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Project name: Advanced Radio Astronomy in Europe

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Deliverable D12.3

Providing access of 246 hours to the EVN infrastructure

Due date of deliverable: 2015-12-31

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Deliverable Leading Partner: JOINT INSTITUTE FOR V.L.B.I. IN EUROPE (J.I.V.E.)

An European project supported within the 7th framework programme

SEVENTH FRAMEWORK PROGRAMME

1 Document information

Document name:	Providing access of 1251 hours offered to the EVN infrastructure in the period 1.1.2014 – 30.06.2015
Type	Other
WP	12 (EVN)
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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

2 Description of the TNA deliverable

2.1 Information about the EVN-TNA

The European VLBI Network (EVN) is a cooperative effort among institutes in eight EU countries, plus Russia, China, South Korea, 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. From 1999 to 2012 it was able to correlate up to 16 telescopes, each at 1024 Mbps, and compute a quarter-million complex lags. The flexibility of the correlator allowed 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 01.01.14-30.06.15

	Project acronym	Name (country) PI	# eligible users	# hours
1.	GL038cdf	Perucho(ES)	4	47.5
2.	EC045	Cseh(NL)	8	18
3.	GA030c-e	Anderson(DE)	19	42.5
4.	RP023a-b	Perez-Torres(ES)	13	29.5
5.	GS032c	Savolainen(DE)	7	15
6.	RSL03	Lobanov(DE)	1	4
7.	EH027c	Hada(IT)	6	6
8.	EM111	Marcote(ES)	5	10
9.	EF025	Frey(HU)	3	14
10	EP088c-d	Perez-Torres(ES)	11	24
11	EH028b	Hu(DE)	2	5
12	EV019a-b	Varenius(SE)	10	20
13	EM110	Moldon(NL)	4	10
14	EG080a-b	Gitti(IT)	5	16
15	ES071b	Sanna(DE)	6	8
16	ES072e-g	Surcis(NL)	5	21
17	GP053a	Perez-Torres(ES)	7	6
18	EG062e-f	Guirado(ES)	5	20
19	GA032a	Agudo(NL)	4	3
20	EG082b-c	Gawronski(PL)	4	13.5
21	EG079b	Gabanyi(HU)	3	6
22	RR009	Rushton(UK)	6	8
23	EV020	vanVelzen(NL)	6	13
24	RC001	Cseh(NL)	8	18
25	RSP09	Perez-Torres(ES)	7	2.5
26	EP087g-h	Perez-Torres(ES)	8	12
27	EL051a-b	Liuzzo(IT)	5	16
28	EC048	Caccianiga(IT)	11	6
29	EP088e-f	Perez-Torres(ES)	11	24
30	EH031	Hada(IT)	4	11
31	GS032d	Savolainen(DE)	7	13.5
32	EG078b	Garrett(NL)	9	24
33	GA032b	Agudo(NL)	4	12
34	GB075a	Boccardi(DE)	5	15
35	ES072h-k	Surcis(NL)	5	28
36	ES074a	Surcis(NL)	5	12
37	EG082d	Gawronski(PL)	4	14
38	EC052a	Cseh(NL)	6	21
39	ES072l-m	Surcis(NL)	5	14
40	GB075b	Boccardi(DE)	5	15
41	EP088g-h	Perez-Torres(ES)	11	24
42	GJ014	Jackson(UK)	4	12
43	ER030e-g	Romero(FI)	6	12
44	EG084a-b	Guirado(ES)	5	20
45	EA055a	Argo(UK)	5	12
	Project	**Name (country) PI**	**# eligible**	**# hours**

	acronym		users	
46	EC052b	Cseh(NL)	6	19
47	RSG06	Gabanyi(HU)	5	3
48	RSP10	Perez-Torres(ES)	7	3
49	GL042a	Perucho(ES)	4	8
50	GL041a	Lobanov(DE)	20	12
51	GL042b	Perucho(ES)	4	14
52	EY022	Yang(SE)	2	7
53	EC053	Coppejans(NL)	8	13
54	EG087a-b	Gabanyi(HU)	4	8.5
55	EC052c-d	Cseh(NL)	6	13
56	RSP11	Paragi(NL)	5	3
57	EL049	Li(DE)	4	8
58	EC047a-b	Castangia(IT)	2	12
59	EP092a	Perez-Torres(ES)	11	12
60	GN002a	Nyland(NL)	7	13
61	GP053e	Perez-Torres(ES)	7	6
62	EG086a-b	Giovannini(IT)	9	18
63	EG085	Guidetti(IT)	7	18
64	EY020b	Yang(NL)	5	12
65	ES071c	Sanna(DE)	6	8
66	ES075	Szymczak(PL)	5	16
67	EB052e-h	Bartkiewicz(PL)	4	40
68	ES076	Szymczak(PL)	5	10
69	EG082e	Gawronski(PL)	4	14
70	EH027d	Hada(IT)	6	7.5
71	EY022b	Yang(SE)	2	7
72	EP091a-b	Pasetto(DE)	4	23
73	EH030a-b	Herrero(ES)	3	10
74	GB075c	Boccardi(DE)	5	15
75	ER043a-b	Ramirez(ES)	6	24
76	GA036	Asadi(SE)	7	12
77	GA032c	Agudo(NL)	4	12
78	GL039	Lobanov(DE)	1	9
79	GP053f-h	Perez-Torres(ES)	7	18
80	EP093a-b	Paragi(NL)	3	22
81	EK035	Koay(DK)	2	20
82	EB056	Biggs(DE)	3	13
83	EH028c	Hu(DE)	2	5
84	GN002b	Nyland(NL)	7	12
85	EP092b	Perez-Torres(ES)	11	12
86	EL052	Levan(UK)	5	7
87	EO013	Oonk(NL)	6	12
88	EC052e	Cseh(NL)	6	12
89	ET031a	Tudose(RO)	8	10
	89		**529**	**1251**

The total number of access offered to the TNA-EVN infrastructure in the period 1.1.2014 – 30.06.2015 is 1251 hours, for a total of 89 projects and 529 (eligible) users.

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

2.3 Information about the financial EC contribution to the travel

The table below shows the real travel costs without VAT of the supported users. 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 [€]
EA054	Argo	692.31
EA055	Argo	397.11
EF024	Frey	1,108.76
EG062	Azulay	147.47
EG070	Gabanyi	1,108.76
EG072	Gizani	1,871.41
EH028	Hu	111.35
EK033	Roskowinski	219.77
EM100	Mezcua	512.55
EP076	Ramirez	733.35
EP088	Perez-Torres	575.46
GR035	Rosenblatt	606.49
RR007	Rushton	1,218.19
RSC01	Ceglowski	245.47
TOTAL EC contribution		€ 9,548.45