

Description of Work

Agreement between FuseNet and EUROfusion
concerning the
European Education Programme
2017, 2018 & 2019
(WPEDU)

Amended Annex 2 of Task Agreement

v 0.7 – Last Change : 26 March 2019



FuseNet
The European Fusion Education Network
ASSOCIATION

1 Introduction

This document describes the extension of the task agreement (and its associated budget) between the EUROfusion consortium and the FuseNet Association for the implementation of actions for the European fusion education system in 2017, 2018 and 2019 as part of the EUROfusion workplan "WPEDU", following the 2017-2018 WPEDU Work Plan. The total budget of the period 2017-2018 is 715k€ and, because the duration of the contract in 2017 was only two months, the period of this task agreement is extended until the end of 2019. At the time of creation of this amended version, the years 2017 and 2018 are over and the total expenses made are 266k€, leading to a remainder of 449k€ for 2019.

The ambition and objectives of the education programme are derived from the needs that come forth out of the European Fusion Roadmap, which addresses the necessity to execute a *"high quality education and training programme for the 'ITER and DEMO generation' "*.

Under its Linked Third Party contract with DIFFER and as laid out and specified in this task agreement document, FuseNet will be able to continue successful activities in support of European fusion education, such as the organisation of the yearly PhD event, running the student support schemes for Master level students and engaging in generic fusion education activities.

To guarantee continuity of the education programme and at the same time match the needs of the Roadmap as a living document, the task agreement and its associated targets are renewed/adjusted every year. Therefore this document builds on the previous version.

This task agreement between EUROfusion and FuseNet will allow us to make a relevant impact to the fusion education programme, in line with the overarching goal to train the new ITER and DEMO generation and enable the European education system to prepare the future work force in fusion.

2 Work packages

To achieve the above objectives, 8 different work packages are defined (for historic reasons, the numbering of the work packages is not consecutive):

Work Package¹	Title	Expenses 2017-2018 (€)	Budget 2019 (k€)
3	Website and Outreach	11,007	80
4	Academic Council	0,190	17
5	Fusion PhD event	82,664	85
7	Development of (new) educational activities	0,323²	25
8	Development of joint educational tools	5,904	40
9	Industry and Training	0,581	28
10	Coordination of advisory mission to countries with a small fusion programme	11,342	15
11	Support to Master students	153,532	150
<i>Total</i>		265,543	440

The work packages 3-11 are essentially the core of the activities aimed at supporting students and increasing the educational level for fusion engineers.

In the sections below, we define the activities for each of the work packages, including a complete breakdown of the foreseen expenses and cost categories involved. In case the implementation of the action tasks involves financial support to students or other third parties, we specify in the particular section and corresponding appendices:

- a) the maximum amount of financial support for each third party;
- b) the criteria for calculating the exact amount of the financial support;

¹ Work Packages 1 and 2 concern management operations of FuseNet and funded outside this project. Therefore, the numbering starts with work package 3.

² In workpackage 7, a 6k€ budget has been reserved for a miniworkshop that will be taking place in 2019.

- c) the different types of activity that qualify for financial support, including the criteria by which the belonging to a particular type can be made;
- d) the persons or categories of persons that may receive financial support, and
- e) the criteria for giving financial support.

The total budget for the implementation of the EUROfusion education programme for 2019 is the remainder of the 2017 (350k€) and 2018 (365k€) budget, rounded off to be 449k€. In workpackage 7, a 6k€ budget has been reserved for a miniworkshop that will be taking place in 2019. The remaining budget reservations for 2019 total 440k€. A minimum annual envelope of 150k€ is dedicated to support for Master students, and in 2018 15k€ is reserved for advice activities in support of the PhD programmes of developing countries.

In the rest of this document the actions are discussed per workpackage. These actions are performed annually. The budget breakdown is shown for 2019. Briefly, the activities in 2017 and 2018 are mentioned. Referenced be to the intermediate/annual reporting for the executed actions per year.

WP3: Website and Outreach

2.3.1 Objective

Providing the FuseNet website as the central information portal for fusion education in Europe, and maintaining in this role a professional website with up-to-date information. Develop a public relation strategy for online *and* offline activities in line with the mission and vision of FuseNet, with the aim to attract new students into the fusion education field and communicate to stakeholders on the activities of our network.

The website serves as a one-stop shop for European students seeking information on fusion education. By displaying the results and options that come forward out of the activities of this task agreement, it promotes the European actions with regard to fusion education, thereby giving visibility to the EU funding.

2.3.2 Subtasks

For the FuseNet website:

- Maintaining and developing an attractive and professional website at www.fusenet.eu, as the main portal on fusion education, especially attractive for students.
- Provide information to the public about fusion, study options and the European efforts to develop commercial fusion, and thereby informing the public on European fusion education.
- Providing online student support, by using the website for online applications and efficient handling of applications. The website serves as central communication point in execution of the operations of all the individual work packages.
- Making educational material available.
- Giving visibility to the EU funded actions on fusion education.
- Technical maintenance of the website and the underlying database.

For (other) outreach activities:

- Outreach: to produce a quarterly newsletter from FuseNet to its members and others interested in European fusion education developments.
- To maintain contact with the FuseCom network of P.I. officers and spread our news through their network, adjust P.R. strategies based on ongoing developments.

- To publish in Fusion in Europe and alert other fusion media, such as the ITER and EUROfusion website, of relevant developments and educational opportunities for students.
- Develop activities that focus on fusion outreach for students before their Master phase (bachelor and high-school).

2.3.3 Resources

Description and cost-form	Cost Estimate 2019	Budget Category	Beneficiary
Content-management, editorial work and support to online applications and other work packages	14k€	Direct Personnel Costs	TU/e (professional)
Website design and development	5k€	Subcontracting	External Party
Writing, editing and publishing of news articles, quarterly newsletter	6k€	Direct Personnel Costs	TU/e (professional, student assistants ³)
Writing, editing and publishing of student testimonials and activities of the project	4k€	Direct Personnel Costs	TU/e (professional, student assistants ³)
Technical maintenance of the website	5k€	Direct Personnel Costs	TU/e (professional)
Outreach activities	30k€	Other Direct Costs ⁴	Unspecified
Indirect Costs	25% of each item above = 16 k€	Indirect Costs	See above
<i>Total</i>	<i>80 k€</i>		

- For content management, editorial work, and support (online application forms etc.) in work packages 4-11: 29 k€ (excl. indirect costs).

³ To operate as cost effectively as possible, we make use of limited contracts between the university and students in support of the simpler editorial and editing tasks of the website.

⁴ The Outreach Activities could concern the development of material/equipment and/or involve Personnel hours, depending on the nature of the activity. The former will be dealt with as 'Other direct costs – costs of goods and services' (if external) and if provided by staff or beneficiaries or LTPs as 'Other direct costs' of the respective party. In case the activity involves personell hours, costs should be claimed through FuseNet as 'Third party costs' following article 15 or, in case of efforts made by staff of beneficiaries or LTPs thereof, as direct personnel costs of the respective party.

- For technical maintenance of website based on modern CMS: 5 k€ (excl. indirect costs).
- For outreach activities: 30 k€ (excl. indirect costs): to be used in support of public outreach activities to raise awareness of nuclear fusion and provide educational information. For example, the budget could be used in support of development of educational material for expositions, or in development of a Virtual Reality demonstration for education/PR purposes, or other generic P.R. activities to raise awareness of the educational opportunities and actions of other work packages.

2.3.4 Deliverables

- An annual report on the FuseNet website and its effectiveness, as well as on the engaged Outreach activities in this period.

2.3.5 Actions in 2017-2018

In 2017 and 2018, website maintenance and content management activities were performed, such as news articles, student reports and static pages.

2.4 WP4: Academic Council

2.4.1 Objective

The academic council deals with all academic matters related to the FuseNet activities and fusion education in general. It advises the Board of Governors on these issues.

Instead of the European Fusion Master certificate, we plan to set up the award of European Fusion Master thesis prize, to stimulate quality and excellence, and provide visibility to the study of the science and technology of nuclear fusion. In 2018 the plans have been made for the first award and the activity is to be launched. In 2019, the first award ceremony will be taking place.

2.4.2 Subtasks

- The Academic Council of FuseNet advises the Board of Governors on academic matters:
 - Advise regarding the award of the European Fusion Master certificates
 - Advise regarding the award of best thesis prizes on Master
 - Advise regarding evaluation of educational programmes on fusion
- Setting up the rules and launching the applications for the European Fusion Master thesis prize. Preparations for a first award in 2019.

2.4.3 Resources

The total budget for the activities of 2019 will be 17k€; note that the regular meetings of the Academic Council to advise the Board of Governors are excluded from the EUROfusion funding and will be part of the Basic Operations of FuseNet.

- Actions:
 - Initial setup of rules, promotion and organization of the Master thesis prize, finding location and time for award in 2019: 3 k€
 - Organisation of the award ceremony for best Master thesis prize: 3 k€
 - Promotion, call, evaluation and handling of the applications for best thesis award by the Executive Office: 2 k€
 - Support for travel/accommodation of the awarded students (typically 6) and the chair of the Academic Council of FuseNet: 7 k€

For the actual award, we will use for students the actual costs for travel and subsistence support, up to a predefined limit that corresponds for the travel component to the amounts defined in Annex A.1: fixed unit costs only based on distance. We limit the subsistence support for the event to a level that allows actual compensation of the stay in a standard hotel and such that the overall costs remain within the total allocated budget.

Description and cost-form combined for 2017 and 2018	Cost Estimate 2019	Budget Category	Beneficiary
Setup rules and launch action of Master thesis prize;	3 k€	Direct Personnel Costs	TU/e (FuseNet Executive Office)
Evaluate thesis award applications and set up and arrange award ceremony for Master thesis prize	2 k€	Direct Personnel Costs	TU/e (FuseNet Executive Office) or direct beneficiary
Local hosts ceremony organisation costs and/or other ceremony costs (mainly accommodation and meals, possibly speaker, certificate frame, prints, P.R., prizes) for thesis awards	3 k€	Other Direct Costs <i>and/or</i> Other Direct Costs	local host of award <i>and/or</i> TU/e (FuseNet Executive Office)
Travel support and subsistence support for thesis awarded Master students	6 k€	Financial support to Third Parties ⁵ (art. 15)	FuseNet
Travel support and ACF chair	1 k€	Other Direct Costs (Travel)	FuseNet or Beneficiary
Indirect Costs of items for applicable cost categories above	2 k€		
<i>Total:</i>	<i>17 k€</i>		

2.4.4 Deliverables

- Report with an overview of the Master thesis prize awarded and an overview of the activities of the Academic Council and the issues in which the Academic Council was consulted.

2.4.5 Actions in 2017-2018

In 2017 and 2018, two Master certificates have been awarded and sent to the students.

⁵ As a special type of activity, the invitation for an award ceremony and compensation of travel and subsistence costs is covered 100% and based on actual costs, regardless of whether the awarded student is employed by a beneficiary of EUROfusion or a Linked Third Party thereof. The support is provided up to a predefined limit such that the total allocated budget cannot be exceeded.

2.5 WP5: Organization of annual Fusion PhD event

2.5.1 Objective

Following the success over the past editions, a dedicated conference event will be organized by and for PhD students, with the goal to form a network of early career fusion scientists and provide to them training in different scientific competences (broader scientific and societal context of their research, discussion, presenting, networking, etc.). Participation in this annual event is one of the requirements for participants in the Erasmus Mundus joint doctoral programme.

2.5.2 Subtasks

- Organization of the PhD event (see also: <http://www.fusenet.eu/phdevent>)
- Identify and resource event venue
- Administer student registrations and accommodation expenses for the event

2.5.3 Resources

- Organization costs of the PhD event for ~150 students, including:
 - the costs of the local organizer (rooms, material, activities) : ~14 k€
a quotation needs to be provided by the local organizer that offers this as a service for the event.
 - travel and accommodation costs of speakers: 5 k€
 - the travel expenses of the PhD students are not provided by FuseNet and have to be carried by their institutes/employers
 - accommodation and meals are included in the event: ~56 k€
(only included upon successful participation in the event by obtaining a certificate of attendance from the organizer).
 - the support of the organisation by the FuseNet Executive Office for setting up the programme, administrative, operative and financial efforts: 7 k€

Description and cost-form	Cost Estimate 2019	Budget Category	Beneficiary
Local organisation costs: activities, bus (for transportation), coffee & tea, room rent and other costs associated with the organisation of the PhD event	14k€	Subcontracting ⁶ (in case not a direct beneficiary or LTP) <i>or:</i> Other direct cost (in case of direct EUROfusion beneficiary or LTP)	Local organisation (e.g. ITER, university)
Accommodation and meals (for the participants)	56k€ ⁷	See above.	Local organisation
Travel and accommodation support of speakers at the PhD event, other costs	5k€	Other Direct cost (Goods and Services) <i>or</i> Other Direct Cost (Travel)	FuseNet (in case not a direct EUROfusion beneficiary or LTP) <i>or</i> Respective institute of speaker (in case of direct EUROfusion beneficiary or LTP)
Organisation, P.R., handling and coordination by the FuseNet Executive Office.	7k€	Direct Personnel Costs	TU/e (FuseNet Executive Office)
Indirect costs (25% of above, in case of subcontracting the local organisation cost are excluded from this addition).	3k€ or 17k€ ⁷	Indirect costs	See above
<i>Total</i>	85k€		

⁶ Special attention needs to be raised to the fact that European rules require a call for tender for subcontracting. On the other hand there is not really an 'open market' for the selection of suitable and attractive places for organizing a PhD event for students in fusion science and technology. The subcontracting organization in this case is selected by the Board of FuseNet from the available institutes that are FuseNet member and offered the willingness to host the event, under the condition that personnel hours of the scientific staff are delivered pro bono.

⁷ Unless otherwise decided by shifting budget from other work packages, to keep the costs for the organization of the PhD event fixed with a ceiling of 85k€ in the case of no subcontracting, we lower the amount of support for accommodation and meals to 42k€, so that the total amount of support – including indirect costs – remains 85k€.

~ 150 students benefit from this action.

Procedure for selection of the participants: Students have an equal chance to register through the public FuseNet website for the fusion PhD event until the closing date of the registration. The registrations will be checked for fusion relevance of the students' education (the research topic of the PhD has to be directly relevant to the European Fusion Roadmap). From the list of eligible PhD students, the applications will be selected on a first-come-first-serve basis, but students from FuseNet member universities/institutes will come first. We expect to be able to support approximately 150 students from this action for participation in the PhD event, but the actual number will be determined by the exact costs. The registration will be closed sooner when the budget is used or the event is oversubscribed.

2.5.4 Deliverables

- Report on the PhD event, including an analysis of the student surveys and the effectiveness of the action.

2.5.5 Actions in 2017-2018

In 2018 the PhD Event has been held at ITER Headquarters and Aix-en-Provence. 135 students participated in this successful event. The actual costs totaled 83k€. See more information in the intermediate reporting of period 5 – 2018.

2.7 WP7: Support to the development of educational activities

2.7.1 Objective

Provide support in the development of educational activities, such as mini-workshops, on specialized topics in the field of fusion. The pilots of workshops, which have an educational character, were very successful under the previous contract and the demand was much larger than the number of workshops we could support.

Note that the travel support for Master students to take part in these activities can be covered under WP11. PhD students have to account for their own travel costs (e.g. through their employer). Here, WP7 aims at the development of specialized workshops that would be difficult to set up for a small audience without support.

2.7.2 Subtasks

- Providing support to developers/organizers of educational activities.
- Overhead: Setting up the scheme to support these activities and managing this.

2.7.3 Resources

- For training courses/mini-workshops/master classes: support to material/costs to set up and run courses/specialized mini-workshops. It is intended to fund around two activities, so that the organizing institute can claim the actual costs up to a limit of 9k€ each = 18 k€ (excluding indirect costs).
- Operational costs: Implementation, evaluation of proposals, administration, reporting: 2 k€

Description and cost-form	Cost estimate 2019	Budget Category	Beneficiary
Support of training courses	18 k€	Direct costs of subcontracting <i>or</i> Other Direct cost (in case of direct EUROfusion beneficiary or LTP)	FuseNet <i>or</i> Direct EF Beneficiary
Operational costs	2 k€	Direct Personnel Costs	TU/e (FuseNet Executive Office)
Indirect costs (25%)	5k€ or 0.5k€ (in case financial support to 3 rd parties is provided)		
<i>Total</i>	25k€ or 20.5k€		

2.7.4 Deliverables

- Annual report on activities, procedure and effectiveness of action.

2.7.5 Actions in 2017-2018

In 2018, a call has been promoted on the FuseNet website to recruit for parties that want to organise a mini-workshop. The application of Czech Technical University in Prague has been awarded the grant. Budget à 6 k€ will be spent and reallocated in 2019.

2.8 WP8: Development of joint educational tools

2.8.1 Objective

This work package aims at continuing the successful action within the FP7 FuseNet project to develop educational tools, with a particular emphasis on two main components: 1) educational hardware and 2) online education. The goal is to strengthen existing educational experiments, develop new educational hardware or teaching material (such as textbooks, multimedia tools) and explore the possibilities for e-learning material and online teaching tools.

2.8.2 Subtasks

- Develop new or upgrade existing hands-on educational hardware.
- Develop strategy with respect to new educational multimedia tools, e-learning material and online courses.
- Collect educational material to make accessible via the web
- Support some pilot projects in the e-learning tools.
- Provide support and guidance to the production of the textbook on Fusion Technology (process started under FuseNet FP7).

2.8.3 Activities 2017-2018

- In 2017 development of a new textbook on fusion technology has been supported.
- In 2018 a questionnaire has been held among the former participants in hardware support to assess the plans.

2.8.4 Resources 2019

- A total of 40 k€ is available from this EUROfusion budget.
- Of the 40 k€, a total of 4k€ (excl. indirect costs) is reserved to develop a strategy with respect to the educational tools and to launch a call soliciting for proposals to make new educational tools. This call has a budget of 35 k€ from this EUROfusion contract, but FuseNet will try to approach external funding sources to increase the budget for these tasks.

Description and cost-form	Cost estimate 2019	Budget Category	Beneficiary
Manpower to develop new educational material	0-35 ⁸ k€ (sum of personnel and direct costs is max. 35 k€)	Direct Personnel Costs	Any EUROfusion beneficiary whose proposal is granted ⁹
Hardware or equipment needed to develop new education material ¹⁰	0-35 ⁸ k€ (sum of personnel and direct costs is max. 35 k€)	Other Direct Costs	Any EUROfusion beneficiary whose proposal is granted ⁹
Collect educational material	1k€	Direct Personnel Costs	TU/e (FuseNet Executive Office)
Operational Costs: prepare and send out call, prepare report as deliverable	3k€	Direct Personnel Costs	TU/e (FuseNet Executive Office)
Indirect costs over operational costs (25% of applicable cost categories)	1k€;		
<i>Total</i>	40 k€ ⁸		

2.8.5 Deliverables

- Documented plan on actions taken to find additional external sources of funding.
- Call for the development of new educational tools.
- Report on the granted proposals.

⁸ Note that 34 k€ is the minimum amount that is available for the combined costs of the first two described items in this work package and includes indirect costs over these categories. The actual amount can be increased when the level of indirect costs to be claimed in other work packages turns out lower than the maximum. In such case, the maximum expense level used here in this work package could be increased.

⁹ Note that for this work package, we presumed that the involved institutes to develop the educational material are also EUROfusion beneficiaries or Linked Third Parties thereof. For other cases, prior approval needs to be sought.

¹⁰ For the development of equipment and purchase of hardware, the rules for the depreciation in value of the assets need to be taken into account, which can depend on the accounting practices of the beneficiary involved.

2.9 WP9: Industry and Training

2.9.1 Objective

The objective of this work package is to involve fusion related industry as well as operators of fusion facilities in the education and training of engineers and students, by tailor-made education and training programmes or suitable internships. Hereto, competences shall be addressed that go beyond those (nuclear) competences that are already mainly dealt with in the EC funded project ANNETTE¹¹.

We need to foster, through these programmes and student internships, the links between those industries or organizations and the academia/research institutes involved in fusion.

Finally, FuseNet shall be placed as the central portal for fusion education and training in Europe, and develop in this role the networking with other areas or related fields as well as share best practices.

Actions on Industry and Training have already started in 2015, and have been partially completed in the period 2016-18. Based on their results, a continuation of those activities is proposed to achieve the above mentioned objectives.

2.9.2 Subtasks

- Establishing links and collaboration with industry as well as operators of fusion facilities and their procurement agencies to better identify short / middle / long term education and training needs.

Examples could include proposing and establishing related links with responsible positions in Fusion for Energy and in ITER Academy, with a specific outcome (e.g.) in establishing links between the web portals, or in jointly participating in public events like the ITER Business Forum.

- Supporting industry as well as operators of fusion facilities and their procurement agencies in specifying tailor-made education and training programmes.

Examples could include as a first step (in cooperation with Fusion for Energy) the identification of human resource issues (e.g. knowledge, skills, attitudes) that are important

¹¹ Advanced Networking for Nuclear Education, Training and Transfer of Expertise: www.enen.eu/en/projects/annette.html

for successful project performance in fusion projects (i.e. ITER). After having mapped them in related performance indicators, the Fusion for Energy stakeholders as well as education and training institutions shall be informed about their potential impact and encouraged to launch change activities.

- Inventory of existing training of engineers or other fusion professionals that will answer to the short term competence development needs of industry and that of operators of fusion facilities.

Examples could include a related collaboration with Fusion for Energy and ITER Academy

- Develop and maintain a web-based match-making service for internships between industry and students.

Examples could include establishing related links between the web portals of Fusion for Energy and FuseNet.

- Exploring links with related fields and sharing of best practices.

2.9.3 Resources

- Establishing links and collaboration with industry as well as operators of fusion facilities and their procurement agencies: 4 k€
- Supporting industry as well as operators of fusion facilities and their procurement agencies: 5 k€
- Develop and maintain a web-based match-making service: 4 k€
- Networking activities and meetings with other organizations like EHRO-N, ENEN, FIIF, etc.: 3 k€ (travel costs)
- Attendance, stand costs and material for the ITER Business Forum: 6k

Total available: 28 k€

Description and cost form	Cost Estimate 2019	Budget Category	Beneficiary
Manpower to establish links and collaboration with industry as well as operators of fusion facilities and their procurement agencies, travel costs	4 k€	Other Direct Costs (Goods and Services) or: Direct Personnel Costs / Other Direct Costs	FuseNet (in case not a direct EUROfusion beneficiary or LTP thereof) or: Any EUROfusion beneficiary or LTP thereof who takes part in this activity on behalf of FuseNet
Manpower to support industry as well as operators of fusion facilities and their procurement agencies, travel costs	5 k€	Other Direct Costs (Goods and Services) or: Direct Personnel Costs / Other Direct Costs	FuseNet (in case not a direct EUROfusion beneficiary or LTP thereof) or: Any EUROfusion beneficiary or LTP thereof who takes part in this activity on behalf of FuseNet
Manpower to develop and maintain links for providing a web-based match-making service	4 k€	Direct Personnel Costs	TU/e (FuseNet Executive Office)
Networking activities and meetings with other organizations (mainly travels)	3 k€	Other Direct Costs (travel)	FuseNet
Stand at the ITER Business Forum or other networking events with industry and conference material	6 k€	Other Direct Costs (Goods and Services)	FuseNet
Indirect Costs (25% of the above)	5.5 k€		
<i>Total</i>	27.5 k€		

2.9.4 Deliverables

Note that without additional funds (to be acquired) and only 22k€ available we will limit ourselves in the scope to one or more of the specified deliverables below, or limit ourselves in the amount of industry stakeholders to be included in the inventories to be made.

- Dedicated information portal on website on internships, and training options for operators of fusion facilities and/or for industry.
- Report on education and training needs in industry as well as with operators of fusion facilities, with specifications of tailor-made education and training programmes.
- Report on inventory of existing training of engineers or other fusion professionals.
- Report on networking activities and meetings with other organizations, sharing of best practices.

2.9.5 Actions in 2017-2018

In 2018, preparational work has been executed for the ITER Business Forum and on the FuseNet website internship portal.

2.10 WP10: Coordination of advisory mission to countries with a small fusion programme

On request of EUROfusion, in 2015 FuseNet coordinated the assessment of the PhD programmes in Europe. Following the recommendations in the final report, EUROfusion will try to enhance the quality or the coherence of PhD programme in some of the countries with a smaller fusion programme. In 2018, a FuseNet led mission the Baltic States was organized. In 2019, a similar mission will head to "Balkan states".

2.10.1 Objective

FuseNet will organise a panel of independent experts that visits the smaller countries in the Balkan with the aim to come to recommendations to improve the PhD programme in these countries.

2.10.2 Subtasks

- Organise and coordinate a visit of an independent panel to those countries that want to improve their PhD Fusion programme.
- Take part in the visit itself.
- Report on the findings and recommendation to improve the PhD programme.

2.10.3 Resources

Description and cost-form	Cost estimate 2019	Budget Category	Beneficiary
Organise and coordinate the visit	2k€	Personnel Costs	TU/e (Executive Office FuseNet)
Reporting on findings and recommendations	1k€	Personnel Costs	TU/e (Executive Office FuseNet)
Travel and subsistence support FuseNet representative (1 person)	1 k€, based on actual costs	Other Direct Costs	Institute of the FuseNet representative (EUROfusion beneficiary or LTP thereof)
Travel and subsistence support Panel members	6 k€, based on actual costs	Other Direct Costs (Goods and Services)	FuseNet ¹²
Organisational costs, meeting rooms, catering	4 k€, based on actual costs	Other Direct Costs (Goods and Services)	FuseNet
Indirect Costs	1k€		
Total:	15k€		

2.10.4 Deliverables

- Report on the findings and recommendations to improve the PhD programme.

¹² The panel members will be known in the field and often consist of experienced, retired professionals. In case a panel member is also employed by an institute, we consider the participation in the independent advisory panel as an action that is taken on personal title and not on behalf of the institute. Therefore the compensation of the travel costs (full, actual cost) and the subsistence support (according to the rules of appendix A.2) is provided as Other Direct Costs – costs for Goods and Services. No honorarium is assumed to be paid (in which case other procurement rules would apply and prior permission should be granted).

2.11 WP11: Support to Master students

2.11.1 Objective

Run a system that supports and facilitates individual Master students or, for educational events, students that are graduated less than six months ago (bridge between Master and PhD phase). The support at the around-Master-level is provided in several areas:

- a) to enable students to take part in educational activities external to their own organization, including education training in industry.
- b) to allow students to undertake an internship abroad, e.g. in a fusion research institute or relevant industry. The aim of this action is to establish long-lasting links between universities and fusion research institutes and get new bright motivated students into the fusion system.
- c) to allow universities to invite an expert in a certain fusion research area to provide a course at their university, thereby allowing not only their students to get good education but also to let the local teachers pick up knowledge and stimulate collaboration.

The funding scheme for the students will closely follow the rules in similar actions within the Erasmus Plus framework.

2.11.2 Subtasks

- a) Provide support for students to attend an educational activity.
- b) Provide support for students to do an internship abroad.
- c) Provide support for the Mobility of teachers, to give courses at other universities.
- d) Setup, communicate and run this support scheme in an efficient manner.

2.11.3 Activity in 2017-2018

In 2017 and 2018 this system has been run. In 2017, 21 students have been supported (8 for educational activities, 13 for internships). In 2018, 84 students received support (41 for educational activities, 43 for internships). Total expenses in 2017-2018, including personnel and indirect costs: 122.4 k€.

2.11.4 Resources 2019

- The criteria for calculating the exact amounts of support are defined in Appendix A.1 (support for students). In this definition, a maximum amount of financial support for each student and case is implied.
- *Example* of how the support for students could typically be distributed:
 - a) Support to ~40 students for educational events: $\sim 53 * 750\text{k€} = 40 \text{ k€}$
 - b) Support to ~40 students for internships abroad: $40 \times 1.5 \text{ k€} = 60 \text{ k€}$
 - c) Support for mobility of teachers: 20 k€
- Estimated operational costs (incl. handling of applications, assessment, and QA, reporting; the estimated effort depends on imposed requirements on handling and administration): 10 k€

Description and cost-form	Cost estimate	Budget Category	Beneficiary
(a) Travel Support and Subsistence Support <i>educational events</i>	see Appendix A.1	Financial support to third party (art. 15)	FuseNet ¹³
(b) Travel and Subsistence Support <i>internships</i>	see Appendix A.1	Financial support to third party (art. 15)	FuseNet ¹³
(c) Travel and Subsistence Support Mobility of teachers/lecturers to teach courses in other universities/institutes.	10 Teachers * 3k per Travel = 30k (rough estimate)	Other Direct Cost (Goods and Services) <i>or:</i> Other Direct Cost	FuseNet ¹⁴ <i>or:</i> Any EUROfusion beneficiary or LTP thereof who takes part in this activity on behalf of FuseNet
Other direct cost	500€ overall	Other Direct costs	FuseNet
Handling and processing, QA and reporting (core work)	Hours (after initial setup estimated ~7%).	Direct Personnel Costs	TU/e (FuseNet Executive Office)
<u>Indirect Costs</u>	25% over applicable categories.		
<i>Total</i>	150k€		

The applications will be closed when the total envelope of 150k€ is used.

2.11.5 Deliverables

- Annual report on overview, procedure and effectiveness of action, including overview of all expenses and supported students/supervisors.

¹³ The direct student support (in case he/she is not employed by university) will be paid through FuseNet.

¹⁴ In case the teacher that is going to lecture is an external expert from an institute that is not a direct EUROfusion beneficiary or Linked Third Party from a beneficiary.

2.11.6 Requirements for support of students attending an educational event

To implement the support to the Master students for educational activities/events, we propose the following eligibility requirements, application procedure and support levels, with the intention to:

- Keep administrative overhead to a minimum level by defining clear rules, implementing an online application procedure and requiring standardized elements of proof, without extensive selection or reporting procedures.
- Use the largest part of the budget to the benefit of the Master students.
- Align the rules for the level of support with other actions (more specifically the mobility schemes in Erasmus Plus).
- Provide an equal chance of obtaining support to eligible students from all eligible universities.

Master students can obtain financial support to follow educational training activities (such as courses, summer schools and workshops with a dominant educational character) if the following requirements are met:

1. The student is registered at a university in a EUROfusion member state (see www.euro-fusion.org for a full list of these countries), and either this university or the host of the educational event is a member of FuseNet.
2. The student is not employed by his/her university.
3. The student is in the Master phase of his/her study, or graduated not more than six months before the application (between Master and PhD phase).
4. The topic of the study is in a field relevant to fusion research.
5. The educational training activity takes place at a university group or research institute in one of the EUROfusion member states or at a FuseNet member institute, and the topic is relevant to the European Fusion programme.
6. The educational training activity should preferably be an open event (i.e. all European students should have a chance to subscribe to and participate in the event). The event should be accessible to students originating from at least three different universities to be eligible for support.
7. Support is given only to activities in which education is the main goal. All conferences are in principle excluded, except when all the following criteria are met:
 - The student has his/her own contribution at the conference, i.e. is selected to give a poster presentation and/or an oral presentation.
 - The conference is fusion-specific (in case of doubt, this is decided by FuseNet and cannot be further discussed).
 - The conference has to be held in Europe or at a FuseNet member institute.

- The conference is internationally oriented, i.e. at least 50% of the participants in the conference should be from abroad.
- 8. Specific events that are already organized with support by FuseNet or EUROfusion may be excluded from individual student support, such as the FuseNet PhD event and mini-workshops organized with support of FuseNet.
- 9. The educational training activity has a duration of maximum 2 weeks. Support is for no longer than the duration of the activity.
- 10. The distance between the university where the student is subscribed (i.e. the home university) and the event should be at least 100 kilometers.
- 11. The student did not obtain FuseNet funding from another application for an educational activity in the past 11 months. The period between the start dates of the educational activities must be more than 11 months.
- 12. The student must declare not to have obtained another grant from the organizer of the event or other funding scheme (e.g. within Horizon 2020 or otherwise publically funded) for attending the educational event.
- 13. The student must agree that his/her supervisor(s) will be informed on the outcome of their application.
- 14. No more than 20 students will be supported per educational event (on first-come, first-serve basis).
- 15. The student agrees to send in a photograph and short article (A5-size, blog-style) for publication on the FuseNet website. This article summarizes the educational training activity in which the student participated and that was supported through this work package.
- 16. Students must hand in their declaration no longer than 3 months after the end of the event they attended, otherwise they lose the right to claim support.

The *application procedure* is defined in Appendix A.3

The *procedure for claiming expenses* of approved applications is laid down in Appendix A.4.

2.11.7 Requirements for support of students going on an internship abroad

To implement the support to the Master students for external internships, we propose the following eligibility requirements, application procedure and support level, with the intention to:

- Keep administrative overhead to a minimum level by defining clear rules, implementing an online application procedure and require standardized elements of proof, without extensive selection or reporting procedures.
- Align the rules for the level of support with other EU education actions (more specifically the mobility schemes in Erasmus Plus).
- Provide an equal chance of obtaining support to eligible students from all universities.

Master students can obtain financial support to do an external internship in a fusion relevant project if the following requirements are met:

1. The student is registered at a university in a EUROfusion member state (see www.euro-fusion.org for a full list of these countries), and either this university or the host of the internship is a member of FuseNet.
2. The student is in the Master phase of his/her study.
3. The student is not employed by his/her university.
4. The study program of the Master student is in a field relevant to fusion research.
5. The internship takes place at a fusion research centre or university involved in fusion research. This place is not limited to Europe.
6. The topic of the internship project is fusion relevant.
7. The internship is executed in a different country than the university at which the student is registered (i.e. different from the home university).
8. The internship has a duration of at least 2 months. Support is for a maximum of 6 months.
9. Periods of holiday in between the internship are excluded from funding.
10. Excluding holiday periods of up to 14 days, the internship in principle should be uninterrupted; in case the internship is intermittent, this should be indicated in advance and is only allowed with prior written permission from the Executive Office of FuseNet.
11. The student did not obtain FuseNet funding from another application for an internship at FuseNet in the past 12 months, with the following exception:
12. A second internship within the period of 12 months can be eligible under the condition that (1) the travel support is not provided for the second internship, (2) the total amount of subsistence support will be maximized to a period of 6 months for the combined duration (i.e. taking the sum) of the two internships. This would allow a

- student to go on two short internships instead of one longer duration internship, depending on the requirements of their curriculum.
13. The student did not obtain other sources of funding for supporting the (same) external internship through EUROfusion (direct or indirect) or other support schemes that fall under the Horizon 2020 programme.
 14. The student should indicate any other external sources of funding, compensation or salary from the host institute, or grants obtained in support of the same internship. Travel support can in no case be provided twice. The amount of subsistence support will be limited such that the combined level of all obtained support for an internship does not exceed 1000€ per month.
 15. A valid contact address of the supervisor of the student should be provided. The supervisor(s) of the student will be informed on the outcome of their application.
 16. The student should agree to make an acknowledgement to the EUROfusion consortium and the FuseNet Association in publication of any work that came forward in part or in full as a result of the internship for which he/she obtained funding. In particular, this holds for the thesis or report associated with the student's work.
 17. The student agrees to send in a photograph and short article (A5-size) that summarizes the internship work and visit that was supported through this work package, for publication on the FuseNet website.
 18. Students must hand in their declaration no longer than 3 months after the end of their internship, otherwise they lose the right to claim support.
 19. Support will be granted on first-come, first-serve basis, as long as budget is available.

The *application procedure* is defined in Appendix A.5

The *procedure for claiming expenses* of approved applications is laid down in Appendix A.6

2.11.8 Requirements for Mobility of Teachers support

Universities (below referred to as hosting universities) that are FuseNet member can apply for support for mobility of teachers/lecturers in order to invite an expert to teach a Master course if the following requirements are met:

1. The course given is fusion-relevant.
2. The course should be aimed at Master students with a fusion-relevant study.
3. A minimum of 8 students should attend the course.
4. Students attending the course should be acknowledged for completion of the course (e.g. awarded with study points (ECTS), a certificate, exam, etc.).
5. The teacher/lecturer is not employed by the hosting university and should come from a different country as the hosting university. There are no restrictions on the workplace of the invited teacher/lecturer.
6. The hosting university should be a FuseNet Member.
7. The minimum duration of the visit is 2 days (at least 2 teaching days) and the maximum period is 2 months.
8. This support scheme is not intended to allow FuseNet members to invite a teacher/lecturer for a single lecture or a colloquium. Invited teachers/lecturers should therefore teach multiple days and give multiple lectures with a *minimum* of about 10 teaching hours. The teacher/lecturer typically gives a complete course on a specific fusion topic.
9. A hosting university can be awarded one request for teacher/lecturer mobility support per 11 months, i.e. there must 11 months between the start of the lecturing activities.
10. The hosting university agrees to provide an evaluation report that summarizes the effectiveness of the action, including names and number of students that took part in the course and a survey to get feedback from the students and at least one lecturer from the hosting university.
11. The hosting university agrees to send in a photo and short article as 'eye-witness report' for the FuseNet website, during one of the courses given by the lecturer.

The *application procedure* is defined in Appendix A.7

The *procedure for claiming expenses* of approved applications is laid down in Appendix A.8

A. Appendix: Rules for providing support to third parties

A.1 Amount of financial support - students

In this Appendix, we provide the criteria for calculating the exact amount of financial support.

Overall support limit

- The total amount of support per student (travel and subsistence support for attendance of an educational event and/or internship combined) cannot be more than 5000€ during his/her study career.

Travel support for students

Travel support for students: unit cost depending only on single-way distance between the place of origin and the location of the internship/educational event, according to the following table:

○ Travel distance between 100 and 499 km:	180€ / person
○ Travel distance between 500 and 1999 km:	275€ / person
○ Travel distance between 2000 and 2999 km:	360€ / person
○ Travel distance between 3000 and 3999 km:	530€ / person
○ Travel distance between 4000 and 7999 km:	820€ / person
○ Travel distance 8000 or more km:	1100€ / person

- The allocation is only based on the distance between the place of origin and the location of the educational event/internship.
- We consider the *place of origin* to be the home university of the student. However, if the student travels from another location that is closer to the destination, this will also be accepted. As *place of destination* we use the city/place of the educational event/internship. The distance is determined by the Executive Office using the Distance Measurement Tool of Google Maps (measuring the great circle distance to the location on city-level). In case of disputes, the Executive Office of FuseNet has the right to determine the distance without further rights for appeal.
- *Example:* A trip from London to Paris and back counts as 346 km (i.e. this is the single-way distance), and for that a student receives the support amount of 180€.
- Note that to keep the processing simple and minimize handling costs, we compensate a fixed unit cost and not the actual cost (the actual travel cost might be cheaper or more expensive).

- In case the student indicates to get also travel support from other public sources or grants for traveling to the location of the internship/educational event, the travel support component becomes void and no support is provided.

Subsistence support for students attending educational events

- To enable the attendance of educational training activities, the students will receive a lump sum amount of 50€/day (based on the high range EU grant as on <https://ec.europa.eu/programmes/erasmus-plus/>) with an upper limit of 500€. Only the event days are counted (not separate travel days).
- This support is limited to a duration of 2 weeks.
- In case participation in an event includes accommodation (and possibly also meals) we call this event 'inclusive' and maximize the subsistence support to the level of the participation fee. For example, for an all-inclusive event that has a participation fee of 190€ (i.e. accommodation is included for the student), we still offer 50€ per day subsistence support but until a maximum of 190€. This means that when the event lasts more than 4 days, the subsistence support is limited to 190€.

Subsistence support for students for internships

- In case of internships, the students will receive a lump sum amount of 500€/month (based on the high range EU grant as on <https://ec.europa.eu/programmes/erasmus-plus/>) with an upper limit of 3000€ (i.e. for an internship that lasts six months or longer). When the internship period does not consist of a whole number of months (i.e. from 7 July to 7 September), the remaining part is calculated using the fraction in months, where one month is defined as 30 days. For example, in case the internship lasts 2 months and 9 days, the amount of support is $€1000 + 9/30 * 500€ = €1150$.
- This support is limited to a duration of 6 months in case of students going on an internship abroad.
- In case the student going on an internship abroad also gets other public funds or grants, the amount of subsistence support provided is limited such that the total support does not exceed 1000€/month.

A.3 Application procedure individual Master student support for participation in educational events

The application procedure is the following:

- Submission of the application form on the FuseNet website (www.fusenet.eu) by the student.
- The application has to be submitted at least two weeks before the actual start of the educational training activity. If under exceptional circumstances students want to deviate from this rule, or make changes to an existing application after it was accepted, this can only be done when approved by the Executive Office.
- The educational training activity has to start no later than within 6 months after application.
- Check of the eligibility, given by the requirements above, on the basis of the information provided by the student on the application form, by the FuseNet Executive Office.
- When confirming a support application, the FuseNet Executive Office will always send a copy by email to the university supervisor of the applicant. When sending this email, we flag the email to obtain a receipt confirmation of the supervisor. This is an additional measure not only to inform the supervisor, but also to prevent fraud.
- In case of doubt on any of the requirements, the FuseNet Executive Office consults the Academic Council of FuseNet (in written procedure). The decision of the Academic Council of FuseNet is final and binding and cannot be discussed or changed again.
- Automated response (receipt confirmation) by email to the student within 2 working days on the completeness of the application. Decision to the student will be communicated by email, typically within 2 weeks after complete submission of the application.
- Applications are dealt with on a first-come, first-serve basis.
- Once the total budget has been committed to the students, the application will be closed. This will be indicated on the online application page.

A.4 Claim procedure individual Master student support for participation in educational events

The procedure for claiming expenses of approved applications is the following:

- The payment procedure is organized by FuseNet. The payment is made after the educational event has taken place, when FuseNet has received the required pieces of evidence for a support payment through a designated claim form on the FuseNet website (available through <http://www.fusenet.eu/funds>).
- The student should present (through the online claim form) a piece of evidence of having travelled to the destination and participation in the educational event, including all associated invoice(s). As evidence for traveling, a boarding pass and flight ticket could be used. As proof of having attended the educational event, a certificate of attendance or letter/email by the event organizer is required. It is the responsibility of the student to ask for such certificate or letter and to provide the elements of proof and invoices.
- The student must declare in the application and claim form, not to have obtained another grant from the organizer of the event or other funding scheme (e.g. within Horizon 2020 or otherwise publically funded) for attending the educational event.
- It is the responsibility of the student / applicant to submit a claim for payment in time and provide the necessary documentation thereto, within three months after the end of the educational event.
- Payments can only be made by bank transfer and the students should provide a valid International Bank Account Number (IBAN) to allow the payment. FuseNet is not responsible for any costs incurred by the bank for transfer of money, regardless the currency used.

A.5 Application procedure for support of Master students going on an internship abroad

The application procedure is the following:

- Submission of the application form on the FuseNet website (www.fusenet.eu) by the Master student.
- The application has to be submitted at least two weeks before the actual start of the internship.
- The internship has to start no later than within 6 months after application.
- Check of the eligibility, given by the requirements above, on the basis of the information provided by the student on the application form, by the FuseNet Executive Office.
- In case of doubt on any of the requirements, the FuseNet Executive Office consults the Academic Council of FuseNet (in written procedure). The decision of the Academic Council of FuseNet is final and binding and cannot be discussed or changed again.
- When confirming a support application, the FuseNet Executive Office will always send a copy by email to the university supervisor of the applicant. When sending this email, we flag the email to obtain a receipt confirmation of the supervisor. This is an additional measure not only to inform the supervisor, but also to prevent fraud.
- Automated response by email to the student within 2 working days on the completeness of the application. Decision to the student will be communicated by email, typically within 2 weeks after complete submission of the application.
- Applications are dealt with on a first come first serve basis.
- Once the total budget has been committed to the students, the application will be closed. This will be indicated on the online application page.

A.6 Claim procedure for support of Master students going on an internship abroad

The procedure for claiming expenses of approved applications is the following:

- The payment procedure is organized by FuseNet. The payment is made in two parts: an initial payment at the start of the internship, and a final payment after the internship has been completed.
- The claims and all required pieces of evidence for the support payments should be submitted through a designated form on the FuseNet website (available through <http://www.fusenet.eu/funds>).
- The student must declare not to have obtained other sources of funding for supporting the (same) external internship through EUROfusion (direct or indirect) or other support schemes that fall under the Horizon 2020 programme.
- The student must indicate any other external sources of funding, compensation or salary from the host institute, or grants obtained in support of the same internship.
- The initial payment, consisting of the travel support and half of the subsistence, is made upon presentation of the invoice and associated tickets for the travel and a defined element of proof for having arrived at the internship location. The proof can e.g. be a statement of the receiving institute, a copy of rental contract or personal campus/access card.
- The final/remaining payment is done at the end of the internship, after FuseNet has received the required elements of proof, which include a letter, signed by the supervisor from the institute of the internship, to confirm the attendance of the student in the specified period.
- The student agrees to send in a photo and a small article for use on the FuseNet website.
- It is the responsibility of the student / applicant to submit a claim for payment and provide the necessary documentation thereto, within three months after the end of the internship.
- Payments can only be made by bank transfer and the students should provide a valid International Bank Account Number (IBAN) to allow the payment. FuseNet is not responsible for any costs incurred by the bank for transfer of money, regardless the currency used.

A.7 Application procedure Support for Mobility of Teachers

The application procedure is the following:

- Submission of the application form on the FuseNet website (www.fusenet.eu) by the hosting university.
- The application has to be submitted at least two weeks before the actual start of the teaching course. If under exceptional circumstances the hosting university wants to deviate from this rule, or make changes to an existing application after it was accepted, this can only be done when approved by the Executive Office.
- The teaching course has to start no later than within 6 months after application.
- Check of the eligibility, given by the requirements above, on the basis of the information provided by the hosting university on the application form, by the FuseNet Executive Office.
- When confirming a support application, the FuseNet Executive Office will always send a copy by email to the FuseNet contact person of the University. After sending this email, the Executive Office registers a receipt confirmation of the contact person.
- In case of doubt on any of the requirements, the FuseNet Executive Office consults the Academic Council of FuseNet (in written procedure). The decision of the Academic Council of FuseNet is final and binding and cannot be discussed or changed again.
- Automated response (receipt confirmation) by email to the hosting university within 2 working days on the completeness of the application. Decision to the hosting university will be communicated by email, typically within 2 weeks after complete submission of the application.
- Applications are dealt with on a first-come, first-serve basis.
- Once the total budget of Support for Mobility of Teachers has been committed, the application will be closed. This will be indicated on the online application page.

A.8 Claim procedure Support for Mobility of Teachers

The procedure for claiming expenses of approved applications is the following:

- The payment procedure is organized by FuseNet. Support for Mobility of Teachers is paid after the entire teaching course took place, when FuseNet has received the required documents and pieces of evidence for a support payment through a designated claim form on the FuseNet website (available through <http://www.fusenet.eu/funds>).
- In case the receiving institute is a member of EUROfusion or a linked third party thereof, the actual costs associated with the mobility of a teachers for the educational activity should be claimed directly through the national coordinator in the EUROfusion consortium for the country of the receiving institute. FuseNet will provide instructions how to claim this part of the budget of FuseNet and up to which maximum amount.
- In case the receiving institute is not (linked third party to) EUROfusion, the actual costs should be claimed through FuseNet.
- Payments will only be made to the hosting university. The hosting university is responsible for potential further payments to the invited teacher.
- The hosting university should present (through the online claim form of FuseNet, and in addition in case the claim is taking place through EUROfusion, through internal records kept as part of the financial administration) pieces of evidence of the teacher having travelled to the destination, including all associated invoice(s). As evidence for traveling, a boarding pass and flight ticket could be used. As proof of having stayed at the destination, a hotel invoice or copy of rental agreement is required. It is the responsibility of the hosting university to ask the teacher for these elements of proof and invoices.
- The hosting university agrees to provide an evaluation report that summarizes the effectiveness of the action, including names and number of students that took part in the course and a survey to get feedback from the students and at least one lecturer from the hosting university.
- Together with the claim (or earlier, already during the course), the hosting university will send us a photo and a short article as 'eye-witness report' for the FuseNet website, made during one of the courses given by the teacher.
- The hosting university must declare in the application and claim form, not to have obtained another grant or other funding scheme (e.g. at FuseNet, within Horizon2020 or otherwise publically funded) for this teaching course.
- It is the responsibility of the hosting university to submit a claim for payment in time and provide the necessary documentation thereto, ultimately within three months after the end of the teaching course.
- Payments from FuseNet (in case the institute is not linked to EUROfusion) can only be made by bank transfer and the hosting university should provide a valid International

Bank Account Number (IBAN) to allow the payment. FuseNet is not responsible for any costs incurred by the bank for transfer of money, regardless the currency used.