits for the region. It would attract visitors from all over the world interested in astronomy, which could boost tourism and the local economy. It could also generate jobs and opportunities for the region's residents.

In summary, the construction of an astronomical observatory in Castilla-La Mancha would cover important needs in scientific research, education and outreach, as well as in tourism and the local economy. It would be a unique opportunity to take advantage of the region's advantages in astronomical observation and to bring astronomy closer to society.

Moreover, astronomy not only allows us to deepen our knowledge of the sky, but is undoubtedly one of the few disciplines that allows a multitude of multidisciplinary approaches:

- 1) An informative approach, with the main emphasis on knowledge of the widest range of astronomical theories and objects.
- 2) Observational approach, which is basically concerned with making observations and even constructing instruments.
- 3) Evolutionary approach, which is basically aimed at reproducing the construction processes of astronomical models.
- 4) Historicist approach, which is mainly based on the development of historical aspects and the evolution of astronomical ideas.
- 5) Environmental focus as it is also aimed at raising awareness of the need to "rescue the night skies from the clutches of light pollution" and preserve them clean for future generations.
- 6) Complementary approaches. In this sense, those related to classical culture (mythologies of the heavens, for example) are very fruitful for understanding the value that the observation of the heavens represented in our western culture, while at the same time breaking the absurd cliché of the separation between science and literature.

It is, therefore, a subject that allows us to cover many aspects of people's cultural education from a single point of view.

#### 5°. High degree of coverage of the target population.

The main beneficiaries of the action are the inhabitants of Terrinches, who have a unique tourist attraction in the region and exclusive to some localities, but the coverage of the action goes beyond the local level thanks to the Strategy for the development of areas with depopulation and socioeconomic decline, through the Community instrument of "Integrated Territorial Investment" (ITI), as a flexible mechanism to formulate integrated responses to specific territorialneeds, allowing the ERDF Funds, among others, to be brought together for the implementation of multidimensional and intersectoral interventions in an integrated manner in the territory.

### <u>6°.</u> Consideration of Horizontal Priorities (equal opportunities and non-discrimination, social responsibility and environmental sustainability).

The principle of equal opportunities is guaranteed since the selection of beneficiaries considers technical criteria without discrimination based on gender. Furthermore, the requirements set out in the document that establishes the conditions of the aid (DECA) that the beneficiary compromises to accomplish.

#### 7°. Synergies with other policies or instruments of public intervention.

The call for expressions of interest for the selection and execution of projects related to the promotion, improvement and increase of tourist resources by local entities aims to promote the conservation of cultural/tourist heritage and to increase, both quantitatively and qualitatively, the tourist offer. It is configured as an instrument to boost the tourism sector, rural development and territorial balance in various areas of Castilla-La Mancha.

In this sense, the funds represent a commitment to consolidate Castilla-La Mancha as an inland destination in the national tourism offer from 2020 in the calls for the Tourism Sustainability Plans to which are added the Expressions of Interest called with ERDF Funds with 22 million euros to support 133 investment projects in tourism resources.







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Fondo Europeo de Desarrollo Regional