X Modal
X Cultural
X Lingual
X Domain
X Site
Global OER Network

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LIST OF ABBREVIATIONS

AI	Artificial Intelligence
API	Application Program Interface
BD	Big Data
CMS	Content Management System
COL	Commonwealth of Learning
CSO	Civil Society Organization
DOL	Distant Online Learning
EC	European Commission
EMEA	Europe, the Middle East and Africa
ECR	Early Career Researcher
HCI	Human Computer Interaction
ICDE	International Council for Open and Distance Education
IPR	Intellectual Property Rights
IR	Information Retrieval
JRC	Joint Research Centre
LAC	Latin America/Caribbean
LMS	Learning Management System
MENA	Middle East and North Africa
MOOC	Massive Online Open Course
ML	Machine Learning
MT	Machine Translation
OER	Open Educational Resources
PHD	Doctor of Philosophy
SDG	Sustainable Development Goals
SSA	Sub-Saharan Africa
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization

ABSTRACT

This deliverable contains the initial plans for the X5GON project to engage the community through a combination of real-world events (consisting of off-line, face-to-face meetings, hackathons, etc.) and on-line communication and dissemination activities and services. It is based upon a study of which “real world” activities (meetups, focus groups, user analytics), the social media channels (mailing lists, wikis, blogs) to be strategically targeted by the project, and plans a series of X5GON organized events. A plan is put in place for feedback solicitation and continued engagement. Finally, we propose how impact related to those channels will be monitored throughout the project’s timeline.

The Plan for the Exploitation and Dissemination of Results is one of the compulsory reports required to be submitted to the EC by all H2020 projects and addresses the dissemination activities which demonstrate the added-value and positive impact of the project in the European Union and beyond. The efficient dissemination of the complete portfolio of results produced within the project is one of the key objectives of the X5GON Consortium. We distinguish these into four categories, namely research, technology, policy and educational results.

As the project has value for different stakeholders, its results speak to different target audiences such as researchers, technologists, educators, entrepreneurs and policy makers. Therefore, we grouped these audiences and differentiate at least three dissemination streams for single and combined approaches. Starting with the open education community, data science community and policymaker’s community. As these three appear inherently broad, consisting of researchers, industry-specialists, policy-makers and decision makers all invested in a range of data-related and openness topics, it is important that X5GON engages with these communities at every opportunity in order to bring in valuable feedback from different angles.

The first part of our engagement strategy is attending off-line events such as conferences and meet-ups where this will be realised. The second is based around the online community. Using a mixture of broadcast channels (for disseminating news and updates on the project) and responsive channels (for encouraging feedback and conversation) we aim to develop a strong level of support around the X5GON agenda, which can be leveraged in order to tailor X5GON activities to the community. This engagement activity is therefore an essential component of the X5GON project and will be vital in order to ensure that on-going feedback is received, and that the resources developed for the project are disseminated to a wide-ranging audience.

Furthermore, the aim of this deliverable is to provide a report on the envisaged dissemination activities of the project results. The Plan for the Exploitation and Dissemination of Results summarises the consortium’s strategy and concrete actions to disseminate, exploit and protect the foreground generated within the project and serves as a guideline to the Consortium for the dissemination and exploitation activities to be carried out in the context of the X5GON project. Dissemination activities will be performed during the three years of the project (September 2017 – August 2020) and after the end of the project. This initial deliverable aims at the presentation of a suitable dissemination plan for making the project and its results known all over Europe and beyond.

1. INTRODUCTION

The primary objectives of the Dissemination WP are to disseminate the project outputs and coordinate a network of European and Global Open Educational Resources repositories and align them into one dissemination flow. Following the Exploitation WP8, which identifies the exploitation stakeholders of the final project result, WP1 which creates the OER quality assurance framework, and WP4 which creates the platform, this WP engages the learning community of key educational sectors, professionals and practitioners in open education and OER training with the content and platform produced and delivered from other WPs.

As the project is highly innovative in its X5 cross-design from X-site, X-domain, X-lingual, X-cultural, X-modal and direct engagement of users in real-life, data-driven, content-aggregating pilots, complemented by online channels it calls for agile and fast-track dissemination activities. Dissemination will be pushed via offline events and online approaches, accessing different communities such as; scientific, educators, industries and companies, HEI institutions and managers, disability networks, EU policy actions and UN and UNESCO SDGs actions, especially reflecting a strong focus on the role of OER in achieving Sustainable Development Goal 4.

We will aim to create and lead new activities, such as promotional and offline promotion and training events and produce feedback on learning analytics collected online via the pilots. In order to identify the OER aggregation potential and skills acquisition and definition in the European educational and industrial landscape and enhance the overall value and coherence of our R&D work, this WP will promote exchanges between EU projects, industrial sectors and professional OER communities, who can join as extra pilot cases, and add up to our system and provide an add-on to our services. Dissemination will be multi-layered, local, national, international, regional and global, and segmented to identified target audiences.

Additionally, we will engage the Open Education, Data Science, Machine Learning, researchers, Open Source Software activists and Policymaker communities, and the communities from relevant industrial publishing sectors and professional educational companies and research projects connected to the ethos of “openness” in education.

2. RESULTS DISSEMINATION FRAMEWORK

Dissemination is about spreading a message (the object of dissemination) to groups of people or organisations (the target groups) via one or more channels in order to achieve a specific impact (effect of the dissemination). Therefore, the development of a consistent dissemination strategy is required for the successful dissemination of the important research results produced within the X5GON project.

The achievement of the highest possible impact of the X5GON project requires the development and adoption of an efficient and effective dissemination and exploitation strategy, as well as the transmission of clear messages. According to the Diffusion of Innovation theory[1], the diffusion process is defined as one "which is the spread of a new idea from its source of invention or creation to its ultimate users or adopters". The X5GON Plan for the Exploitation and Dissemination of Results is in line with the philosophy described in this theory.

[1] Rogers EM. Diffusion of innovations. 4th ed. New York: Free Press; 1995.

2.1 METHODOLOGY

In order to ensure that efficient and effective dissemination and exploitation activities will be performed throughout the project lifecycle, a consistent methodology was applied for the development of the X5GON Plan for the Exploitation and Dissemination of Results. The following figure illustrates the methodological steps followed for the development of the X5GON Plan for Dissemination and Exploitation of project results.

Step			Task
Step 1		Conceptual Design of the Plan	**Definition** of objectives of the X5GON Plan for Dissemination, including Exploitation of Results
Step 2		Design of the instrument to be used for the collection of the dissemination and exploitation activities	**Development** of the template to be used for collection of Dissemination activities, including Exploitation
Feedback	Step 3	Detailed Plan Development	**Collection** and Analysis of the input received from the partners **Development** of the Plan for the Dissemination and Exploitation of the events
	Step 4	Plan Execution of activities	**Implementation** of Dissemination activities, including Exploitation
	Step 5	Plan Evaluation	**Monitoring, Update and Evaluation** of Dissemination activities, including Exploitation

Table 1: *Methodology towards developing the X5GON Plan for Dissemination and Exploitation of project results*

2.2 STRATEGY

From the beginning, each project partner will be committed to creating a high level of early publicity for the project by communicating the launch and objectives of the project through their own business communication channels, e.g.: press releases, newsletters and news-related media, website, etc.; to generate broad public awareness of our RTD activities.

A project website will be created, hosted and maintained by K4A which is the dissemination partner responsible on behalf of the consortium. It will be designed, structured and implemented in the first two months of the project, with the primary aim of providing general purpose information about the project, its objectives and partnership, summarise the major project results to third parties, provide up-to-date event and news information, and provide a space for viewer download of public documents. The website presence will be augmented and extended with the creation of the X5GON platform and data sharing point. An internal communication/document sharing platform with restricted access will also be made available to the consortium and associated partners, and to the European Commission.

This Web platform is permanently updated and improved in line with the project results. The implementation of the impact creation strategy (issued at month 6) aims to: (i) create awareness amongst potential user groups and end-users; and (ii) present the results within research and industry communities. The strategy includes an identification and definition of each target group, a structured set of dissemination goals to be achieved at determined points of time for each target group, and a detailed description of dissemination methods, channels and activities to achieve those goals during the project lifetime.

2.3 TARGET GROUPS

Based on the preliminary analysis performed for the identification of the X5GON target groups, the following groups of interest for the X5GON Consortium were identified:

- **European and world citizens** who need access to open and online education that is not constrained by, modality, culture, domain, language, domain and other barriers.
- **OER providers**, which wish to offer high-quality, integrated aggregation, curation and personalised educational services.
- **Machine Learning developers**, who need a platform for promoting, testing and comparing their solutions.
- **Educational Technology Engineers**, who need access to accurate and robust content infrastructure.
- **Educational Technology Companies** or Edtech and other data and education driven companies, as well as the wider public.
- **European Governments** adopting, testing and looking for equity solutions in OER.

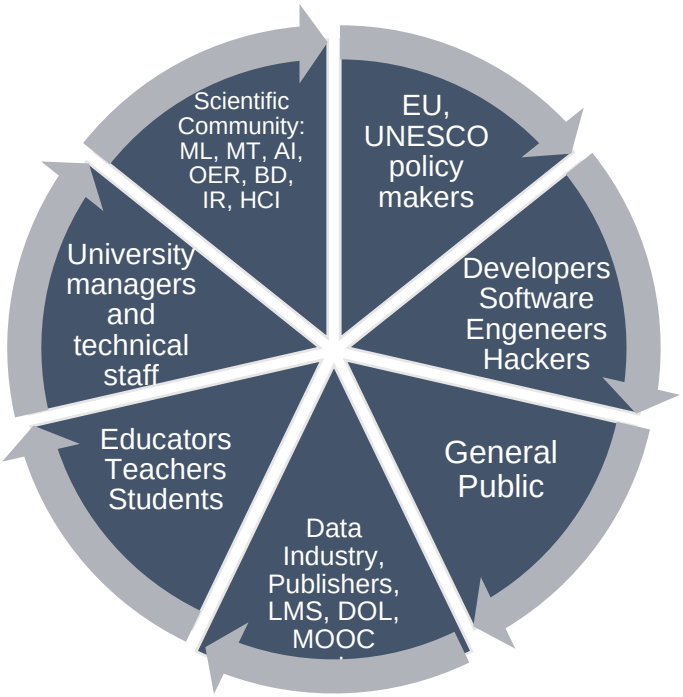

Figure 1: *Extended target groups*

Following the above strategy, it is apparent that multi-step and multi-channel dissemination actions will be carried out in order to reach different target groups, with information adjusted carefully to audience level of need and involvement. The following table from the DOA summarizes the dissemination policies that X5GON participants will undertake in correspondence to the target audience (Table 1).

Target Audience and Dissemination Activities		
Target Community	Dissemination approach	Activities
Users/learners of used services at pilot sites, data scientists, teachers, organisations, and policy makers.	This includes mainly real installations of X5GON services at the pilot cases. This is the main target user group (both individuals and legal entities) that is on one side being already served by the pilot operators and the group that needs to be attracted through the business strategies.	• Services use • Measuring user satisfaction, user interface satisfaction, usability and recommendation services • Regular updates • Existing marketing approaches at the pilot operators • Unforeseen business and exploitation opportunities within target communities
People with disabilities	X5GON services will deliver educational personalised OER media content to disabled population, in particular to social characteristics, such as age, gender, and socio-economic status. Dissemination will focus on finding OERs that are suitable for people with impairments, and deliver them via personalisation, and create special standards for future such OER.	• Targeted workshops • Broadcast publications • Scientific papers • WWW • X5GON Community
OER and Open Education communities	Dissemination will focus on the use and potentials of X5GON technologies in order to go beyond the EU borders.	• Targeted workshops • Brochures • Broadcast publications • Scientific papers • WWW • X5GON Community • Internet Based Seminars
Scientific and research community	Dissemination to this group will focus on disseminating the solution and language resources developed in the project. This will be through European and international conferences/ workshops, scientific newsletters, magazines, websites, etc. Links	• Scientific papers • Journal articles • Presentations • Workshops • Related EU projects • WWW • Newsletters, mail lists • Lectures

	and synergies with other regions and regional actors will also be sought.	• X5GON Community • Internet Based Seminars
European ministries of education in EU and UNESCO member states	5^x open education is one of the main goals of "Opening Up Slovenia" initiative that is the role model for Opening Up Education Europa. Slovenia committed to go strategically on open education on all levels. As the consortium committed on starting their own "Opening up *Member States"* each pilot including VideoLectures.Net for OuS will be promoted widely.	• Regular OuS conference • K4A organised yearly workshop on the future of learning • Other Seminars/workshops in the frame of OuS • Brochures • X5GON Community • Internet Based Seminars • OuS associated and core partners
European institutions, Broader public	Dissemination will focus on European institutions, including the DGs, and other European representative bodies. The strategy for these other representative bodies is to identify where X5GON project can contribute to existing initiatives for cross lingual modal and scientific domains technologies.	• WWW • Brochures • Conferences, seminars, workshops • X5GON Community • Internet Based Seminars
X5GON UNESCO Chairs	Dissemination will focus on UNESCO Chairs and UNITWIN Networks in key priority areas related to UNESCO's fields of competence – i.e. in education, the natural and social sciences, culture and communication. The strategy is to identify where X5GON can contribute and influence in added value in policy making. Coverage will include UNESCO OER Chairs, UNEISCO UNITWIN network, Open Education Consortium, Opencast, K4A and Opening Up Education Europe.	• Policy papers • UNESCO network • UNESCO Chairs network • UNITWIN network • Conferences, seminars, workshops • X5GON Community • Internet Based Seminars • Teleconferences

Table 2: *Dissemination - target groups and activities in DoA*

2.4 COMMUNICATION

Our communication strategy will be set up with a similar, though slightly broader audience in mind as the dissemination activities introduced earlier. In particular, we are interested in building an offline and online presence of the project that speaks to a broader community, and allows us to:

- Build awareness of smart technologies for OER,
- Create business opportunities, either project related or services related,
- Disseminate information and facts about X5GON either as an academic, researcher, business or as a service partner,
- Discuss important developments, both technical and non-technical, in the Open Educational Resources and Artificial Intelligence field and inform our audiences about them.

Following these streams, we will establish the communication with stakeholders. This will include a variety of media material: press releases, advertisements, advertorials and the provision of audio, video and text to media for republishing.

- **Communication with the public and networking** to carry out a set of communication efforts, which address the specific target audiences defined in the project and the broader public.
- **Communication with governments and disabled communities** to carry out a set of communication efforts towards EU governments, IGOs and NGOs in education and impairment, and address these specific European and global target audiences on a policy level.
- **Communication with businesses and exploitation communities** to carry out a set of communication efforts towards businesses interested in the understanding of OER and the projects potential in education.

3. PLAN FOR THE DISSEMINATION OF RESULTS

3.1 OBJECTIVES

Dissemination activities in X5GON will take place with the following objectives:

- Ensure that the results are appropriately disseminated at consortium level and within each partner organization.
- Ensure a public dissemination by contributions to national and international R&D think tanks and scientific conferences.
- Make the platform with three services to be offered X5oerfeed, X5analytics and X5recommend widely known to end-users, relevant target groups and key R&D and industrial players, and
- Ensure the sustainability and long-term operation of the platform after the end of the project.

3.2 DISSEMINATION INSTRUMENTS AND ACTIVITIES

The abovementioned target groups will be addressed through the following dissemination actions:

- Public website[2] and platform demonstrator[3] have been set-up to present the main objectives of X5GON as well as its expected impact to society,
- Communication material (flyers, posters, presentation, brochure) has been developed so as to cover the needs of events and communication actions of the project for different target public levels such as general public, OER providers, scientific community, etc.,
- Scientific publications and presentations targeting key journals and conferences,
- Participation to workshops and conferences,
- Social Media groups gradual creation and usage (Twitter, Facebook and LinkedIn groups, YouTube channel).

Finally, individual partners have already planned dissemination actions to publicise their findings, innovations and general presentation from the project. These include publications in magazines, respected scientific journals, presentations at scientific conferences and investors meetings. In general the dissemination activities planned by the X5GON consortium partners can fall into one or a few of the following categories, these are also available for partners on an internal submission form[4]:

Type of activities
Organisation of a conference
Organisation of a workshop
Organisation of a hackathon
Lobbying meeting
Press Release
Non-scientific and non-peer reviewed publications (popularised publications)
Exhibition
Flyers training
Social media
Communication campaign (e.g radio, TV)
Participation to a conference
Participation to a workshop
Participation to a hackathon
Presenting at event
Participation in activities organised with other H2020, Erasmus+
Participation to an event other than a conference, workshop, Hackathon
Enterprise, Industry meeting
Pitch event
Policy event
Presentation at investment event
Brokerage event

Table 3: *Breakdown of dissemination activities*

Type of audience	Geographic coverage
Scientific Community (HEI, Research)	Institutional
Industry	Local
Civil Society	Regional
General Public	National
Policy makers	European

[2] Project website https://www.x5gon.org/
[3] Platform demonstrator https://platform.x5gon.org
[4] Dissemination and Exploitation forms https://www.x5gon.org/dissemination-and-exploitation-forms/

Medias	International
Investors	Global
Enterprise	
Customers	

Table 4: *Break down of dissemination audience and reach*

The planned and performed X5GON dissemination activities are presented in detail in Section A1 and A2 of the Appendix.

In the following chapters, we report on the project's dissemination activities performed during the first year of the project are listed. We also list an initial list of planned exploitation activities. Both these will be updated and more concrete after the project will deliver its first version of the platform. It is worth mentioning that a full list of all performed and planned dissemination and exploitation activities is included in the Appendix of this deliverable.

4. REAL-WORLD COMMUNITY ENGAGEMENT

Since the project aims to gain from the expert knowledge of several communities, but also satisfy the needs of a plethora of audiences and stakeholders, it is important to cater to the need of these different communities and engage them in the project. This will give us quick and valuable feedback. Following this logic, members of the X5GON consortium need to be actively involved in creating and attending real-world events to disseminate the results, news and details of the project.

Two types of events are going to be employed, the first to antagonise and incentivize the communities and the second type to offer training relating to the benefits of joining the X5GON platform and list of OER sites with technology usage and contribution. These two synchronised event categories are designed to interact with X5GON and engage with stakeholders and communities in real-world environments.

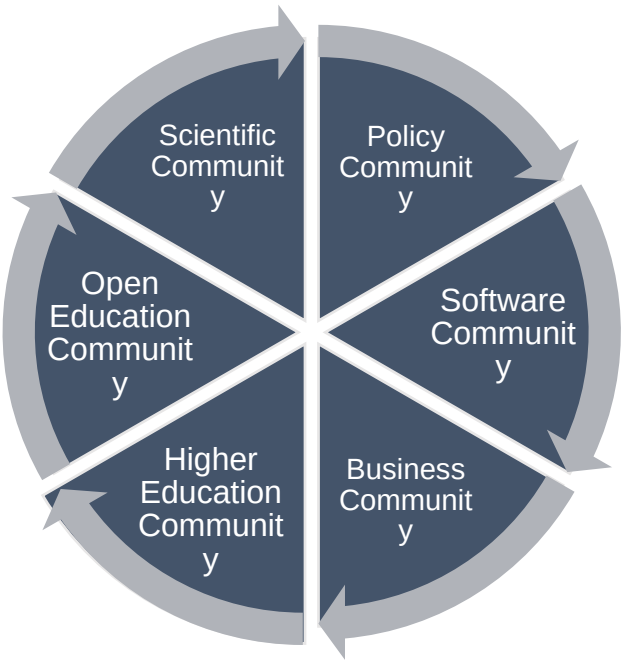

Figure 2: *Targeted communities for real-world engagement*

4.1 WORKSHOPS, TUTORIALS, CONFERENCES, MEET-UPS

In order to create connections with key target groups and key stakeholders, we will create and attend a variety of events. As highlighted by reports into OER and open education research, technologies and policies, there is the need for the consortium and the community to establish a value proposition and present benefits for adoption and usage of the X5GON results, and interact with these individuals at face-to-face events will be invaluable in carrying out this process. We will focus on a portfolio of themes, each vitally important due to the nature of X5GON. However, we will focus on data science as a new subject in OER, and data-driven and evidence-based policy recommendations for policymakers at UNESCO, European Commission, national and regional levels on open education, based on research evidence and technologies results in X5GON.

4.2 RESEARCH CHALLENGES PROGRAMME

Competition has always driven researchers to achieve results that are better than they might have achieved working alone. We will extend K4As highly successful Challenges programme, enabling its members and members of the public to create their own Machine Learning challenges for each other and to disseminate their results in K4A-sponsored workshops. In the past the Challenges enabled diverse real-world applications from other fields to be introduced to the machine learning community. We plan to execute at least a few during the lifetime of X5GON, some now so established that they have steered research agendas across the world; their regular workshops are almost conferences in their own right.

4.3 HACKATHONS AND IDEA JAMS PROGRAMME

With the goal of creating usable software, we plan to attend and launch Hackathons designed to incentivise software engineers, computer programmers and others involved in software development, including graphic designers, interface designers, project managers, to collaborate intensively on software projects based on the X5GON data. Our goal will be to identify a relevant dissemination event and incentivise and attract a group of talents to solve a real-world problem around the data available. The relative timing could be from one to three days, and we will use them as a peer-learning environment, fostering new ideas and connections in data and OER.

Since a hackathon or idea jam is in general an event where identified challenges are solved innovatively, using data and technology or ideas, we plan to start by identifying a specific challenge coming from a general theme and build the event around it. The hackathons could also be used in the domain of policy to create a “policy experimental laboratory”. At the hackathon we will work in interdisciplinary teams to create sustainable solutions, learn how to think entrepreneurially - generate ideas, build or design a way to test these ideas, make new connections and expand our network.

4.4 OPEN EDUCATION EVENTS

To pivot the results and above all showcase the produced technology, it will be important to find synergies and collaborate with researchers at the forefront of developments in e-Learning, Open Learning, Open Education Practices and Open Educational Resources. As an example, the main focus in the first year will be a set of

experts events such as OE Global 2018 – Open Education Global Conference, OER18: Open to All, Mobile Learning Week 2018, Creative Commons Summit 2018, etc. Events such as these will allow us to promote the X5GON platform, services and potential and focus beyond the usability and data-oriented subject side of the project and, and gain new insights from a wide a granular community that overlaps with X5GON in the learning and training delivery and research side. This will help us take advantage of validating in the best possible best possible way our assumptions regarding towards creating an open learning environment.

4.5 DATA SCIENCE EVENTS

With interesting developments taking place in the field of Big Data and Data Science almost every day, and the general hype around events organised around AI, we need to be on top of our game to create and also catch-up with the trends. We will try to address and introduce Open Educational Resources in the field of Data Science in combination with online and even offline Education. This is also connected to WP8 Exploitation, as experienced and/or emerging data scientist are looking at ways to improve their knowledge base and augment their skills to be in line with what the business world is expecting today.

Therefore, we will aim at being present at scientifically relevant conferences such as KDD (Knowledge Discovery and Data Mining), NIPS (Neural Information Processing Systems), educational conferences such as AIED (Artificial Intelligence in Education) and open education conference such as Open Education Global Conference (OE Global), but also at conferences which attract practitioners, developers and data scientists looking at business and extensive open source software opportunities.

4.6 POLICYMAKING EVENTS

We will take advantage of the Bulgarian Presidency of the Council of the EU Conference, the Austrian presidency of the Council of the EU from 1 July - 31 December 2018 and all others until the end of the project to focus on introducing the projects results in terms of policy experimentation and data-driven policy making at major events like “Digital Education and Entrepreneurial Skills for Inclusive, Cohesive and Innovative Societies, 11 April 2018.

In terms of EU and international policy making, the project is being cited as best practice and is part of the research on open education carried out by the JRC in a contribution to the European Commission’s initiative on open and innovative education *Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources* (European Commission, 2013). This report and the agenda also contributes to Communications on a *Renewed Agenda for Higher Education and School Development* and *Excellent Teaching for a Great Start in Life* (European Commission, 2017).

The report can be understood as an important element in working towards a European Education Area, as outlined in the Commission Communication Strengthening European Identity through Education and Culture (European Commission, 2017). In addition, the MIZS in Slovenia as partner in the project will disseminate the project within policy events to make a technology case and support the Education and Training 2020 agenda, the new priorities of which include open education.

Within MIZS also resides the Slovenian National Commission for UNESCO which is directly connected to UNESCO headquarters, therefore granting access to global policymaking. The project idea is disseminated so as to influence international policy and standardisation organisations to shape policies based on technological availability and adopt and increase the use of X5 technologies (X-site, X-domain, X-lingual, X-cultural, X-modal) has proven successful, as we created entry points into 111 countries – a foreground asset for the final business plan. The following actions were designed and deployed:

- **Influencing policy development at an international and global level** including co-organising the 2nd World Open Educational Resources (OER) Congress with experts and national delegates from 111 countries (UNESCO Member States) who adopted by acclamation the 2017 Ljubljana OER Action Plan, which presents 41 recommended actions to mainstream open-licensed resources to help all Member States build Knowledge Societies and achieve the 2030 Sustainable Development Goal 4 on "quality and lifelong education";
- **Introducing X5GON technologies** into a new UNESCO Standard-Setting Instrument[5], as decided by the Communication and Information Commission at UNESCO´s General Conference, UNESCO together with its 195 Member States and X5GON members is preparing *Recommendation for Future International Collaboration in the field of Open Educational Resources* (OER)[6] until the next session of the General Conference, which will take place in 2019;
- **Developing further a Governmental Partners network** of our early-adopters by further developing a Dynamic Coalition[7] of governments *"to expand and consolidate commitments to actions, strategies and legislation"* in open education language technologies, with a *"call on all educational stakeholders to implement the recommendations of the Ljubljana OER Action Plan 2017 "* as stated in the ministerial statement[8].

4.7 INDUSTRY AND INVESTMENT EVENTS

Dissemination and exploitation synergies will be employed in pursuing and identifying investment opportunities. This will be identified and disseminated in all partners' member states.

As described in details in D8.1 Market Analysis, we are here also reporting that current research shows that for the time being London, UK is the optimal location for disseminating our results and get validation in terms of funding and investment opportunities for possible spin-off, start-up or joint entities in Europe. Especially attractive is the UCL Business PLC, the commercialisation company of UCL which can provide initial funding. Currently the UK still ranks as #1 in educational technology venture capital and angel funding in Europe, contributing 34% (£178 million) of the total investment in the sector.

These are UK-based venture capital and seed angel investors in early stage Edtech companies, those with less than £10m in revenues. Additionally, the educational

[5] UNESCO Standard-Setting Instruments, 2017. http://portal.unesco.org/en/ev.php-URL_ID=12024&URL_DO=DO_TOPIC&URL_SECTION=201.html (accessed on 24-12-2017)
[6] Draft text for UNESCO recommendation in OER https://www.oercongress.org/unesco-oer-recommendation/
[7] Dynamic Coalition, 2017. http://www.oercongress.org/congress/dynamic-coalition/ (accessed on 7-1-2018)
[8] Ministerial Statement https://en.unesco.org/sites/default/files/oer_congress_2017_ministerial_statement.pdf

technology sector is one of the fastest growing in the UK and is expected to reach £3.4bn by 2021[9]. London is likewise the launch pad for the US market for further investment rounds[10], following the idea that the majority of investors in OER are US based. There are 67 seed investors in London who invest in start-ups at seed stage[11].

However, there are also very compelling EC opportunities, such as the SME instrument. Small and Medium-sized Enterprises that are EU-based or established in a country associated to Horizon 2020 can now get EU funding and support for breakthrough innovation projects with a market-creating potential under a revamped SME instrument, which is rolled out as part of the European Innovation Council (EIC) pilot. The SME instrument can also boost fast company growth and market-creating innovation thanks to staged funding and ramped up business acceleration services.

4.8 FOCUS GROUPS

Focus groups will be of key importance in giving feedback for the interface prototype, especially in WP6 Studies in the wild and WP5 Piloting – as well as helping understanding the business requirements in WP8 Exploitation in business and industry interactions and sectors and WP4 platform requirements. Focus groups will be run in the Slovenian cluster (MIZS, PO, JSI) and can comprise of educators, students, online end-users, business analysts and serve an additional function in allowing direct face-to-face interaction with communities of OER and IT university managers and data scientists from each of these sectors.

These will make for an important part of our engagement strategy. We assume that keeping lasting and valuable relationships can be developed through these events. A richer and deeper interaction with each participant will be achieved if the focus groups remain small (3-5 participants) or medium sized (8-10 participants), although this is defined by the type of interaction required.

4.9 INTERNATIONAL DEVELOPMENT ACTIVITIES

The international aspect of matching European value with neighbouring regions will be achieved via UNESCO Chairs. These are valuable multipliers for the X5GON results and are associated with UNESCO, COL and ICDE. These will offer a dissemination channel to over 700 institutions in 116 countries. It is imperative to say that UCL was awarded with the UNESCO Chair in Artificial Intelligence, and X5GON presents the main building block in the portfolio of its international development projects with global reach. Currently X5GON praises itself with an incredible high average points of three UNESCO Chairs:

- UNESCO Chair in Artificial Intelligence (UCL)
- UNESCO Chair on Open Technologies for OER and Open Learning (JSI)
- UNESCO Chair in teacher training technologies with OER (NA)

[9] The UK ranks #1 in edtech venture capital funding in Europe, 2016. http://edtechnology.co.uk/Article/the-uk-ranks-1-in-edtech-venture-capital-funding-in-europe (accessed on 24-12-2017).
[10] Edtech: London, Capital for Learning Technology http://www.ednfoundation.org/wp-content/uploads/EdtechUK_LP_report.pdf (accessed on 24-12-2017).
[11] 67 seed investors in London 2017 – VCc's/venture capitalists who invest in startups, 2017. https://runwayea.st/blog/67-seed-investors-london-2017-vcsventure-capitalists-invest-startups/ (accessed on 24-12-2017).

4.10 Real-World Impact Assessment and Feedback

The impact of real-world engagement activities will be assessed based on the criteria developed in D8.2 Impact assessment report, an internal report to be published only in M36, but will lay the foundations for the assessment of the project impact in general. However, we will assess our dissemination impact based on the number of events attended, their category (data science-related, open education, online learning, e-Learning or training, etc.) and general estimated reach-out, participants and attendees number of the events where applicable. Finally, we will encourage feedback from the community, and when hosting real-world training events, we will gather this specifically through surveys and user testing reports.

5. ONLINE-WORLD COMMUNITY ENGAGEMENT

The online engagement is designed to be synchronised with the real-world one and the events designed and described in Section 4. Here we similarly envision two types of interactions and community engagement strategies. The first is the online injection of information towards the basic dissemination activities around X5GON, the second is a harvesting, attracting and incentivising users towards the X5GON open technologies for recommendation, learning analytics and learning personalisation services that will work across various OER sites, independent of languages, modalities, scientific domains, and cultural contexts. There is a natural and necessary overlap in the off-line and on-line approach that we will utilise to our benefit and drive us towards deeper penetration in our target audiences, allowing us to plan for a long-term user engagement.

5.1 Social Media, Newsletter and External Mailing List

Traditional social media approaches are not so efficient; therefore, a new more agile approach will be taken into consideration. We will adopt our strategy to when we have tangible results to share and with the given feedback, reduce the poor performing channels and push for the successful ones. A Twitter account, LinkedIn profile and Newsletter will be introduced at milestones to better target the respective audiences for the X5GON project.

5.2 Video Channel

VideoLectures.Net will be used to broadcast the consortium content to the outside. It will be used to film, produce and publish video from meetings, workshops, tutorials, conferences and interviews, along with demos and short promo videos targeting a set of wider user groups. The platform is also itself one of three case studies in the project, and can produce and present learning analytics for each specific video produced which will help us recognise and analyse viewing patterns. We will use this channel to communicate with our different target groups.

5.3 Website and Blog

The consortium partners comprise of a project team which expertise and profiles range from computer science researchers and educators, to policymakers and open education practitioners and advocates. This presents a great value for an expert community blog to facilitate the publication and promotion of project-based articles around the open education, data science and open policies topic. By providing this,

we can increase the overall approach towards our identified communities and strengthen the X5GON brand image. We will also allow the community itself to broadcast relevant information via our blog and share their ideas, but through the comments feature allows for a discussion to occur around the post where other members of the community, and members of the X5GON consortium can reply and engage. The blog will be part of the official website.

5.4 MAPPING OF ARTIFICIAL INTELLIGENCE HOT SPOTS

K4A has launched the “Emerging Economies Artificial Intelligence Ecosystem Directory”[12] to create the first global map of talents, players, knowledge and co-creation hot spots in AI in developing countries, in three clusters (i) private sector with start-ups and accelerators, (ii) University labs and public sector, and (iii) NGOs, CSOs, think tanks, development projects.

This has resulted in identifying 600 entities in the AI distribution in developing countries, specifically in low-middle income countries in 4 regions, Latin America/Caribbean, SSA, MENA, Asia.

It was specifically designed to support and present a basis for WP8 Exploitation in approaching all these institutions with an X5GON social innovation and/or business offering, presenting our technologies for OER and an educational platform for their use and consumption.

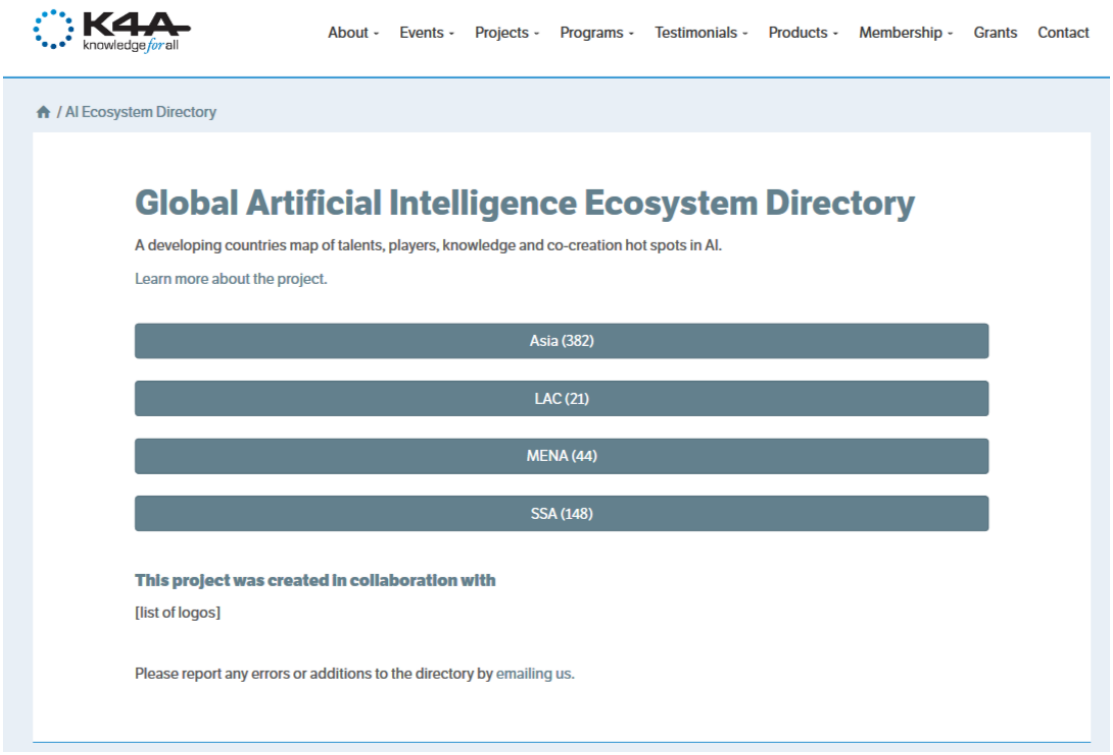

Figure 3: *Global Artificial Intelligence Ecosystem*

[12] Emerging Economies Artificial Intelligence Ecosystem http://www.k4all.org/ai-ecosystem/

5.5 ONLINE-WORLD IMPACT ASSESSMENT AND FEEDBACK

The assessment of the online dissemination impact for the channels used for the online reach-out will be measured via engagement, shares and views, but most of all we will be able to use these to understand the extent and reach and design further strategies of disseminating our work. As the building of the X5GON platform proceeds we will try to evaluate the size of a possible community around the platform and the usage and interaction of users with the content delivered via the platform, and the data exploitation. However, we will also monitor web server logs and analytics regarding of the main project website's access, to understand and determine the level of engagement by all of the online activities.

6. OVERVIEW OF DISSEMIANTION ACTIVITIES

6.1 LIST OF PERFORMED/PLANNED SCIENTIFIC (PEER REVIEWED) PUBLICATIONS (M1-M12)

A. Publication in conference proceeding/workshop:

1. S. Kreitmayer (UCL), Y. Rogers (UCL), J. Shawe-Taylor (UCL), Design in the Wild: Interfacing the OER learning journey, The Chartered Institute for IT (ACM Proceedings), 32nd Human Computer Interaction Conference, May 2018
2. F. Ollermann (UOS) Anforderungen von Lehrenden an ein OER-Portal für Hochschulen, virtUOS Working Papers, Osnabrück, Germany, December 2018
3. S. Kreitmayer (UCL), Novel interfaces to support engagement and reflection in personalised online learning, Learning @ Scale 2018, London, UK, June 2018

6.2 LIST OF PERFORMED/PLANNED DISSEMINATION AND COMMUNICATION (M1-M12)

B. Conference Presentations:

4. D. Orlic (K4A), M. Jermol (JSI), 2018. X5GON project overview (presentation 3x) on technology plan and policy issues, Open Education Consortium Global conference, Delft, Netherlands, April 2018
5. D. Orlic (K4A), 2017. Research Institute for Innovation & Technology in Education (UNIR iTED), discussion on Open Education in practice, X5GON project overview (presentation), UNIR iTED Congress 2017: eLearning and Open Education in practice, Madrid, Spain, November 2017
6. D. Orlic (K4A), 2018. Online Educa Berlin, X5GON project accepted in the format of a panel presentation, X5GON project on AI and OER building a Netflix for Open Education, Berlin, Germany, December 2018

C. Organization of a Conference/Workshop:

7. D. Orlic (K4A), M. Jermol (JSI), 2018. Mobile Learning Week 2018 workshops, X5GON project overview (presentation), Implementing the Ljubljana OER Action Plan by Building Skills via OER based Artificial Intelligence technologies, Paris, France, March, 2018

8. D. Orlic (K4A), M. Jermol (JSI), 2018. Mobile Learning Week 2018 workshops, X5GON project overview (presentation), Strategy Labs - The role of UN agencies/UNESCO in Artificial Intelligence, Paris, France, March 2018
9. M. Jermol (JSI), 2018. The University of Nova Gorica and UNESCO Chair on Open Technologies for OER organized a 5-day course on Open Education Design, Vipava, Slovenia, July 2018
10. D. Orlic (K4A), M. Jermol (JSI), B. Čampelj (MIZS), 2018. Experts meeting for UNESCO Recommendation on Open Educational Resources (OER), leading the draft text formulation further to the adoption of Resolution 44 'Desirability of a standard-setting instrument on international collaboration in the field of Open Educational Resources (OER)' at the 39th Session of the UNESCO General Conference, Paris, France, March 2018
11. D. Orlic (K4A), M. Jermol (JSI), 2018. "Setting up the Category 2 Centre on Artificial Intelligence Under the Auspices of UNESCO", X5GON project overview (presentation), X5GON as first project in new Centre in Artificial Intelligence addressing SD4 4 - Education for All, Ljubljana, Slovenia, May 2018
12. J. Shawe-Taylor (UCL), D. Orlic (K4A), 2018. Workshop during 2nd project meeting, X5GON related topics and businesses, Cumberland Lodge, UK, September 2018

D. Participation in activities organised jointly with other H2020 project(s):

13. D. Orlic (K4A), M. Jermol (JSI), 2017. X5GON project overview (Poster presentation) H2020 Media Projects' Workshop: Collaboration Towards the Future of Media, Brussels, Belgium, October 2017
14. D. Orlic (K4A), 2017. MicroHE project kick-off, X5GON project overview and extendibility to blockchain solutions (presentation),"MicroHE – Support Future Learning Excellence through Micro-Credentialing in Higher Education
15. Erasmus+, EACEA/41/2016 - Forward-Looking Cooperation Projects, Heilbronn, Germany, December 2017
16. D. Orlic (K4A), 2017. I3 Impact Innovation Invest is a 30 months CSA, X5GON project overview (presentation) and pitch to investors, I3 London 'Media Innovation & Investment' event, London, UK, October 2017

E. Participation in a Conference/Workshop/Event other than a Conference or Workshop:

17. D. Orlic (K4A), 2017. Communia international association on the digital public domain, X5GON project overview and issues with open licensing, Communia strategy meeting for a better copyright for education, Brussels, Belgium, November 2017
18. D. Orlic (K4A), 2018. X5GON project overview (presentation), Presentation on machine translation for open content and OER aggregation platform, Creative Commons Summit, Toronto, Canada, April 2018
19. D. Orlic (K4A), M. Jermol (JSI), 2018. Mobile Learning Week, UNESCO's flagship ICT in education event, X5GON project overview (presentation), Paris, France, March 2018
20. M. Jermol (JSI), 2018. Invited by Marietje Schaake, Member of the European Parliament (MEP) as speaker to a roundtable at the Future of Technology in Education at the European Parliament, X5GON project overview and issues with open licensing, Brussels, Belgium, March 2018
21. D. Orlic (K4A), 2018. Meeting at Idea London with John Spindler, Head of Capital Enterprise, X5GON project overview (presentation), London, UK, July 2018

22. J. Shawe Taylor (UCL), Y. Rogers (UCL), D. Orlic (K4A), 2018. Meeting with company 2U, X5GON presentation, X5GON business and exploitation, London, UK, July 2018
23. A. Juan (UPV) , 2018. LISTEN Workshop / Summer School Multilingual videos for education, Multilingual videos for education, Bonn, Germany, July 2018
24. G. G. Díaz-Munío (UPV), 2018. "EMNLP 2018, Third Conference on Machine Translation", MLLP-UPV German-English Machine Translation System for WMT18, Brussels, Belgium, October 2018

F. Publications in Social Media and Websites:

25. K4A website for X5GON, http://www.k4all.org/project/x5gon/
26. Tweets at https://twitter.com/K4A_Foundation

G. Sections in Newsletters:

27. Y. Rogers (UCL), 2018. UCL Interaction Design Center 2018 Newsletter, News item "X5GON – Transforming online learning into a whole new experience", London, UK, February 2018

H. Non-scientific and non-peer reviewed publications (popularised publications:

28. D. Orlic (K4A), M. Jermol (JSI), B. Čampelj (MIZS), 2017. X5GON described as case study in "Policy implementation and impact to date" for Slovenia, and Policy Approaches to Open Education Case Studies from 28 EU Member States (OpenEdu Policies), Publications Office of the European Union
29. D. Orlic (K4A), 2018. UNESCO-COL Advisory Group, Guidelines on the Development of OER Policies, X5GON project overview (presentation), First draft of the Guidelines on the Development of Open Educational Resources Policies, Online, August 2018
30. J. Shawe-Taylor (UCL), D. Orlic (K4A), 2018. "Setting up the application for UNECO Chair in Artificial Intelligence Under the Auspices of UNESCO", X5GON part of application submission, X5GON as first project in portfolio of new UNESCO Chair in Artificial Intelligence addressing SD4 4 - Education for All, London, UK, April 30, 2018
31. S. Bulathwela (UCL), 2018. Mircrosoft Research AI Summer School, X5GON Poster Towards Assessing Quality of Educational Content at Scale, Cambridge, UK, July 2018
32. S. Bulathwela (UCL), 2018. X5GON Poster, Handout, Towards Assessing Quality of Educational Content at Scale, Vipava, Slovenia, July 2018

6.3 WEBSITE AND SOCIAL MEDIA

In this deliverable we also report on the first feedback on the official website. By using Google Analytics, we monitor and study the popularity of the project website, in order to evaluate how effectively this works towards the dissemination of the project. However, this also provides an insight on other activities realized, and how these may have contributed at shaping users' behaviour. The figures below present an overview of the X5GON website users across the period Sept 2017 until August 2018, however we have launched a pre-official website already in April 2017 at the news of winning the research grant. Following the overview of the activities realized during these months, as this was provided in the previous section, we could use the following figure towards comprehending the impact received.

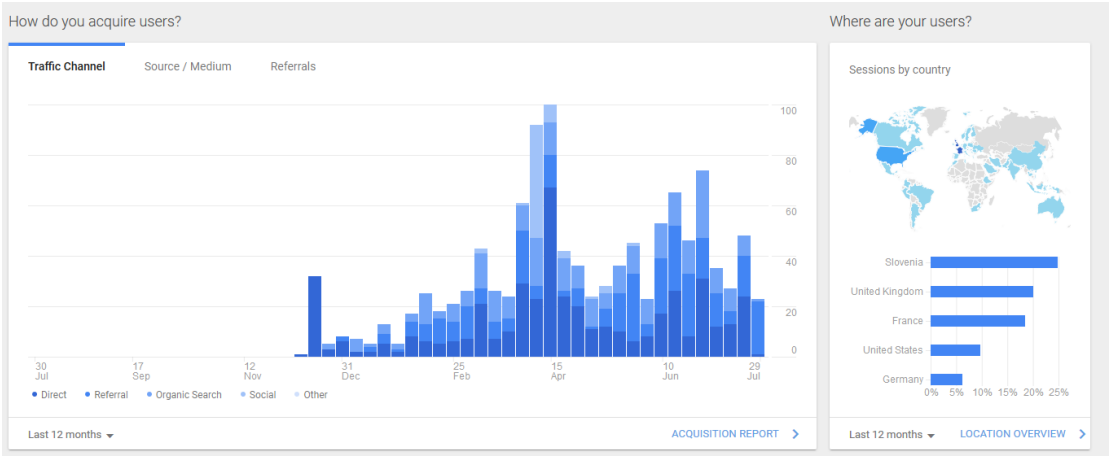

Figure 4: *User access distribution and geographical reach*

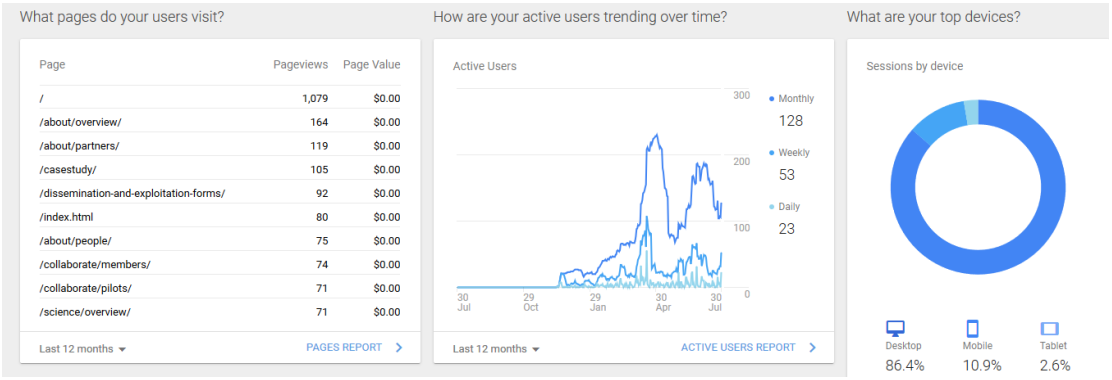

Figure 5: *Number of users, user trend and device access*

By mapping and connecting data on the real-world and offline activities we see that these make online impact on the website. For example, we observe that the months that coincide with the publication of project updates at the different participation levels of partners at events such as conferences and workshops, present peeks in the overall traffic. It is therefore suggested that these are effective dissemination activities which target users relevant to X5GON and manage to engage them towards visiting the project website for more information. We assume that when the website also becomes the entry point to the first prototype and platform demonstrator of the platform with content form the three case studies, the traffic will elevate and further and more meaningful dissemination reach will be achieved.

6.4 PLANNED EXPLOITATION ACTIVITIES

We have also collected input on the exploitation activities and we are presenting them in Annex A1 and A2. However, these are taken into consideration in WP8 Exploitation and will be re-interpreted and reported separately in D8.1 Detailed market analysis (M12), D8.3 Business plan draft (M24) and D8.4 Final business plan (M36).

7. CONCLUSION

In this deliverable we report on the performed dissemination and planned activities. We then evaluate the plan and dissemination of the project results during its first year. We then present an overview of the activities realized and provide for an assessment of their impact, along with the understanding and planning of impact in the next two years of the project.

As each individual partner shared its performed and planned activities with the rest of the consortium, further dissemination synergies become possible and the task of creating and protecting IPR in WP8 Exploitation and planning communication strategies in WP7, becomes more effective. Equally the monitoring of the implementation of the dissemination plan becomes more effective.

The current document acts as a point of reference for the project's performed and foreseen dissemination activities on two levels, real-world and online-world. For these two we created a feedback report survey based on the H2020 PEDR or Plan for the Exploitation and Dissemination of Results as described in the initial project proposal. This list will be monitored and updated every 4-6 months throughout the project lifetime in order to harvest data on performed and planned dissemination and exploitation activities. This report is the first release and describes the initial considerations and plans of the X5GON partners for disseminating its results.

The information presented is based on the input collected from all X5GON partners by the end of August 2018. Regarding the dissemination activities, this initial deliverable aims at the presentation of the dissemination plan, planned to be followed by the X5GON partners, for making the project and its results known all over the world.

Finally, we believe the feedback and reports of all partners on dissemination activities to be satisfactory, and will rise in the next year when more results will be available. We also consider adequate the involvement of all partners in the implementation of the dissemination activities, since partners have reported their participation in several dissemination activities.

8. APPENDIX

A1: DISSEMINATION DETAILS

Deliverable Number	Deliverable Name	Work Package Number	Lead participant	Type	Dissemination level	Delivery date
D7.1	Website	WP7	K4A	DEC	PU	M1
D7.2	First real-world and online learning community engagement plan.	WP7	K4A	R	PU	M12
D7.3	Interim real-world and online learning community and analytics report.	WP7	K4A	R	PU	M24
D7.4	Final real-world and online impaired, business and policy makers	WP7	K4A	R	PU	M36

	community, analytics, and networking report					

Table 5: *Dissemination deliverables listed in chronological order*

Milestone number	Milestone name	Related work package(s)	Estimated date	Means of verification
M1	Inception check	WP1, WP2, WP5, WP6, WP8, WP9	M1	• Dissemination and Exploitation: Website established
M2	Project establishment	ALL	M12	• Dissemination and Exploitation: Initial presentation material
M3	Project mid-term	ALL	M24	• Dissemination and Exploitation: Full blown
M4	Project impact	WP1, WP3, WP4, WP5, WP6, WP7, WP8, WP9	M36	• Dissemination: Concluded • Business and exploitation: formalised agreement, first contract signed

Table 6: *Dissemination milestones*

A2: DRAFT UNESCO RECOMMENDATION IN OER

X5GON partners K4A, JSI and MIZS have been working with UNESCO Headquarters in preparing the UNESCO Recommendation in Open Educational Resources (OER), see below official version as published on Aug 27, 2018. The draft was formulated with a group of open education experts from UNESCO, X5GON and other researchers and practitioners from all world regions.

If accepted, this Recommendation will be recognized globally in the 195 Member States of UNESCO and will be used as a basis for the exploitation of the X5GON platform. It is created in order to help Member States formulate and execute adequate policy frameworks also addressing the use of technologies in OER, to support international cooperation among researchers and encourage new entrants to OER.

The policy builds on the Ljubljana OER Action Plan, a product of the 2nd World OER Congress where X5GON was co-hosting the satellite conference on Artificial Intelligence: Research, Technology and Business in OER[13].

[13] Artificial Intelligence: Research, Technology and Business in OER
https://www.oercongress.org/event/ai-oer/

3rd DRAFT Recommendation on Open Educational Resources (OER)
THIRD DRAFT 06.11.2018 – consolidated input from public consultation

DRAFT Recommendation on Open Educational Resources (OER)

Preamble

The General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO), meeting in Paris in 2019, at its 40th session, is

Recognizing the 'central and important role of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in the field of information and communication technologies (ICT) and in the implementation of the relevant decisions in this area adopted by the General Conference of that Organization and of the relevant parts of the Assembly resolutions on the subject",

Recalling that the Preamble to the Constitution of UNESCO affirms, "that the wide diffusion of culture, and the education of humanity for justice and liberty and peace are indispensable to the dignity of man and constitute a sacred duty which all the nations must fulfill in a spirit of mutual assistance and concern",

Further recalling Article I of the UNESCO Constitution, which assigns to UNESCO among other purposes that of recommending "such international agreements as may be necessary to promote the free flow of ideas by word and image",

Affirming the principles embodied in the Universal Declaration of Human Rights, that states all people have rights and fundamental freedoms that include the right to receive and impart information and ideas through any media regardless of frontiers (Article 19), as well as the right to education (Article 26),

Further affirming the 2006 Convention on the Rights of People with Disabilities (Article 24), which recognizes the rights of persons with disabilities to education and the principles contained in the Convention against Discrimination in Education (1960),

Also affirming the 2007 UN Declaration on the Rights of Indigenous Peoples, which recognizes the rights of indigenous people in national legislation and policy implementation,

Referring to the resolutions of the General Conference of UNESCO with regard to the promotion of multilingualism and universal access to information in cyberspace,

Acknowledging the importance of the 2030 Sustainable Development Agenda, Goal 4 (SDG 4) which calls for the International community to "ensure inclusive and equitable quality education and promote lifelong opportunities for all", the 2003 World Summit on the Information Society, Declaration of Principles, committing "to build a people-centered, inclusive and development-oriented Information Society where everyone can create, access, utilize and share information and knowledge",

Referring to the resolutions of the General Conference of UNESCO with regard to the promotion of multilingualism and universal access to information in cyberspace,

Convinced that the development of new information and communication technologies (ICTs) provides opportunities to improve the free flow of ideas by word, sound and image but also presents challenges for ensuring the participation of all in the global information society,

Recognizing that quality basic education, literacy and media competency are prerequisites to access and benefit from digital technologies,

Recognizing that in the realization of Inclusive Knowledge Societies, Open Educational Resources (OER) can support quality education that is equitable, inclusive, open and participatory,

Considering the 2007 Cape Town Open Education Declaration, the 2009 Dakar Declaration on Open Educational Resources, the 2012 Paris OER Declaration, the Millennium Declaration and the 2000 Dakar Framework for Action, the International Covenant on Economic, Social and Cultural Rights (Article 13.1), which recognizes "the right of everyone to education",

Building on the Ljubljana OER Action Plan 2017 to mainstream OER to help all Member States to build Knowledge Societies and achieve SDG 4, thereto:

1. Adopts the present Recommendation on Open Educational Resources (OER);

2. Recommends that Member States apply the following provisions by taking appropriate steps, including whatever legislative or other steps may be required, in conformity with the constitutional practice and governing structures of each State, to give effect within their territories to the principles of this Recommendation;

3. Also recommends that Member States bring this Recommendation to the attention of the authorities and bodies responsible for learning and education and consult relevant stakeholders concerned with learning and education;

4. Further recommends that Member States report to it, at such dates and in such manner as shall be determined by it, on the action taken by them in pursuance of this Recommendation.

I. DEFINITION AND SCOPE

1. Open Educational Resources (OERs) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions.

2. Open licensing is built within the framework of intellectual property rights as defined by relevant international conventions to respect the authorship of work and authors' right to attribution. Open licenses provide the public with free and perpetual permissions to do all or some of the following, depending on the open license applied:

(a) Retain - the right to create, own, and control copies of the content;
(b) Reuse - the right to use the content in a wide range of ways;
(c) Revise - the right to adapt, adjust, modify, or alter the content itself;

(d) Remix - the right to combine the original or revised content with other material to create something new;
(e) Redistribute - the right to share copies of the original content, the revisions, or the remixes with others.

3. Information and communication technologies (ICT) provide a great potential for effective, equitable and inclusive access to OER and their use, adaptation an redistribution. They open possibilities for OERs to be accessible anytime and anywhere, by anybody (including people with disabilities, people coming from marginalized or disadvantaged groups), to assist in meeting the needs of individual learners and to effectively promote gender parity and new pedagogical, didactical and methodological approaches.

4. Stakeholders in this Recommendation includes governmental bodies, educational institutions, educators, teacher trainers, learners, parents, educational policy makers, librarians, researchers, research institutions, civil society organizations (including professional and student associations), publishers, the private sector and media groups, and funding bodies

II. AIMS AND OBJECTIVES

5. One key prerequisite to achieve the goals SDG 4 is sustained investment by governments and other key education stakeholders in the creation, regular updating, sharing and effective educational use of high quality teaching and learning materials.

6. As is articulated in the 2007 Cape Town Open Education Declaration and the 2012 Paris OER Declaration, the application of open licenses to educational materials introduces significant opportunities for more cost-effective creation, use, adaptation, and quality assurance of those materials, including, but not limited to translation, adaptation to different learning and cultural contexts, development of gender-sensitive materials, creation of alternative, and accessible formats of materials for learners with special educational needs.

7. In addition, the application of open licenses to educational materials in combination with open educational practices introduce a broad range of innovative pedagogical options to engage both educators and learners to become more active participants in educational processes and creators of content as members of a diverse and inclusive knowledge society.

8. Furthermore, regional and global collaboration and advocacy in the creation, use, adaptation, sharing and evaluating of OER can enable individual governments to target their own investments in educational content creation in ways that will enable them to meet their defined national educational policy priorities more cost-effectively and sustainably.

9. Noting these potential benefits, the objectives of this OER Recommendation are as follows:

(i) Capacity building: develop the capacity of all key education stakeholders to find, re-use creates, and share OER, to use and apply open licenses correctly;

(ii) Developing supportive policy: encourage governments, and educational institutions to adopt regulatory frameworks to openly license publicly funded

educational materials and develop strategies to enable broad use and adaptation of OER in support of high quality, inclusive education for all learners;

(iii) Inclusive and equitable access to quality OER: to ensure all providers of OER will adopt platforms and technology that ensure online and offline OER are shared in formats that are equitable and accessible by all people including those from vulnerable groups and persons with disabilities;

(iv) Sustainability models for OER: support and encourage the creation of sustainability models for OER on the national and institutional levels;

(v) International cooperation: support international cooperation between education stakeholders to minimize unnecessary duplication in OER development investments and to develop a global pool of culturally diverse, locally relevant, gender-sensitive, accessible, educational materials in multiple languages.

III. AREAS OF ACTION

10. This Recommendation addresses five objectives: (i) Building the capacity of stakeholders to find, re-use, create and share OER (ii) Developing supportive policy, (iii) Ensuring inclusive and equitable access to quality OER, (iv) Nurturing the creation of sustainability models for OER and (v) International cooperation.

Building the capacity of stakeholders to find, re-use, create and share OER

11. Member States should strategically plan and support OER capacity building and awareness raising at the individual, institutional and national levels, targeting all education sectors and levels. Member States should consider:

(a) building awareness on how OER can increase access to effective educational resources, improve learner outcomes and significantly reduce costs, and empower learners to become co-creators of knowledge to relevant communities;

(b) providing systematic and continuous capacity building (in-service and pre-service) on how to find, modify, create, maintain and share OER as an integral part of OER stakeholder training programmes at all levels of education.

(c) leveraging open licensed tools, platforms and standards to ensure OER can be easily found, remixed, translated, adapted and shared; and;

(d) making available easily accessible resources that provide advice and assistance to users all OER stakeholders on copyright and open licensing of educational material;

Developing supportive policy

12. Member States, according to their specific conditions, governing structures and constitutional provisions should develop or encourage policy environments, including those at the institutional level, that are supportive to OER. Member States are encouraged to:

(a) develop and implement policies and/or regulatory frameworks which require that educational resources developed with public funds be openly licensed or dedicated to the public domain;

(b) ensure that sustainable financing models are in place to implement OER policies and supporting practices, to ensure that OER can be sustainably developed, curated, shared, adopted, and used;

(c) develop mechanisms to support and incentivize all OER stakeholders to publish editable, accessible OER digital files using open standard formats in public repositories. This might include modifying professional assessment frameworks, new policies, incentives, and recognition practices.

(d) align OER policies with other open policies and guiding principles such as those for Open Access, Open Data, Open Pedagogy, Open Source Software and Open Science; and

(e) encourage and support institutions to develop or update legal or policy frameworks at the institutional level to stimulate the use, creation and contribution of quality OER by educators and learners;

(f) Engage all OER stakeholders in the development of OER policies to ensure that these policies are of high quality and relevant for the practical implementation.

Ensure inclusive and equitable access to quality OER

13. Member States are encouraged to support accessible, inclusive use and development of OER for all stakeholders. These would include those learners who are in formal and non-formal education contexts irrespective of age, physical ability, socio-economic status, as well as those who live in remote areas (including nomadic populations), socially and economically disadvantaged, internally and forcibly displaced persons, migrants and refugees. In all instances, gender equality should be ensured, and particular attention paid to ensure equity and inclusion for learners who are especially disadvantaged due to multiple and intersecting forms of discrimination. Member States are recommended to:

(a) ensure availability of OER in accessible formats that most suitably meet both the needs and material circumstances of target learners and the educational objectives of the courses or subjects for which they are being provided. This would include offline modalities for accessing resources where appropriate;

(b) empower OER stakeholders to develop gender-sensitive, culturally and linguistically relevant OER appropriate to local cultures and to create local language OER, particularly languages which are less used, under-resourced and endangered;

(c) ensure that the principle of gender equality and inclusiveness is reflected in strategies and programmes for accessing, creating, using, modifying, and sharing OER;

(d) support public investments in bandwidth and IT infrastructure to provide increased access to OER, particularly for low-income, rural and remote communities;

(e) develop national and institutional standards, benchmarks and related criteria for the quality assurance of OER, which emphasize reviewing OER under regular quality assurance mechanisms, external and institutional, that are used for all educational resources.

(f) Improve the capacity of quality assurance professionals to understand OER and their integration in teaching and learning.

Nurture the creation of sustainability models for OER

14. Member States, according to their specific conditions, governing structures and constitutional provisions, are recommended to support and encourage the development of comprehensive, inclusive and integrated OER sustainability models. Member States may consider:

(a) analysing the ways in which OER change the processes associated with creation and use of quality educational resources, by exploring multiple strategies and models to support OER practices for effective educational outcomes;

(c) catalyzing sustainability models through revenues and sustainability aspects of OER. This could include traditional services related to OER but also non-traditional reciprocity based revenue generation such as donations, memberships, pay what you want, crowdfunding;

(d) promoting other value added models using OER across institutions and countries where the focus is on participation, co-creation, generating value collectively, spurring innovation, and bringing people together for a common cause;

(e) exploring the creation of Public Private Partnerships between different stakeholders in OER.

International cooperation

15. To promote the development and use of OER, Member States should facilitate international cooperation among all relevant stakeholders, whether on a bilateral or multilateral basis. In this regard, Member States may consider:

(a) promoting and stimulating cross-border collaboration and alliances on OER projects and programmes, leveraging existing transnational, regional and global collaboration mechanisms and organizations.. This should include joining efforts on collaborative development and use of OER as well as capacity building, communities of practice, joint research on OER, and mutual cooperative assistance between all countries regardless of their state of development;

(b) exploring methods to establish regional and global funding mechanisms for implementing and strengthening OER and to understand mechanisms that can support international, regional and national efforts;

(c) supporting the creation and maintenance of effective peer networks of educational providers that share OER based on areas such as subject matter, language, institutions, regions, level of education etc. at local, regional and global levels;

(d) exploring methods to establish new or adapt existing cross-border recognition and accreditation framework for learning outcomes of OER-based courses; and

(e) incorporating, where appropriate, specific clauses relating to OER in international agreements concerned with cooperation in the fields of education.

IV. MONITORING

16. Member States should, according to their specific conditions, governing structures and constitutional provisions, evaluate policies and programmes related to OER using quantitative and qualitative approaches. They should consider:

(a) deploying appropriate research methods, tools and indicators to measure the effectiveness and efficiency of OER policies and incentives against defined objectives, including specific targets for disadvantaged and vulnerable groups;

(b) collecting and presenting progress, good practices, innovations and research reports on OER and its implications with the support of UNESCO and the international communities on OER and Open Learning;

(c) developing strategies to monitor and evaluate the educational effectiveness and long-term financial efficiency of OER, which include participation of relevant stakeholders. Such strategies should focus on improving learning processes and strengthening the connections between findings, decision-making, transparency, and accountability to ensure the best educational outcomes.

A3: ONLINE/OFFLINE REPORTING FORM

Table A1: List of Current and Foreseen scientific (peer reviewed) publications:																
NO.	**Planed or Performed**	**Type of Scientific Publication**	**Title of the publication**	**DOI or Repository Link**	**ISSN**	**Organization(s)**	**Authors' Names**	**Title of the Journal/Proceedings/Book Series or equivalent**	**Number, Date or frequency of the Journal/Proceedings/Book or equivalent[14]**	**Publisher**	**Place of publication**	**Year of Publication**	**Relevant pages[15]**	**Is this a joint public/ private publication? [16]**	**Is this a peer reviewed publication? [17]**	**Is this publication available in Open Access (OA) or will it be made available?[18]**
1.	Planned	Publication in conference proceeding/workshop	Design in the Wild: Interfacing the OER learning journey	N/A	N/A	UCL	Stefan Kreitmayer (UCL), Yvonne	BCS, The Chartered Institute for IT (ACM Proceedings) 32nd Human Computer Interaction Conference	Monday, May 7, 2018	N/A	Belfast	2018	N/A		No	Yes Green OA

[14] Please insert: i) the number of the journal, and/or ii) the month of the publication, and/or iii) the year of the publication
[15] [Please insert the first page of the publication] - [Please insert the last page of the publication]
[16] Please confirm or not that this is a joint publication coming from public and private project participants (Yes/No).
[17] Please indicate whether this is a peer review publication or not (Yes/No).
[18] Possible options: "Yes - Green OA", "Yes - Gold OA", No. If you select "Yes - Green OA", then please insert the length of embargo (if any). If you select "Yes - Gold OA", then please insert the amount of processing charges in EUR (if any).
Green Open Access: Beneficiaries can deposit the final peer reviewed manuscript in a repository of their choice. A repository for scientific publications is an online archive. Institutional, subject-based and centralised repositories are all acceptable choices; repositories that claim rights over deposited publications and preclude access are not. Beneficiaries must ensure open access to the publication within at most 6 months.
Gold Open Access: Researchers can also publish in open access journals, or in hybrid journals that both sell subscriptions and offer the option of making individual articles openly accessible. Monographs can also be published either on a purely open access basis or using a hybrid business model. Article processing charges (APCs) for gold open access are eligible for reimbursement during the duration of the project. As stated, the article must also be made accessible through a repository upon publication.

							Rogers (UCL), John Shawe Taylor (UCL)									
2.	Planned		Anforderungen von Lehrenden an ein OER-Portal für Hochschulen	N/A	N/A	UOS	Frank Ollermann (UOS)	virtUOS Working Papers	Monday, December 31, 2018	N/A	Osnabrück, Germany	2018	N/A		No	Yes Green OA
3.	Planned	Publication in conference proceeding/workshop	Novel interfaces to support engagement and reflection in personalised online learning	N/A	N/A	UCL	Stefan Kreitmayer (UCL)	Learning @ Scale 2018	Tuesday, June 26, 2018	N/A	London, UK	2018	N/A		No	Yes Green OA

Table A2: List of Performed & Planned dissemination activities												
NO.	**Planned or Performed**	**Type of activities[19]**	Organization	Authors' Name(s)	Description	Title of the Disseminated Material	Title of the disseminated material	Publisher	Date	**Type of audience[20]**	Size of audience	Geographic coverage
1	Performed	Participation to a workshop	JSI, K4A	Davor Orlic (K4A), Mitja Jermol (JSI)	We attended an exciting event in Brussels on the 17th October 2017, in order to spark collaboration among all H2020 media related projects managed by Unit DG CONNECT-I4.	X5GON project overview (Poster presentation)	H2020 Media Projects' Workshop: Collaboration Towards the Future of Media	Brussels, Belgium	Tuesday, October 17, 2017	Scientific Community (higher education, Research), Industry	50	European
2	Performed	Non-scientific	JSI, MIZS	Davor Orlic	This study provides	X5GON described	Policy Approaches	Luxembourg:	Tuesday,	Scientific	500	European

[19] Possible options: Organisation of a Conference, Organisation of a workshop, Press release, Non-scientific and non-peer reviewed publication (popularised publication), Exhibition, Flyers, Training, Social media, Website, Communication campaign (e.g. radio, TV), Participation to a conference, Participation to a workshop, Participation to an event other than a conference or workshop, Video/film, Brokerage event, Pitch event, Trade fair, Participation in activities organised jointly with other H2020 project(s), Other

[20] Possible options: Scientific Community (higher education, Research), Industry, Civil Society, General Public, Policy makers, Medias, Investors, Customers, Other

		and non-peer reviewed publications (popularised publications)		(K4A), Mitja Jermol (JSI), Borut Čampelj (MIZS)	the first-ever EU-wide overview of the state of play with policies on open education involving all the 28 Member States. For each Member State, a full account of their understanding of open education and strategic policy approach is given.	as case study in "Policy implementation and impact to date" for Slovenia	to Open Education Case Studies from 28 EU Member States (OpenEdu Policies)	Publications Office of the European Union, 2017	January 16, 2018	Community (higher education, Research), Policy makers		
3	Performed	Participation to a conference	JSI, K4A	Davor Orlic (K4A)	Creative Commons Summit 2018 is an annual meeting that celebrates the culture	X5GON project overview (presentation)	Presentation on machine translation for open content and OER aggregation platform @ Creative	Toronto,Canada	Sunday, April 22, 2018	Scientific Community (higher education, Research),	500	International

					of sharing, and provides a space for open communities to collectively grow a vibrant, usable commons, powered by collaboration.		Commons Summit			Civil Society, Other		
4	Performed	Participation to a conference	JSI, K4A	Davor Orlic (K4A), Mitja Jermol (JSI)	We presented the notion of AI in education and Machine Translation tools at the Mobile Learning Week, UNESCO's flagship ICT in education event. The 2018 edition, under the theme	X5GON project overview (presentation)	Presenting Artificial Intelligence tools for SDG4 at UNESCO	Paris, France	Thursday, March 22, 2018	Civil Society, General Public, Policy makers, Scientific Community (higher education, Research)	500	Global

					“Skills for a connected world”,							
5	Performed	Organisation of a workshop, Participation to a workshop, Organisation of a workshop, Polcy event	JSI, K4A	Davor Orlic (K4A), Mitja Jermol (JSI)	Mobile Learning Week 2018 workshops	X5GON project overview (presentation)	Implementing the Ljubljana OER Action Plan by Building Skills via OER based Artificial Intelligence technologies	Paris, France	Sunday, March 25, 2018	Scientific Community (higher education, Research), Policy makers	50	Global
6	Performed	Organisation of a workshop, Policy event	JSI, K4A	Davor Orlic (K4A), Mitja Jermol (JSI)	Mobile Learning Week 2018 workshops	X5GON project overview (presentation)	Strategy Labs - The role of UN agencies/UNESCO in Artificial Intelligence	Paris, France	Friday 30 March 2018	Scientific Community (higher education, Research), Civil Society, Policy makers	50	Global
7	Performed	Participation in activities organised with	K4A	Davor Orlic (K4A)	MicroHE project kick-off: project adresses the hot	X5GON project overview and extendibili	MicroHE – Support Future Learning Excellence	Heilbronn. Germany	Monday, December 4, 2017	Scientific Community (higher	35	International

		other H2020, Erasmus +			topic in higher education in Europe today, namely developing the recognition for microcredentials and nanodegrees, for micro learning episodes, open and online.	ty to blockchain solutions (presentation)	through Micro-Credentialing in Higher Education Erasmus+, EACEA/41/2016 - Forward-Looking Cooperation Projects			education, Research)		
8	Performed	Policy event	K4A	Davor Orlic (K4A)	Communia international association on the digital public domain and other stakeholders organised a meeting in Brussels with the objective to familiarise ourselves	X5GON project overview and issues with open licensing	Communia strategy meeting for a better copyright for education	Brussels, Belgium	Monday, November 13, 2017	Civil Society	20	International

					with the current stakes in the copyright debate surrounding education in the light of the main legislative instrument for the ongoing review of the EU copyright Directive for Copyright in the Digital Single Market (DSM directive).							
9	Performed	Participation to an event other than a conference, workshop, Hackathon	JSI	Mitja Jermol (JSI)	Invited by Marietje Schaake, Member of the European Parliament (MEP) as speakers to a roundtable	X5GON project overview and issues with open licensing	Roundtable at European Parliament on copyright and privacy	Brussels, Belgium	Tuesday, March 20, 2018	Policy makers	50	European

					at the Future of Technology in Education at the European Parilament							
10	Performed	Pitch event, Participation in activities organised with other H2020, Erasmus +	K4A	Davor Orlic (K4A)	We presented X5GON at I3 Impact Innovation Invest is a 30 months CSA, an Investor Meeting – a one day event packed with insight, advice and collaboration, hosted by F6S, the world's largest platform for founders in Hackney Wick London.	X5GON project overview (presentation) and pitch to investors	I3 London 'Media Innovation & Investment' event	London, UK	Thursday, October 5, 2017	Investors	20	National

11	Performed	Presenting at event	K4A, JSI	Davor Orlic (K4A), Mitja Jermol (JSI)	We presented at the 2018 edition with participants from more than 35 countries to discuss and explore how Open Education advances educational practices around the world.	X5GON project overview (presentation 3x) on technology plan and policy issues	Open Education Consortium Global conference	Delft, Netherlands	24-26 April 2018	Scientific Community (higher education, Research)	500	European
12	Performed	Organisation of a conference	JSI	Mitja Jermol (JSI)	The University of Nova Gorica and UNESCO Chair on Open Technologies for OER organized a 5-day course on Open Education Design. Lecturers and participants	X5GON project overview (presentation)	Closure of the first launch of a half-year on-line mentoring program Open Education for a Better World	Vipava, Slovenia	2 – 6 July, 2018	Scientific Community (higher education, Research), Civil Society, Policy makers	50	Global

					came from 17 countries (Slovenia, Brazil, Fiji, France, Greece, India, Italy, South Africa, Canada, Kenya, Macedonia, Malaysia, Malta, Germany, Uzbekistan, United Kingdom, USA) .							
13	Performed	Non-scientific and non-peer reviewed publications (popularised publications)	JSI, K4A, MIZS	Davor Orlic (K4A), Mitja Jermol (JSI), Borut Čampelj (MIZS)	Experts meeting for UNESCO Recommendation on Open Educational Resources (OER), leading the draft text formulation further to the adoption of	X5GON project overview (presentation)	X5GON as global Infrastructure for OER promises to deliver the first building blocks for an open and artificial intelligence powered infrastructure to easily connect all	Paris, France	Thursday, March 29, 2018	Policy makers	50	Global

					Resolution 44 'Desirability of a standard-setting instrument on international collaboration in the field of Open Educational Resources (OER)' at the 39th Session of the UNESCO General Conference		global OER sites/siloses					
14	Performed	Lobbying meeting	JSI, K4A, MIZS	Davor Orlic (K4A), Mitja Jermol (JSI)	Setting up the Category 2 Centre on Artificial Intelligence Under the Auspices of UNESCO	X5GON project overview (presentation)	X5GON as first project in new Centre in Artificial Intelligence addressing SD4 4 - Education for All	Ljubljana, Slovenija	9-11 May, 2018	Scientific Community (higher education, Research), Policy makers,	5	Global

										Investors		
15	Performed	Participation to a conference	K4A	Davor Orlic (K4A)	We were invited to join a two days event with 35 experts from 14 countries to share knowledge and experiences at a workshop at the Research Institute for Innovation & Technology in Education (UNIR iTED) in Madrid where the discussion was on Open Education in practice.	X5GON project overview (presentation)	UNIR iTED Congress 2017: eLearning and Open Education in practice	Madrid, Spain	Monday, November 20, 2017	Scientific Community (higher education, Research)	50	International
16	Performed	Non-scientific	UCL, K4A	John Shawe	Setting up the	X5GON part of	X5GON as first project	London, UK	Monday, April	Scientific	20	National

		and non-peer reviewed publications (popularised publications)		Taylor (UCL), Davor Orlic (K4A)	application for UNECO Chair in Artificial Intelligence Under the Auspices of UNESCO	application submission	in portfolio of new UNESCO Chair in Artificial Intelligence addressing SD4 4 - Education for All		30, 2018	Community (higher education, Research), Policy makers		
17	Planned	Participation to a conference	K4A	Davor Orlic (K4A)	Online Educa Berlin	X5GON project accepted in the format of a panel presentation.	X5GON project on AI and OER building a Netflix for Open Education	Berlin, Germany	December 5 – 7, 2018	Scientific Community (higher education, Research)	500	International
18	Performed	Pitch event	K4A	Davor Orlic (K4A)	Meeting at Idea London with John Spindler, Head of Capital Enterprise	X5GON project overview (presentation)	X5GON project overview (presentation)	London, UK	Tuesday, July 17, 2018	Investors	1	Local
19	Performed	Organisation of a workshop	UCL, K4A	John Shawe Taylor (UCL), Davor Orlic (K4A)	Workshop during 2nd project meeting	X5GON project meeting	X5GON related topics and businesses	Cumberland Lodge, UK	Tuesday, September 4, 2018	Scientific Community (higher education,	40	Local

										Research), Enterprize		
20	Performed	Enterprise, Industry meeting	UCL	John Shawe Taylor (UCL), Yvonne Rogers (UCL), Davor Orlic (K4A)	Meeting with company 2U	X5GON presentation	X5GON business and exploitation	London, UK	Thursday, July 19, 2018	Industry, Enterprize	5	Institutional
21	Performed	Non-scientific and non-peer reviewed publications (popularised publications)	UCL	Yvonne Rogers (UCL)	UCL Interaction Design Center 2018 Newsletter	News item	X5GON – Transforming online learning into a whole new experience	London, UK	Monday, February 19, 2018	Scientific Community (higher education, Research)	500	Institutional
22	Performed	Non-scientific and non-peer reviewed publications (popularised	UCL	Sahan Bulathwela (UCL)	Mircrosoft Research AI Summer School	X5GON Poster	Towards Assessing Quality of Educational Content At Scale	Cambridge, UK	Thursday, July 5, 2018	Scientific Community (higher education, Research)	100	Global

		publications)										
23	Performed	Non-scientific and non-peer reviewed publications (popularised publications)	UCL	Sahan Bulathwela (UCL)	The University of Nova Gorica and UNESCO Chair on Open Technologies for OER organized a 5-day course on Open Education Design. Lecturers and participants came from 17 countries (Slovenia, Brazil, Fiji, France, Greece, India, Italy, South Africa, Canada, Kenya, Macedonia, Malaysia, Malta,	X5GON Handout	Towards Assessing Quality of Educational Content At Scale	Vipava, Slovenia	2 – 6 July, 2018	Scientific Community (higher education, Research), Civil Society, Policy makers	50	Global

					Germany, Uzbekistan, United Kingdom, USA) .							
24	Performed	Participation to a workshop	UPV	Alfons Juan (UPV)	LISTEN Workshop / Summer School	Multilingual videos for education	Multilingual videos for education	Bonn, Germany	July 17-19, 2018	Scientific Community (higher education, Research)	50	International
25	Planned	Participation to a conference	UPV	Gonçal Garcés Díaz-Munío (UPV)	EMNLP 2018 THIRD CONFERENCE ON MACHINE TRANSLATION	The MLLP-UPV German-English Machine Translation System for WMT18	The MLLP-UPV German-English Machine Translation System for WMT18	Brussels, Belgium	31 October – 1 November 2018	Scientific Community (higher education, Research)	100	International

Table B1: List of FORESEEN applications for patents, trademarks, registered designs, etc.								
NO.	Type of IP Rights[21]	Application Reference[22]		Date of the Application	Official title of the application	Applicant(s)	Has the IPR protection been awarded?[23]	If available, official publication number of award of protection[24]
1.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[21] Possible options: Patent, Trademark, Registered design, Utility model, Other
[22] Possible options: International applications of patents; National applications of patents; Other registered IPR
[23] Possible options: Yes, No, Not Applicable
[24] Option for patents: Please insert the code (two letters referring to a country or organisation) and the serial number
Option for rest: Please insert the official publication number

Table B2: List of exploitable foreground										
NO.	Type of Exploitable Foreground[25]	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL[26]	Expected TRL[14]	Is the Exploitable Foreground Confidential?[27]	Exploitation Channel[28]	Sector(s) of application[29]	Knowledge Transfer[30]	Owner & Other Beneficiary(s) involved
1.	Exploitation of R&D results via standards	Recommendation engine and service for OER materials	This is the API that focuses on storing user activity, providing recommendations and material information to the user.	TLR5	TLR8	Yes	Developing and marketing a product/process, Joint Venture	Education	Spin-offs and entrepreneurship (Spin-offs, Start-ups, Incubators at	JSI, PO

[25] Possible options: General advancement of knowledge; Commercial exploitation of R&D results; Exploitation of R&D results via standards; Exploitation of results through EU policies; Exploitation of results through (social) innovation
[26] Possible options: TRL1, TRL2, TRL3, TRL4, TRL5, TRL6, TRL7, TRL8, TRL9
[27] Possible options: Yes, No
[28] Possible options: Developing and marketing a product/process; Spin-off; Licence; Joint Venture; Further internal research; Further collaborative research; Creating and providing a service; Standardisation activities; Assignment; Consultancy
[29] Possible options: Aeronautic industries, Agriculture, Audiovisual and media, Automotive industry, Automotive industry: competition aspects, Biotechnology, Business-related services, Chemicals, Communications, Construction, Cosmetics, Culture, Defence industries, Education, Electrical engineering, Energy, Financial services, Fisheries, Fishing, Food, Food safety, Footwear, Furniture, Gas appliances, Information society sectors, Leather, Manufacturing, Maritime industries, Measuring instruments, Mechanical engineering, Media in the Single Market, Medical devices, Mining, metals and minerals, Pharmaceuticals, Pharmaceuticals & SMEs: European Medicines Agency SME Office, Pre-packed products, Pressure equipment, Radio and telecommunications terminal equipment, Raw materials, Retail services, Rural activities, Security, Services, Social economy, Space, Textiles and clothing, Tourism, Toys, Transport, Wood, paper and printing: forest-based industries, Other
[30] Possible options: Scientific Publications, Other publications, including professional publications and reports, Participation in conferences and workshops, Networking (personal contacts (informal, via membership of professional organisations, via alumni organisations), Cooperation in R&D projects (Joint R&D projects, Presentation of research, Supervision of a trainee or Ph.D. student, Financing of Ph.D. research, Sponsoring of research), Contract research, Personnel mobility (Graduates, Mobility from public knowledge institutes to industry, Mobility from industry to public knowledge institutes, Mobility of people Trainees, Double appointments, Temporarily exchange of personnel), Sharing of facilities (Shared laboratories, Common use of machines, Common location or building (Science parks), Purchase of prototypes), Cooperation in education, IPR (Patent texts, Co-patenting, Licenses of university-held patents, Copyright and other forms of intellectual property), Spin-offs and entrepreneurship (Spin-offs, Start-ups, Incubators at universities, Stimulating entrepreneurship)

Table B2: List of exploitable foreground										
NO.	Type of Exploitable Foreground[25]	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL[26]	Expected TRL[14]	Is the Exploitable Foreground Confidential?[27]	Exploitation Channel[28]	Sector(s) of application[29]	Knowledge Transfer[30]	Owner & Other Beneficiary(s) involved
									universities, Stimulating entrepreneurship), Contract research	