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Betreff: [RadioNet] Proposal - Draft 2 I comments welcome by 29.2.2016

Datum: 24. Februar 2016 21:42:47 MEZ

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Hi Izabela and external review committee,

Here are my initial comments on draft 2 after having traversed the document one time. If time permits (and that seems increasingly unlikely, unfortunately) I'll do another pass. I'd be happy to spend some additional time on any section that you feel needs more focus. Overall, this draft is already getting into a good state. I may have made some comments contradicting our final collective thoughts at the end of the last face-to-face. Please let me know if you see that before blindly following these leads.

General comments:

The proposal many times references "meter to mm" radio astronomy as that forms a great unifying theme to the proposal. Perhaps up front somewhere there should be a statement indicating that different and complementary scientific pursuits are possible at different radio wavelengths. It also might be worth putting the 3 orders of magnitude frequency range in perspective: the visible optical regime spans about half an order of magnitude in frequency, and the entire IR/Optical/UV range spans 3 orders of magnitude.

I have noted several good references to the successes of past RadioNet programmes. This is good.

We discussed thoughts on a centralized call for proposals for TAs, or at least common mailing list. That was not evident in my reading.

Specific comments on WP14 (ALTA):

I have concerns about ALTA not yet being an operational capability. This introduces risk -- will ALTA be usable on a timescale appropriate for RN4? Probably, but this needs attention. Also it is awkward in the "Service currently offered..." section as no services are currently offered. This section is written in a way that is not straight forward.

Somewhere in the WP description the latency between observation and public archive access should be stated. Is there a PI grace period?

Specific response to your request for "Added value to the proposal": From a completeness point of view, adding a Virtual Access means that all activity types are covered. Not sure if this is important or not, but might be if someone is keeping quantitative score during review. Also from a completeness point of view, omitting ALTA would ignore a large, unique capability in the core of the radiofrequency science covered by RadioNet4.

Specific response to your request for "Added value to the community": Clearly Virtual Access to APERTIF data would increase scientific returns on investments in two ways: 1. the archive infrastructure itself would be in greater use; and 2. the APERTIF data will be spread further. I believe a second point is also important to raise: archive access is a very natural way to get new users started as they can jump straight to data without going through request for time and waiting for observations. With such potentially rich data source (analogous to the Sloane Digital Sky Survey in the optical), archive-based science is likely going to be important for small research groups.

Other specific comments:

In the accounting of activities on Page 5, the VA (WP14) is not mentioned.

Innovation potential: Is there a way some reference to recently detected gravitational waves could be made? This is a huge and important topic now. LOFAR/ILT or WSRT/APERTIF as a follow-up/localization facility? Triggered eMERLIN or EVN should localization be good enough? MoU with the GEO600 / Virgo projects?

Page 25: Not sure the intended point of "contributing to evidence-based policy making" was addressed, but I could be wrong. Is there more explanatory text describing what is desired? Some ideas I have that are more aligned with my interpretation: 1. Climate change: precision geodesy, possibly enabled by BRAND, could help measure sea level rise; 2. Metrics of access or participation (e.g., women, minorities) could be used in a quantitative manner to help determine which programs are most successful at attracting under-represented groups; 3. The text on outreach to Africa in your section is good, but can it be more closely tied to "evidence-based policy making"?

Page 33 (communication w/ policy makers): I wonder if it would be good to aim for communication at a higher level within the legislative branches of individual national governments. One could imagine a few forms of contact: letter-writing (lobbying for support, direct dissemination of important results) or invitations for site visits? This could form an important part of the sustainability program.

WP2 (dissemination): How do we engage astronomers that don't focus on radio? I think it would be good to promote Radio Net technical/scientific advances at science meetings (e.g., meetings focused on particular research areas rather than techniques). Another option is for scientific presentations that make use of RadioNet

facilities to be stored on a central archive and sorted by science topic. Since both of these would be volunteer driven, I'm sure how to do they could be done with any degree of completeness.

WP7 (RINGS): I was hoping to see some mention of the on-going BlackHoleCam effort with notes about the complementarity of that project and RN4.

WP9 (eMERLIN): The figure shows "orbit of Jupiter". Clearly it should be "size of Jupiter's orbit". To a non-expert this could be confusing. Maybe also add to the caption something indicating that the object being studied is a proto-planetary disk.

Page 84: It seems some sort of official Change Control Board should be put in place to evaluate risk and benefit of changes to plans. Also this would allow changes that are not adopted to be documented. Even the unimplemented changes can be considered part of the RadioNet 4 innovation legacy.

Risk WP6 (BRAND): I see failure to develop suitable feed for use at secondary focus, where beam angles need to be narrow, as a project risk. I would add this at the medium level. I don't know of any risk mitigation, except to note that BRAND could still succeed on prime-focus systems.

General risk: Unfunded RN4 partners (e.g., VENT, TUD) fail to contribute as promised. Not sure if this is something to report, but it is something I would be concerned about.

Deliverables (Table 3.1C): Should management have deliverables for annual and end-of-programme reporting?

Thanks to Richard for sharing his version with edits. The suggestions I flipped through looked like good changes.