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Providing access of 246 hours to the EVN infrastructure

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1 Document information

Document name: Providing access of 731 hours to the EVN infrastructure in the period 01/01/2012-31/12/2012

Type Other

WP 12

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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 Description of the TNA deliverable

2.1 Information about the TNA – EVN

The European VLBI Network (EVN) is a cooperative effort among institutes in eight EU countries, plus Russia, China, South Africa, and Puerto Rico. From its formation in 1980 as a consortium of 5 European observatories, the EVN has led the way in bringing about effective inter-operation among European radio astronomy institutes. The telescopes in Russia, China and South Africa create EVN baselines longer than 8000 km, providing milliarcsecond (mas) resolution at cm wavelengths. The EVN also often observes in conjunction with the U.S. Very Long Baseline Array and the Green Bank telescope (operated by NRAO), providing significantly more baselines in the range of 6000-11000 km. EVN observations conducted in conjunction with the UK MERLIN array introduce baselines down to 20 km, providing sensitivity to more extended emission on the order of arcseconds.

The correlation facility for the EVN is located at the Joint Institute for VLBI in Europe (JIVE). The ASIC-based MarkIV correlator has processed EVN and global observations since 1999. It can correlate up to 16 telescopes, each at 1024 Mbps, and can compute a quarter-million complex lags. The flexibility of the correlator allows a range of observational goals, from high-sensitivity, full-Stokes continuum mapping to high spectral-resolution kinematics of celestial masers with velocity resolutions better than 0,1 km/s. The combination of high spectral resolution and short integrations permits mapping over a wide field of view. A new EVN software correlator developed at JIVE (SFXC) surpasses the capabilities of the MarkIV processor (e.g., more than 16 telescopes simultaneously, arbitrarily fine spectral and temporal resolution, more accurate phase tracking) and permits astronomical applications not available on the MarkIV, such as pulsar binning/gating and multiple phase-centres within a single wide-field correlation. SFXC has corrected all dish-based observations at JIVE since mid-2012, and has corrected all e-EVN observations (see below) at JIVE since December 2012.

The real-time e-EVN, in which telescopes stream data directly into JIVE via high-speed optical fibre for correlation, rather than record onto disks for subsequent shipping, has continued to mature over the past few years. Data rates of 1024 Mbps are now routine and reliable. The principal advantages of the e-EVN lie in the far shorter turn-around time from observations to the receipt of the correlated data (the PI typically can access their data within hours of the end of the observations) and in more frequent observing opportunities (typically one 24hr period per month in addition to the main observing sessions). Target-of-opportunity (ToO) observations are also more flexible via e-EVN. These capabilities are unique to the e-EVN, and enable it to be used as a dynamic instrument in which transient and flaring sources may be meaningfully studied at a resolution of a few mas, and VLBI observations may be coordinated with other instruments at other wavelengths

2.2 Information about the provided access in the period 01/01-31/12/2012

Project acronym	Name (country) PI	# eligible users	# hours
GV020z	Vlemmings(DE)	2	0
GV021z	Vlemmings(DE)	4	0
EG058c-d	Giroletti(IT)	3	8
RSF05	Frey (HU)	4	2
RSG04	Guirado(ES)	3	2
RSO01	Orienti(IT)	6	2
ED037b	Virdee(UK)	16	10
EY017a	Yang(NL)	3	7
EM071d	Moscadelli(IT)	5	8
EL042	Lobanov(DE)	1	10
ET024a	Tudose(NL)	9	10
EE008c	Etoka(UK)	6	8
EG061a	Gomez(ES)	8	12
EP076a-b	Perez-Torres(ES)	8	19
EP081a-c	Porcas(DE)	2	28
EY018a	Yang(NL)	3	12
EB051	Henkel(DE)	4	8
EG049d	Giroletti(IT)	2	4
EJ010	Jackson(UK)	3	12
EG064	Garrett(NL)	9	15
EG065a	Gawronski(PL)	6	18
ET024b	Tudose(NL)	9	10
EP075b-d	Perez-Torres(ES)	5	14
GB073	Bourda(FR)	5	72
EY018b	Yang(NL)	3	12
EM095a-c	Mezcua(DE)	2	36
GF018a-b	Fenech(UK)	5	48
EG049e	Giroletti(IT)	2	4
RO004a	Orienti(IT)	6	3
EG061b	Gomez(ES)	8	12
EE008d	Etoka(UK)	6	8
ED038	Deller(NL)	1	2.5
EP083	Paragi(NL)	4	16
RY003	Yang(NL)	2	4
EG063a-b	Giroletti(IT)	6	12
RSF06	Frey(HU)	3	2
EG065b-d	Gawronski(PL)	6	26.5
ES067z	Sanna(DE)	6	0
EY017b	Yang(NL)	3	7
EG040z	Giroletti(IT)	2	0
RO006	O'Brien(UK)	6	7
EO009	Oonk(NL)	5	12
ES070	Shulevski(NL)	3	15
EG066bcef	Giroletti(IT)	4	12
EE009a-d	Eisenacher(DE)	13	13
GM070	McKean(NL)	4	12.5
EA051	Argo(NL)	7	18
EP076c-d	Perez-Torres(ES)	8	17
EK033a	Kunert(PL)	3	6

Project acronym	Name (country) PI	# eligible users	# hours
EG062a-b	Guirado(ES)	5	20
EP075e	Perez-Torres(ES)	5	6
ER030	Romero(FI)	6	4
EM099a-b	Moscadelli(IT)	3	13
ES069a-c	Surcis(NL)	5	21
RO004b	Orienti(IT)	6	3
RM009a-b	McHardy(UK)	5	10.5
ET016a-b	Tarchi(IT)	4	20
EG065e	Gawronski(PL)	6	16
RO006b	O'Brien(UK)	6	7
EO011a	O'Brien(UK)	5	8
EG069a	Rycyk(PL)	4	6
TOTAL PROJECTS 61		TOTAL USERS 304	TOTAL HOURS 731

The total number of access is 731 hours, for a total of 61 projects and 304 (eligible) users (of which 173 unique users).

The detailed information about the committee providing access, projects and selection is given in the TNA database of the 1st periodical report.

2.3 Information about the financial EC contribution to the travel

The table below shows the real travel costs without VAT. Reimbursement of travel to Program Committee meetings are not displayed in the table.

The travel budget is allocated by the RadioNet3 beneficiary No. 5 (JIVE). However, it is a responsibility of the TNA leader to approve the travel support.

Project acronym	Person name	EC travel support [€]
EG040	Panessa	€ 484,79
EL042	Ikhsanov	€ 371,93
EP075	Perez-Torres	€ 1.467,33
ES067	Sanna	€ 198,41
GV020	Vlemmings	€ 797,43
GV21	Kirsten	€ 31.86
RSF05	Frey	€ 547,88
TOTAL EC contribution		€ 3.899,63