Deliverable Report

Exten DT²

Extending Design Thinking with Emerging Digital Technologies

Grant Agreement Number 101060231

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(Integration of emerging new technologies into education and training)

Deliverable D8.1
Dissemination and Exploitation Plan

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Abbreviations

Exten.(D.T.)^2	Extended squared
LNU	Linnaeus University
NKUA	National and Kapodistrian University of Athens
OU	The Open University
UGent	Ghent University
NTNU	Norwegian University of Science and Technology
TCD	Trinity College Dublin
SIMPLE	SIMPLE - SME
UCL	University College London
WP	Work Package

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1. SUMMARY

Deliverable 8.1 presents the dissemination and exploitation activities of the Exten.(D.T.)^2 project, including target audiences and communication approaches. It builds on and extends the preliminary information described in the project proposal by considering research and development activities of the first six months of the project. In particular, this Deliverable includes: a) an overview of related project objectives, b) a description of the role of each partner in specific dissemination and exploitation activities, c) a dissemination plan including publications, conferences, press releases etc., d) a plan for affiliation with existing EU projects and projects funded under this call, e) a mitigation strategy related to specific dissemination activities (addressing potential risks that may threaten the success of the project), and f) a competitors and market analysis providing information about the targeted market needs and requirements and the unique selling points of Exten.(D.T.)^2.

2. INTRODUCTION

2.1 Objectives

The objectives of this Deliverable are to:

(a) devise and pursue a specific and measurable plan for dissemination and exploitation,
(b) present project's dissemination tools (website, logo etc.),
(c) establish dissemination, communication, and impact procedures, and
(d) schedule and coordinate relevant events with support from all other partners.

The dissemination and exploitation plan maps stakeholders at different levels and addresses how they will be informed, considering the type and format of information, style, channels, and timing. This is to ensure we reach the right stakeholders, at the right time and that the message has the desired effect. We aim for all stakeholders to receive information that addresses their needs and answers any concerns regarding benefits, effort, effectiveness, costs, feasibility etc. that they might have.

2.2 Connection to other project activities

Dissemination and exploitation activities are supported by a dedicated Work Package: WP8. However (as shown in Figure 1 below, copied from the proposal), these activities span across the entire lifecycle of the project and are related to all other WPs. Therefore, activities and progress within each WP also feed into the dissemination and exploitation plan.
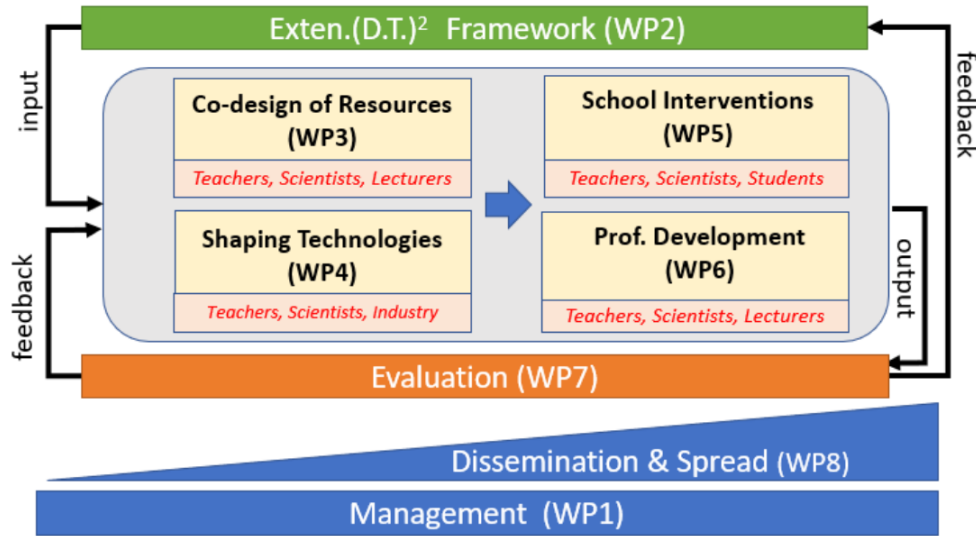
Figure 1. Connection of Dissemination & Exploitation WP8 to other WPs

3. COMMUNICATION STRATEGY

3.1 Stakeholders and how they will be engaged with Exten.(D.T.)^2

Table 1 presents the stakeholders targeted through Exten.(D.T.)^2 activities, including how they will be informed (dissemination activity), KPIs and target numbers, and contingency plans. As shown below, the project aims to engage with teachers and students, academics, policy representatives, industry organisations, other EU funded projects (including those funded under the same scheme) and the general public.

Table 1. Stakeholders and associated dissemination activities

Stakeholder	Dissemination event	KPI	Target	Contingency plan
Academics, researchers	Publication of results in journals, books or special issues	# of publications	6+	Analyse all scientific results for possibility of publication, assign lead authorship and deadline for submission, review process every 6 months.
Academics, researchers	Presentation of results at relevant scientific conferences	# of publications	9+	Periodic review of project activities and advance planning i.e., attendance of at least 1 conference per year per partner.
Academics, researchers, industry organisations	Participation in workshops with existing relevant projects and projects funded under this call	# of workshops	6	Online implementation of workshops to share insights; establish connections right from the start of the project.
Teachers	Project workshops for designing activities and lesson plans	# of workshops	20	Online, live or ftf workshops to enable teacher participations from across Europe; seek teachers and establish connections right from the project start.

Teachers, students	Present the project outcomes in non-scientific educational events: teacher/student conferences	# of presentations	7+	Follow schools and teacher networks online, participate in teacher events, organize open workshops and seminars.
Teachers	Participation at National Scientix networking events fostering collaboration with other and related projects and activities	# of events	3	Contact the National Scientix network and host our own webinars and events for teachers beyond the project to share project results.
Policy representatives	Present the results at policy events/meetings	# of presentations	7	Actively register, attend and present at policy-dedicated events. Host own events with teachers and actively invite policy makers to attend. Publish policy briefings to policy makers.
General public	Participation in open-science events to disseminate the project towards society	# of events	5	Host workshops and seminars open to the public in local or international open-science events such as "Researcher Night" and "EU Hour of code".
Teachers, students, researchers, policy makers	Make the educational tools available online and easily accessible through the project website	# of yearly users	10K	Partners promote activities further through established national and international teaching and learning networks described above and relevant EU-funded and other projects they have contacts with, as well as through the BBC, and projects funded through this call.
General public	Promote the project through its own and other social media accounts (e.g., university and lab accounts)	# of followers/likes	2K	Partners share content using personal and institutional accounts during and after the project; they schedule timing and content to ensure weekly updates.
General public	Media releases	# of releases	10	Seek support from partner dedicated media teams (e.g., OU and LNU media departments)
Teachers (pre-service and in-service)	Release a freely accessible online OpenLearn course (OU)	# of users/viewers	2K	Promotion through press release and through media teams.
Industry	Dissemination of the project results to industry partners, including private schools and companies	# of presentations	5	Engage with existing conducts at companies such as EnginoEducation https://enginoeducation.com, Hypocampus https://www.hypocampus.se and Arduino cc https://www.arduino.cc.

Building on existing connections of partners with stakeholders across Europe and beyond, Table 2 presents how each partner will engage with specific stakeholders (and by when) in order to achieve the KPIs of Table 1. The Table below will be reviewed and updated every 6 months to ensure progress towards the dissemination objectives has been achieved.

Table 2. Partners engagement with diverse stakeholders and associated planned activities

Stakeholder name	Activity (pick from previous table)	Estimate/ Actual Date/s	Responsible partner
Open Schools for Open Societies (OSOS) Network of Schools: the consortium will capitalise on the OSOS Coordination Action: www.openschools.eu	Flyers, presentations	M18-M36	ALL
Teacher networks online: the consortium will engage with: • ICT and Math teacher conferences in Greece https://www.etpe.gr/ , https://www.enedim.gr/index.php/el/	Presentations of papers co-authored with teachers	M13-M35	NKUA
OU's OpenLearn community reaching over 60 million learners of diverse ages, gender, socio-economic status and geographical locations: https://www.open.edu/openlearn/	OpenLearn course	M24	OU
Digital school with half a million new users every year including the Ministry of Education in Greece, teachers, parents, children: www.dschool.edu.gr	Dissemination to students, teachers and policy makers	M24-M35	NKUA
Use of the below national and international resource repositories and teacher forums: • Photodentro Learning Objects http://photodentro.edu.gr/lor/ in Greece, • 2link2 in Belgium https://www.2link2.be/index.php • OER repository https://www.oercommons.org/ • vereniging leraren wetenschappen https://velewe.be/	Dissemination to students, teachers and parents	M18-M30	NKUA UGent
Established network of schools engaged with research activities in Y1, Y2 and Y3 of project	15 schools reached and engaged in Y1 activities	M6, M12, M18	ALL
Växjö Municipality to link to existing initiatives relevant to the project such as urban farms and to reach and disseminate project activities: https://www.vaxjo.se/sidor/politik-och-demokrati/english/about-vaxjo.html - Digital Competence Day for teachers https://lnu.se/mot-linneuniversitetet/aktuellt/kalender/2022/konferenser/digdag/ - Science City https://lnu.se/mot-linneuniversitetet/aktuellt/kalender/2023/science-city-2023/	Swedish teachers, educators, the public (350-400 teachers) School children (1 400)	Week 44 of calendar year	LNU
Scientix Network in each country: http://www.scientix.eu/	Dissemination of project results; host webinars and events for teachers	M24-M36	ALL
Greek Wide-Scale National Teacher Training Programme (years 2022-2024) as a channel to reach ~13.000 in-service teachers working in ~850 schools across the country: https://e-pimorfosi.cti.gr/mis/home	a) Teacher Trainers seminars: Present the results at policy events/meetings b) Teacher seminars: Present the project	M14-M35	NKUA

	outcomes in non-scientific educational events		
Centres for ICT in education in Norway, including: • Skole Laboratoriet https://www.ntnu.no/skolelab • Realfag Konferansen https://www.ntnu.no/skolelab/realfagkonferansen	Flyer, presentations, social media sharing, stands at workshops	M35	NTNU
The OU/BBC partnership network: https://connect.open.ac.uk embedding findings from this project to TV and radio co-productions related to education, STEAM and sustainability	News item on OU/BBC website https://connect.open.ac.uk	M24	OU
Pedagogical counselling services and teacher organisations in Belgium including: • GO! https://g-o.be/ • KOV https://www.katholiekonderwijs.vlaanderen/ • OVSG https://www.ovsg.be/ • KVCV https://www.kvcv.be/nl/ • overlegplatform STEM leraren https://overlegplatformstemleerkrachten.be/	Flyer, presentations	M20-M36	UGent
European Commission Communication channels: • CORDIS News • CORDIS Wire • the European Commission's newsletters • the EC's event pages • the Europa website • the EU platform for dialogue and discussion. This will be done in close coordination with our project officer, reaching a Europe- wide and international audience of citizens, academics, practitioners and policy makers, and other relevant EU- funded projects.	Dissemination of results, host events	M18-M36	All
Policy-dedicated events including: • the Director of Diophantus • the Greek Ministry of Education Computer Technology Institute • the British Science Association • the Association for science education • the JISC • the National Agency of Education in Sweden, • the National Council for Curriculum and Assessment • the Department of Education in Ireland	Presentations, newsletters	M24-M36	All
Participation in open-science events: • "Researchers Night" https://marie-sklodowska-curie-actions.ec.europa.eu/event/2022-european-researchers-night • "EU Hour of Code" https://hourofcode.com/eu/en • "Maker Faire" https://makerfaire.com	Presentations	M24-M36	All
Industry dissemination via the following channels: • EnginoEducation https://enginoeducation.com • Hypocampus https://www.hypocampus.se • Arduino cc https://www.arduino.cc	Flyer, presentations, workshop	M20-M36	All

Industry dissemination via matchmaking events that present innovative products and services developed by companies, research centres, and universities	Participation in matchmaking events to disseminate the project towards industry	M6-M26	SIMPLE
Events in collaboration with local: • Science Centres (Athens Science Festival - https://www.athens-science-festival.gr/ • Libraries • Schools • Museums	Participation in open-science events to disseminate the project towards society	M14, M26	All
Reach network of other EU projects: • Digital Change On network, EU KA201 project • Smartex network http://smartexproject.eu/index.php/en/	Participation in workshops to academic researchers and teachers	M6-M18	UGent
Reach general public locally through regional STEM outreach projects: • Libraries with STEM activities in Belgium https://maakbib.be/ • Ingegno Maker Space (fablab community) https://www.facebook.com/IngegnoMakerSpace/	Publication of activities to STEM-educators and general public	M24-M36	UGent
Reach general public through Design Thinking workshops in the region of Thessaly, Greece	Organisation of workshops for interested parties	M18-M35	SIMPLE
Reach general public locally through regional centres: • Science museum https://vitensenteret.com/en • Library https://biblioteket.trondheim.kommune.no/	Presentations	M7-M35	NTNU

3.2 Project identity tools

Logo: To establish the project identify, in M1 to M3 of the project, a project logo and a project website were designed. In compliance to European Commission (EC) guidelines, all dissemination materials issued by the project include the necessary information (Acknowledgement and Funding information) and graphic identity of the funding entity, as reproduced in Figure 2 (and shown on the header of this document).

Acknowledgement
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

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Figure 2. Information about funders included in dissemination materials

The project logo resulted from a voting activity during the project's kick-off meeting in which partners were presented with eight possible logos and asked to choose the one they preferred. Figure 3 presents the chosen logo in colour, grey scale, and black and white. The "Exten" part of the logo stands for "Extending" and the DT squared refers to both, a) **D**esign **T**hinking and b) **D**igital **T**echnologies, hence squared.
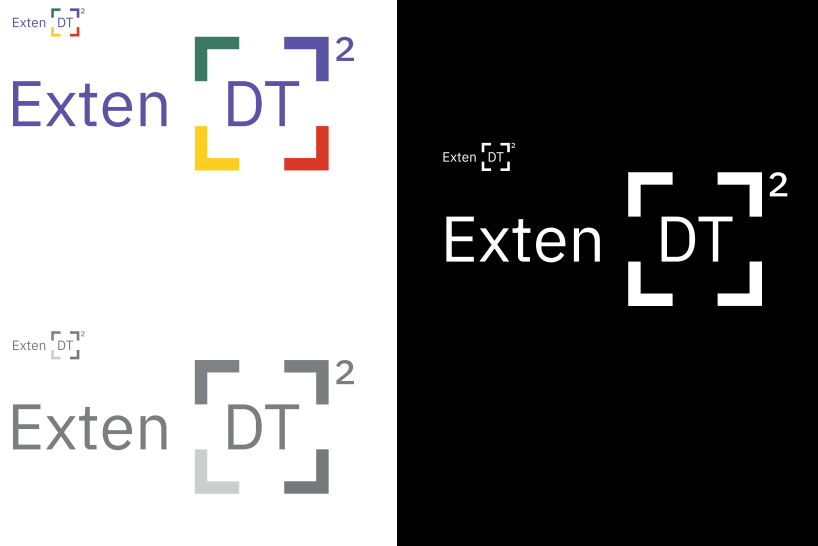
Figure 3. The Exten.(D.T.)^2 logo

Website: A project website has been created and can be accessed here www.extendt2.eu. It presents all relevant information about the project including dedicated areas for news, publications, project deliverables which are disseminated at public level, teacher resources (activities, lesson plans) and links to project technologies (see Figure 4). A page has been reserved for the OpenLearn course which is being established, and relevant announcements will be posted to help in the recruitment of teachers. The website also presents project objectives, project partners, contacting the project (through a gmail account) and social media links to Twitter, Linked-in and YouTube. A glossary is under development and will be added to the website when finalised. A draft version can be accessed here: https://docs.google.com/document/d/18dlnshL2xmgOdFMdcE7G2hUm9gz1oyfLot2eaVs62cY/edit?usp=sharing.

Translations of the website to the languages of the EU will be open to volunteer contributions through the pybossa platform https://pybossa.com/features/ hosted by Ibercivis. In order to maximize reach and impact, the website activity will be periodically monitored with the use of tools hosted on Wordpress, the service used to host and design the website, thus keeping track of relevant information such as the page traffic and the sections to which visitors interact the most, these being also KPIs as presented in Table 1.
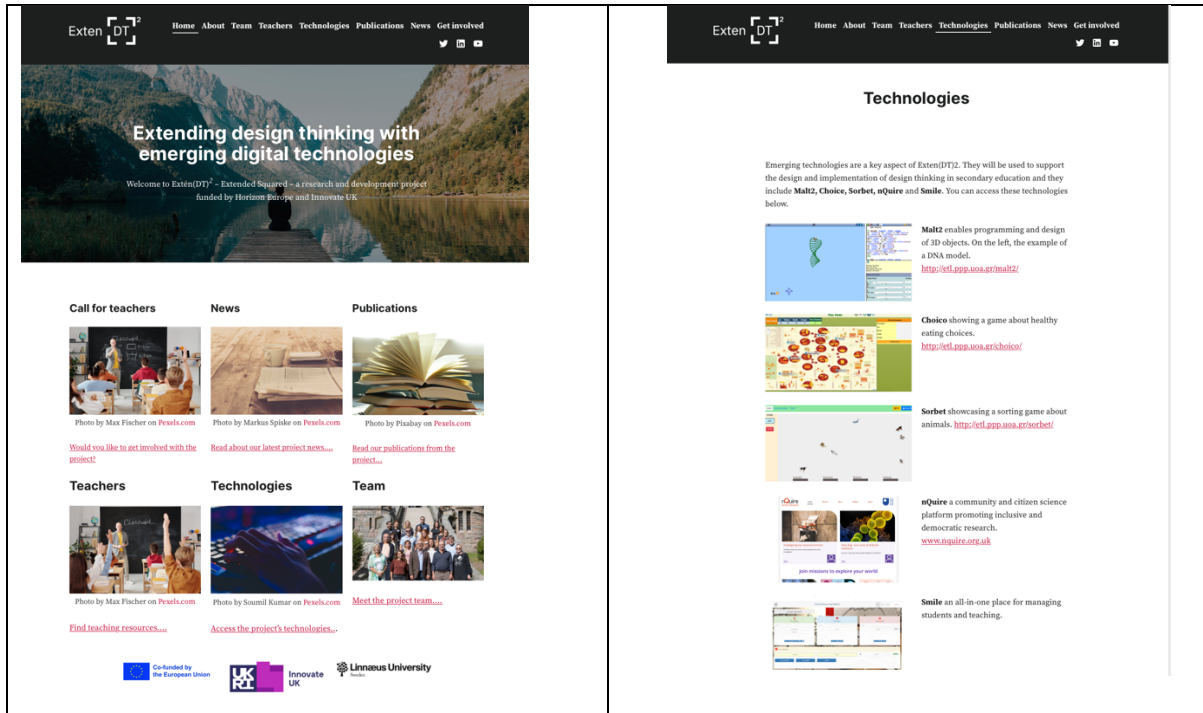
Figure 4. Screenshots of the homepage of the Exten.(D.T.)^2 website and the page listing project technologies

PowerPoint template: A power point template has been created with the project logo, funder logos and partner logos for use in dissemination activities such as presentations, workshops and talks (see Figure 5).

Figure 5. A screenshot of the Exten.(D.T.)^2 PowerPoint template

Deliverable template: To enable consistent presentation across the various deliverables, a template has been created and shared with project partners, the structure of which is shown in the presentation of the current deliverable (D8.1.) featuring the project and funder logos at the top of the document and a numbered structure for presenting deliverable information.

All the above resources are located in the project shared area under WP8 for easy access by all partners.

4. DISSEMINATION & EXPLOITATION PLAN

4.1 Scientific publications

High-impact scientific publications are expected to result from this project, aiming to influence other scientists, researchers and academics and advance our understanding of the use of educational technology in formal education. In particular:

- Scientific papers will be published in indexed journals and journals with a high impact factor such as Computers & Education, British Journal of Educational Technology, Learning Analytics Journal.
- Scientific papers will be published Gold or Green Open Access (OA) aligning with EC guidelines and stored in institutional repositories such as the OU's ORO: https://oro.open.ac.uk.
- Findings may be published as technical publications and in scientific meetings as conference proceedings.
- Anonymised data may be stored in institutional repositories such as the OU's ORDO https://ordo.open.ac.uk for use by other researchers.
- Full-text documents (if applicable) will be also shared on the project's website and social media accounts, accompanied by a short and easy to understand summary.

4.2 Conference participation

All partners have allocated resources for participation at international conferences such as: Interaction Design for Children (IDC), International Conference on Education and New Learning Technologies (EDULEARN), International Conference on Learning Analytics & Knowledge (LAK) and EARLI. An extended abstract has been submitted to EARLI2023 and accepted for a poster presentation taking place in Greece in Aug 2023. The table below shows partner intentions to take part in specific conferences over the duration of the project.

Table 3. Planned conference participation by each partner

Conference name and URL	Deadline for submission	Lead Partner
Mis4Tel https://www.mis4tel-conference.net	24 Mar 2023	LNU
Open Education Week https://www.oeglobal.org/activities/about-oe-week/	28 Feb 2023	OU
EARLI https://www.earli.org/events/EARLI2023	Submitted	OU
ECTEL https://ea-tel.eu/ectel2023/cfp	07 Apr 2023	SIMPLE, NTNU
CSEDU https://csedu.scitevents.org/	Submitted	SIMPLE
AERA https://www.aera.net/Events-Meetings/Annual-Meeting	Year 2	OU
ICTMT https://conferences.uoa.gr/event/47/page/320-authors	30 Jan 2023 (workshop)	NKUA
Constructionism https://www.constructionismconf.org/	23 Apr 2023	NKUA

13th Panhellenic and International Conference "ICT in Education" http://etpe23.cs.ihu.gr/en/	01 May 2023	NKUA
Digital Change on Symposium 12-15 Oct 2023 https://digitalchangeonsymposium.com/	Invitation based	UGent
Edulearn 2024 https://iated.org/edulearn/	not announced yet	UGent
Interaction Design and Children 2024 and/or 2025	not announced yet	SIMPLE NTNU
Constructionism 25	not announced yet	NKUA
CHI PLAY 2024 and/or 2025	not announced yet	NKUA
Conference on Innovation and Technology in Computer Science Education (ITiCSE) 2024	not announced yet	NKUA
International Conference on Artificial Intelligence in Education (AIED) 2024 and 2025	not announced yet	SIMPLE
28th symposium for Flemish Science teachers in 2024	not announced yet	UGent

4.3 Policy brief

In addition to the policy events listed in Tables 1 and 2 including participation in national policy events e.g., Ministry of Education activities, a policy report will be prepared by the end of the project and shared with existing national policy contacts across partner countries.

4.4 Synergies with other EU projects

Exten.(D.T.)^2 cluster experience-exchange events:

Two common events (one on-line and one physical) will be organised each year, for knowledge and experience exchange related to emerging technologies for education, and to which members of other Horizon Europe projects, common to this cluster as well as other projects we have connections with will be invited. A first physical meet-up with two to three representatives from each of the cluster projects, including dissemination and exploitation managers from each project, is proposed during the hybrid workshop in Guimarés, Portugal 12-14 Jul 2023 https://www.mis4tel-conference.net/open-calls/call-workshops. A joint workshop proposal for the five sister projects is at the time of this deliverable in progress. A second physical gathering is proposed in Brussels during summer 2024, while the last one may be organised in the UK (London), in connection with the BETT show at the beginning of 2025. Separate two-hour meetings will be organised alongside these events for project partners to share insights from their work and learn from each other's experiences.

The on-line meetings may be organised once a year (two-hours duration) as a research seminar in which each project gives a 30-minute presentation on the on-going research in each project, followed by a 30-minute discussion.

Common scientific cluster activities:

- Feb 2023, the Coordinator of Exten.(D.T.)^2 has invited all cluster projects to submit a contribution to a special issue of the Elsevier journal Computers & Education: Artificial Intelligence https://www.sciencedirect.com/journal/computers-and-education-

artificial-intelligence/about/call-for-papers#towards-responsible-ai-in-education-challenges-and-implications-for-research-and-practice. The focus is on: Towards Responsible AI in Education: Challenges and Implications for research and practice.

- Spring 2023, organisation of a common workshop coordinated by representatives of the five projects in the context of EC-TEL 2023.
- Spring 2023, organisation of a common workshop coordinated by representatives of the five projects in the context of ICSL/CSCL 2024.
- Spring/Summer 2024, organisation of a common workshop coordinated by representatives of the five projects in the context of IDC (Interaction Design for Children) 2024.
- Autumn 2023, a special issue will be proposed to IEEE-TLT or Computer & Education on the topic of Emerging technologies for education: current challenges, threats and opportunities.
- Spring/Summer 2024, organisation of a common workshop coordinated by representatives of the five projects in the context of IDC (Interaction Design for Children) 2024.

A panel discussion or a workshop at the ECSITE conference or leveraging other activities of this network will be scheduled. For example, a panel where we discuss the results after the end of the projects (possibly in 2025) or mid-project to discuss and receive input for future directions. https://www.ecsite.eu/conference.

4.5 OpenLearn course

An OpenLearn course will be created in Year 3 of the project sharing the Exten.(D.T.)^2 approach with teachers, researchers and educational policy makers. The course will be a professional development activity interested parties can undertake to develop skills in using design thinking and technologies in education. It is a means for disseminating project outcomes at a national and international level and reaching teachers across the globe.

4.6 Social media presence

The project has created twitter, linked-in and YouTube social media accounts for sharing project news, updates and progress and inviting teachers to take part in project activities. In addition, a ResearchGate page has been created for adding paper publications when available.

Twitter and Linked-In will be updated once a week, with support from the OU project manager, in order to increase the number of followers and achieve impact at local and international level. A number of social media campaigns will take place during the lifecycle of the project. The first one ran in Nov 2022 and introduced the project team to the public. Other social media campaigns will present interesting insights about design thinking from the literature review, engagement activities with teachers, preliminary insights from data collection, upcoming dissemination events etc.

Table 4. Project social media accounts

Twitter account	https://twitter.com/extendt2
Linked-in account	https://www.linkedin.com/company/extend-t-2/?viewAsMember=true
YouTube channel	https://www.youtube.com/channel/UCf5hTi82TXaL01pSAGnq6Dg/about
ResearchGate page	https://www.researchgate.net/project/ExtenDT2-Extending-Design-Thinking-with-Emerging-Digital-Technologies

4.7 Newsletter

A newsletter will be created and shared widely every four months, starting at M6. It will provide brief updates about project activities and progress, press releases, job openings, project results and achievements. A section will be also created with upcoming events to raise awareness and enable participation. Each newsletter will be hosted directly on the project website; it will be disseminated by both a link to the website and also by embedding it into the body of an email (for quick access). It will be shared with organisations listed in Table 2, teacher contacts, institutional contacts and existing mailing lists. A list of email addresses will be compiled gathering existing contacts of partners. This list of contacts will receive the project newsletter, as part of WP8, reaching mainly academics and researchers as well as DT practitioners we work with at national, EU-wide and international level. All partners will be asked to contribute to the newsletter with content.

4.8 End-of-project conference

The End-of-project conference will host attendees and keynotes from the international technology- enhanced learning and teaching community including academics, teachers, and students. The event will be live streamed, and the aim is to share insights as widely as possible, reaching stakeholders at a national and international level.

4.9 Exploitation activities

The exploitation of project outcomes, i.e., technological products, educational activities, learning material and resources involve:

a) Exploitation of the digitally based DT projects which are part of the Exten.(D.T.)^2 objectives: This includes re-use of DT projects and associated materials and tools beyond the project period, available through the project website and free OpenLearn course.

b) Project platform: This will require further planning and feedback from stakeholders, but possible avenues include partnerships with schools to further adopt and provide feedback on the platform. The project partners will develop sustainable plans possibly offering licenses to generate a revenue stream or partnering with existing education technology ecosystems such as Google Classroom or other national ecosystems.

c) Project website maintenance: envisioned to be maintained for four years after the finalisation of the project, featuring the project's deliverables. As there will be no funding to cover hosting expenses (by Wordpress), it will move to the Coordinator's institutional website for maintenance and monitoring.

d) nQuire activities and relevant data: envisioned to be maintained for four years after the finalisation of the project and promoted through existing national and international partnerships with other universities, organisations and schools interested in using nQuire.

e) OpenLearn course: envisioned to be maintained for four years after the finalisation of the project and promoted further through other educational activities and educational projects, including exploring the possibility of connecting to existing OU pre-service teachers' courses, national science curricula and teacher training.

f) Gathering and dissemination of publications: further publications may be developed beyond the project, and these will ensure referencing the project in papers and deliverables, the scope of which is related to Exten.(D.T.)[2].

g) Lesson plans and templates: these will be emailed to schools, linked to the OpenLearn course and project website, and used in future funding applications.

h) Offering training and support to teachers on how to effectively use the platform.

4.10 Scientific Advisory Board

The project has contacted and received agreement from three world recognised leaders to act in an advisory capacity, namely Prof. Barbara Wasson (AI- Analytics), University of Bergen, Prof. Tilde Bekker (Design Thinking in mainstream education), Eindhoven University of Technology and Prof. Manolis Mavrikis, (AI analytics for constructionist digital tools), UCL. We plan to engage with the Scientific Advisory Board members at least once a year (online or face-to-face) to seek their independent view about the progress of the project. In addition, we will seek to co-organise dissemination events with their networks at least once a year to help spread the word about the project and engage stakeholders with project activities (e.g., teacher conferences, internal events connected with their universities, etc.).

5. COORDINATION OF DISSEMINATION ACTIVITIES

5.1 Internal capturing of dissemination and exploitation activities

All communication, dissemination and impact activities are captured in the dissemination and impact log, set up and managed by the WP8 Leader and accessible by all project members through the shared online project area (under WP8). Partners will receive monthly reminders (by the WP8 leader) to ensure all activities are captured and the document is updated accordingly. The document requests information detailing: activity type, date, location, KPI (e.g., number of attendees), weblink (if applicable), details (title, etc.), name of person, partner acronym and any other information relevant to the event.

5.2 Processes for publication writing

Partners should declare their intention to prepare and submit a manuscript for publication to a conference/journal/book etc. during the project monthly Operational Management Team meetings, explaining the purpose of the publication, datasets to be used and potential co-authors, for approval by the consortium. Each partner is encouraged to have the above information in hand through early discussions with involved co-authors for determining responsibilities and defining a draft paper structure/description, to avoid duplication of work and enable transparency in relation to co-authorship; i.e., a partner not originally included in the authorship list may be interested in becoming a co-author and contribute to the production of the paper. To support ongoing development, early career researchers involved in the project should be given opportunities to write with more experienced authors and also lead the

process of writing (as first authors) with support from the more experienced authors. The minimum requirement to be named as a co-author is for an individual to have read, reviewed and contributed original text to the article, beyond correcting typos and providing comments. If a person does not wish to be listed as an author this should be confirmed in writing by sending an email to the lead author of the paper.

5.3 Risks and mitigation actions

Table 5 below summarises the dissemination means to achieve maximum impact at national, European and international level in relation to respective mitigation actions of risks identified. In addition to the actions below, Tables 2 and 3 above also state the commitment of each partner to support specific dissemination activities through specific networks where they have established relationships. This helps ensure accountability and reinforces maximum impact.

Table 5. Mitigation actions related to dissemination activities

Activity	Mitigation actions
Publication of results in journals, books or special issues	Analyse all scientific results for possibility of publication, assign lead authorship and deadline for submission, review process every 6 months.
Presentation of results at relevant scientific conferences	Periodic review of project activities and advance planning i.e., attendance of at least 1 conference per year per partner (see also Table 3).
Identify workshops with existing relevant projects and projects funded under this call	Online implementation of workshops to share insights; establish connections right from the start of the project (See Synergies with EU projects section above).
Present the project outcomes in non-scientific educational events such as teacher/student conferences	Follow schools and teachers' networks in social media, participate in teacher events, organize open workshops and seminars as listed on Table 3.
Participation at National Scientix networking events fostering collaboration with other and related projects and activities	Contact the National Scientix network and host our own webinars and events for teachers beyond the project to share project results.
Present the results at policy events/meetings	Actively register, attend and present at policy- dedicated events. Host own events with teachers and actively invite policy makers to attend. Publish and policy briefings to policy makers.
Participation in open-science events to disseminate the project towards society	Host workshops and seminars open to the public in local or international open-science events such as "Researcher Night" and "EU Hour of code".
Make the educational tools available online and easily accessible through the nQuire platform	Tools are hosted on the project website which is used to communicate project details to involved stakeholders; Partners promote activities further through established national and international teaching and learning networks described above and relevant EU-funded and other projects they have contacts with, as well as through the BBC, and projects funded through this call.
Promote the project through respective partner's own and other social accounts (e.g., university and lab accounts)	Partners share content using personal and institutional accounts during and after the project; they schedule timing and content to ensure weekly updates.
Media releases	Seek support from respective institution dedicated media teams (e.g., OU media department).
Release a freely accessible online OpenLearn course (OU)	Promotion through a press release and through media teams.

6. Competitors and Market analysis

Exten.(D.T.)^2 is an innovative research and development initiative for which today there is no similar comparison that develops and implements design thinking with emerging technologies in education. As such a competitors and market analysis, in its traditional sense, is not applicable to this project. However, to gain a good conceptual understanding of the context within which the project is situated including how it differs from existing activities, WP2 implements a comprehensive literature review of design thinking projects and activities in education as well as the design and use technologies we plan to use in the project. This activity provides insights as to how key components of Exten.(D.T.)^2 have been used by other projects such as design thinking, creativity, making, what their strengths and limitations are and how we can leverage this knowledge to inform the design of our project activities with teachers, students and other stakeholders. Some of the projects shown to be relevant to our activity are listed below:

- Design Futures https://designfutures.eu implementing design thinking at schools yet with no use and application of emerging technologies to support the different phases of design thinking.
- COMnPLAY https://comnplayscience.eu/ using technologies such as robotics to support non-formal and formal science learning through coding, making, and playing.
- ERSTEM https://cordis.europa.eu/project/id/665972 using robotics to improve existing approaches to STEM education and raise interest in STEM
- UMI-Sci-ED https://cordis.europa.eu/project/id/710583 using Ubiquitous Computing (UbiComp), Mobile Computing (MobiCom) and the Internet of Things (IoT) in education for the development of new pedagogies

None of these projects are leveraging on emerging digital technologies to implement design thinking projects in schools in ways that are sustainable, enable development of 21st century skills for students and teachers' professional development. This understanding will be reinforced by our close collaboration with other EU projects through which we seek to gain an in-depth understanding of their activities, priorities, challenges and successes that will inform our work.

7. Conclusions

This Deliverable presents the Exten.(D.T.)^2 dissemination, exploitation and communication strategy. It has defined the projects objectives, tools, channels, actors and strategies for communicating effectively with a range of stakeholders while it has also allocated relevant responsibilities to project partners, leveraging their existing contacts and access to communication channels.