Erasmus + Programme
Key Action 3 (KA3): Support for policy reform – Initiatives for policy innovation

EUROPEAN FORWARD LOOKING COOPERATION PROJECTS IN THE FIELDS OF EDUCATION AND TRAINING AND YOUTH

CALL FOR PROPOSALS EACEA 33/2014 – DEADLINE: 24TH OF FEBRUARY, 2015

PROPOSAL RELATED TO STRAND 1 – EDUCATION AND TRAINING / PRIORITY 5 "IMPROVE QUALITY AND RAISE EXCELLENCE IN VOCATIONAL EDUCATION AND TRAINING"

Title of the proposal: to be defined

1 RATIONALE OF THE PROPOSAL IN ACCORDANCE WITH THE OBJECTIVES OF THE CALL AND PRIORITIES CHOSEN (GUIDELINES FOR APPLICANTS)

Aims and objectives of the project: *a)* identify, *b)* test/transfer and *c)* modeling (define operationally in order to reuse and transfer) "devices for smart collaboration" with companies and / or research centers set by VET (Vocational Education and Training) institutions of post-secondary and tertiary level apart from Universities (eg. the new schools of technology established by ITS Foundations in Italy or Fachhocschule in Germany), to foster an "excellent" learning curriculum, with the potential to improve the training policies, integrating into mainstream (apprenticeship, school-work alternance training foreseen by the curriculum) and foreshadowing the formulation of new policy guidelines in this field.
We define "excellent" a VET learning curriculum at post-secondary / tertiary level acting in the interface between research and production (enhancing their respective instrumental and laboratory equipment), to strengthen the chance of adoption of scientific and technological knowledge, enabling the dynamics of innovation of products and production processes of companies and networks of companies.
An excellent VET learning aims at consolidating skill-profiles able to use the results of research and support the processes of technology transfer, and to proactively anticipate the evolution of these skill-profiles, showing the professional and training needs resulting from the dynamics of innovation.
The project takes as reference the smart collaboration of VET institutions with the system of specialized research and with companies in the "Food and Drink Manufacturing and Processing" sector (FDMP), as we state the critical importance of this sector in the EU (it contributes to the manufacturing industry with the highest share of financial turnover, added value and employment rate) and as we recognize the urgent need to define policies able to cope with the innovation-negative dynamics which plague the professional system:
a) high level qualifications in lower percentage than the average of other sectors (only 14% of workers have high levels of qualification, compared to the overall average of 30%);
b) Downfall between 30-40% of the cohort of workers aged 14-24 years, with an increased average age of workers employed in the sector[1].

Chosen approach: "device for smart collaboration" means the organization, governed by specific guidelines / policies, of the *legitimate peripheral participation* of students to *situated practices of*

[1] Improve Ltd, CERES (edited by), *Ensuring Sustainable Employment and Competitiveness in the EU Food and Drink Industry: Meeting the Challenges of the Labour Market. A Joint initiative of the Social Partners in the EU Food and Drink Industry* (november 2013). The project is part of the Work Programme 2012 di EFFAT - FoodDrink Europe EU Social Dialogue, supported by the European Commission

innovation, which takes place in a context characterized by the use of specific *enabling technologies* and, in line with the guidelines / specific policy instructions, is intentionally activated by VET institutions, in a structured collaboration with 1) companies and / or 2) research institutions or centers for technological transfer.

Project objectives: to develop and regulate at a systemic level, through appropriate policy guidelines, the activation of devices for smart collaboration in relation to two main curricular learning processes:
a) *project-based learning*, for the exploration, demonstration, prototype-level / industrial application and discussion of technological knowledge, enabling innovation in products and / or processes in the FDMP sector.
Learners are required to engage in solving a challenge or a real problem identified within the FDMP sector, upon designing the learning experience by the research and / or business system, whose solution requires in-depth exploration with research approach (inquiry-based), demonstration and practical experimentation (by doing) and the discussion within the community of researchers / users (by discussing);
b) *work-based learning*, for the acquisition of curricular skills while conducting genuine working activity (paid or unpaid), which involves prototyping or production, within the workplace, of real goods and services, with an appreciable degree of innovation compared to enabling technologies of FDMP sector.

The project aims at identifying, testing and modeling *project-based* and *work-based* devices in line with the technological path and priorities of Strategic Research and Innovation Agenda of the European Technology Platform" Food for Life" [2], which supports the integration of nutrition / health, sustainability, technology for transformation (processing), quality and safety of food:

1) Innovative technology solutions for NUTRITION/HEALTH: nutritional enhancement and improvement of functional performance of foods
2) new technologies for the food manufacturing SUSTAINABILITY: to reduce the use of raw materials, the consumption of energy and water, to promote by-products and waste product in the food chain
3) new technologies for the FOOD FACTORY OF THE FUTURE: integration of innovative food technologies with new ICT technologies, smart packaging, handling and logistics
4) new technologies for food QUALITY AND SAFETY: use of fermentative microorganisms to increase the quality of food, technologies for the detection and identification of chemical and microbiological risks in foods, for stabilization and conservation.

The **specializations** within the FDMP sector for the development of the "devices for smart collaboration" are the following:
a) dairy (milk, dairy products and cheese)
b) meat (fresh and cured meat)
c) pasta and bakery products (dry pasta and baked products)
d) preserves (vegetables and animals food preserves)
e) wine and drinks (wine, water and drinks)

[2] European Technology Platform *Food for Life*, Strategic Research and Innovation Agenda 2015-2020 and Beyond: Implementation Plan under Horizon 2020, November 2014.

Expected results and impacts: The project allows the achievement of two orders of expected results:
A) *development, testing, validation and modeling* (for the purpose of re-use and transfer of collaboration device), *of practices of curricular learning* (VET at post-secondary / tertiary level apart from University), respectively with 1) *project-based* and 2) *work-based* approaches, aligned with the path of innovation in the FDMP sector. The practices are situated within the contexts of use of the enabling technologies (companies and research centers), with reference to the different sector's specializations, thus allowing the legitimate peripheral participation of learners in projects related to innovation (project-based) or processes related to innovation (work-based), in line with the times and programs of their curricular learning.
Each device is released (as a deliverable) as an Open Educational Resource - OER: design concept of the device, application guidelines, support tools and related protocols of use for accessibility as an open educational resource.
B) assessing the *potential for systemic transferability* of each device (project-based and work-based), with a foreshadowing of the context of reuse, both in a cross-sector perspective (eg. towards VET institutions of the same level, with different curricular specialization), and in a supply chain perspective (secondary level and lifelong learning); development of *protocols* for the *integration* of the device within the ordinary VET systems (*scaling up*) and making *recommendations* to policy makers (in the form of *lessons learned*) for the reproducibility of the experience.

The project **target group** are:
A) governance, teaching staff and students of VET institutions (at post-secondary and tertiary level apart from University), specialized for the agrofood sector
B) companies and workers of FDMP sector and their representative associations
C) research centers and technological transfer centers specialized in tracing technological paths and enabling technologies related to the European Technology Platform "Food for Life" (and its respective national platforms and research clusters)
D) institutions governing the planning of education and training policies of post-secondary and tertiary non-university VET (at a regional and / or national level).

2 PLANNED ACTIVITIES (WORK PACKAGES AND MAIN DELIVERABLES)

In relation to the types of devices for forward looking cooperation it's possible to configure the following framework of activities aimed at the implementation of the project, in view of the expected results / outputs, with both Open Educational Resources - OER, and *lessons learned* for programming/policies as main deliverables.

<table>
<tr><td></td><td></td><td colspan="4">Technological context of the forward looking cooperation device[3]</td></tr>
<tr><td>Implementation Work Packages</td><td>WP Activities</td><td>A) Nutrition / Health</td><td>B) Sustainability</td><td>C) Food factory of the future</td><td>D) Quality / Safety</td></tr>
<tr><td rowspan="3">1 Practice Project-based learning for specialization 1-n</td><td>1.1 Designing</td><td rowspan="3">Public Deliverable OER 1.A</td><td rowspan="3">Public Deliverable OER 1.B</td><td rowspan="3">Public Deliverable OER 1.C</td><td rowspan="3">Public Deliverable OER 1.D</td></tr>
<tr><td>1.2 Testing and demonstrating</td></tr>
<tr><td>1.3 Modelling OER</td></tr>
<tr><td rowspan="3">2 Practice Work-based learning for specialization 1-n</td><td>2.1 Designing</td><td rowspan="3">Public Deliverable OER 2.A</td><td rowspan="3">Public Deliverable OER 2.B</td><td rowspan="3">Public Deliverable OER 2.C</td><td rowspan="3">Public Deliverable OER 2.D</td></tr>
<tr><td>2.2 Testing and demonstrating</td></tr>
<tr><td>2.3 Modelling OER</td></tr>
<tr><td rowspan="3">3. Framing Project-based learning for specialization 1-n</td><td>3.1 Assessing</td><td colspan="4" rowspan="3">Public Deliverable Lesson Learned 3.A+B+C+D</td></tr>
<tr><td>3.2 Scaling up</td></tr>
<tr><td>3.3 Scripting</td></tr>
<tr><td rowspan="3">4. Framing Work-based learning for specialization 1-n</td><td>4.1 Assessing</td><td colspan="4" rowspan="3">Public Deliverable Lesson Learned 4.A+B+C+D</td></tr>
<tr><td>4.2 Scaling up</td></tr>
<tr><td>4.3 Scripting</td></tr>
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[It's possible to predict *n* specializations according to the different specializations of the FDMP sector. The package of "Implementation WPs" outlined is replicated for each additional specialization]

Other activities (WP), functional to the implementation of the project

- Preparation: reconnaissance of the existing situation, methodological planning/setting of the operating conditions required for testings
- Project management (planning and financial administration);
- Monitoring and Quality Management
- Evaluation
- Exploitation of results (valorization and dissemination)

Transnational Meetings at the Project's milestones + exchanges and international mobility of staff and pupils for the purposes of designing and testing different devices.

[3] Possible supply of equipment and consumables for the tests

3. CHARACTERISTICS OF THE PARTNERSHIP

Applicant/Coordinator	**Other roles** (*"bridging analisys, practice and policy making"*)	**Composition of the European Partnership**
VET institution specialized in the education and training sector related to agribusiness (food manufacturing and processing): **Cisita Parma as a member of the Foundation ITS Parma – Agribusiness sector**	• *Analisys (research):* Research centres and centres for technological transfer active in key technologies / enabling technologies relevant to the food chain (food manufacturing and processing)) (**Aster S.Cons. p.A.**) • *Practice:* Companies leader of the food chain (food manufacturing and processing) (**Barilla spa**) • *Policy making*: **Emilia Romagna Region, Federalimentare**	Partnership homogeneous than Italian (VET Institution + Research + Company + Public Body/Sectorial Association) n the following countries (minimum 2 other than Italy): 1. Austria 2. France *3.* Czech Republic *4.* Slovenia

In relation to the expected results and implementation activities are envisaged the following involvements by kind of partner:

1. VET Organizations: lead partner of WP 1 (practice project-based learning) and WP 2 (practice work-based learning)
2. Public Body / Sectorial association with the responsibility of policy making: lead partner of WP 3 (framing project-based learning) and WP 4 (framing work-based learning)
3. Research Partner: involved primarily with human resources, technological equipment and consumables in WP 1 (practice project-based learning) for designing of the testing and as context of testing; involved primarily in WP 3 (framing project-based learning) for the assessment of the systemic transferability potential of the device, with foreshadowing of the context of reuse
4. Practice Partner (Companies): involved primarily with human resources, technological equipment and consumables in WP 2 (practice work-based learning) for designing of the testing and as context of testing; involved primarily in WP 4 (framing work-based learning) for the assessment of the systemic transferability potential of the device, with foreshadowing of the context of reuse

4. PROJECT DURATION AND TYPE OF COSTS COVERED BY FINANCING

Duration: between minimum 24 months and maximum 36 months, with start-up scheduled between November the 1st, 2015 and January the 1st, 2016

Maximum grant = 500.000 €, corresponding to maximum 75% of the total eligible costs (co-funding is requested)

Type of eligible direct costs: Staff assigned to the project, Subsistence and travel, Procurement of equipment (new or second-hand), Consumables, Administrative costs (surety, expenses for audit and certification of expenses), VAT not deductible, Other direct costs related to the management of the project (dissemination, evaluation, translation, reproduction of materials)

Eligible indirect costs up to 7% of the total eligible direct costs (flat-rate), with the exception of the partners who have already activated an European funding

Subcontracting is allowed for a maximum of 30% of the direct costs of the project.