CONSENSUS EVALUATION REPORT

GENERAL OVERVIEW

Open Call Collection	*OC-2016-1*
Proposal Reference	*OC-2016-1-20657*
Proposal Title	*Vector Boson Scattering Coordination and Action Network*
Proposal Acronym	*VBSCan*
Review Panel	*Challenges in Earth and Planetary Science*
Evaluation Status	*Final*

EVALUATION

SUMMARY TABLE

S&T EXCELLENCE					IMPACT				IMPLEMENTATION				Marks
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Total
5	5	5	5	5	5	5	5	4	5	5	5	5	64

COMMENTS

S&T EXCELLENCE

Soundness of the challenge

Q1 - Is the challenge relevant and timely?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -After the discovery of the Higgs boson at the LHC, a better understanding of Electroweak Symmetry Breaking (EWSB) has become one of the most relevant and fundamental questions in particle physics. -The study of Vector Boson Scattering (VBS) is the flagship analysis for exploring EWSB. Moreover, it is also maximally sensitive to new phenomena, as VBS processes occur at a very low rate in the Standard Model (SM). -The Action will run while a huge amount of data is being collected at the LHC. The project is extremely timely to fully exploit this forthcoming data.	5

Q2 - Are the objectives presented clear and pertinent to tackle the challenge?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The scientific objectives are well-presented and are well-focused. They cover relevant aspects both in theory and experiment. -The capacity-building objectives are pertinent to tackle the challenge and to maximize collaborations, achieve inclusiveness and promote Early Career Investigators. -The project aims at contributing to end the fragmentation of the community interested in VBS physics and to develop appropriate tools -The connections between the concrete goals and challenges and the more general physics framework become evident, and all of the objectives satisfy the SMART criteria.	5

Progress beyond the state-of-the-art and innovation potential

Q3 - Does the proposal advance the state-of-the-art and introduce an innovative approach to the challenge?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The description of the state-of-the-art is accurate and detailed. -The methodology that will be used to approach the challenge is explained in detail from both the theory and experimental point of view. -The topics in which progress beyond the state-of-the-art is needed are clearly identified, and possible solutions are advanced. -The involvement of statisticians introduces an innovative approach to the challenge. -The aim is to achieve unprecedented precision in the study of VBS and to pave the way for further developments of algorithms for particle identification beyond VBS processes.	5

Added value of networking

Q4 - Is networking the best approach to tackle the challenge?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The consortium consists of a wide collaboration of theorists, experimentalists and statisticians. It represents a pioneering multidisciplinary approach to the challenge. -Networking will reinforce the communications among these three communities, therefore enhancing the chances to tackle successfully the challenge. -The Action represents an opportunity for inclusiveness of COST NNC and for enhancing the career prospects of young scientists, as well as to extend the collaboration to COST IPC. -Cooperation among several different countries will also allow to establish very fruitful and long lasting collaborations.	5

Q5 - What is the added value of the proposed network in relation to former and existing efforts at European and/or international level?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The proposal has collected detailed information on other European networks and Working Groups that tangentially touch upon the topic of this Action, and clearly identifies the differences and possible areas of collaboration. -The proposal reveals a credible commitment to contact and involve in the project other relevant experts in the field, both in theory and experiment. -This will be the first major international project focused on these important processes involving the different required areas of expertise.	5

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IMPACT

Scientific, technological and/or socio-economic impact

Q6 - Does the proposal clearly identify relevant, and realistic short-term/long-term impacts?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: - While there is no question that the impacts would be considerable not only for modern high energy physics but for science in general, they are all fully realistic and achievable. -The Action will foster a bidirectional transfer of knowledge between physicists and statisticians by boosting the data mining abilities of high-energy physicist and giving access to a big amount of data to statisticians. -The Action will create a multidisciplinary functional network that will be able to continue working beyond the period of the Action. -The Action has a clear plan to counteract the gender imbalance in the field.	5

Measures to maximise impact

Q7 - Does the proposal identify the most relevant stakeholders and present a clear plan to involve them as Action's participants?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The Action involves the main experts in the field, and presents a well-defined plan for extending the Action to other experts and potentially interested researchers. -The main focus of the Action is directed towards promoting the careers and visibility of Early Career Investigators. Besides enhancing their scientific profile, they will take managing roles in the organization of meetings, and a leading role in outreach activities. -Specific measures will be taken to achieve a better gender equality. -Scientific Missions, Yearly Workshops and Training Schools will be organized to attract all relevant stakeholders, in particular from Inclusiveness Target Countries. -A platform will be created on the website with a job and young candidate database.	5

Q8 - Is there a clear and attainable plan for dissemination and/or exploitation of results?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The dissemination of scientific results will follow the usual and most effective channels in the field, including in particular the arxiv.org open access database. -The website of the project will collect the information on the Action activities and will serve as the main means of dissemination. It will include also a section with outreach materials specifically prepared for this Action. -Well-structured outreach activities for targeted audiences will be organized. -A Handbook containing the final outcome of the Action will be written at the end of the project.	5

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Level of risk and level of potential innovation/breakthroughs

Q9 - How well does the proposal succeed in putting forward potential innovation/ breakthroughs with a convincing risk/return trade-off?	Mark
The proposal addresses this question in a very good manner. The main strengths are the following: -The research can realistically lead to true breakthroughs in fundamental physics: discovering hints of BSM physics via VBS analysis would be a milestone result. -The proposal is well staffed with relevant experts, and the main risk factors have been taken properly into account. The proposal would benefit from certain improvements -Discussing the potential for technological and socioeconomic innovation.	4

IMPLEMENTATION

Overall Coherence and effectiveness of the work plan

Q10 - Is the work plan (WGs, tasks, activities, timeframe and deliverables) coherent, realistic and appropriate to ensure the achievement of the objectives?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The work packages are well and carefully laid out, and the goals seem both realistic and well-motivated. -The deliverables are realistic and well thought out. -The Action is well-organized in five Working Groups, with one of them dedicated to Inclusiveness Policies and another one to dissemination, organization of events and outreach. -The milestones are clearly categorized, together with a plausible timeframe.	5

Q11 - Does the proposal identify the main risks related to the work plan and have a plan for contingencies?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The proposal identifies a comprehensive list of risks, their expected likelihoods, and their potential impacts on the Action. -The measures proposed to mitigate the risks are credible, effective and well-justified.	5

Appropriateness of management structures and procedures

Q12 - Are the management structure and procedures appropriate?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The management structure of the Action follows all COST rules. -A wide participation in the management is ensured for all kinds of proposers, including Early Career Investigators, women and the COST ICT. -A clear and well-organized distribution of responsibilities amongst the different participants has been introduced in the management structure.	5

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Network as a whole

Q13 - Does the proposed Network envisage the critical mass, expertise and geographical distribution for addressing the challenge and the objectives? If not, does the proposal identify the gaps in the Network and present a clear plan for overcoming the gaps? Are mutual benefits clearly ascertained in case of involvement of NNC and IPC institutions?	Mark
The proposal addresses this question in an excellent manner. The main strengths are the following: -The involvement of all important scientific communities from both experiment and theory, with a critical mass reached in each of them. -The geographical distribution of participating institutes is wide enough. -The consortium counts also on the participation of one COST International Partner, and one European RTD Organization.	5

SELECTION

COMMENT OF THE SCIENTIFIC COMMITTEE

SC	The proposed Action must develop and implement specific plans to increase the participation of Inclusiveness Target Countries. The involvement of researchers from outside the COST countries should also be sought. Care must be taken to ensure that the good gender balance and participation of Early Career Investigators is maintained in the implementation of the proposed Action.

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