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Minutes of meeting outreach officers

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1 Document information

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 Type Report
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1.1 Dissemination Level

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

1.2 Content

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2 Introduction

The main goal of the Outreach for the general public task is to combine outreach effort of the European scale radio facilities within RadioNet3. The activities can benefit already by simply using the expertise across the facilities and integrating these sometimes sub-critical individual efforts.

The purpose of this first deliverable (D2.4) of the Task 3 (WP2 –QueSERA) was producing the minutes of meeting outreach officers. In particular:

- a list of national outreach organizations have been drafted (visitor centres, amateur astronomy organization, educational platforms) and
- an inventory of the appropriate form of outreach material has been made.

The details are given below.

2.1 Meetings of the Outreach Officers

The meetings of the RadioNet3 Outreach Group were split into three teleconferences, held monthly, on April 29, May 24 and June 27, 2013.

Participants of the RadioNet3 Outreach Group:

Name	Organization	Country
Robert Cumming	OSO, Sweden	Sweden
Fabrice Herpin	BORD, France	France
Norbert Junkes	MPG	Germany
Franco Mantovani	MPG	Germany (Project Scientist)
Monica Orienti	INAF	Italy
Tim O'Brien	UMAN	United Kingdom
Izabela Rottmann	MPG	Germany (Project Manager)
Gilles Theureau	OBSPARIS	France
Stefania Varano	INAF	Italy (Chair of WP2 - Task3)
Kristine Yun	JIVE	Netherlands

The Agenda of the three meetings can then be summarized as follows:

- 1) presentation and discussion of the documents collecting the national contacts and the Outreach material, filled in by all the participating partners;
- 2) discussion about the outreach material already available for sharing;
- 3) discussion about the appropriate form of new outreach material to be produced with a RN3 brand;
- 4) discussion about new collaborations, even outside RN3;
- 5) Organization of a workshop within June 2014.

The final lists of national organisations and already available outreach material are reported in sections 2.2 and 2.3.

In the outreach material list, the objects that could already be shared with low effort among all partners is highlighted in green.

The detailed minutes of the three teleconferences are available on the outreach wiki page of the WP2 – QueSERA:

http://www.radionet-eu.org/radionet3wiki/doku.php?id=na:quesera:outreach_for_the_general_public

2.2 List of a list of national outreach organizations

In the following lists, divided by country, the orange rows are the RadioNet3 beneficiaries and the others are various subjects collaborating with them on outreach activities. Only the partners who answered the requests for contact are reported in these tables.

ITALY			
Organization	Description	Contact name	Description of cooperation
INAF – IRA	Institute of Radio Astronomy, Bologna	Stefania Varano	<i>RadioNet3 beneficiary</i> Chair of the QueSERA Task 3
INAF – IRA	Institute of Radio Astronomy, Bologna	Monica Orienti	Stefania Varano's substitute
INAF Institutes	POE officers of all INAF	Maria Teresa Fulco	National cooperation for the fulfillment of national astronomical outreach projects
DIFA	Physics and Astronomy Department, University of Bologna	Loretta Gregorini	Educational Projects for University students; training of high school teachers
Research Area in Bologna	Group of Research Institutes working together on the local outreach of their science.	Mila D'Angelantonio	Conception and organization of local events for the communication of science with the general public
Museo del Bali	Science Museum	Filippo Martelli	Installation of an amateur radio telescope, conferences for the public
Fondazione Golinelli	Organization coordinating the exposition "Scienza in Piazza" and other outreach initiatives	Fiorella Buffignani Giorgia Bellentani	Organization of exhibitions and educational itineraries about radio astronomy

GERMANY			
Organization	Description	Contact name	Description of cooperation
MPIfR	Max-Planck-Institut für Radioastronomie, Bonn	Norbert Junkes	Press officer & public outreach at MPIfR <i>RadioNet3 beneficiary</i>
MPIfR	Max-Planck-Institut für Radioastronomie, Bonn	Ulrike Wyputta	Research Coordinator <i>RadioNet3 beneficiary</i>
AlfA	Argelander-Institut für Astronomie, Bonn University	Michael Geffert	Open Days, Girls Day, series of talks
DMB	Deutsches Museum Bonn	Ralph Burmester	Astronomical talks, exhibitions, Effelsberg telescope 1:100
VSB	Volkssternwarte Bonn	Joachim Wallasch	Astronomical talks in Bonn
KBM	Kurverwaltung Bad Münstereifel	Jeanette Bünger	Astronomical talks in Bad Münstereifel
VdS	Vereinigung der Sternfreunde (amateur astronomers in Germany)	Wolfgang Steinicke	Annual Astronomy Day
AG	German Astronomical Society (professional astronomers)	Klaus Jäger	School activities, public outreach, workshops at annual meetings
HdA	Haus der Astronomie, Heidelberg	Markus Pössel	Astronomical outreach and teacher programs, SuW astronomy magazine, exhibition with Effelsberg telescope model

THE NETHERLANDS			
Organization	Description	Contact name	Description of cooperation
JIVE		Kristine Yun	<i>RadioNet3 beneficiary</i>
CAMRAS	C.A. Muller Radio Astronomie Station	André van Es	Amateur radio astronomy group
UNAWA (NL)	Universe Awareness	Frederiek Westra van Holthe	Outreach
NOVA	Dutch Research School for Astronomy	Marieke Baan	Combines the forces of astronomers at the universities of Amsterdam, Groningen, Leiden and Nijmegen. NOVA coordinates and stimulates astronomical research in the Netherlands (NOVA Informatie Centrum).
ASTRON		Femke Boekhorst	<i>RadioNet3 beneficiary. Also for ILT</i>
ASTRON		Mike Garrett	<i>RadioNet3 beneficiary</i>
NWO	Netherlands Organisation for Scientific Research	Department of Communications	ASTRON is part of NWO and receives funding from it. www.nwo.nl
SRON	Netherlands Institute for Space Reseach	(Ref: Dr. Andrey Barychev, BOARD) Possible contact (also TUD): Jian Rong Gao - TNW	RadioNet3 beneficiary
TUD	Delft University of Technology	Jian Rong Gao - TNW TNW	RadioNet3 beneficiary

SPAIN			
Organization	Description	Contact name	Description of cooperation
IGN	National Geographical Institute (Deputy Directorate of Astronomy, Geophysics and Space Applications)	Francisco Colomer	IGN runs the Yebes Observatory. Outreach in visitor center, web services, and social networks. <i>RadioNet3 beneficiary</i>
AstroMadrid	Network for astronomy and technological development in Madrid	Natalia Ruiz-Zelmanovitch	Social networks, Units of Scientific Culture.
Pamplonetario	Director. Spanish Representative in the Executive Council of International Planetarium Society, Inc.	Javier Armentia	Outreach for kids, radio, etc.
Planetario de Madrid	Director	Asunción Sánchez Justel	Outreach events in Madrid
Universitat de València	Department of Astronomy, and Observatory	Amelia Ortiz	Astronomy outreach to disabled people.
SEA	Sociedad Española de Astronomía http://www.sea-astronomia.es/	Emilio Alfaro (President)	Professional astronomers association, performs outreach.
RIA	Red Española de Astronomía www.riastronomia.es/	Xavier Barcons (Coordinator)	Professional network of astronomical infrastructures.
UCM	Universidad Complutense de Madrid, Dept. Astronomy	Jesús Gallego	ASTRONET
IAA-Comunicación	Instituto de Astrofísica de Andalucía - Outreach Dept. - www.divulgacion.iaa.es	Natalia Ruiz-Zelmanovitch	Social networks, podcast, video blogs, IAA magazine.
HOU España	Hands on Universe	Ana Inés Gómez de Castro	Demonstration radio telescope.

FRANCE			
Organization	Description	Contact name	Description of cooperation
IRAM	Institut de Radioastronomie millimétrique	Karin Zacher	Public Relations officer
IRAM	Institut de Radioastronomie millimétrique	Catherine Berjaud	Astronomy & Science Support Group Secretary (also in charge of public relations during the absence of K. Zacher).
LAB/OASU	Laboratoire d'Astrophysique de Bordeaux, France	Fabrice Herpin	In charge of the Bordeaux radio telescope for outreach (Würzburg) <i>RadioNet3 beneficiary</i>
Paris Observatory		Gilles Theureau	Outreach material for teachers and schools, exhibitions, SRT pedagogical antenna. <i>RadioNet3 beneficiary</i>
Paris Observatory		Philippe Salome	SRT pedagogical antenna <i>RadioNet3 beneficiary</i>
Pôle des Etoiles/Conseil Général du Cher		Simon Nicolas	astronomy/radio-astronomy museum, planetarium, general public exhibitions and school workshops

SWEDEN			
Organization	Description	Contact name	Description of cooperation
OSO-Chalmers	Onsala Space Observatory	Robert Cumming	<i>RadioNet3 beneficiary</i>
Svenska Astronomiska Sällskapet	Swedish Astronomical Society	Dan Kiselman	coordinates talks and events, publishes magazine Populär Astronomi
Universeum	Science center	Jonas Boström	space exhibition, host for events in Gothenburg
Slottsskogsobservatoriet	Public observatory in Gothenburg	Gunnar Sporrang	public observatory, partly sponsored by OSO
Rymdkanalen	Website for space outreach run by Swedish National Space Board	Johan Marcopoulos	spreads info about space-related activities
Astronomiska Sällskapet Tycho Brahe	Amateur astronomical society for Malmö/Lund region	Peter Linde	astronomical society with small radio telescope

UNITED KINGDOM			
Organization	Description	Contact name	Description of cooperation
UMAN	University of Manchester	Tim O'Brien	<i>RadioNet3 beneficiary</i>

SOUTH KOREA			
Organization	Description	Contact name	Description of cooperation
KASI	Korea Astronomy and Space Science Institute	Dr. Bong Won Sohn, BOARD	<i>RadioNet3 beneficiary</i>

LATVIA			
Organization	Description	Contact name	Description of cooperation
VENT	Ventspils University of Technology	Dr. Smelds Ivars, BOARD Dr. Vladislavs Bezrukovs Dr. Valdis Avotins	<i>RadioNet3 beneficiary</i>

FINLAND			
Organization	Description	Contact name	Description of cooperation
AALTO	Aalto University	Juha Kallunki	<i>RadioNet3 beneficiary</i>

AUSTRALIA			
Organization	Description	Contact name	Description of cooperation
CSIRO	Commonwealth Scientific and Industrial Research Organisation	Tony Crawshaw	<i>RadioNet3 beneficiary</i>

OTHER (INTERGOVERNMENTAL)

Organization	Description	Contact name	Description of cooperation
SKA	Square Kilometer Array	William Garnier	
ESO – ALMA	Atacama Large Millimeter/submillimeter Array	Lars Lindberg Christensen	

2.3 Inventory of Outreach Material

In these tables, divided by country, the green rows represent materials that, according to the chair of this task, are ready to be shared among the RN3 partners, according to their portability, general validity of contents and availability in many languages (mainly English).

GERMANY (MPG – MPIfR)				
Title	Description	Publishing	Target	Availability for diffusion
Effelsberg Radio Telescope	17 minutes movie about the Effelsberg telescope. 5 scientists/engineers describing their research with the telescope.	on DVD, no publication / distribution yet.	General audience. Movie can be started at any time at a TV screen at the visitors' pavilion near the radio telescope.	Available in German and English. No other languages yet.
Effelsberg Radio Telescope	Small folder / brochure describing the 100 m telescope and the science. Table with technical data.	on paper.	General public and visitors. Available at the visitors' pavilion.	Available in four languages (German, English, French and Dutch).
Max-Planck-Institut für Radioastronomie	Large folder / brochure with A1 poster image of the Effelberg telescope when unfolded.	on paper.	General audience, especially school kids. Distributed within the talks for visitor groups at the pavilion.	Available in German and English. No other languages yet.
A Walk on the Effelsberg telescope	3D movie, a walk with station manager Alex Kraus to primary focus and dish of the 100 m telescope.	not published, on file	General audience, presented within the 3D facilities of the Effelsberg pavilion	Available in German, English version is planned.
Astronomical Walks near Effelsberg telescope	Series of 3 walks with astronomical stations in different scales and lengths (Planetary, Milky Way and Galaxy walk).	http://www3.mpifr-bonn.mpg.de/public/walks_e.html	Visitor groups. Direct demonstration of the cosmic distance scales.	Description in German, English version is planned.
Radio Telescope model	Paper model of a simple radio telescope to cut out and glue together	on file to be printed	Especially for kids on Open Days and similar occasions.	Description in German.

ITALY (INAF)				
Title	Description	Publishi ng	Target	Availability for diffusion
Avventura nell'Universo invisibile (Adventure in the invisible Universe)	3D short movie (20 min) describing a fantastic journey through the Solar System: all objects encountered are also showed and described through radio data (images, spectra, etc.)	On file	General public and young visitors at a radio telescopes site or an Observatory, in general	It is only available in Italian. Translation in other languages is necessary for diffusion.
Medicina Radio Telescopes Postcards		Postcards	General public	Available as they are
Radio Natura – E se potessimo sentire le onde radio? (Radio Nature – What if we could hear radio waves?)	Interactive exhibit that allows hearing the radio emission from many celestial (and natural terrestrial) sources.	Website	Schools and general public	Available offline, it is only in Italian. It needs a computer to be shown
La macchina dei colori (The colours of space)	Interactive exhibit showing the Universe (and some common things in a room) at different wavelengths).		Schools, children and general public	Copyright by Peter Von Ballmoos, it is already available in English and Spanish. Needs a Mac (OS) laptop or desktop to work.
Radiometro – anche tu emetti onde radio (Radiometer – Radio waves from your body)	Antenna and receiver showing the temperature associated with the radio emission of the body in front of the antenna.	Device	Schools, children and general public	The device must be re-produced: it needs some room in an exhibition space
Interferometro didattico (Educational Interferometer)	Two Yagi antennas used as single antennas and interferometer, in order to show the basic concepts of interferometry	Device	High school students	The device must be re-produced: it needs some room in an exhibition space
A caccia di onde radio (Radio Wave Hunters)	Optical bench using radio waves (radio bench). Obstacles of different materials and surface accuracy are used to show how a radio telescopes can collect radio waves	Device	Schools (mainly primary), children and general public	The device must be re-produced: it needs some room in an exhibition space
Hands-on activities for children			Little children (nursery and primary schools)	Available as scripts (English version also available)

THE NETHERLANDS (JIVE)				
Title	Description	Publishing	Target	Availability for diffusion
JIVE outreach movie	showcases JIVE's tech capabilities, particularly with e-VLBI	DVD and online at http://www.jive.nl/jive-movie	funding/government agencies, general public	animation clips explaining VLBI and e-VLBI might be repurposed for other outreach use; subtitles currently available in six languages
EVN roll-up banner	200x85 cm with stand		astronomers	rolls into travel case (<1m long) with shoulder strap
Introduction to e-VLBI	Mini web site explaining VLBI and e-VLBI; used to include a Virtual Radio Interferometer at http://services.jive.nl/evlbi/diy.html , but that doesn't seem to work anymore.	http://services.jive.nl/evlbi/	general public	
EVN web cams	live cams from EVN stations when e-VLBI observations are occurring	http://services.jive.nl/ogs/cam_plots.html	EVN operators, general public	Email Kristine (kyun@jive.nl) or Des Small (small@jive.nl) if you want the cam links.
THE NETHERLANDS (ASTRON)				
Brochures, newsletter etc	About ASTRON, LOFAR, SKA	Paper and online: http://www.astron.nl/about-astron/press-public/publications/publications-0	Government representatives, general public, astronomical community, industry, education, press	
Movies	About ASTRON, LOFAR, SKA	http://www.astron.nl/about-astron/press-public/movies/movies	Government representatives, general public, astronomical community, industry, education, press	
Conference stand	Backdrop with overview of ASTRON		Astronomers/ scientists	
Website	www.astron.nl , www.lofar.nl , www.ska-nl.org		All target groups	
Social media	FB, Twitter, LinkedIn, YouTube		All target groups	
Open days	The institute opens its doors regularly to the general public		General public	

SPAIN (UAH)				
Title	Description	Publishing	Target	Availability for diffusion
IGN* "El mundo de la Astronomia"	Booklet with information on history of Astronomy, objects, and techniques (in particular radio-astronomy)	Paper and pdf	General public	The booklet is sold at a price of 1 Euro. Published only in Spanish. PDF file can be downloaded for free.
Live webcams from Yebes		http://www.oan.es/publico/	General public	Open website.
Brochures and articles	PDF versions on open viewer	http://www.issuu.com/robmadrid	General public	Open website. Partly Spanish?
Royal Observatory of Madrid	Large brochure describing the historic Royal Observatory of Madrid.	Printed and also in: http://www.issuu.com/robmadrid/docs/rom-folleto2011-eng	General public	Open website.
Royal Observatory of Madrid	Small brochure describing the historic Royal Observatory of Madrid.	Printed and also in: http://www.issuu.com/robmadrid/docs/rom-triptico2011-eng	General public	Open website.
OAN website	Website of the National Astronomical Observatory of Spain, contains many useful links to ephemeris, and outreach articles.	http://www.oan.es/	General public	Open website. In Spanish.
Anuario del Observatorio Astronómico	Ephemeris book, published yearly (since 1860).	Paper edition.	General public	Purchase in bookstores or at: http://www.cnig.es/
AstroYebes	Visitor center at Yebes Observatory	Onsite visits, planetarium, crafts, demonstration of radio astronomy observations.	General public	See Spanish description in: http://www.auladeastronomiayebes-valdeluz.es/
Small Parabolic Instrument for Demonstration and Education of Research (SPIDER)	2-m demonstration radio telescope.	Onsite and soon by internet.	Educational telescope (school groups, university practices).	See Spanish description in: http://www.auladeastronomiayebes-valdeluz.es/instalaciones-y-recursos/radiotelescopio-spider/

*NOTE: All material produced by IGN, third-party organization of UAH in Radionet3.

FRANCE (BORD)				
Title	Description	Publishing	Target	Availability for diffusion
Radio Astronomy for all!	In fall 2007, at the Bordeaux Observatory (now LAB/OASU) a renovation of the Würzburg radio-telescope started, in order to convert it into an outreach and learning facility. The HI and OH emissions from our Galaxy are observable by anyone from home.	http://serveurwurz.burg.obs.u-bordeaux1.fr/index.php	The radio telescope is available for teachers (any levels), for students, and for non-professional astronomers through a web interface or on site. We offer the possibility to observe remotely via internet, and/or during training sessions on site managed by our local staff.	The site is available in English and French
FRANCE (IRAM)				
Clipboards	Plexiglass cubes containing 3D model of Bure antennas (can be used as clipboards)		General public and visitors	Cubes were made in limited numbers
Posters	100/24cm very nice pictures of the PdB Interferometer and of the 30m telescope + detailed technical pictures		General public and visitors	Have to be reprinted (all distributed)
3 languages Brochures	General overview about IRAM activities	http://iram-institute.org	Anyone wishing to find out more about IRAM activity	can be downloaded
Movies	Descriptive movie on the 30m telescope and on the PdB Interferometer		General public and during IRAM schools	
Laptops bags			Students during IRAM Interferometry Schools	
USB keys	Extra flat "IRAM 30m telescope" USB keys (7.48 GB)			
Bookmarks	Change from 6 to 12 antennas (NOEMA Interferometer) when moving the clipboard on a different inclination		General public	Available
3 antennas "simulator"	model of a 3 metal antennas on a rail, which can smoothly be moved		General public, especially during the annual National French event : The science Festival each year in October	One single ex was built in house
Postcards				

SWEDEN (OSO)				
Title	Description	Publishing	Target	Availability for diffusion
Populärt om astronomi	general book about astronomy for beginners	book, online	schools and interested public	only in Swedish
Onsala stjärnträff	Onsala Star Party, concept for small star party for new space enthusiasts			see Wirström & Cumming, CAPJ, http://www.capjournal.org/issues/13/13_06.php
SALSA	small radio telescopes for school students	radio telescopes available for remote observations	schools and amateur astronomers	see http://brage.oso.chalmers.se/salsa/

FINLAND (AALTO)				
Title	Description	Publishing	Target	Availability for diffusion
http://www.metsahovi.fi/allsky-gallery	All-sky camera, for instance observing the northern lights	online	public interested	
http://www.metsahovi.fi/solar-gallery	Daily solar radio maps	online	public interested	
Brochures	General overview about activities in Metsähovi Radio Observatory	paper	public interested	In Finnish?

2.4 Summary

The general aim of the three meetings was putting all the RadioNet3 partners working in the Outreach and Educational field in contact with each other, to make them share pieces of information about their own activities and have them express new ideas for future products and activities to be held on a European scale.

In particular, the main results have been:

- production of a list of national contacts at each of the countries participating in RadioNet3, including the extra-RN3 partners collaborating with the RN3 outreach officers, on a national basis (visitor centres, amateur astronomy organization, educational platforms);
- production of a list of already available outreach material, that could be shared among all the partners, as it is;
- production of a list of ideas for new appropriate outreach material, to be produced with the RN3 brand.

In brief, a short list of outreach materials that can already be shared (perhaps after translation and improvement) among all participating Organizations is:

- 1) radio telescope paper model: we can easily share this model (as a pdf file);
- 2) the exhibit “The colours of Space”, created by Peter Von Ballmoos (Toulouse, France) and available (as a software) in different languages at the Visitor Centre of INAF;
- 3) remote radio telescopes: only few of them are available at the moment but, since they can also be used for remote observation, this can be something to work on for the interest of the RadioNet3 group as a whole.

Other ideas for brand new outreach, resulting from the meetings and from the in-between brainstorming are (in bracket the proposing Organization):

- Postcards with 3D effects (INAF)
- Interactive map on the RN3 website: e.g. a map of the world indicating all the countries in RadioNet that, by zooming in, gives access to their respective activities/ photo's/ movies etc. (ASTRON)
- various objects (bags, handbag, umbrellas, notebooks, cups, magnets...) (IRAM)
- sounds made from radio observations (Pulsar sound files are available at Jodrell Bank but more would be nice). OSO is working with LOFAR and Jupiter data. Online general audience, particularly blind and partially-sighted people
- RFI visualisation and/or information material with facts and visualisations about how RFI affects radio observations and how cell phones and wind farms contribute (any general public, decision-makers) OSO
- World-class interferometry animations (ESO – ALMA)

Some of these ideas cannot be put in practice at this stage because of the lack of funds and/or the difficulty of hiring extra-RadioNet3 subcontractors for doing the job.

Anyways, these and other ideas will be discussed hereinafter, within and during the first RadioNet3 Outreach workshop.

Finally, date and place for the future meeting were pointed out: the first RadioNet3 Outreach workshop is planned to be on February 2014, in Bonn. The exact date will be decided within the next month or two, according to the participants' needs and the availability of the host Organization (MPIfR).

