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Progress report 1 – SPOOR

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CO	Confidential, only for members of the consortium (including the Commission Services)	

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1 Introduction

The SPOOR networking activity – RadioNet Strategy & Policy forum – addresses the high-level strategic/policy matters that are relevant to the coordination, development and funding of radio astronomy on the European scale. The requirement to address such issues was noted in recommendation 7 of the ASTRONET ERTC (European Radio Telescope Review Committee) report¹. SPOOR was also expected to address recommendation 8 of the ERTC report. This recommended that European involvement in the SKA should be organised through a treaty organisation, with ESO seen as the obvious vehicle for this proposal. Events have rather overtaken this recommendation with European governments and funding agencies showing no real appetite to pursue this particular course. The SKA itself is currently on a clear trajectory to become an inter-governmental treaty organisation during the course of 2019.

The RadioNet Board has appointed a SPOOR Core Group consisting of the WP4.3 leader, the RadioNet coordinator, project manager and public officer, as well as the members appointed by UMAN, ILT, IRAM, ESO, JIV-ERIC and INAF. The participation at the SPOOR meetings is open to the RadioNet Board members. Additionally, it is envisaged to invite experts e.g. EC, SKA, ASTRONET.

In the last few months it has become clear that RadioNet is unlikely to be funded via future EC Integrating Activity calls. This has brought a new resolve and importance to the SPOOR Core Group's deliberations. Activities of the Group now focus on how we organise and fund activities that were hitherto supported only via RadioNet. In addition, the impact of the SKA on the European radio observatories is also high on the agenda – especially once the SKA enters its operational phase. This new focus is supported by recommendations recently made by the RadioNet Advisory Group.

The SPOOR Core Group has had two face-to-face meetings (see details below) during the first 18 months of the RadioNet contract, and a third meeting is planned for October 2018. All our activities have been reported directly to the RadioNet Board at their face-to-face and teleconference meetings.

2 SPOOR Meetings

2.1 SPOOR Meeting No. 1

The first face-to-face meeting² (Shiphool/NL, 23rd May 2017) reviewed the progress to date, recalling that the current activities build on the QueSERA activity of RadioNet³. This meeting reviewed the European radio astronomy scene in general, with an eye towards the role of the European radio observatories in the era of SKA Science Operations. At this point, it was not known that the future funding opportunities of RadioNet might be an issue – previous activities related to the earlier QueSERA WP (in particular, backup concepts for RadioNet such as RadioNet-Work – see: <https://arxiv.org/abs/1602.04216>), were not considered to be fully relevant to the discussion. Standing items on the SPOOR agenda include the status of European/international collaborations such as JIV-ERIC, ILT, CRAF, ALMA and IRAM.

¹ <https://www.radionet-org.eu/radionet/wp-content/uploads/sites/15/2017/03/150713-ASTRONET-ERTC-Report-Final.pdf>

² <https://events.mpifr-bonn.mpg.de/indico/event/42/>

³ project received funding from the EC Seventh Framework Programme (FP7/2007-2013) under grant agreement No 283393

2.2 SPOOR report to the RadioNet Board 2018

SPOOR reported to the RadioNet Board meeting held in January 20th, 2018 in Berlin⁴. At the same RadioNet Board meeting, it also became apparent, that RadioNet would probably not be funded again as an Integrating Activity (IA). With a very full business agenda, the discussion of this important news was limited in time but a very important set of comments and recommendations emerged from the RadioNet Advisory Group. The comments and recommendations most relevant to the SPOOR Core Group activities, included:

- *“Funding for the current radio facilities will be under threat as countries allocate the operations funding for SKA as part of negotiations leading to the establishment of SKA as an Inter-Governmental Organization”,*
- *“...a reduction in funding may happen to current radio astronomy facilities unless strong arguments (e.g. maintaining the world-leading VLBI array, see below) are put forward, so it would be prudent to plan for this”,*
- *“...having a single radio astronomy platform in Europe with a new, more generic, name may be preferable”,*
- A clear recommendation to *“Simplify the governance of European Radio Astronomy”*.

The SPOOR Core Group prepared for its second face-to-face meeting with the Advisory Group report forming part of the background of papers.

2.3 SPOOR Meeting No. 2

The second face-to-face meeting of the SPOOR Core Group took place on the 9th of May 2018 in Hoofddorp, the Netherlands⁵. A special effort was made to invite other board members to the meeting, in addition to the Core Group. Some good news included the announcement that an FP9 ERIC call is foreseen by the EC – this would be a natural opportunity for a follow up of the Jumping JIVE project⁶. A significant part of the meeting focused on RadioNet, and how the future might unfold. The SPOOR group considered how we should coordinate Radio Astronomy in Europe without support from the EC. A presentation was made by the General Director of ASTRON on some of the possible options. Members of the SPOOR group presented personal visions of the future. For many of the participants, JIVE was seen as an entity that could fill in many of the gaps RadioNet would leave behind - especially in the area of Networking Activities. A European Radio Observatory (ERO) was attractive to some participants but not all - an ERO that combined the strengths of all the European radio telescopes, and engaged directly with the various national funding agencies was seen as interesting concept to be explored further.

This was a very important meeting, as different individual views of the future of radio astronomy in Europe were presented and discussed. The news that RadioNet would probably not be funded again formed the backdrop for the meeting discussions and the impact of this development was clearly substantial to all concerned. The Core Group agreed to continue to develop individual visions for the future, and for these to be discussed at a short adhoc meeting to be held during the upcoming EVN Symposium in Granada (October 2018). Another full face-to-face meeting is to be scheduled before the end of the year.

⁴ <https://events.mpifr-bonn.mpg.de/indico/event/59/>

⁵ <https://events.mpifr-bonn.mpg.de/indico/event/71/>

⁶ <http://jive.eu/jumping-jive>

3 Impact

Funding for radio astronomy on the European scale is expected to undergo many changes in the coming few years. In particular, RadioNet is unlikely to be funded by the EC in its current form (an Integrating Activity).

In addition, the era of the SKA is on the horizon, and this requires significant funding from national agencies, especially in the area of long-term facility operations. Such investments may threaten funding of the national observatories.

While there are many opportunities for radio astronomy today, significant challenges lie ahead. SPOOR is the forum where such opportunities and challenges are discussed by leaders of the European radio astronomy observatories. The impact of SPOOR is substantial in paving the way towards a sustainable future for radio astronomy in Europe – both on the national and European scale. It is within SPOOR that leaders in the field are discussing how to shape the future of radio astronomy facilities in the next decade. Choices must be made, and these will have an important effect not only in terms of the nature of the telescope facilities themselves but also the large user community that they serve. There are many singular views on how this future might be envisaged but it is important that a consensus is soon achieved. SPOOR provides an essential platform where these very important issues can be debated and resolved

4 RadioNet financial support

RadioNet has supported the organisational cost and the travel expenses of some members of the SPOOR Core Group to the face-to-face meetings. RadioNet funding has been also used to support the participation of the SPOOR WP leader to the EWASS (European Week of Astronomy and Space Science) conference in Liverpool (May 2018).

5 Acronyms

ASTRONET Network	of European funding agencies and research organisations
ALMA	Atacama Large Millimetre/sub-millimetre Array
e-MERLIN	UK radio interferometry array
CRAF	Committee Radio Astronomy Frequencies
ERIC	European Research Infrastructure Consortium
ERO	European Radio Observatory
ESO	European Southern Observatory
ERTC	European Radio Telescope Review Committee
EVN	European VLBI Network
EWASS	European Week of Astronomy and Space Science
ILT	Int. LOFAR Telescope
IRAM	Inst. de Radio Astronomie Millimetrique
JIV-ERIC	Joint Institute for VLBI in Europe
LOFAR	Low Frequency Array
OPTICON	Optical Infrared Coordination Network for Astronomy
QueSERA	Work Package under RadioNet3
RadioNet3	EC funded project under FP7, grant Agreement 283393
SKA	Square Kilometre Array
SPOOR	Strategic & Policy Forum, activity under RadioNet
VLBI	Very Long Baseline Interferometry

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