BigDAPHNE … take 2 ☺

Evaluation

Total score 82.8% (threshold 70/100.0)

Minimum for accepted 94

What	Evaluation	Threshold	Weight
Excellence	4.1	0/5.00	50%
Impact	4.1	0/5.00	30%
Quality and efficiency of implementation	4.3	0/5.00	20%

Excellence - Strength

Strengths

+ The proposed research program is of very good quality, clearly focused and precisely defined.

+ It is timely and credible, as it foresees to handle big data produced by upcoming, already approved experiments (Virgo, Euclid and the upgrade/continuation of the LHC).

+ The proposal is multidisciplinary, since it combines several fundamental research fields and generic data-handling techniques.

+ The training program is very carefully planned, combining academic training, secondments, network-wide thematic 2-week schools, shorter workshops etc.

+ The training program includes transferable skill, which will be beneficial for the careers of the young researchers.

+ The planned synchronous hiring of all the ESRs and timing of all the events is a convincing idea and has the potential to create a positive influence on the young scientists community .

+ The non-academic sector has a strong role in the training program.

+ The supervision measures are adequate and in line with the requests for an EJD. Joint supervision by two institutions and a joint degree are arranged. All ESRs have also a foreseen mentor in the non-academic or academic partners where they will be seconded.

+ All the listed institutions have long-standing experience and high standards in supervision and PhD awarding.

+ The organizational structure of the network guarantees a meaningful and coherent interaction between the participants and partners.

+ The young researchers will be exposed to different research environments, which will be beneficial for their future careers.

Excellence - weakness

Weaknesses
- Data collection, data storage and data analysis are on their own not an entirely original and innovative research program. The proposal does not convincingly describe the originality of the research program with respect to the physics objectives.
- The proposal does not sufficiently describe how a common research program in particle physics, in dark energy and in gravitational waves will be implemented beyond the aim of big data analysis. In particular, it is not clear how PhD students can be involved in so diverse areas while benefitting from the program as a whole.
- Information on the local courses and details on the training during secondments are not clearly specified.
- Some details are missing concerning supervision: e.g. to support the statement in the proposal that adequate supervisors, with complementary expertise, have already been identified for each ESR; e.g. to concertize the actual implementation of the joint supervision (reports, contacts between the two supervisors etc...).
- The potential synergies among the participants (i.e. what can be expected as an added benefit from the existence of the network, beyond actual needs) are not sufficiently addressed in the proposal.

- Ok Bigdata as common item but we need to be more specific about the gain that the network would give. We need to say that this is a new/original idea of facing the BigData problem
- Need to be more specific in what aspects of the BigDATA we want to explore.

Here we need help from experts; synergies with EU-INFN projects:

- Indico DataCloud – Stefania contact with Salomoni
  - https://www.indigo-datacloud.eu
- EGI Engage

Stefania, Chiara explore

Here we need to find somebody willing to actively contribute to the technical part of the proposal

Excellence – weakness

- We need to better spell out the gain that a student would have in being exposed to so many reasearch areas. For example increase the possibility that after PhD a student move from particle physics to astrophysics …
- About the point “Some details are missing …” mention that when ins secondment the two supervisors interact and mention how often the meeting are held
-about “The potential synergies …” mention that we like to work together and we have seen that working together is more effective, mention synergies at various level …

- Others:
    - Tasks are too many make sure not to overload us

Impact - strength

Strengths

+ The program is extremely relevant and credible in enhancing careers and employability of the formed ESRs. The central tenant is that bright minds are in any case attracted by the fascination of fundamental research in particle physics and cosmology, but permanent positions in academia are scarce and so providing them with highly valued skills like big data handling capability makes them easily employable in a variety of job markets.

+ The proposal clearly spells out the positive impact in academic, non-academic and collateral careers.

+ The proposed network has the potential to establish a sustainable joint doctoral degree in physics among the participating institutions, mainly thanks to the transversal nature of data handling and through the sharing of best practices.

+ The meaningful contribution of the non-academic sector to the training program will potential strengthen the links between the academic institutions and the non-academic communities.

+ There are standard but appropriate plans for dissemination and exploitation of results.

+ A selection of new and innovative methods of communication to different audiences (such as schools, undergraduates and policy makers), appropriate for the project, is proposed.

Impact - Weakness

Weaknesses
- The potential impact on the career of the ESRs with respect to future research projects in other physics domains is not sufficiently addressed in the proposal.
- Some details are missing on the measures to actually implement a sustainable joint degree structure, for instance on how to overcome the stated differences in rules among the institutions.
- Some of the outreach measures are not fully credible (the 'emotional documentary' on the excitement of selected moments of the life of PhD students in data science does not sound very plausible).

- on “The potential impact …” Training ok but the impact is not sufficiently addressed
- on “some details … “ Define some common points to demonstrate that we can overcome the different rules in the universities and implement the double title
    - mention course timing, lengths …
    - mention example curricula that could fit all the rules
- on the “Some of the outreach…”
    - change words, do not use emotional
    - connect with research night
    - mention other projects where movie worked

Quality and efficiency … - stregnths

Strengths
+ The work plan is very coherent, with a good balance between fundamental research aspects (WP1 and WP2), applications to industry and research (WP3 and WP4) and collateral tasks (management, dissemination).
+ The deliverables, the milestones and the allocations of tasks are clearly listed in the proposal.
+ There is a well defined management structure, including joint governing structures, with clear composition, dependencies and rules.
+ Special emphasis is put on the recruitment (Admissions Committee) and supervision (ESR Supervision Team, Supervisory Board). A special attention is given to gender aspects, as testified by the balance in the governing bodies in favor of women.
+ In general, the risk assessment plan is well prepared and recognizes almost all the major risks.
+ All the participanting institutions have high quality and absolutely adequate infrastructure.
+ The participating teams are very well experienced within their domain of research. Most groups have experience with previous EU projects.
+ The beneficiaries as well as the partner institutions are highly committed to the network program.

Quality and efficiency … - weaknesses

Weaknesses
- The benefit of some of the secondments to industrial partners (e.g. TfL, ENEL) to the training of the ESRs is not sufficiently clear.
- Due to the large number of different tasks, the management of the network is rather complicate and there is the risk that the network will not be run in a very efficient way.
- Progress monitoring lacks specific information on timeline and frequency of monitoring.
- Potential synergies and cooperations among the participating institutions are not sufficiently addressed in the proposal.

-on “The benefit …” check in the text maybe TfL and ENEL have not been mentioned enough
- on “Due to the …”
    - decrease the number of tasks
    - is it possible to simplify the structure, too many parties in the management complicate the interactions
- again about the synergies …

Partner Organisation number	PIC Search PIC	Organisation legal name	Country	Academic Sector	Role of associated: Provide training	Role of associated: Host secondments	
1	995503920	ENEL Ingegneria e Ricerca SPA	Italy	No	Yes	Yes	
2	923879896	Semblent	United Kingdom	No	Yes	Yes	
3	999868920	Istituto Nazionale di Astrofisica	Italy	Yes	Yes	Yes	Clarify interaction
4	924438616	Software Carpentry	United States	Yes	Yes	No	
5	933427509	Universite Paris-Saclay	France	Yes	Yes	No	
6	999744469	Thales Services SAS	France	No	Yes	Yes	
7	999979500	Consiglio Nazionale delle Ricerche	Italy	Yes	Yes	No	Dropped: SoBigData
8	999430189	Transport for London	United Kingdom	No	Yes	Yes	
9	923552521	GUARDO Interactive	Italy	No	Yes	No	Movie
10	999988133	European Organization for Nuclear Re	Switzerland	Yes	Yes	Yes	Confirmed participation
11	999992789	Istituto Nazionale di Fisica Nucleare	Italy	Yes	Yes	Yes	Clarify interaction
12	923119804	NCCGROUP	United Kingdom	No	Yes	Yes	
13	999578405	Heidelberg Institute for Theoretical Stu	Germany	Yes	Yes	Yes	
14	998594922	Georgia Institute of technology	United States	Yes	Yes	Yes	

Comments

- Nikos: no expertise in DataScience …
- Rosy: stress that we want to build an infrastructure and continue on this