Learning
Technology
Accelerator

LEARNING TECHNOLOGY ACCELERATOR
LEA

D 4.4 Trainings Developed to Accelerate Knowledge Exchange Between Demand/Supply Side of PCP/PPI

6.2.2019

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Learning Technology Accelerator

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PU	Public	**X**
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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1. INTRODUCTION

The overall objective of LEA is to "speed up" knowledge transfer, dialogue and awareness raising of innovative procurement. One of the key objectives of the LEA project is to strengthen the dialogue between the demand and supply stakeholders of the Learntech procurement process. The purpose of WP4 is to support this objective by developing trainings and capacity building across various formats - including seminars, webinars, labs and think tank events - with a focus on accelerating knowledge exchange between the demand- and supply-side of the learntech market.

The overall objective of increasing knowledge exchange and dialogue between demand- and supply-side stakeholders is to inform the development of demand-based and cost-effective future learning environments. This dialogue has been accelerated in four main ways to ensure that suppliers have a good knowledge of the end users´ demands:

- **Capacity building seminars** (CBSs) which are training sessions to increase the engagement of both the supply and demand side to utilise the identified tools for efficient dialogue of demand and supply of learning technologies.
- **S&D webinars** provide an online space to facilitate communication between the supply and demand stakeholders
- **LEA School Labs** have established national venues for face-to-face dialogue (procurers and suppliers) throughout Europe
- **Global think tanks** in big conferences such as BETT Show (London, 2019)

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Open dialogues between the demand- and supply-side are fundamental for the success of the preparatory activities for launching an innovative procurement call and for the procurement process itself (after the awarding phase). In addition, involvement of end-users is deemed necessary for the success of the research and innovation activities. LEA will devote huge efforts in designing and implementing opportunities for concrete and constructive industry dialogues, where procurers, suppliers, researchers, end-users and other interested stakeholders will find the tools and the opportunity to be part of the process of shaping the challenges and needs and the visions for the future in education and learning technology.

Apart from the creation of different methods for accelerating industry dialogue, other outcomes of LEA relate to the identification of challenges and needs, and the creation of a demand policy roadmap for the education and learning technology area for 2030. Preparation of future innovative procurement calls will also be made available online through the project website, through procurement partners' websites, and social media in general.

Supply- and demand-side interaction and understanding are fundamental concepts to create sustainable, inclusive and knowledge based growth within Learning Technology 2020 and beyond based on the following actual situation:

- The demand side ('Procurers') consists mainly of procuring authorities on local and regional level regulated by the public procurement law. In brief these organizations in general lack a deeper understanding and knowledge about learning

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technologies in order to purchase smart and future oriented innovations to improve their Education services.

• The supply side ('Suppliers' i.e. SME, Start-ups) industry and R&I institutes risks facing "the valley of death" to get their commercial product on the market. In brief the industry in general lack a deeper understanding of demand / user needs aligned with the societal challenges of the public sector. These are the two basic needs/ sides that LEA tasks will support by increased dialogue and knowledge transfer in WP 4.

In addition, other actors in the education and technology 'ecosystem' have an influence on the supply and demand of learntech solutions, and LEA also seeks to engage these stakeholders. For instance:

- 'Learntech experts' assist in the dialoge between procurers and suppliers, and can assist in the evaluation of learning technology beyond the user-experience.
- 'Schools' are the end users of learning technologies, and teachers and students are important not just through their influence on demand, but also their assessment of what is supplied. LEA has specifically sought to engage 'schools' and their stakeholders through the LEA School Labs.

An overview of LEA Stakeholders and their influence on supply and demand is presented in Figure 1.

Figure 1: LEA Stakeholders

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2. TOPICS TO INCREASE SUPPLY- AND DEMAND-SIDE DIALOGUE

In the previous innovation procurement projects' needs analysis, it has been shown that both the supply- and demand-side lack general and in-depth knowledge on innovation procurement processes and instruments (see www.imaile.eu for further information). The general topics for LEA Capacity Building for both procurerers and suppliers include e.g.:

- General rationale on Innovation procurement: PCP, PPI and innovation partnerships
- Legal framework behind PCP and PPI
- Joined vs. Coordinated PPI
- Preparing Prior Information notice to TED system
- Open Market Consultation
- Preparing Invitation to tender
- Needs Analysis Methodologies (Scenario building, workshops, questionnaires etc.)
- School lab partnerships like LEA School Labs concept
- Conformance testing in real classrooms
- Contract management
- Q&A process
- Building Business Cases – value for both demand and supply side

LEA project's Capacity Building Seminars and webinars take on these topics. They are also further explained in D2.1. LEA Baseline document

3. SUPPLY- AND DEMAND-SIDE DIALOGUE TRAININGS

3.1 Capacity Building Seminars

3.1.1. Methodology

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In the framework of the LEA project, Capacity Building seminars are to be organised connected to each major milestone of the PPI and PCP process. Thus, according to the initial planning, these seminars are organised to clarify the pre-requisites and key steps to design and implement an innovation procurement process.

The Capacity Building seminar is important for decision-makers and the procurement officers involved in the procurement process since they are responsible the planning and execution of the procurement and related activities (e.g. to conduct of market consultations, definition of technical specifications, preparation of tender documentation, evaluation of tenders and selection of successful bidders, as well as management and monitoring of the procurement contract(s)).

In order to understood what were the main and more urgent needs to be addressed under the form of presentations at the first internal Capacity Building seminar, a vote was taken of all the consortium members during the kick-off meeting. They voted on a list of 13 needs, classifying them as (1-very important to learn about; 2-important to learn about; 3–not so important I already know about it.) The topics presented at the seminar were the most voted ones.

External capacity building seminars will be organised based on the lessons learned from the first seminar. The topics raise from the needs of the procurers and suppliers around innovation procurement. Some of these issues are also tackled in the LEA Webinars.

After the CBS an online questionnaire will be sent to all the participants to evaluate their satisfaction and to understand what could be improved in

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the future CBS, (the results of which are presented in D5.1 Report on capacity building evento n PPI).

3.1.2 Activities to date

The first Capacity Building seminar was an internal seminar to increase the LEA partners capacity, particularly around PPI as an innovation procurement instrument. The seminar was only intended to be available to the consortium members, serving as a pilot for the external Capacity Building seminars coming later in the LEA project. According to the Description of Work of the LEA Project, these external seminars will take place between M8 and M14 of the project implementation.

The seminar addressed to the consortium members focused on promoting PPI and sharing of knowledge and tools, as well as serving as a starting point to enable the group of procurers and all other partners to participate in the preparation of a procurement call using a PPI approach, which is based on IMAILE PCP results and achievements.
The aim of the first Capacity Building seminar was to explore and explain:

- What form of innovation procurement a public procurer could choose – Understanding PPI;
- What are the main steps that public procurers should consider when preparing and implementing an innovation procurement procedure;
- Why each of these steps is important;
- How to implement each of these steps;
- How to prepare joint procurements.

The Capacity Building seminar outlined the step-by-step approach required to implement a PPI procurement. The seminar was based on the

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applicable legal framework, reviewed literature, policy documents and lessons learned from innovation procurements (PCP and PPI) already implemented at both EU and national level.

From the knowledge gained, it was also expected that all partners, including the non-procurers, acquire the necessary competences and capacity to spread the word, attracting and engaging other players to the LEARNTECH Accelerator 'ecosystem'.

Outputs achieved from the event will also serve as a strong basis for future Capacity Building events which are planned by the consortium, where it is expected to address other procurers outside the consortium.

3.2 LEA Webinars

3.2.1. Methodology

LEA Webinars talk about innovation procurement in the Learning Technology field. In each webinar, which lasts around 15-20 minutes, innovation procurement and Learning technology experts discuss topics related to innovation procurement instruments (such as PCP, PPI and innovation partnerships), what is currently available in Learning technology market, and how to apply for additional funding. After the expert discussion, the webinar is open to questions and comments form the other participants can join the discussion.

The webinars are facilitated by the project coordinator. Topics have been selected by the coordinator, and partners have also been asked to contribute suggestions and expertise. There is also an open invitation to

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technology providers to use these webinars in order to present their solutions.

LEA Webinars are available for free at: https://connect.jyu.fi/lea/ (Adobe Connect), and are scheduled for every two weeks on Wednesdays at 10:30am CET
Recordings are available after at: https://www.learntechaccelerator.eu/

3.2.2 Activities to date

The below table details the webinars which have already occured, and which are scheduled for the near future:

	Topic	Experts	Time
	Webinar 1: What is Innovation procurement? PCP…PPI?	EU Project consult Ellinor Wallin, Dr. Kati Clements	19.9. 10:30am
	Webinar 2: Learntech 2018 – AI – VR – Robotics What's hot?	Jari Laru & Mikko Muilu	3.10. 10:30am

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	Webinar 3: Understanding the needs of the Demand: Municipalities & Schools	Sonia Domingues/Isabel Munar/Paula Huuska/Hanna Sahlberg	17.10. 10:30am
	Webinar 4: Suppliers' experience of PCP	Teemu Laitinen, Amigo	14.11. 10:30am
	Webinar 5: Teachers' barriers for using Learning technology	Rita Freudenberg	28.11. 10:30am
	Webinar 6: Understanding legal aspects of innovation procurement – joined vs. coordinated	Sara Bedin, Marta Coto	12.12. 10:30am

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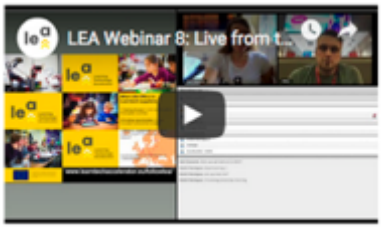
	Webinar 7: **Towards Easy Virtual Reality Content Creation**	Jarmo Tanskanen / Visumo corporatio	9.1. 10:30am
	Webinar 8: LEA at BETT 2019	Kati Clements & Mikko Muilu	23.1. 10:30am
	Webinar 9: What is a "PIN"? How to launch it? What is TED system?	Ellinor Wallin	13.2. 10:30am
	Webinar 10: Preparing the Request for tender (RTF) for PPI	Marta Coto & Kati Clements	20.2. 10:30am
	Webinar 11: Disruptive Open Innovation	Fabrizio Cardinali, Kati Clements	6.3. 10:30am

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Further topics will also be announced. LEA offers the opportunity for Learntech suppliers to visit LEA webinars and discuss their product with the demand-side of the market provides a unique venue for supply- and demand-side dialogue in the field of learntech. Based on the interviews which the LEA project under WP4 has conducted with suppliers, no other similar dialogue tool exists in the market. Suppliers usually contact procurers through their existing networks of schools, or big events such as the BETT Edtech fair in London every year. The webinars offer a new opportunity to widen awareness of learntech solutions.

3.3 Global Edtech Think Tank

3.3.1 Methodology

The objective of the global think tank is to establish meaningful communication channels for dialogue between the supply- and demand-side, to create recommendations for stakeholders on which channels to use for PCP/PPI dialogue, and to explore future trends in the learntech market.

The state-of-the-art in existing communicational channels for innovation procurement will be analysed in WP4. The aim of this task is to create spaces where this dialogue can take place, as well as support improvements in future supply and demand dialogue.

External speakers from important organisations in the field will be invited to give keynotes on venues which can be used for innovation

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dialogue, for example, the Procurement Forum, or Future Clasroom Labs etc.

Think tanks will be organised as a workshop where innovative ideas will be evolved into business plans and initial prototypes. The idea is to explore future trends and listen to weak signals of predicting the learning technology market. The working group's outcomes will be reported through deliverable D4.3 Report on future global market.

3.3.2 Activities to date

The first Think Tank event was organized at BETT 2019.

Figure 2: Flyer from first Think Tank (January 2019)

In the BETT Think Tank event, innovation procurement instruments were introduced and suppliers participated in envisioning the future of Learntech Market 2030. The agenda of the first Global Edtech Think Tank:

3.3.3 Agenda January 2019

1 Funding opportunities for Edtech suppliers: PLEASE PPI Prior Information Notice (Kati Clements & Ellinor Wallin)

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2 Predicting future of Edtech 2030 (Jari Laru)

3 Envisioning the future of Edtech 2030 workshop

The first Edtech Think Tank had 17 participants including learning technology suppliers, procurers and LT researchers. Innovation procurement was introduced as a concept (PPI & PCP) and upcoming funding opportunities were introduced. Future of Learntech was then discussed and envisioned and suppliers present were invited to introduce their products and services. VRLab Academy, Digital books company Leonardo, Future screens company Displax and Digital Media Academy demoed their products. Overall LEA connected with 79 new Learning Technology Companies at the event (see annex 1).

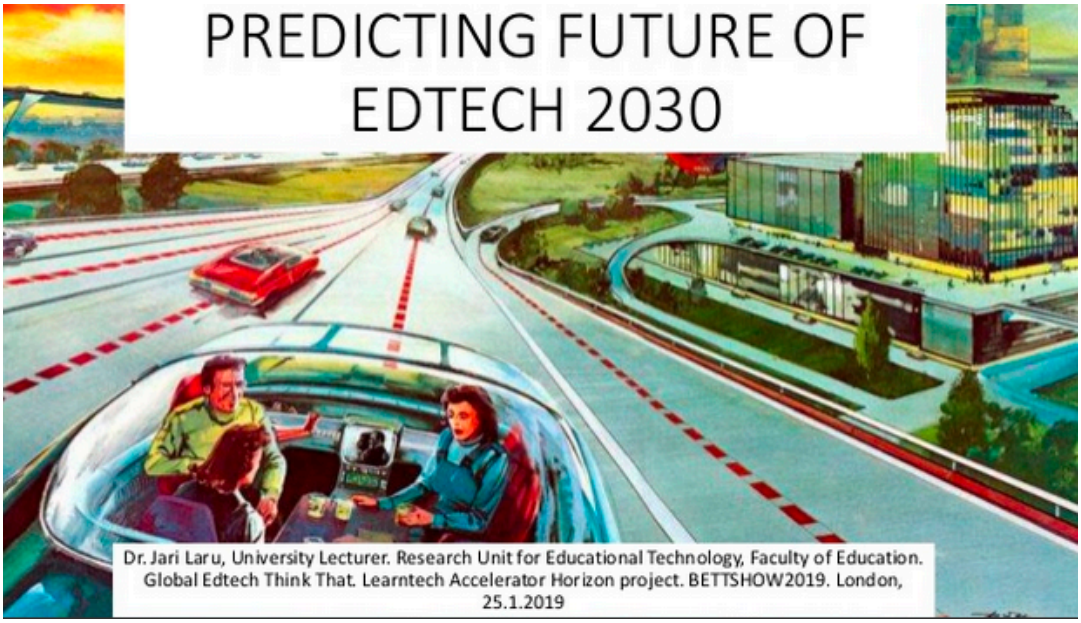

Figure 3: Predicting future of Edtech slideshow

Presentation can be accessed online at: https://www.slideshare.net/larux/predicting-future-of-edtech-2030-

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v2?qid=fa79f737-d7e5-4d2f-af6f-e98daa7eff6f&v=&b=&from_search=2

3.3.4 Outcomes of the S&D Dialogue at Global Think Tank

Participants agreed that the Edtech trends of 2019 in BETT show were:

Virtual reality

Figure 4: School classroom experiencing virtual reality @BETT Show 2019

Virtual reality market is currently waiting for the hardware providers to reach critical popularity. In 2019, the most prominent competing Virtual reality glasses are:

- Oculus Rift https://www.oculus.com/rift/ (Price around 399eur)

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- HTC VIVE https://www.vive.com/us/product/vive-virtual-reality-system/ (Price around 499 dollars)

While this competition in the market is good for the consumers – the software producers are waiting to see which one becomes de facto standard on the field because it is expensive to create content if it all needs to adapt to different hardware in the future.

The perspective of schools is to utilise even cheaper solutions such as Google card board. It is difficult to use expensive VR glasses in teaching if the rest of the classroom must wait while one can experience, therefore schools seek for affordable options to experience new technologies.

Figure 5: Google Cardboard classes, (price 12 dollars) image source: https://lh3.googleusercontent.com/

Global Think Tank participants were envisioning the future of VR to be moving to the direction of augmented or mixed reality through

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glasses similar to common spectacles. Currently mixed reality systems were not yet trending at BETT 2019.

Figure 6: Mixed reality, source: https://cdn-images-1.medium.com/

Even though the current virtual reality systems have challenges of content creation (tools being too difficult to use by consumers yet),

The potential of using virtual reality in teaching and learning is huge - schools could utilise virtual reality to bring hands-on, safe experiences to the students while never leaving the classroom.

Programmable Robots & Microbits

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Figure 5: Robots that can be built and programmed were trending at BETT 2019

Programmable robots of lego and beyond were a major part of the BETT exhibition 2019. Microbits and such easy learning tools could be a way to bring algorithmic thinking into the classrooms. The current curriculas across Europe are supporting these. Unfortunately this industry is also at its infancy. The current (e.g. voice-activated) robots have limited capabilities (e.f. dancing, driving etc) This field is expected to grow and expand in the future toward more sophisticated solutions.

Maker spaces

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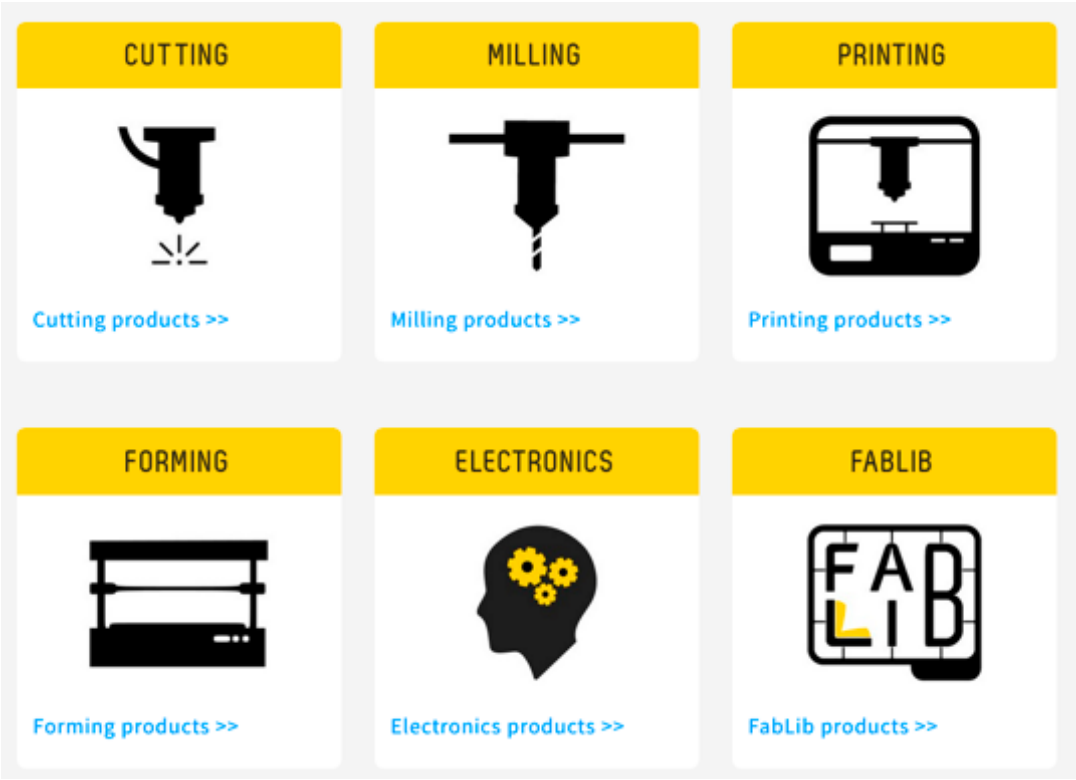

Figure 6: Makerspaces such as fablabs were trending at BETT 2019

Teaching practical skills for students via hand crafts, 3D printing, programming etc are currently popular among the Edtech suppliers. Unfortunately in many cases these machines purchased for classroom are difficult to use and therefore not taken into the every day teaching.

Artificial Intelligence

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Image: 7 SafeToNet artificial intelligence tool, source: https://westhillcapital.co.uk/

Current artificial intelligence tools are not yet very attractive in the education market. Either there is a lack of data show cases that would really show the power of algorithms behind the AI tools currently in the market or the solutions seem rather at their infancy. This field is developing towards machine learning and in the future AI can help to personalise learning, identification of school dropouts etc. In BETT 2019, there was a few AI solutions presented, including an app that can protect kids from cyber grooming or bullying. These fields seem very promising for the future.

Overall outcome of the LEA Global Edtech Think Tank:

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Education sector is tied together to public funding and that means it is difficult to be able to design innovative solutions. The companies present agreed that they would try out innovation in other sectors such as gaming industry and then bring the innovative technologies to education. This means that education is all the time falling behind the innovation curve. Innovation procurement projects would benefit from luring suppliers from other sectors which are more advanced in their technological state-of-the-art. However, this is difficult due to less attractive budgets in education field.

3.4 LEA Shool labs

3.4.1 Methodology

The purpose of the living labs is to speed-up testing and provide a venue for communication between the demand- and supply-side of learntech. The task will be initiated by mapping the schools and classrooms, verifying a methodology to use, looking into Ethnical aspects and Data protection as well as by promoting the LEA Real Classrooms (RCLs) to the industry. In addition, School Labs aim to develop a framework for basic technical infrastructure for the usage of learning technology in schools (M 2 - 8) (Task leader OVGU).

This task has focused on the preparation of testing environments of PCPs and future PPIs of the LEA Network (LEA-N) in the procuring organisations' schools. The task is led by Torino in collaboration with EUPK. Within the LEA project, the City of Turin is presening its living lab model in school environment as a showcase to the other procurers.

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The aim is to create a permanent laboratory in which teachers, researchers and experts, together with children and young people, can work and interact within highly educational, equipped, comfortable and flexible spaces. For the implementation of this lab, all local stakeholders involved in this education supply-chain are involved: compulsory school network, companies in the sector of promoting innovation, high schools dedicated to education sciences, universities, design, institutions, institutions and associations dedicated to training and culture. The aim is to foster collaboration and knowledge transfer through the interaction among students, teachers and relevant local key actors in the view to contribute to co-create a more modern, dynamic, committed and professional environment in schools.

The project space in which LEA will be created in Torino is represented by the forthcoming "Torino Educational Lab" which will be located in Via Bardonecchia. This building hosts a secondary school (students aged 11-14) and it is planned that it will become an open space for the local community even outside the school time. Indeed, the aim is to provide an open space for the overall school community, where educational activities accessible to every citizen will be carried out.

3.4.2 Activities to date

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LEA School Lab sessions in 6 countries (Finland, Sweden, Germany, Spain, Portugal and Italy) were organised in Autumn 2018 in order to involve end users to the needs analysis of LEA PPI and PCP proposals. More inromation on these events can be found in D3.3. Need Analysis Report

3.4.3 Benefits for LEA and the local/regional area to prepare a LEA School Lab

Final users (Students/teacher): Experience new learning methodologies and new skills in the direct relationship with business and technology.

Procurers: To model an equipped classroom for an innovative teaching experience and new learning technologies; Gain a sound knowledge of state of the art of innovative technologies in the field and improve technical/networking skills.

Businesses: Understand public challenges and constraints in this field through direct contact in real condition environments at the pre-procurement stage; reduce time to the market for their technologies through testing; gain visibility at EU level.; create commercial partnership with other businesses.

Research/Other local/national key actors: Gain a common knowledge through the involvement in the evaluation of the testing phase.

4. CONCLUSIONS

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In this deliverable we discuss LEA Supply & Demand trainings. Innovation procurement is still a new tool for both the procurers and the suppliers in the field of Learning technology procurement, so increasing dialogue is needed in order to achieve solutions closer to the end users' needs. The LEA project accelerates the dialogue through various tools and venues, e.g. Capacity building seminars, Webinars, Global Think Tanks and LEA school labs .

ANNEX 1

The suppliers and organizations joint to be LEA follower in BETT 2019

Cyber Learning
Moscow Global forum " City of Education"
Adobe
Avantis Education
TTS Group
Eduspot
First Scandinavia
Profilum
Hebei Haijie Modern educational equipment Ltd.
Vr Lab Academy
Renaldo Lawrence
Free Houn
Obama Foundation
Avantis systems
RoboBloq
Fujitsu
Cad-tutor
Study with.Co.Uk

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Showbie
Lenovo
Newton International
Rethink food
Labster
Mozaik Education
Lin Education
Office Document Halland AB
Atea Sverige AB
Ezboard
Q-neuro
Unlimited Educational Services
AssessPrep
Ezy education LTD
Photon Entertainment
Avishkaar
Jelly James Publishing
Get my Grades
Hello World Kids
Pupil asset
Lesemeister
Squad in touch
2Simple
Wizkids LTD
Scope
Edu-Zone
Century Tech
Mind Rockets Inc
Creaza AS

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Revas Sp Zoo

Mathspace

Digital Media Academy

Jyväskylän yliopisto

Jamk University of applied sciences

Poke

Nöykkiön koulu

EdLounge

Moki Technology

VR Education Holdings PLC

Wonder workshop

Dugga Benelux

Oulu university applied sciences

Aalto University

Victory VR

Lapunmäen koulu

University of Turku

Atea Finland

City of Tampere

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