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### **Deliverable D15.3**

Providing access of 370 hours  
to the infrastructure Effelsberg

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Deliverable Leading Partner: MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG  
DER WISSENSCHAFTEN E.V. (MPG), Germany

## 1 Document information

Document name: Providing access of 370 hours to the TNA – Effelsberg infrastructure

Type Other

WP 15 (Effelsberg)

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### 1.1 Dissemination Level

Dissemination Level		
<b>PU</b>	Public	X
<b>PP</b>	Restricted to other programme participants (including the Commission Services)	
<b>RE</b>	Restricted to a group specified by the consortium (including the Commission Services)	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

1.2 Content

- 1 Document information ..... 2
  - 1.1 Dissemination Level ..... 2
  - 1.2 Content ..... 3
- 2 Description of the TNA deliverable ..... 4
  - 2.1 Information about the TNA-Effelsberg facility ..... 4
  - 2.2 Information about the provided access in the period (01/07/2014-31/12/2015) ..... 5
  - 2.3 Information about the financial EC contribution to the travel ..... 6

## 2 Description of the TNA deliverable

### 2.1 Information about the TNA-Effelsberg facility

The 100-m radio telescope of the Max-Planck-Institut für Radioastronomie (MPIfR) is a unique European astronomical facility that combines superb sensitivity and wide frequency coverage with distinct versatility. The telescope can be used to observe radio emission from celestial objects in a wavelength range from 1 m (300 MHz) down to 3.5 mm (86 GHz). The high surface accuracy of the reflector (the mean deviation from the ideal parabolic form is of the order of 0.5 mm rms) together with the construction principle of “homologous distortion” (i.e., the reflector in any tilted position has a parabolic shape with a well-defined, but shifted, focal point) enables very sensitive observations even at the highest frequencies (the sensitivity at K-band is about 1 K/Jy, corresponding to a telescope gain of 83 dB – the system temperature is in the range of 40-65 K, frequency and weather dependent).

With its specifications, the Effelsberg 100-m telescope is unique in Europe and – together with the Green Bank telescope in the USA – one of the two flagship single dish telescopes worldwide.

Observer’s access to the Effelsberg Radio Observatory with its 100-m telescope is awarded on the basis of successful observing proposals, subject to a peer review procedure by a selection committee (see below). To facilitate the proposal preparation the MPIfR has adopted the web-based proposal tool “North Star” which was developed by the RadioNet-FP6 NA2 (Synergy) program. The proposers are informed about the success of their application (with detailed feedback) soon after the meeting of the TAC. Proposals selected for observation are scheduled as soon as possible (normally within 3-6 months). “Target-of-Opportunity”-proposals can be submitted at any time.

The selection committee, the “Programm Komitee Effelsberg” (PKE), currently consists of three members elected from the scientific staff of the institute, and five experts (2 Germans + 3 Europeans) from outside the MPIfR. They meet face-to-face three times per year. During these meetings the PKE judges the scientific merit and technical feasibility of each proposal and assigns a certain grade and – if necessary – a change of the observing time granted. This procedure is the same, regardless of the origin of the proposers or their observing experience. Members of the PKE, who are co-investigators on a project, are not participating in the assessment of the corresponding proposal. After the meeting, the proposers receive a notification about the assessment including the grade, amount of time granted, the comments of the referees, and – if applicable – scheduling information.

External users of the telescope do receive full advice and support for optimizing the use of one of Europe’s unique research infrastructures. The experienced staff of the observatory (scientists, acting as “friends of the telescope”, engineers and telescope operators) offers support to the observers in planning of the observations, selection of observing modes, observing itself, and first stage data analysis. In several cases, remote and absentee observations have been made possible by the Effelsberg staff (e.g. for projects 72-13, 21-12, 78-09).

Through the financial aid of the current TNA proposal, a (second) dedicated support scientist has been financed who is especially looking after the (most requested) spectroscopic mode of observations. Users who gain access to the telescope can also count on the help of scientists (“friends of observers”) from the institute’s headquarters in Bonn who are experienced in the corresponding observing modes (spectroscopy, continuum, pulsars, and VLBI). Furthermore, the MPIfR provides external users with

transportation from Bonn to the telescope site (~40 km distance), en-suite accommodation at the observatory (for one or two observers per project), a well-equipped library, office space, and computer access.

## 2.2 Information about the provided access in the period (01/07/2014-31/12/2015)

Date of access	Project acronym	Name (institute) of the TNA user group leader	Number of the TNA users	Provided access [hours]
Jul 2014, Sep, Oct, Nov, Dec 2015	72-13	Paola Castagna, INAF Cagliari, Italy	2	21
Jul 2014 – Dec 2015 (many slots)	78-09	Karl-Heinz Mack, INAF Bologna, Italy	3	77
Nov 5-7, 2014	92-12	Alvaro Hacar Gonzalez, University of Vienna, Austria	4	16
Jan – March 2015	21-12	Diego Tucillo, Santander University, Spain	4	26
Apr 8-13, Sep 1,2,6, 2015	91-14	Orsolya Feher, Eötvös University, Hungary	4	69
Aug 31 – Sep 4, 2015	61-15	Agnes Kospal, Konkoly Observatory, Hungary	1	24
Sep 30 – Oct 3, 2015	14-14	Jose-Francisco Gomez, Instituto de Astrofisica de Andalucia, Spain	4	45
Mar 20, Oct 2/3, 2015	35-13	Olaf Maron, Kepler Institute of Astronomy, University of Zielona Gora, Poland	3	40
Nov 23 – Dec 16, 2015	79-14	Alvaro Hacar Gonzalez, University of Vienna, Austria	5	59
	Total projects 9		Total users 30	Total access 377 hrs

The detailed information about the committee providing access, projects and selection is given in the TNA database of the periodic report.

### 2.3 Information about the financial EC contribution to the travel

The table below shows the estimated travel costs. It is a responsibility of the TNA leader to allocate and approve a travel support (see estimated support). The travel budget is allocated by the RadioNet3 beneficiary 5 (JIVE). Therefore, the exact numbers will be presented by JIVE in their periodic report.

Project acronym	Person name (institute)
91-14	Orsolya Feher, Eötvös University, Hungary
14-14	Jose-Francisco Gomez, Instituto de Astrofisica de Andalucia, Spain
35-13	Agnieszka Slowikowska, Kepler Institute of Astronomy, University of Zielona Gora, Poland
35-13	Krystztof Krzeszowski, Kepler Institute of Astronomy, University of Zielona Gora, Poland
79-14	Alvaro Hacar Gonzalez, University of Vienna, Austria
79-14	Josefa Grosschedel, University of Vienna, Austria

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