

Project Results Details (1)

Result ID

1

Result Title

STARLIGHT training material toolkit

Result Leading Organisation

ISTITUTO NAZIONALE DI ASTROFISICA (E10208875 - Italy)

Result Description (including: needs analysis, target groups, elements of innovation, expected impact and transferability potential)

This first Result is aimed at setting up a comprehensive knowledge base to be used as learning material, to INFORM on three dimensions affected by light pollution: a. Astronomy: material to provide basic knowledge to understand the value of dark skies from an astronomical point of view. Main topic addressed are: - Elements of astrophysics. Star's temperature and colour. Stellar evolution. Nucleosynthesis of chemical elements. Stellar populations. Solar System objects. -How dark is the sky when we switch off all artificial lights? It depends. The Moon, Moonlight and Moon phases. The Zodiacal light. - Are there only a few scattered stars in the sky at night? Orienting yourself in the night sky: to identify stars and constellations you may need weaker stars; circumpolar and seasonal constellations; planets, meteors and meteor showers (falling stars), artificial satellites. -Being able to observe something beyond bright stars unveils the complexity of the Universe: the Milky Way, Andromeda and other galaxies, the Orion Nebula, globular and open clusters, the death of a star (Planetary Nebulae, Supernova remnants), emission nebulae, the Messier catalogue. - Observing the sky with astronomical instruments: telescope and binoculars. b. Biodiversity, health and wellbeing For this issue, we want to provide basic knowledge about the impact of light pollution on biodiversity and on the health of human beings and ecosystems. Main topics addressed are: - Impacts of artificial night lights on animals, since ecosystems have evolved and adapted to the darkness of the night. The effects of artificial light can be fatal, as happens for tortoises which use natural darkness and the starry sky to orient themselves. Many other effects have been studied, in particular the disorientation and alteration of behaviors synchronized with the lunar cycle. The increase in light pollution can hide the natural variations of light in the lunar cycle with negative impacts on mating, migration, foraging, hunting and other essential activities of wild animals. - Effects of artificial lights on human beings: each life form evolved in the light-dark cycle of day and night, thus developing the circadian system. Today we have a growing wealth of scientific knowledge that confirms that excessive exposure to light at night causes alterations and suppression of circadian rhythms, modifying the healthy rhythms of our biological clock. Epidemiological studies show that the changes in our biological clock are linked to the increase in metabolic syndrome, cardiovascular diseases, cognitive damage, premature aging and some types of cancer and the worsening of pre-existing diseases. c. Cultural and historic value of dark skies observation. Main topics addressed are: - History and myths: until the advent of print and especially TV, the civilizations set their stories and fables,

their myths and their legends (and therefore a cultural element of fundamental importance), often setting them in the sky. A couple of important examples close to our culture are the Greek myth of Andromeda, whose characters (Cepheus, Cassiopeia, Andromeda, Perseus, Pegasus, the sea monster, ...) are represented by the main circumpolar constellations and the Big Dipper, the constellation better known and easier to identify, in which the ancient Romans, for whom agriculture was of fundamental importance, recognized the 7 oxen that plowed the sky. The information and knowledge described above will then be transformed in interactive resources to be used by project participants (in a testing phase) and then made available to all interested parties. Single topics alone are not innovative, but their merging, re-organisation and transformation in interactive resources for tourism purposes are. This material will be made available to all on a website/platform and it can include text, videos, infographic, conceptual maps, etc.

Result Type

Learning / teaching / training material – Toolkit

Please describe the division of work, the tasks leading to the production of the result and the applied methodology

This Result implementation will be coordinated by INAF. The methodology to develop STARLIGHT training material will be as follows: 1. Collection and analysis of existing material and knowledge. Everything that has been described in the box above is already available in literature and in training formats. What STARLIGHT needs to do is collect and select what is most useful for touristic purpose and try to harmonize the knowledge between partners with different background and in Member States with a different policy development on the topic. The aim of the project always needs to be remembered to choose correct solution in the training material. 2. The material needs to be organised so that it becomes useful for training purposes. This means that it needs to be - Logical - Progressive - Engaging - Efficient Even if this is a set of training materials (toolkit) and not a course, STARLIGHT project aims at organising this material so that upon its closure, it can be easily transformed into a course, on and off-line. So, the material needs to be organised as a Course plan and should ensure that aims, objectives and outcomes are met, being able to clearly see the flow and content of the course and to optimise the learning experience. 3. Choose the most useful tools, spanning from: - text - interactive maps, - infographics - audio - video - slideshows - links - apps As in a communication strategy, the media mix will be chosen carefully, accordingly to the topic, the learning outcome and desired experience and the target groups. As said, INAF will coordinate this methodology and will collect and organise material linked to astronomy. FCL will focus on biodiversity, supported by TyEO that will also contribute to wellbeing/health aspects and cultural and historic elements, together with GALEVV and RRANG. KuA, besides its role in assessment and evaluation of the topic, will contribute to the organisation of the material, keeping in mind learning outcomes, with the cooperation of NBDN The training material will be

provided in English and, if needed, translated in all partners' language to maximise its transferability. The Material will be made available on the project website and, in sustainability perspective, migrate on e-learning platform or other learning environment in cooperation with associated partners and/or new networks. The workflow will be as follows: - draft preparation - sharing, integration and comments among partnerships and associated partners - final editing - check - validation The work on this Result will immediately start in November 2021 to be ready in June 2022, after its validation in the second Transnational meeting.

Result Production Start Date (dd-mm-yyyy) 02-11-2021

Result Production End Date (dd-mm-yyyy) 30-06-2022

Result Languages Bulgarian , English , Italian , Spanish , Slovenian , German

Result Media Website

Result Participating Organisations Gruppo Azione Locale Escartons e Valli Valdesi s.r.l (E10045441 - Italy) , FUNDACIÓN CAMINO LEBANIEGO (E10274512 - Spain) , Land Tirol - Tiroler Umwelthanwaltschaft (E10248891 - Austria) , RRA SEVERNE PRIMORSKE REGIJSKA RAZVOJNA AGENCIJA DOO NOVA GORICA (E10116828 - Slovenia) , KULTUR UND ARBEIT EV (E10211609 - Germany) , National Business Development Network (E10106886 - Bulgaria)