

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
EC	European Commission
IDRC	International Development Research Centre
IPR	Intellectual Property Rights
PLA	Peer Learning Activity
SDG	Sustainable Development Goal
UNESCO	United Nations Educational, Scientific and Cultural Organization



ABSTRACT

Dissemination and exploitation measures are of paramount importance to a Research and Innovation Action such as X5GON, in order to maximize its impact and trigger effects across the entire range of targeted stakeholders, potential users and communities. The X5GON Consortium currently implements a dedicated dissemination and exploitation plan, predominantly aiming at ensuring the effective and sustainable dissemination of X5GON generated knowledge and technologies to:

- **European and world citizens have a need for access to open education** that is not constrained by content, culture, location, language and technological barriers;
- **OER providers need to achieve impact and meaningful usage** of their OER content;
- **Educators need access to high quality OER** with the ability to tell if something is a good resource, with a minimal time to get to a good resource;
- **AI researchers need a platform for promoting, testing and comparing their algorithms, methods and solutions**;
- **OER and Edutech engineers need access to robust, accurate and wide-coverage technological infrastructure**, especially for openly licensed materials, following the ethos of openness in OER, OA, open data, etc;
- **The European Commission and Ministries of Education** across Europe and the world **lack technological solutions for creating equity** by producing, advocating OER and its potential.

A commonly agreed Dissemination and Exploitation Plan has been put in place and executed in order to ensure the effective communication of knowledge by all partners, and also the establishment of a common strategy, that is supported and amplified by the entire consortium. The X5GON Plan for the Dissemination and Exploitation of project Results (PEDR) drafted in the first months of the project, presents the strategic vision of the X5GON partners towards the diffusion of the project's results during its implementation, as well as after its end.

This deliverable is the continuation of D7.2 and is a supplement to D8.3 describing the draft business plan. In Year 2 (M12-M24) activities were focused on amplifying the project's technological underpinnings and offerings to OER sites along with policy actions building towards scientific impact, through participations at conferences and in scientific publications; these activities were mainly addressed by the academic partners. At the same time, activities to promote the X5GON platform developed within the project, acted as a catalyst for pursuing exploitation opportunities. These activities were mainly driven by K4A, UCL, JSI and PO partners, who work towards pushing the commercial applications of this technology. It is important to observe how dissemination actions were often realized as joint undertakings. This justifies the active involvement of the entire consortium in communicating the project's results.

The deliverable is structured in the following four chapters. The first section includes introductory information about the scope and objectives of the dissemination and exploitation activities within the X5GON project. The second section presents the methodology adopted for the updating of the Dissemination and Exploitation Plan as well as the dissemination objectives set for this period, while the third section presents the performed dissemination and planned exploitation activities. The fourth section focuses on the performance assessment of the proposed communication strategies. Finally, the last chapter includes the concluding remarks of the deliverable.

1. INTRODUCTION

1.1 SCOPE OF DISSEMINATION ACTIVITIES

The X5GON project holds a significant impact on the future of machine learning and methods delivered by means of AI to significantly support the area of open education and open educational resources, and disrupt the publishing industry, specifically the sector for digestion of large document archives. By providing access via advanced tools to free open educational resources, created by universities, colleges and funded mainly by Governments around Europe and worldwide, citizens who cannot find open resources in their native languages, who cannot afford to pay for other educational means or don't have access to content, people with disabilities, living in isolated areas, social groups with specific characteristics and needs (mothers, elderly people) who cannot move around easily, will benefit from the project outcome.

Focusing on Europe, but harnessing content from around the world, open access and AI will be supported, wide access to educational material will be ensured with the X5GON 5 dimensions, even for less served communities, and translation, ingestion and personalization costs will be cut down as well as give a face to not so visible OER repositories. Equality and inclusion are thus promoted among EU communities by breaking down the access, language and convergence barriers confining them. Realizing the project's significance, partners are committed to maximize the project's impact through a series of dissemination and exploitation activities, including international innovation communities, policymakers and businesses. To this end, WP7 is dedicated to the monitoring, management and reporting of these activities.

In order to ensure the implementation of efficient and effective dissemination and exploitation activities, a dedicated plan was adopted (D7.2) and followed from the beginning of the project by all partners. These had identified some of the main dissemination tools, events, actions, etc. towards disseminating the project to the relevant target groups. At the same time, exploitation activities have also been designed. During the past two years we have been developing the X5GON PEDR, following the project's lifetime, and responding to the partners' needs and external opportunities. The realized and foreseen activities of the X5GON PEDR are reported and evaluated on a periodic basis, in order to allow an effective monitoring, management and coordination of future actions.

During Year 1, activities in WP7 focused on the creation of effective public and specialized communication channels and tools towards raising public awareness for the project objectives and important results within the EdTech and OER industry, SMEs, research community, academia and the general European public. While during Y2 our activities focused on using the dissemination tools and channels towards increasing awareness about the project's achievements and significant results. The aim was to reach the full range of potential end users and keep them informed about the X5GON actions and attract them into a partnership.

1.2 OBJECTIVES OF THIS DELIVERABLE

The dissemination and communication activities delivered until M24 aimed at closely following and focusing upon the technical progress of the X5GON project and matching them to policy actions, as follows:

- In Year 1 of the project (M1-M12) the technical work and policy creation was primarily (yet not limited to) foundational Work Packages and activities that were following later during the project. As a result, communication activities focused mainly on introductory and buy-in descriptions of the project's scope and expected results (e.g. project and platform website, leaflets, etc.).
- In Year 2 (M12-M24), technical progress has produced a set of assets such as Platform, Products, Tools and Services with actual results and the major scientific directions and questions were resolved. At these stage dissemination activities were more frequent and specialized towards specific audiences. At this point a strong X5GON profile begins to shape also in scientific papers and journals, while visibility is increased and exploitation activities start to be planned and begin to crystalize.
- In Year 3 (M24-M36) and towards the end of the project, the scientific impact of the project is expected to be relevant and help shape the technologies further and beyond the state-of-the-art to maximize output. Equally it expects to build visibility via the policy work. Furthermore, exploitation activities are expected to gain added focus, as demonstrators and end-user results are already available, giving opportunities to partners to consider additional and unmapped market and business approaches.

The above summary is a brief overview of the dissemination strategy towards activities performed within Year 2 which were heavily based on the technical progress of the project and the phase of the project lifecycle, and an initial planning of activities in Year 2. In light of these considerations, the PEDR was constantly updated. Following our methodology (described in D7.2), it needed to be continuously revisited in order to ensure that the project's all-round achievements are presented to the right target groups, at the right time, using the right language, tools and mechanisms.

The current deliverable aims to report on the performed dissemination and partial exploitation activities (see D8.3 for more exploitation details) during Year 2 of the project. More specifically, the objectives of D7.3 are to report on and evaluate the performed and planned dissemination and exploitation activities and suggest and recommend activities to achieve maximum exploitation of the project's results.

2. PLAN FOR THE DISSEMINATION RESULTS

2.2 COLLECTION OF INPUTS AND ACTIONS

The development and continual maintenance of the X5GON PEDR involved following a dedicated methodology for its effective monitoring and management, as well as a feedback loop of evaluation and amendments. The collection and the analysis of the required information have been delivered with the usage of a standard template (namely the PEDR Template). The X5GON PEDR has been created based on the standard forms being used in the Participant Portal for the Scientific Reporting of the project and is being composed of the following sections. The X5GON PEDR has been circulated and updated since the beginning of the project, M6, M12, M18, M24. In overall, the objectives of the X5GON PEDR are to:

- Harvest information on the partners' planned actions in a standardized format
- Monitor activities for specific target groups
- Identify dissemination trends and pursue major opportunities
- Confirm a continuous and standard flow of disseminating information
- Maintain an overview of the project's dissemination portfolio

2.2 OBJECTIVES FOR PERIOD M12-M24

During Year 1 (M1-M12), the main objective of the communication activities was focused on creating the project's visual and online identity (e.g. setting up the project website, developing posters and leaflets, presentation and poster templates), and identifying initial dissemination and exploitation opportunities. The delivered dissemination activities were focused on raising awareness of the project and engage as many of the identified target groups as possible with project's progress and results through interviews, presentations and introductory information on the planned technologies with usable results and scientific themes, design and methods used by the project consortium.

During Year 2 (M13-M24), the objectives shifted from static presentation to delivering and presenting and showcasing technical and scientific progress of the project. Dissemination activities generated a validation of the X5GON results across the scientific community through the publication of scientific papers and participations at high-impact events, and creation of policy documents towards creating presence among the main stakeholders in the field, including Governments. With regards to exploitation activities, this was still a premature period to discuss in greater detail the exploitable nature of the project's results. However, work has been done with partners to identify potential business and exploitation routes (see D8.3).

Plans for Year 3 (M25-M36) are ambitious as dissemination and exploitation activities will increase, following the completion of most of the project's tasks and after contact is made with specific target audiences, the acquisition of new OER sites and support by ministries and businesses for adopting the final system prototype. The partners are expected to pursue high impact dissemination activities, such as presentations in international conferences, exhibitions targeted at the EdTech and OER community, and specifically push for the Industrial and innovation communities, etc. Also, within the third year of the project the exploitation plans of the project's results are expected to become more specific (see D8.3).

2.3 TARGET GROUPS AND EVENTS

An extremely imperative precondition in order to ensure augmented exploitation, high impact and increased likelihood of uptake of the project's results, is to prudently and effectually communicate the appropriate information to the relevant and interested audiences in a concise, well-articulated, understandable and attractively packaged manner. Based on the analysis performed for the identification of the X5GON target groups, the following groups of interest for the X5GON Consortium have been identified (see D8.1 for details):

- **European and world citizens have a need for access to open education** that is not constrained by content, culture, location, language and technological barriers. X5GON solves this with an OER platform comprised of at least two services for all types of open educational resources;

- **OER providers need to achieve impact and meaningful usage** of their OER content. X5GON will create a high quality analytics recommendation services for OER data that is content, culture, location, language independent in nature and addresses all OER types and genres;
- **Educators need access to high quality OER** with the ability to tell if something is a good resource, with a minimal time to get to a good resource. X5GON will create ML quality assurance of resources and maximise time efficiency;
- **AI researchers need a platform for promoting, testing and comparing their algorithms, methods and solutions.** The X5GON pre-processing pipeline is an open-source platform and will provide a workbench for integrating novel ML solutions dealing with OER materials;
- **OER and Edtech engineers need access to robust, accurate and wide-coverage technological infrastructure**, especially for openly licensed materials, following the ethos of openness in OER, OA, open data, etc. The X5GON infrastructure provides exploitation, content enrichment, and availability of a robust API, and will service the community with support and techniques to scale, use and add to the platform;
- **The European Commission and Ministries of Education** across Europe and the world **lack technological solutions for creating equity** by producing, advocating OER and its potential. X5GON provides a valid example for such a showcase on a European and global level.

It's important to mention that the planned dissemination activities in Year 3 and towards the end and beyond the lifetime of the project, will focus and address the full range of potential end-users, including research, commercial, investment, social, policy making, setting standards, and educational training. It is worth highlighting that the disseminated/communicated messages is adapted to each of the related target groups, in order to ensure an effective outreach strategy and successfully achieve the corresponding objectives.

2.4 ACTIVITIES PERFORMED

The listed target groups have been addressed through the following dissemination instruments and activities:

- The project's public website is the main dissemination tool of the project, with constant updates on the achievements and dissemination activities;
- The technical and platform website is the main entry point for OER sites and has been designed to present all functioning components. It is constantly being updated and will be throughout this period with information about the major project results focusing on transfer of research into industry and communities of practice;
- Communication material (flyers, posters, overview presentation) which were distributed and/or displayed by the partners in order to support their dissemination activities;
- Scientific publications and presentations targeting key journals and conferences;
- Participation in workshops, conferences, governmental and inter-governmental events.

As part of our strategy we chose not to engage with X5GON Social Media groups and pages (Facebook group, LinkedIn group, Twitter account, YouTube channel)



until the platform and technologies were not ready for public usage. In year 3 we plan to aggressively upscale the use of these channels through which posts will be constantly made during this period with strong information about the major project results, achievements and dissemination activities.

3. PERFORMED REAL-WORLD COMMUNITY ENGAGEMENT AND DISSEMINATION ACTIVITIES

The following section presents the project's dissemination activities realized during the first two years of the project, as well as a list of the planned exploitation activities and assets. In the Appendix we also include the full list of all performed and planned dissemination and exploitation activities. Since dissemination and communication activities promote the project research but also the scientists and partner institutions driving this research, these activities enhance knowledge sharing and the design of innovation, while they also contribute to the European excellence by enhancing the scientific and industrial profile of the European research and development. The activities mainly include publications in highly ranked journals and participation in high-impact scientific, policy and community events, and to spread the project research and results to various communities of relevance, towards enhancing its scientific impact. Below we list the project's dissemination activities delivered in the first two years of the project.

3.1 LIST OF PERFORMED/PLANNED SCIENTIFIC PUBLICATIONS (M1-M24)

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
4. Iranzo-Sánchez, Javier; Garcés Díaz-Munío, Gonçal V; Civera, Jorge; Juan, Alfons. The MLLP-UPV Supervised Machine Translation Systems for WMT19 News Translation Task. In Proc. of Fourth Conference on Machine Translation (WMT19), Florence (Italy), 2019.
5. Baquero-Arnal, Pau; Iranzo-Sánchez, Javier; Civera, Jorge; Juan, Alfons. The MLLP-UPV Spanish-Portuguese and Portuguese-Spanish Machine Translation Systems for WMT19 Similar Language Translation Task. In Proc. of Fourth Conference on Machine Translation (WMT19), Florence (Italy), 2019.
6. Jorge, Javier; Giménez, Adrià; Iranzo-Sánchez, Javier; Civera, Jorge; Sanchis, Albert; Juan, Alfons. Real-time One-pass Decoder for Speech Recognition Using LSTM Language Models Inproceedings. In Proc. of the 20th Annual Conf. of the ISCA (Interspeech 2019), Graz (Austria), 2019.
7. Iranzo-Sánchez, Javier; Baquero-Arnal, Pau; Garcés Díaz-Munío, Gonçal V; Martínez-Villaronga, Adrià; Civera, Jorge; Juan, Alfons. The MLLP-UPV German-English Machine Translation System for WMT18. In Proc. of the

- Third Conference on Machine Translation (WMT18), Volume 2: Shared Task Papers, pp. 422–428, Brussels (Belgium), 2018.
8. Del-Agua, Miguel Ángel ; Giménez, Adrià ; Sanchis, Alberto ; Civera, Jorge; Juan, Alfons. Speaker-Adapted Confidence Measures for ASR using Deep Bidirectional Recurrent Neural Networks. *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, 26 (7), pp. 1194–1202, 2018.
 9. Jorge, Javier; Martínez-Villaronga, Adrià ; Golik, Pavel ; Giménez, Adrià ; Silvestre-Cerdà, Joan Albert ; Doetsch, Patrick ; Císcar, Vicent Andreu ; Ney, Hermann ; Juan, Alfons ; Sanchis, Albert. MLLP-UPV and RWTH Aachen Spanish ASR Systems for the IberSpeech-RTVE 2018 Speech-to-Text Transcription Challenge. In *Proc. of IberSPEECH 2018: 10th Jornadas en Tecnologías del Habla and 6th Iberian SLTech Workshop*, pp. 257–261, Barcelona (Spain), 2018.

3.2 LIST OF PERFORMED/PLANNED DISSEMINATION AND COMMUNICATION (M1-M24)

B. Conference Presentations:

10. 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
11. 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
12. 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
13. D. Orlic (K4A), J. Shawe-Taylor (UCL), 2019. UNESCO Conference on Harnessing Artificial Intelligence to advance Knowledge Societies and Good Governance, An Open Discussion following the Internet Governance Forum (IGF) 2018, Mozilla Foundation. Contribution to Session 1: AI Advocacy, Session 4: Understanding Openness and inclusiveness in the age of advanced ICTs, X5GON technologies fit for Global South reuse, Artificial Intelligence and Education efforts, Paris, France, November 2019
14. D. Orlic (K4A), 2019. UNESCO First High-level Forum on AI in Africa - The Forum's objective is to enrich the global reflection on artificial intelligence by drawing up a complete inventory of the situation and towards an assessment of an African scale, by taking into account challenges, opportunities and issues specific to local contexts. Plenary session "Universal Access to Information and Knowledge, and Artificial intelligence in Africa", Contribution to Outcome Statement of the Forum on Artificial Intelligence in Africa, Benguerir (Kingdom of Morocco), December 2019
15. J. Shawe Taylor (UCL), D. Orlic (K4A) 2019. Presenting at the introductory panel for major flagship UNESCO conference "Principles for AI: Towards a Humanistic Approach", X5GON technologies extendable to fit UNESCO OER Recommendation and all UNESCO Member States (Q/A session), Paris, France, March 2019
16. J. Shawe Taylor (UCL), D. Orlic (K4A) 2019. UNESCO workshop Workshop on Artificial Intelligence in Knowledge Societies: A ROAM Approach, X5GON technologies extendable to all UNESCO Member States (Q/A session), Paris, France, March 2019

17. A. Juan (UPV) 2019. SCIC-Universities conference, Interpretation - Preparing for Interpreting 3.0, X5GON project overview (presentation), April 2019
18. D. Orlic (K4A), 2019. Slovenian Open Knowledge Day - X5GON was presented as one of the main platforms using Wikipedia as its base technology with the Wikifier at its core. The presentation followed Jan Gerlach, from the Wikimedia Foundation at the Slovenian Open Knowledge Day, X5GON project overview and relevance of creating the Wikifier in the core of the X5GON platform to Wikipedia (presentation), Ljubljana, Slovenija, May 2019
19. D. Orlic (K4A), 2019. Slovenian Rectors' Conference - Transformation of the Educational Process in the age of Digitisation, Rectors conference discussing Open Education and X5GON technologies (Q/A session with moderator), Vipava, Slovenia, May 2019
20. E. Novak (JSI), 2019. Invited talk at IJCAI workshop on AI and the United Nations SDGs X5GON project overview (presentation), Presentation on X5GON platform and fitting into SDG framework, Macao, China, August 2019
21. S. Kreitmayer (UCL), 2019. Accepted workshop contribution paper, Paper: Future Learner Experiences with AI and Open Educational Resources, Workshop: Towards a Responsible Innovation Agenda for HCI – CHI 2019, Glasgow, UK, May 2019
22. S. Kreitmayer (UCL), 2019. Accepted workshop contribution paper, Paper: The challenges of Learning Machine Learning for Non-Technical Users or Novice Programmers Workshop: Human-Centered Study of Data Science Work Practices, Glasgow, UK, May 2019
23. S. Kreitmayer (UCL). 2019. Poster presentation of research paper Design in the Wild: Interfacing the OER learning journey, 32nd International BCS Human Computer Interaction Conference (HCI), Belfast, UK, July 2019
24. C. de la Higuera (NA), 2019. A talk on AI at a local engineer school, with X5-GON presented, L'intelligence artificielle ICAM, Nantes, January 2019
25. C. de la Higuera (NA), 2019. A talk on social networks for the training of High school teachers, Les réseaux sociaux, Webinaires SNT, Nantes, France, March 2019
26. C. de la Higuera (NA), 2019. A presentation during the X5GON event, Using MOOCs in India, X5-GON event, Osnabrück, Germany, March 2019
27. C. de la Higuera (NA), 2019. I presented AI to an audience of Alumni from the Frenche Engineering schools. With X5-GON included, L'intelligence artificielle, IESF Pays de la Loire, Nantes, France, March 2019
28. C. de la Higuera (NA), 2019. Presentation at UNESCO, L'intelligence artificielle, WSIS forum 2019, Geneva, Switzerland, April 2019
29. C. de la Higuera (NA), 2019. A webinar toward regional audience to get them interested in working on X5-GON material, L'intelligence artificielle Webinaire AILE, Nantes, France, May 2019
30. C. de la Higuera (NA), 2019. A citizen event about the impact of AI on education. I presented X5-GON, L'intelligence artificielle, Former à l'intelligence artificielle pour répondre aux défis d'aujourd'hui et de demain ! aura lieu, Nantes, France, April 2019
31. C. de la Higuera (NA), 2019. We presented X5-GON at this event X5GON Journées IA, Rennes, France, June 2019
32. C. de la Higuera (NA), 2019. An event organized by Dell in Nantes with an audience of Dell B2B clients, L'intelligence artificielle, Dell Technologies, Forum, Nantes, France, June 2019
33. C. de la Higuera (NA), 2019. A presentation of X5-GON in the context of the doctoral school presentations, L'intelligence artificielle, Rencontres Doctorales, Nantes, France, June 2019

34. C. de la Higuera (NA), 2019. This is a meeting of European experts for education. We gave a keynote on teaching AI and participated to the X5-GON workshop which was organized on the 28th, Towards teaching artificial intelligence, Teaching for AI, Ljubljana, Slovenia, June 2019
35. C. de la Higuera (NA), 2019. A UNESCO event on the impact of AI. We were invited to participate to a panel and give a talk, a presentation of the report on teaching AI, at a UNESCO meeting, Teaching for AI, Paris, France, July 2019
36. J. Urbančič (JSI), 2019. Presentation of the X5GON project X5GON: Connecting OER Repositories, X5GON: Connecting OER Repositories, Anchorage, Alaska, August 2019

C. Organization of a Conference/Workshop:

37. 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
38. 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
39. 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
40. 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
41. 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
42. J. Shawe-Taylor (UCL), D. Orlic (K4A), 2018. Workshop during 2nd project meeting, X5GON related topics and businesses, Cumberland Lodge, UK, September 2018
43. C. de la Higuera (NA) 2019. X5GON workshop before 3rd meeting - This international workshop is part of the 3rd X5GON meeting - an EU funded project on Media Convergence, under H2020 Leadership in enabling and industrial technologies, X5GON Project Showcase and presentations related to open education, OER repositories, language technologies, personalisation, policy actions and more, Nantes, France, October 2018
44. D. Orlic (K4A), M. Jermol (JSI), 2019. UNESCO Mobile Learning Week 2019 - Workshop on using AI and OER data – convergence among OER platforms offers unprecedented opportunities X5GON project overview for policymakers in UNESCO Member States (presentation), Paris, France, March 2019
45. R. Rolf (OUS), F. Ollermann (UOS), 2019. X5GON workshop before 4th meeting - This international workshop is part of the 4th X5GON meeting and will focus on sustainability solutions for OER technologies, X5GON Project Showcase and presentations related to open education, OER repositories, language technologies, personalisation, policy actions and more, Osnabrück, Germany, March 2019

46. D. (K4A), J. Shawe Taylor (UCL), 2019. Workshop within the AI4D initiative in sub-Saharan Africa - Toward a Network of Excellence in Artificial Intelligence for Development (AI4D) in sub-Saharan Africa, X5GON exploitation efforts in Sub-Saharan Africa, Nairobi, Kenya, April 2019
47. D. Orlic (K4A), B. Čampelj (MIZS), 2019. PLA, Peer Learning Activities, EAC - DG Education and Culture, ET2020 Working Group Digital Education: Learning, Teaching and Assessment X5GON project overview for policymakers in EU Member States (presentation), X5GON Co-design workshop, Ljubljana, Slovenia, June 2019
48. D. Orlic (K4A), M. Jermol (JSI), 2019. International Open Education Design Workshop - run by UNESCO Chair on Open Technologies for OER and Open Learning at the Jožef Stefan Institute (JSI). The Workshop programme is tailored to cover the topics relevant to Open Education, X5GON Handout and Testing Towards Assessing Quality of Educational Content at Scale, Vipava, Slovenia, July 2019
49. D. Orlic (K4A), C. de la Higuera (NA), 2019. IJCAI workshop on AI and the United Nations SDGs - The Workshop is based on the proposition of X5GON being a technology fit for purpose to solve SD4 to Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, X5GON project overview (presentation), Macao, China, August 2019
50. J. Shawe Taylor (UCL), 2019. G7 Hackathon - A Hackathon supporting open education for NGOs and low income communities with AI driven applications, Using techniques and technologies from X5GON, a Hackathon is to be run with UCL in the UK leading the design and management with three phases, from October to early December, Paris, France, December 2019
51. C. de la Higuera (NA), 2019. A meeting for Human resources specialists about AI. We gave a talk and participated to a panel, L'intelligence artificielle: impact et risques. A local event organized by Mickael Page, Nantes, France, May 2019
52. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform at the National School for Leadership in Education - workshop for future headmasters, X5gon engine; OER e-materials at EU, National School for Leadership in Education - workshop for future headmasters, Ljubljana, Slovenia, May 2019

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

53. 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
54. 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
55. Erasmus+, EACEA/41/2016 - Forward-Looking Cooperation Projects, Heilbronn, Germany, December 2017
56. 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:

57. 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
58. 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
 59. 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
 60. 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
 61. D. Orlic (K4A), 2018. Meeting at Idea London with John Spindler, Head of Capital Enterprise, X5GON project overview (presentation), London, UK, July 2018
 62. 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
 63. A. Juan (UPV), 2018. LISTEN Workshop / Summer School Multilingual videos for education, Multilingual videos for education, Bonn, Germany, July 2018
 64. 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
 65. D. Orlic (K4A), 2018. Attending the UNESCO Roundtable on Artificial Intelligence: Reflection on its complexity and impact on our society, X5GON project overview and extendibility to SDG4 Artificial Intelligence and Education efforts, Paris, France, September 2018
 66. B. Čampelj (MIZS), 2018. Promotion at Brussels meeting - indicators in digital education (one possibilities - indicator on OER and activities) - at the meeting and in breaks X5gon engine; OER e-materials at EU, Expert meeting - indicators in digital education, EC, Brussels, Belgium, September 2018
 67. B. Čampelj (MIZS), 2018. Promotion of X5gon at Brussels meeting on Erasmus + and Horizon 2020 meeting (good experience from running and previous projects) - at the meeting and in breaks X5gon engine; OER e-materials at EU, Expert meeting - EU projects (Erasmus +, Action 3 policy experimentation), EC, Brussels, Belgium, September 2018
 68. B. Čampelj (MIZS), 2018. Promotion of X5gon at NEI meeting of the project NA-MA POTI - at the meeting and in breaks; possibilities of involvement of external stakeholders (for example India), X5gon engine; OER e-materials at EU, project NA-MA POTI, meeting National Education Institute, Ljubljana, Slovenia, September 2018
 69. B. Čampelj (MIZS), 2018. Promotion of X5gon at SVRK meeting of the project Semena sprememb - possibilities to share OER e-materials of teachers in the project X5gon engine; OER e-materials at EU, Dissemination to particular expert SVRK, Ljubljana, Slovenia, September 2018
 70. B. Čampelj (MIZS), 2018. Promotion X5gon in Brussels meeting - (Digital Education: Learning, Teaching and Assessment) DELTA GROUP (OER and activities; and information for possible workshop in Slovenia at Peer learning in AI in education), X5gon engine; OER e-materials at EU, Expert meeting - Digital Education: Learning, Teaching and Assessment (E&T 2020), EC, Brussels, Belgium, September 2018

71. B. Čampelj (MIZS), 2018. Promotion of X5gon in meeting at the conference on digital higher education in Portoroz, X5gon engine; OER e-materials at EU conference on digital higher education, Portoroz, Slovenia, September 2018
72. B. Čampelj (MIZS), 2018. Promotion of X5gon on the Conference in Austria - under presidency (good experience from running and previous projects) - at the workshops/debates and in breaks X5gon engine; OER e-materials at EU conference on digital education under Presidency Austria, Eisenstadt, Austria, October 2018
73. B. Čampelj (MIZS), 2018. Promotion of x5gon on the Conference in Brdo, Slovenia - at the workshops/debates and in breaks X5gon engine; OER e-materials at EU, Conference on innovation, Brdo, Slovenia, October 2018
74. B. Čampelj (MIZS), 2018. Promotion of X5gon at the Conference with headmasters and experts of MUNERA projects at VET (at presentation and debates during break) X5gon engine; OER e-materials at EU, Conference on education - project MUNERA Ljubljana, Slovenia, October 2018
75. B. Čampelj (MIZS), 2018. Promotion of x5gon at the conference Digitalisation 4.0 (adult education institutions and educators) also in breaks (possibilities to use results of X5gon) X5gon engine; OER e-materials at EU, Conference on adult education, Ljubljana, Slovenia, November 2018
76. B. Čampelj (MIZS), 2018. Promotion of X5gon at the Annual Conference with headmasters of upper-secondary schools in Slovenia (Portoroz), at the workshops and breaks, X5gon engine; OER e-materials at EU, Annual Conference with headmasters of upper-secondary schools in Slovenia, Portoroz, Slovenia, November 2018
77. B. Čampelj (MIZS), 2018. Promotion of x5gon at the conference - results of 2nd survey ICT in education (including OER) - promotion in debates/breaks, X5gon engine; OER e-materials at EU, conference for policy makers - results of 2nd survey ICT in education, EC, Brussels, Belgium, November 2018
78. B. Čampelj (MIZS), 2018. Promotion of X5gon at the NA-MA POTI project meeting with teachers and headmasters, X5gon engine; OER e-materials at EU, NA-MA POTI project meeting with teachers and headmasters Ljubljana, Slovenia, November 2018
79. B. Čampelj (MIZS), 2018. Promotion of X5gon at the expert meeting in National Council of Republic Slovenia on digitalisation and platforms (in debates and breaks), X5gon engine; OER e-materials at EU, expert meeting in National Council of Republic Slovenia on digitalisation and platforms, Ljubljana, Slovenia, December 2018
80. M. Ifko-Pinosa (MIZS), D. Orlic (K4A), 2018. X5GON Presentation meeting with executives of educational institutions in Slovenia, X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia, Exploitation meeting for SI HEIs joining X5GON Connect service, Ljubljana, Slovenia, September 2018
81. M. Ifko-Pinosa (MIZS), D. Orlic (K4A), E. Novak (JSI), 2018. X5GON Presentation meeting with executives of educational institutions in Slovenia, X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia, Exploitation meeting for SI HEIs joining X5GON Connect service, Ljubljana, Slovenia, November 2018
82. M. Ifko-Pinosa (MIZS), D. Orlic (K4A), E. Novak (JSI), 2018. Meeting with top management of all Slovenian universities and national institutions for disabled communities, X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia, Exploitation meeting for SI HEIs joining X5GON Connect service, Maribor, Slovenia, November 2018

83. M. Ifko-Pinosa (MIZS), D. Orlic (K4A), E. Novak (JSI), 2018. Meeting with top management of University of Maribor Library, X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia, Exploitation meeting for joining X5GON Connect service Ljubljana, Slovenija, December 2018
84. M. Ifko-Pinosa (MIZS), D. Orlic (K4A), E. Novak (JSI), K. Perčič (PO) 2019. Meeting with Zavod za gluhe in naglušne (Institute for the Deaf and Hard of Hearing), X5GON project overview and the value of the X5GON for the deaf and hard of hearing community in the Republic of Slovenia, Exploitation meeting for disabilities piloting of recommendation and material search, Ljubljana, Slovenija, December 2018
85. M. Ifko-Pinosa (MIZS), K. Perčič (PO) 2019. Meeting with Center za izobraževanje, rehabilitacijo, inkluzijo in svetovanje za slepe in slabovidne Ljubljana (Center for Education, Rehabilitation, Inclusion and Counseling for the Blind and Visually Impaired Ljubljana), X5GON project overview and the value of the X5GON for the blind and visually impaired community in the Republic of Slovenia Exploitation meeting for disabilities piloting of recommendation and material search, Ljubljana, Slovenija, December 2018
86. B. Čampelj (MIZS), 2018. Promotion of X5gon at the policy meeting - panel discussion on ICT strategy in education in Ministry of Education Croatia at panel discussion and debates and breaks, X5gon engine; OER e-materials at EU, policy meeting - panel discussion on ICT strategy in education in Ministry of Education Croatia Zagreb, Croatia, December 2018
87. B. Čampelj (MIZS), 2018. Promotion of X5gon at the expert meeting of Internet Safety (Faculty of Social Sciences - coordinator of Safe.si project), X5gon engine; OER e-materials at EU, expert meeting of Internet Safety, Ljubljana, Slovenia, December 2018
88. B. Čampelj (MIZS), 2018. Promotion of X5gon at the conference on Public Administration (Brdo) - presentation and debates in workshops and breaks; notes from Project Management Board, X5gon engine; OER e-materials at EU, conference on Public Administration, Brdo, Slovenia, December 2018
89. B. Čampelj (MIZS), 2018. Promotion of X5gon at the conference Eminent (debates and breaks) X5gon engine; OER e-materials at EU, conference Eminent, Lisbon, Portugal, December 2018
90. B. Čampelj (MIZS), 2018. Promotion of X5gon at the conference Microsoft on AI (debates in breaks) X5gon engine; OER e-materials at EU, conference Microsoft on AI, Ljubljana, Slovenia, December 2018
91. D. Orlic (K4A), 2018. We have been given VIP tickets to attend the World Summit in AI for exploitation purposes, Amsterdam, Netherlands, October 2018
92. K. Perčič (PO), M. Jermol (JSI), 2019. EU Media Convergence and Social Media Concertation meeting - We attended the Concertation meeting in Brussels, with the objective to bring together projects to discuss and share, to learn from each other and to find synergies and possibilities for future collaborations, X5GON project overview (presentation), Brussels, Belgium, February 2019
93. M. Jermol (JSI), 2019. UNESCO OER Recommendation final meeting - The UNESCO OER Recommendation was approved by UNESCO member states on 28th May, by consensus. Its final step for approval will take place at the UNESCO General Assembly in November, 2019. X5GON is the technology to be offered to Maember States to implement the policy, X5GON project overview for policymakers in UNESCO Member States (presentation, Paris, France, May 2019

94. D. Orlic (K4A), M. Jermol (JSI), 2019. Mentoring Programme – Open Education for a better world - The mentoring programme 2019 supported 35 mentees ensuring they settle in quickly and are able to achieve their potential and is specifically designed for each of the problems they are trying to solve under the supervision of 41 mentors. X5GON Handout and Testing Towards Assessing Quality of Educational Content at Scale Ljubljana, Slovenia, August 2019
95. B. Čampelj (MIZS), 2019. Promotion of X5gon project at the peer learning meeting in Luxemburg (DELTA group and other experts; (Digital Education: Learning, Teaching and Assessment), X5gon engine; OER e-materials at EU, peer learning meeting in Luxemburg (DELTA group and other experts), Luxemburg, January 2019
96. B. Čampelj (MIZS), 2019. Promotion of X5gon project at Bett show - various stakeholders from Slovenia and other countries, X5gon engine; OER e-materials at EU, Bett show, London, UK, January 2019
97. B. Čampelj (MIZS), 2018. Promotion of X5gon project activities on OER - Dare Stojan, member of Social-economic committee X5gon engine; OER e-materials at EU, meeting with expert Ljubljana, Slovenia, February 2019
98. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform at DELTA meeting in Brussels (E&T 2020; discussion in breaks); possible peer learning in Slovenia, X5gon engine; OER e-materials at EU, DELTA meeting in Brussels (E&T 2020), EC, Brussels, Belgium, February 2019
99. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform Scientix conference in Beograd (discussions and possible activities in Balkan region), X5gon engine; OER e-materials at EU, Scientix conference, Beograd, Serbia, February 2019
100. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform on the Management board at ARNES institution (I am member of Board), X5gon engine; OER e-materials at EU, Management board at ARNES institution, Ljubljana, Slovenia, February 2019
101. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER and platform in National Education Institute (Andreja Bačnik), X5gon engine; OER e-materials at EU, meeting with expert, Ljubljana, Slovenia, March 2019
102. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform at the meeting of Listiac project (new Erasmus + project), X5gon engine; OER e-materials at EU, meeting of Listiac project, Helsinki, Finland, March 2019
103. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform at the Ministry of Education Singapur, National Education Institute, University of Singapur, X5gon engine; OER e-materials at EU, Meeting at Ministry of Education Singapur, National Education Institute, University of Singapore, Singapore, March 2019
104. B. Čampelj (MIZS), 2019. Promotion of X5gon project among headmasters and teachers from Slovenia at the excursion in Singapore, X5gon engine; OER e-materials at EU, Policy discussion with national experts in excursion in Singapore, Singapore, March 2019
105. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform in the conference for headmasters from Singapore and other experts (in breaks), X5gon engine; OER e-materials at EU conference for headmasters from Singapore and other experts, Singapore, March 2019

106. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities workshops in deliZnami (share with us) for co-workers X5gon engine; OER e-materials at EU, workshops in deliZnami, Ljubljana, Slovenia, April 2019
107. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform in the conference SELFIE in Madrid (in breaks; various experts from ministries of education, national education institutions; teachers and researchers; EUN Schoolnet), X5gon engine; OER e-materials at EU conference SELFIE Madrid, Spain Thursday, April 4, 2019
108. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform at the Microsoft workshop for policy makers at the Ministry, National education institutions, headmasters, X5gon engine; OER e-materials at EU, Microsoft workshop for policy makers at the Ministry, National education institutions, headmasters Ljubljana, Slovenia, April 2019
109. B. Čampelj (MIZS), 2019. Promotion of X5gon project activities on OER, AI and platform at Microsoft NT conference (EDU track) with Microsoft experts and headmasters and teachers in breaks; and meetings with Microsoft, X5gon engine; OER e-materials at EU, Microsoft NT conference (EDU track), Portoroz, Slovenia, May 2019
110. B. Čampelj (MIZS), 2019 promotion of X5gon project in breaks at DELTA (Digital Education: Learning, Teaching and Assessment) PLA meeting (experts on ICT in education) X5gon engine; OER e-materials at EU, DELTA (Digital Education: Learning, Teaching and Assessment) PLA meeting (experts on ICT in education), Ljubljana, Slovenia, June 2019
111. K. Perčič (PO), 2019. Presenting the x5gon project and openness for cooperation with startup Equaleyes solutions, Teachers dashboard workshop, what they need, Meeting for cooperation, Maribor, Slovenia, April 2019
112. K. Perčič (PO), 2019. Presenting x5gon and key functionalities X5GON project overview (presentation), X5GON Project Showcase Ljubljana, Slovenia, June 2019
113. K. Perčič (PO), 2019. Presenting the x5gon project on startup event in Ljubljana - open space on PS Tržaška, X5GON project overview, (presentation) Meeting for establishing of research cloud Maribor, Slovenia, April 2019
114. K. Perčič (PO), 2019. Presenting the x5gon project to Sonja Rnjak CEEMA (Central, Eastern Europe, Middle East and Africa) and Denis Stanarevič at Hewlett Packard Enterprise, X5GON project overview (presentation) Meeting for cooperation, Maribor, Slovenia, May 2019
115. K. Perčič (PO), 2019. Presenting x5gon to B2 - Slovenian leading e-learning company - intent for cooperation, X5GON project overview (presentation), "Presentation Introduction to Open Education for Business and Industry" Vipava, Slovenia, June 2019
116. K. Perčič (PO), 2019. Conference Open education for better world, Presenting the OE on industry track Introduction to OE for Business and Industry, X5GON adoption and potential for industry, Vipava, Slovenia, April 2019
117. M. Ifko-Pinosa (MIZS), D. Orlic (K4A), 2019. Meeting with Zavod za zaposlovanje RS (Employment Service of Slovenia) X5GON project overview and the value of the X5GON for non-formal education, Exploitation meeting for joining X5GON platform, Ljubljana, Slovenia, April 2019
118. D. Orlic (K4A), 2019. Presentation and organisation of Deep Learning Indaba Involvement in the organising committee and presentation of X5GON

feed, API and datasets, Presentation of potential pan-African cooperation with X5GON platform, Nairobi, Kenya, August 2019

F. Publications in Social Media and Websites:

119. K4A website for X5GON, <http://www.k4all.org/project/x5gon/>
120. Tweets at https://twitter.com/K4A_Foundation
121. J. Shawe Taylor (UCL), 2019. Interview at Workshop "Toward a Network of Excellence in Artificial Intelligence for Development (AI4D) in sub-Saharan Africa", Showcase X5GON as feasible technology for online education in Global South, Nairobi, Kenya, April 2019
122. J. Shawe Taylor (UCL), 2019. Interview at HumaneAI kick-off, Showcase X5GON as feasible AI technology for online education, Berlin, Germany, April 2019
123. K. Perčič (PO), I. Renčelj (PO), M. Jermol (JSI) 2019. Pošta Slovenije, in cooperation with the Jožef Stefan Institute, both partners in X5GON handed over part of new office spaces in Ljubljana to four high-tech startups. X5GON was showcased as a unique project connecting the two partners. X5GON project overview (presentation), Ljubljana, Slovenija, April 2019

G. Sections in Newsletters:

124. 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):

125. 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
126. 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
127. J. Shawe-Taylor (UCL), D. Orlic (K4A), 2018. "Setting up the application for UNESCO 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
128. S. Bulathwela (UCL), 2018. Microsoft Research AI Summer School, X5GON Poster Towards Assessing Quality of Educational Content at Scale, Cambridge, UK, July 2018
129. S. Bulathwela (UCL), 2018. X5GON Poster, Handout, Towards Assessing Quality of Educational Content at Scale, Vipava, Slovenia, July 2018
130. D. Orlic (K4A), M. Jermol (JSI), 2019. UNESCO publication "Artificial Intelligence and frontier technologies for OER" - X5GON is contributing to the upcoming report on the use of AI and frontier technologies for OER, together with UNESCO's Communication and Information Sector. The report is an initial scoping study trying to understand how similar technologies to X5GON

can be suited to further the development and expansion of OER in achieving United Nations SDG 4, X5GON breakdown of technologies overview in book chapter, First draft of the report, Paris, France, December 2019

131. C. de la Higuera (NA), 2019. UNESCO publication on teaching AI
X5GON breakdown of technologies overview in book chapter, First draft of the report, Nantes, France, December 2019

3.2 LIST OF ACTIONS OF SPECIFIC IMPORTANCE (M12-M24)

In this section we would like to present in more details important dissemination actions and events within the X5GON dissemination strategy.

3.3 WORKSHOPS, TUTORIALS, CONFERENCES, MEET-UPS, DATA SCIENCE EVENTS

We distinguish two types of workshops run by X5GON partners:

- The first type of workshops are the ones organised at each partners meeting and present full day events of academic, research, policy or industry perspectives on the complementary aspects to X5GON, these are: Ljubljana Kickoff (2017-09-20), Cumberland Lodge (2018-10-4), Nantes (2018-10-16), and Osnabrück (2019-03-11). These hosted a number of scientific and industrial speakers with companies presenting their products complementary to X5GON solutions.
- The second are workshops organised by X5GON partners that are being used for targeted audiences at major events. One of the most important ones was the IJCAI workshop on “AI and the United Nations SDGs - towards building a network of AI researchers across regions to address how AI could contribute to the UN SDGs”, held on August 10-16, 2019, Macao, P.R. China. The workshop provided a forum for development agencies such as IDRC and inter-governmental organisations such as UNESCO to present and discuss projects, initiatives and existing research networks with emphasis on identifying a portfolio of AI projects addressing SDGs. The workshop had a strong X5GON presence and showcased X5GON as a technology for SDG 4: Quality Education. We also had exposure to industry such as Facebook, Sony and Fujitsu.

3.4 HACKATHONS AND IDEA JAMS PROGRAMME

Preparations have been made to run an X5GON Hackathon at a G7 summit supporting open education for NGOs and low income communities with AI driven applications. Using techniques and technologies from X5GON consortium partners, a Hackathon is to be run with UCL in the UK leading the design and management with three phases, from October 2019 to early December 2019. X5GON partners will be invited to also take part and at their own sites, conducting local Hackathons with their student populations for the first two phases. Teams will be in in threes at all locations. Certificates for all team participants will be awarded. The third and final phase will be a final 24-hour competitive refinement of the top #3 teams from each country participating, to be presented and judged at UNESCO in Paris in December 2019. A final top 3 prize will be awarded there in a ceremony and an open source repository of all of the teams' project ideas will be made live with a public announcement.

3.5 POLICYMAKING EVENTS

In this section we present two seminal dissemination actions and events organised by X5GON partners:

- X5GON partners K4A, JSI and MIZS have been working with UNESCO Headquarters in preparing the UNESCO Recommendation in Open Educational Resources (OER), see Annex 3 with current final version as published on March 2019. 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 in November 2019, 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.
- As part of the Education and Training 2020 (ET 2020) Open Method of Coordination, the Commission and Member States cooperate in the form of Working Groups. The primary focus of the ET2020 Working Group on Digital Education: Learning, Teaching and Assessment (DELTA) is to benefit the Member States in the work of furthering policy development through mutual learning and the identification of good practices. For this purpose, a PLA was organised in Ljubljana by X5GON partner MIZS, which focused on the discussion and exchange of experiences and opinions on Artificial Intelligence and its implications for education. With its main objective of exploring emerging practices in AI developments for education and sharing current initiatives or plans in different member states, the AI tools developed within X5GON fit well. On this meeting we presented X5GON through the lenses of the 5Xs, and discussed and exchanged experiences and opinions on Artificial Intelligence and its implications for education. In Annex 1 we present a survey prepared for the workshop.

3.6 INTERNATIONAL DEVELOPMENT ACTIVITIES

For the purpose of better dissemination and exploitation of the project, and a broader stakeholder and citizen reach, a set of dissemination activities in international settings has been designed to work in parallel with business exploitation streams involving engagement of start-ups and innovation communities:

- In Year 1 K4A has piloted with the X5GON UNESCO Chairs a scoping study titled Global Artificial Intelligence Ecosystem Directory on understanding what is the AI potential in low and middle income countries in 4 regions, Latin America/Caribbean, SSA, MENA, Asia. This 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.
- In Year 2, K4A extended this work by going further and in partnership with IDRC started investing and co-designing a range of AI for development initiatives, focusing on innovations, foundations and governance. These initiatives will support relevant research, develop AI applications that are inclusive, ethical, and rights-based, and strengthen and create appropriate capacity building programs where X5GON could be exploited as a technology for educational purposes and fit under the SDG4 umbrella. The main purpose of the AI for Development (AI4D) Africa project is to support a network of

excellence in AI in sub-Saharan Africa to strengthen and develop community scientific and technological excellence in a range of AI-related issue areas. This work has been a gateway towards machine learning exploitation communities in Sub-Saharan Africa.

4. PERFORMED ENGAGEMENT

ONLINE-WORLD

COMMUNITY

5.2 X5LEARN

As X5GON is addressing online communities, for this purpose we have built an application to interface those communities (see D8.3). Therefore, X5Learn is the standalone, learner-facing web application of X5GON. Its primary focus is on the needs of lifelong learners while also addressing secondary requirements of educators. It has been developed by K4A and UCL and hosted on a web server provided by PO. X5Learn's value proposition is to help self-directed learners achieve the following key learning and information retrieval tasks efficiently:

- Finding information in large corpora of educational documents;
- Searching and navigating content using automatically generated topic annotations and metadata;
- Assessing the relevance of unknown content using textual and visual previews;
- Recapping previously accessed information through lightweight, contextual note-taking features;
- Exploring related materials through content-based recommendations.

The current version of X5Learn supports all of the above use cases which have been validated through continuous user testing in the lab and in the wild (see D6.2). In addition, future versions may extend the functionality and provide advanced support for active and social learning.

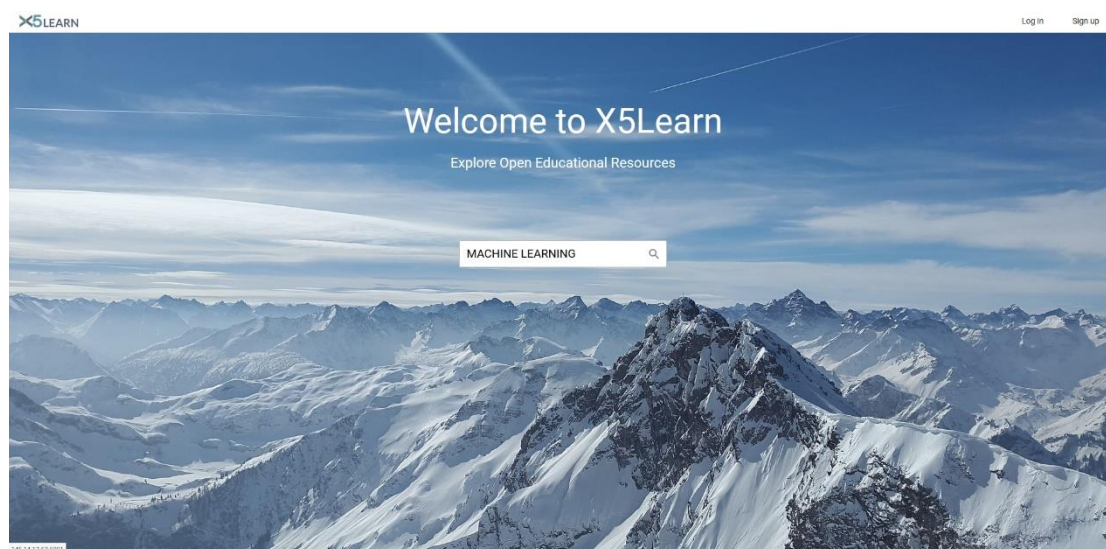


Figure 1: X5Learn landing page

5.3 WEBSITE AND PLATFORM

The figure below presents an overview of the X5GON website users across the period Jan 2018 until September 2019 with a total of 12,386 views. Following the overview of the activities realized during Year 1 and 2 we could use the following figure towards measuring impact.

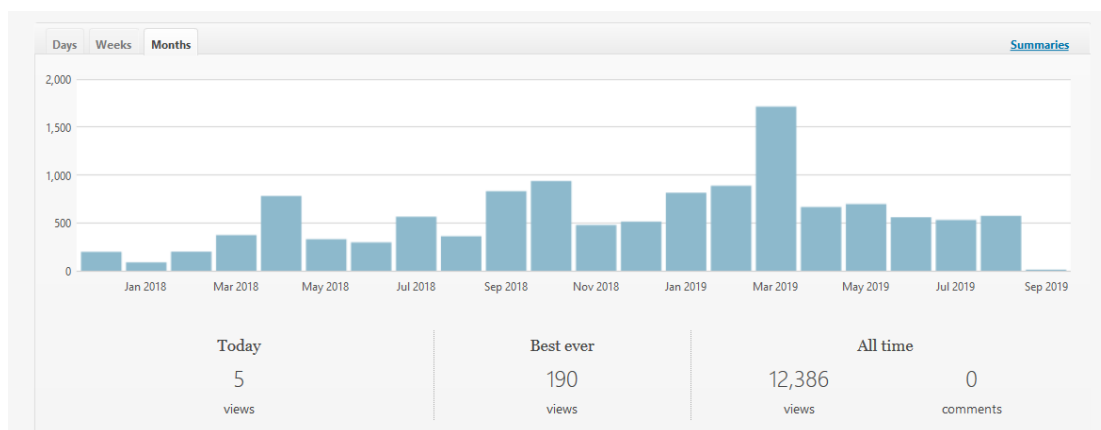


Figure 2: Number of users per month

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 peaks 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.

Our assumptions about the platform site proved to be correct, as the official website became the entry point to the first prototype and platform demonstrator of the platform with content from the three case studies. Therefore, the decision to create a separate identity for the platform, with its own brand, was taken to maximise the exploitation potential. The X5GON website will only be supported for two years after project end, so having a working website past this time period is essential if we are to create sustainable and scalable business value. This is also an attempt for early marketing in light of the innovation nature of the action.

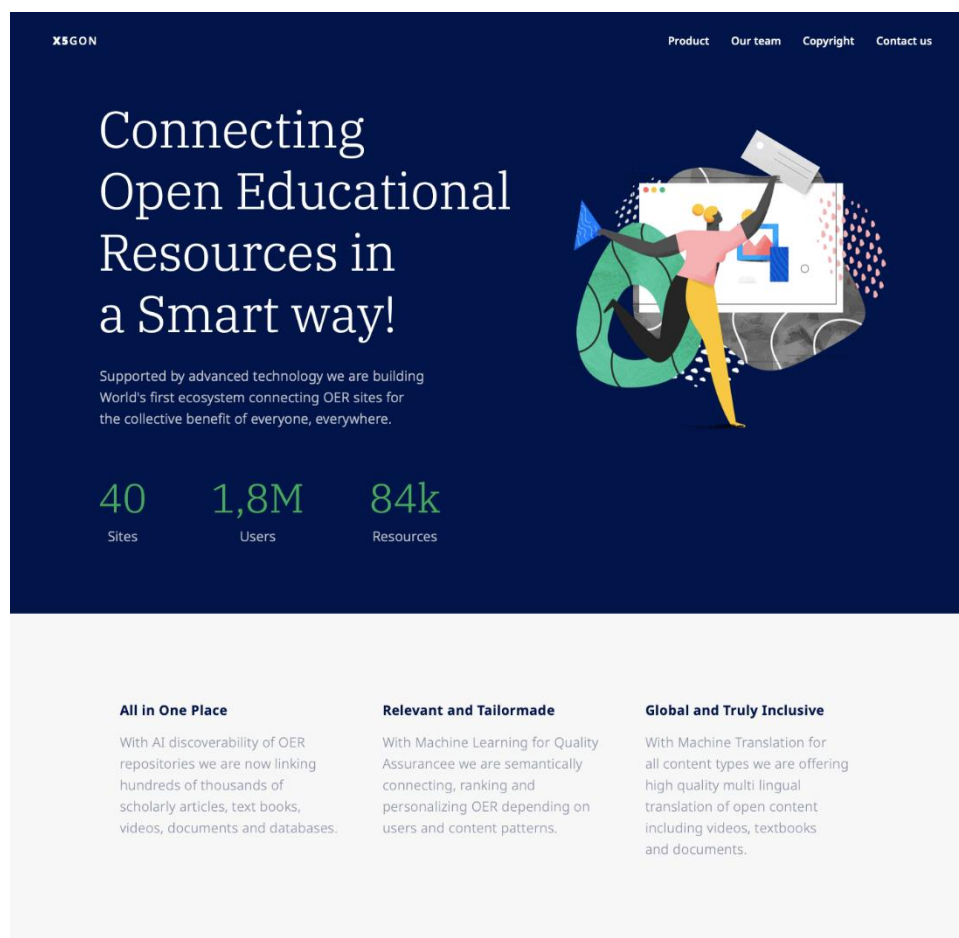


Figure 3: Main exploitation result in product format

5. CONCLUSION

The current report provided an overview of Y2 activities (M12-M24) delivered within the framework of WP 7, focused on dissemination activities of the project. This report also served as a method to evaluate the activities realized in Y1 and the impact generated against the objectives set for the target period. It also functioned to measure the progress with respect to Y1, and prepare the grounds for the final deliverable of this series, which is due at the end of the project on M36.

Through the reporting of these activities, we can conclude that the dissemination and communication actions taken during this period were in line to the objectives, needs and progress of the project. These were based on the same directions as did the activities realized during the first year, with regards to the types of actions which were pursued and the target audiences reached.

It is worth noting that several collaborative actions have been designed and delivered by the X5GON Consortium, both in the form of joint publications, but also through the holistic participation of partners to scientific, policy and technical events. More specifically, we highlight a few activities from this period (see Section 3.3 to 3.6):

1. **Peer Learning Activity 2019 in Ljubljana, Slovenia**, organized by MIZS with an additional X5GON workshop

2. **UNESCO Recommendation final expert meeting 2019 in Paris, France;** presentation of X5GON technologies fitting the policy document was made
3. **Participation at the 28th International Joint Conference on Artificial Intelligence, Macao, China:** one project related workshop was made
4. **Participation at the AI for Education Congress 2019 in Beijing, China;** one keynote overview presentation was given by the Coordinator

Within the final part of the project in Y3, we are expecting to notice similar outreach activities, focusing on the promotion of the X5GON platform towards end-users, industry and innovation communities. The dissemination strategy will support the exploitation efforts and help define pivotal opportunities.

6. APPENDIX

A1: SURVEY RESULTS FROM PEER LEARNING WORKSHOP ON AI AND EDUCATION

The digital and online engagement is designed to be synchronised with the real-world one and the events designed and described in Section 4. Here we 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 best practices, and other services that will cater to our target audiences. Therefore, we have employed a questionnaire at the PLA event to understand and map the needs and opinions of European policymakers on AI technologies such as X5GON.

Participants were asked about the X5GON 5 cross-dimensions to successfully design a Governmental potential adoption in the technology. Participation was voluntary and none of the questions asked in the questionnaire were mandatory in order to take users a minimal response time. The questionnaire was announced at the meeting by MIZS organisers.

A total of 32 survey responses were identified and since the survey took place in Year 2 we were able to show the already built prototypes. The results are presented in the next sections by figures generated by the online survey tool Google Forms which was used for this trial and was GDPR compliant.

The results of the survey are by no means official Governmental stands, and have been tailored specifically for the X5GON workshop at the PLA meeting.

2. Years in service

32 responses

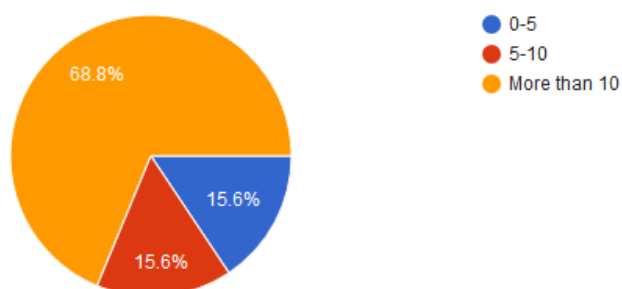


Figure 4: Basic information on policymakers

Figure 1 shows the response regarding the years in service and thus hints at ICT competence of the participants. It can be seen that the overwhelming majority of participants (70%) are seniors in the field.

6. Which of the following Open Education (OE) documents are you familiar with? (tick all that apply)

32 responses

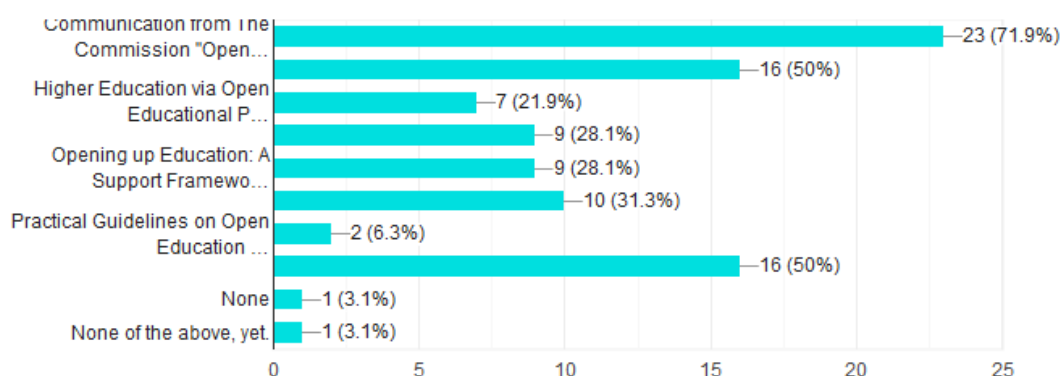


Figure 5: Basic information on EU/OER policy

Another important question which can influence the perception of the project results is presented in Figure 2: the majority of the participants is acquainted with basic EC policies on open education and OER.

7. Which of these Open Education (OE) dimensions are you most interested in or are most relevant to you? (tick all that apply)

32 responses

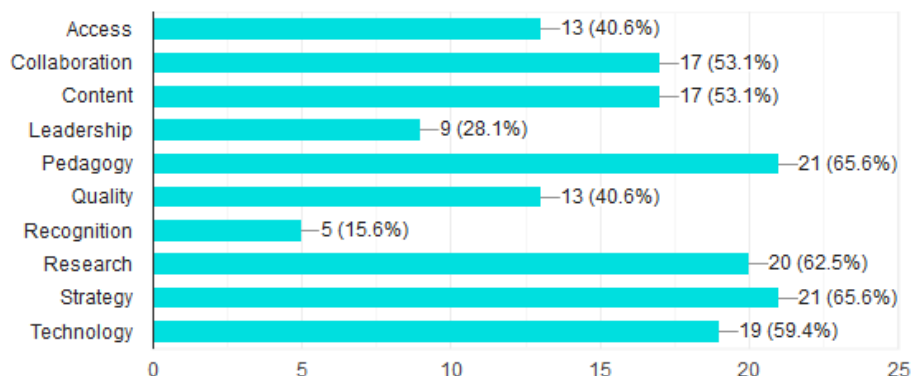


Figure 6: OER dimension interest

The main Open Education dimensions presented in the EC report on support framework for higher education institutions (HEIs) to open up education¹ were listed in Figure 3. More than 60% of participants are most interested in Pedagogy and Strategy dimensions. One quarter believes Research (25%).

8. Open Educational Resources (OER) are digital materials delivered to users mainly online. Are you familiar with this?

32 responses

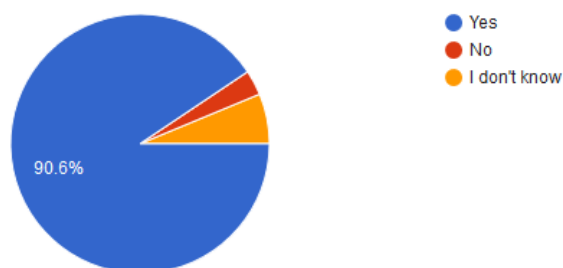


Figure 7: OER definition

The vast majority of participants were familiar with OER and its online identity.

¹ Opening up Education: A Support Framework for Higher Education Institutions
<https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/opening-education-support-framework-higher-education-institutions>

9. Which of these OER dimensions are you most interested in or are most relevant to you? (tick all that apply)

32 responses

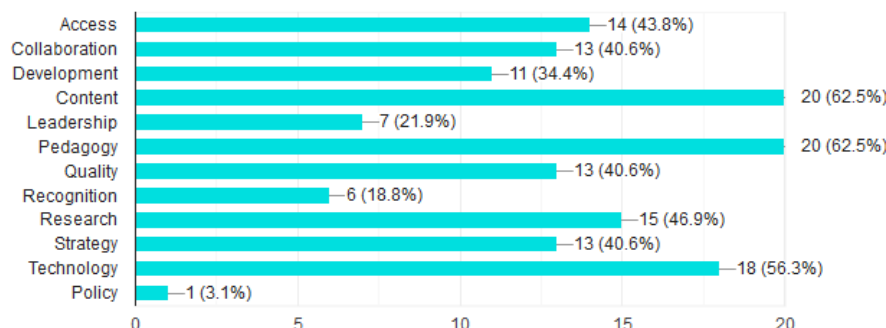


Figure 8: Professionally relevant OER dimensions

Figure 5 shows the matching of OER and the Open Education dimensions: the majority of the answers points to Content and Pedagogy and Technology (60%), followed by Access (43%) and Research (15%) and closely matched by Strategy and Collaboration.

10. How do you feel about implementing AI into learners devices and/or schools?

32 responses

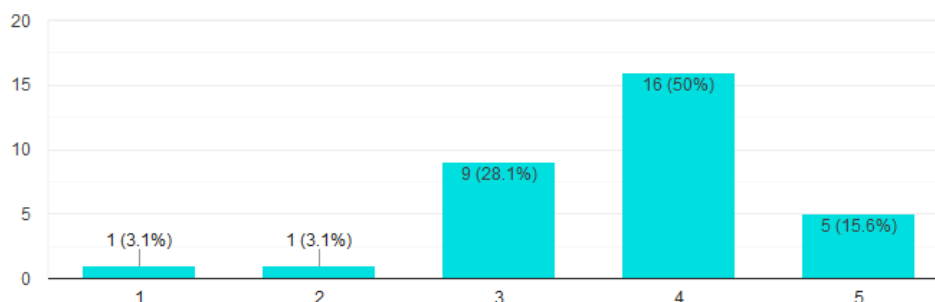


Figure 9: AI implementation in real-life settings

This is the part of the survey where we start addressing AI. Figure 6 shows the results for the policymakers' feelings about the use of AI in devices connected to education reflecting that 50% believe that implementation is positive.

11. Would you feel more comfortable as a regulator if you had some degree of control over AI regarding the learners and schools?

32 responses

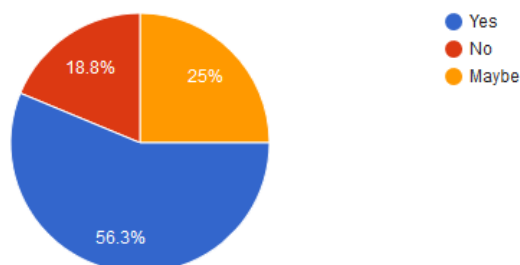


Figure 10: AI control as policymaker

Figure 7 shows that policymakers are interested in having more control and understanding of AI in practice (56%).

12. Which of these are Benefits of implementing AI into Education?

32 responses

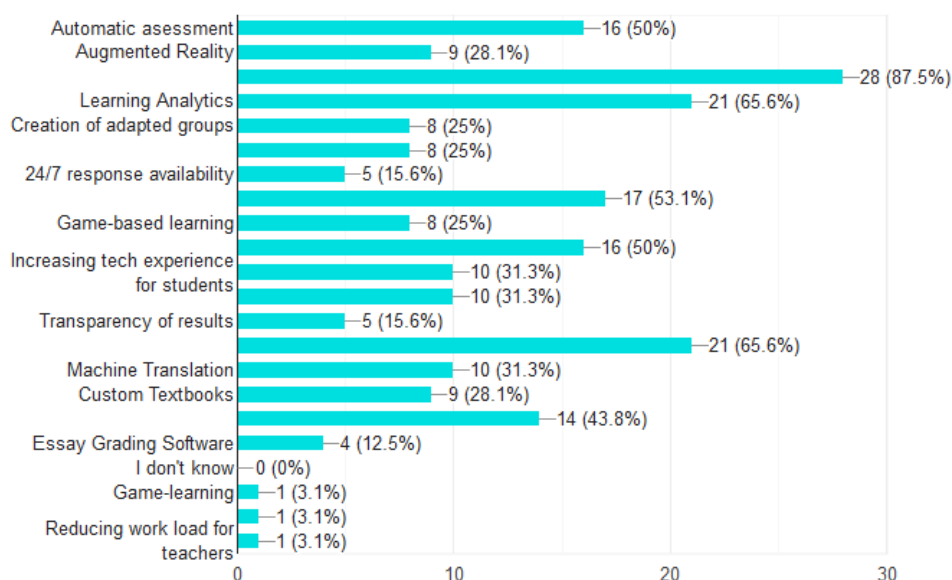


Figure 11: AI implementation benefits

In Figure 8 we inquire about the benefits of AI in education. More than 87% of participants are most interested in learning analytics. Half of them believe automatic assessment being important (50%) One quarter believes Grouping (25%) is important.

13. Which of these are Concerns of implementing AI into Education?

32 responses

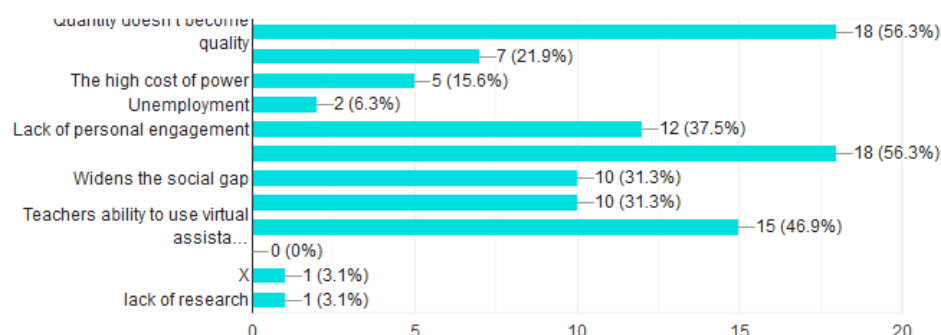


Figure 12: AI implementation concerns

Figure 9 shows the main general fears and drawbacks concerning AI in education are quality vs. quantity and personal engagement (56%) followed by AI assistants (46%).

14. If AI technologies were to use data collected from OERs, which of the following AI technologies would you be most interested in or would be most relevant to you? (tick all that apply)

32 responses

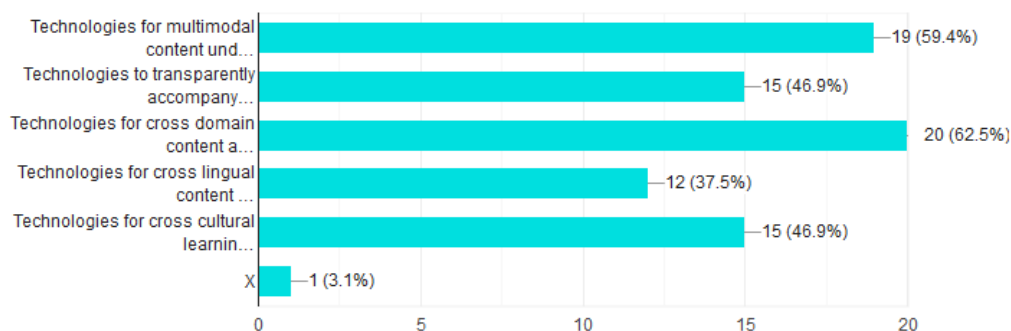


Figure 13: AI and X5GON technologies

Figure 10 shows the X5GON technologies and OER connections to AI interests. Results show that technologies for multimodality and domain are most relevant (60%).

15. Which of the OER dimensions do you think would benefit most from the implementation of AI technologies?

32 responses

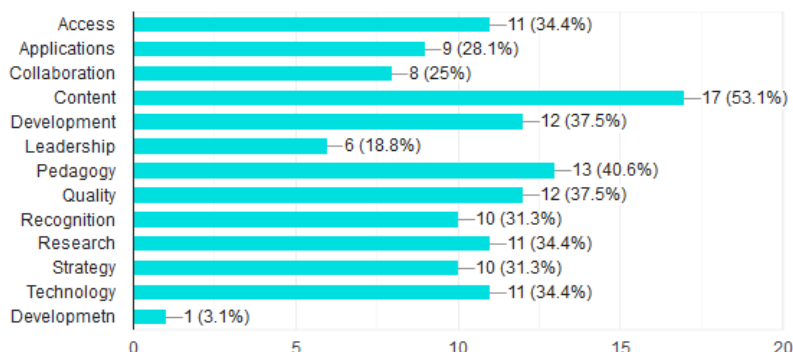


Figure 14: AI technologies and OER dimensions

The participants were also asked about OER dimensions and benefits from AI. Figure 11 represents a high feedback on content. Pedagogy and Quality are also to benefit (40%).

16. Does your Government or Ministry have an action plan or policy on AI and Education?

32 responses



Figure 15: AI policy in Government

The next question deals with whether the Governments had a plan on policy in AI and education, with a potential half-half response.

17. Does your Government or Ministry have a working implementation of AI in your educational system?

32 responses

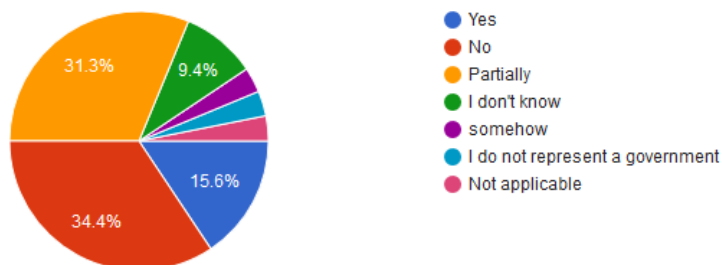


Figure 16: AI policy implementation in Government

Participants believe there are no definitive working implementation in AI and education their Government.

18. If there was an AI platform that would support OER services, would you be willing to test it?

32 responses

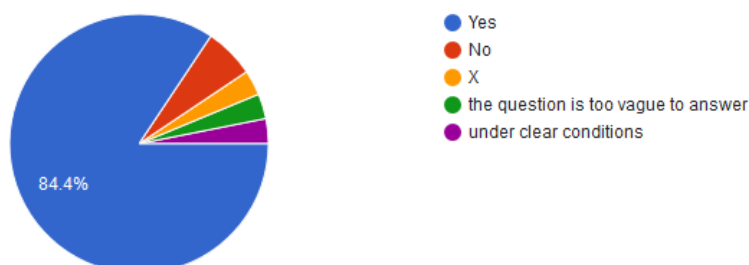


Figure 17: AI platform and OER services

Perhaps the most surprising reply to any of the questions is presented in Figure 14 where participants overwhelmingly support the idea of testing X5GON technologies (84%).

19. If the Slovenian Ministry would start a Global Network of Ministries to propose, construct and operate a dynamic coalition of countries devoted to research, develop, deploy and exchange AI solutions in Education, practices and policies, would you consider joining?

32 responses

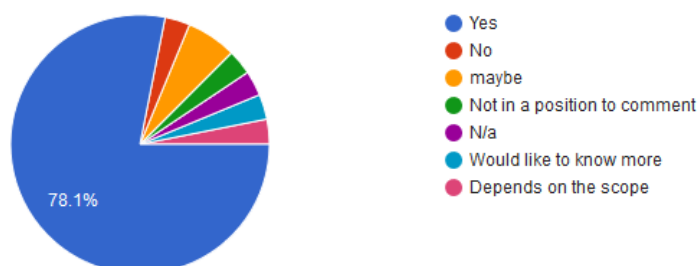


Figure 18: OER Network of Ministries

Figure 15 shows the response regarding a potential dynamic coalition of Governments uniting into understanding the potential of OER with AI. It can be seen that more than three quarter of participants (78%) regarded this as a potential future activity.

A2: ONLINE/OFFLINE PEDR REPORTING FORM

Table A1: List of Current and Foreseen scientific (peer reviewed) publications:																
N O .	Plane d or Perfor med	Type of Scientific Publication	Title of the publica tion	DOI or Repo sitory Link	IS S N	Organiz ation(s)	Auth ors' Name s	Title of the Journal/Proc eedings/Boo k Series or equivalent	Number, Date or frequency of the Journal/Proc eedings/Boo k or equivalent ²	Publ ishe r	Place of publi cation	Year of Publi cation	Rele vant pag es ³	Is this a joint public/ private publica tion? ⁴	Is this a peer review ed pub lication? ⁵	Is this publi cation avail able in Open Acce ss (OA) or will it be made avail able? ⁶
1.	Plann ed	Publicatio n in conferenc e proceedin	Design in the Wild: Interfacin g the OER	N/A	N/ A	UCL	Stefa n Kreit maye r	BCS, The Chartered Institute for IT (ACM Proceedings	Monday, May 7, 2018	N/A	Belfa st	2018	N/A		No	Yes Gree n OA

² Please insert: i) the number of the journal, and/or ii) the month of the publication, and/or iii) the year of the publication

³ [Please insert the first page of the publication] - [Please insert the last page of the publication]

⁴ Please confirm or not that this is a joint publication coming from public and private project participants (Yes/No).

⁵ Please indicate whether this is a peer review publication or not (Yes/No).

⁶ 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.

		g/workshop	learning journey				(UCL), Yvonne Rogers (UCL), John Shawe Taylor (UCL)) 32nd Human Computer Interaction Conference								
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	Osna brück , 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

4.	Perfor med	Publicatio n in conferenc e proceedin g/worksho p	Preparin g multi- modal data for natural language processin g	N/A	N/ A	JSI	Erik Nova k (JSI), Jasn a Urba nčič (JSI)	SiKDD 2018	Thursday, October 11, 2018	N/A	Ljubl ana, Slove nia	2018	N/A		No	Yes Gree n OA
5.	Perfor med	Publicatio n in conferenc e proceedin g/worksho p	<i>Future Learner Experien ces with AI and Open Educatio nal Resource s</i>	N/A	N/ A	UCL	Stefa n Kreit maye r (UCL , Saha n Bulat hwel a (UCL)	CHI 2019	Saturday, May 4, 2019	N/A	Glasg ow, UK	2019	NA		Yes	Yes Gold OA
6.	Plann ed	Publicatio n in conferenc e proceedin g/worksho p	<i>Predictin g Engagem ent of Video Lectures: Towards Quality Assuranc e in Open Educatio n</i>	N/A	N/ A	UCL	Saha n Bulat hwel a (UCL , Emin e Yilma z (UCL , John Shaw	EDM 2019	Tuesday, July 2, 2019	N/A	Montr éal, Cana da	2019	NA		Yes	Yes Gold OA

							e Taylo r (UCL)									
7.	Plann ed	Publicatio n in conferenc e proceedin g/worksho p	<i>TrueLear n: Bayesian approach es to match lifelong learners to Open Educatio nal Resource s</i>	N/A	N/ A	UCL	Saha n Bulat hwel a (UCL) , Emin e Yilma z (UCL) , John Shaw e Taylo r (UCL)	NeurIPS 2019	Monday, December 9, 2019	N/A	Vanc ouver , Cana da	2019	NA		Yes	Yes Gold OA
8.	Perfor med	Publicatio n in conferenc e proceedin g/worksho p	<i>Towards Automati c, Scalable Quality Assuranc e in Open Educatio n</i>	N/A	N/ A	UCL	Saha n Bulat hwel a (UCL) , Emin e Yilma z (UCL)	IJCAI 2019	Saturday, August 10, 2019	N/A	Maca u, China	2019	NA		Yes	Yes Gree n OA

							John Shaw e Taylor (UCL)									
9.	Perfor med	Publicatio n in conferenc e proceedin g/worksho p	<i>The MLLP- UPV Supervis ed Machine Translati on Systems for WMT19 News Translati on Task. In Proc. of Fourth Conferen ce on Machine Translati on</i>	N/A	N/ A	UPV	Alfon s Juan (UPV) , Gonç al Garc és Díaz- Muní o (UPV)	WMT19		N/A	Flore nce, Italy	2019	NA		Yes	Yes Gree n OA
10.	Perfor med	Publicatio n in conferenc e proceedin g/worksho p	<i>The MLLP- UPV Spanish- Portugue se and Portugue se- Spanish Machine</i>	NA	N A	UPV	Alfon s Juan (UPV)	WMT19		N/A	Flore nce, Italy	2019	NA		Yes	Yes Gree n OA

			<i>Translati on Systems for WMT19 Similar Languag e Translati on Task. In Proc. of Fourth Conferen ce on Machine Translati on</i>													
11	Perfor med	Publicatio n in conferenc e proceedin g/worksho p	<i>Real-time One- pass Decoder for Speech Recogniti on Using LSTM Languag e Models Inprocee dings. In Proc. of the 20th Annual Conf. of the ISCA</i>	NA	N A	UPV	Alfon s Juan (UPV)	Interspeech 2019		N/A	Graz, Austri a	2019	NA		Yes	Yes Gree n OA
12	Perfor med	Publicatio n in conferenc	<i>The MLLP- UPV</i>	NA	N A	UPV	Alfon s Juan	WMT18		N/A	Bruss els,	2018	NA		Yes	Yes Gree n OA

		e proceedin g/worksho p	<i>German-English Machine Translation System for WMT18. In Proc. of the Third Conference on Machine Translation (WMT18), Volume 2: Shared Task Papers, pp. 422–428</i>				(UPV), Gonç al Garc és Díaz- Muní o (UPV)				Belgi um					
13.	Perfor med	Publicatio n in conferenc e proceedin g/worksho p	<i>Speaker-Adapted Confidence Measures for ASR using Deep Bidirectional Recurrent Neural Networks</i>	NA	N A	UPV	Alfon s Juan (UPV)	IEEE/ACM		N/A	N/A	2018	N/A		Yes	Yes Gold OA

			<i>IEEE/ACM Transactions on Audio, Speech, and Language Processing</i> , 26 (7), pp. 1194–1202, 2018													
14.	Performed	Publication in conference proceeding/workshop	<i>MLLP-UPV and RWTH Aachen Spanish ASR Systems for the IberSpeech-RTVE 2018 Speech-to-Text Transcription Challenge. In Proc. of IberSPEECH 2018: 10th Jornadas</i>	NA	NA	UPV	Alfonso Juan (UPV)	IberSPEECH 2018		N/A	N/A	2018	N/A		Yes	Yes Green OA

			<i>en Tecnologías del Habla and 6th Iberian SLTech Workshop, pp. 257–261, Barcelona (Spain), 2018.</i>													
15	Planned	Publication in conference proceeding/workshop	Preferences of Users in OER Recommendations	NA	N/A	JSI	Erik Novak (JSI)	SiKDD 2019	Monday, October 7, 2019	N/A	Ljubljana, Slovenia	2019	N/A		No	Yes Green OA
16	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
17																

Table A2: List of Performed & Planned dissemination activities												
N O.	Planned or Performed	Type of activities ⁷	Organization	Author s' Name(s)	Description	Title of the Disseminated Material	Title of the disseminated material	Publisher	Date	Type of audience ⁸	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

⁷ 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

⁸ Possible options: Scientific Community (higher education, Research), Industry, Civil Society, General Public, Policy makers, Medias, Investors, Customers, Other

2	Performed	Non-scientific and non-peer reviewed publications (popularised publications), Non-scientific and non-peer reviewed publications (popularised publications)	JSI, MIZS	Davor Orlic (K4A), Mitja Jermol (JSI), Borut Čampelj (MIZS)	This study provides 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.	X5GON described as case study in "Policy implementation and impact to date" for Slovenia	Policy Approaches to Open Education Case Studies from 28 EU Member States (OpenEdu Policies)	Luxembourg: Publications Office of the European Union, 2017	Tuesday, January 16, 2018	Scientific Community (higher education, Research), Policy makers	1000	European
3	Performed	Participation to a conference	JSI, K4A	Davor Orlic (K4A)	Creative Commons Summit 2018 is an annual meeting that celebrates the culture of sharing, and provides a space for open	X5GON project overview (presentation)	Presentation on machine translation for open content and OER aggregation platform @ Creative Commons Summit	Toronto, Canada	Sunday, April 22, 2018	Scientific Community (higher education, Research), Civil Society, Other	500	International

					communities to collectively grow a vibrant, usable commons, powered by collaboration							
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 "Skills for a connected world",	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
5	Performed	Organisation of a workshop, Participation to a workshop, Organisation	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	Paris, France	Sunday, March 25, 2018	Scientific Community (higher education,	50	Global

		n of a workshop, Policy event					Artificial Intelligence technologies			Research), Policy makers		
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/UN ESCO 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 other H2020, Erasmus+	K4A	Davor Orlic (K4A)	MicroHE project kick-off: project addresses the hot topic in higher education in Europe today, namely developing the recognition for microcredentials and nanodegrees, for micro learning	X5GON project overview and extendibility to blockchain solutions (presentation)	MicroHE – Support Future Learning Excellence through Micro-Credentialing in Higher Education Erasmus+, EACEA/41/2016 - Forward-Looking Cooperation Projects	Heilbronn, Germany	Monday, December 4, 2017	Scientific Community (higher education, Research)	35	International

					episodes, open and online.							
8	Perform ed	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 with the current stakes in the copyright debate surrounding education in the light of the main legislative instrument for the ongoing	X5GON project overview and issues with open licensing	Communia strategy meeting for a better copyright for education	Brussels, Belgium	Monday, Novemb er 13, 2017	Civil Society	20	Internati onal

					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 at the Future of Technology in Education at the European Parliament	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
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	X5GON project overview (presentation) and pitch to investors	I3 London 'Media Innovation & Investment' event	London, UK	Thursday, October 5, 2017	Investors	20	National

					event packed with insight, advice and collaboration , hosted by F6S, the world's largest platform for founders in Hackney Wick London.							
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 came from 17 countries (Slovenia, Brazil, Fiji, France, Greece, India, Italy, South Africa, Canada, Kenya, Macedonia, Malaysia, Malta, Germany, Uzbekistan, United Kingdom, USA) .	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
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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 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	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 global OER sites/silos	Paris, France	Thursday, March 29, 2018	Policy makers	50	Global
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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, Investors	5	Global
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	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

					Education in practice.							
16	Performed	Non-scientific and non-peer reviewed publications (popularised publications)	UCL, K4A	John Shawe Taylor (UCL), Davor Orlic (K4A)	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	Monday, April 30, 2018	Scientific Community (higher education, Research), Policy makers	20	National
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, Research), Enterprise	40	Local
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, Enterprise	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 publication	UCL	Sahan Bulathwela (UCL)	Microsoft Research AI Summer School	X5GON Poster	Towards Assessing Quality of Educational Content At Scale	Cambridge, UK	Thursday, July 5, 2018	Scientific Community (higher education)	100	Global

		s (popularise d publication s)								on, Resear ch)		
23	Perform ed	Non- scientific and non- peer reviewed publication s (popularise d publication s)	UCL	Sahan Bulathw ela (UCL)	The University of Nova Gorica and UNESCO Chair on Open Technologie s 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, Germany, Uzbekistan,	X5GON Handout	Towards Assessing Quality of Educational Content At Scale	Vipava, Slovenia	2 – 6 July, 2018	Scientifi c Commu nity (higher educati on, Resear ch), Civil Society, Policy makers	50	Global

					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
26	Performed	Non-scientific and non-peer reviewed publications (popularised)	K4A	Davor Orlic (K4A)	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	Wednesday, August 1, 2018	Policy makers	5000	Global

		publication s)										
27	Perform ed	Presenting at event	UOS	Frank Ollerman (UOS)	Introduction of X5gon within a conference talk about OER adoption	Open Educational Resources	Final conference of the project GreenSkills4 VET	Osnabrück	Friday, June 15, 2018	Scientifi c Commu nity (higher educati on, Resear ch)	50	Regional
28	Perform ed	Presenting at event	JSI	Erik Novak (JSI)	Presentation of the X5GON project	X5GON Project Showcase	X5GON Project Showcase	London, UK	Thursda y, August 23, 2018	Scientifi c Commu nity (higher educati on, Resear ch)	50	Internati onal
29	Perform ed	Presenting at event	K4A	Davor Orlic (K4A)	Online Educa Berlin panel Algorithms, Analytics, AI and Personalisati on	X5GON Project on AI and OER Building a Netflix for Open Education		Berlin, Germany	Monday, Decemb er 10, 2018	Scientifi c Commu nity (higher educati on, Resear ch), Industry	50	Europea n

30	Performed	Presenting at event	UOS	Rudiger Rolf (OUS)	Presentation of the X5GON project	X5GON project overview (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Zurich, CH	Friday, 18. January 2019	Scientific Community (higher education, Research)	70	Global
31	Performed	Presenting at event	UOS	Rudiger Rolf (OUS)	Presentation of the X5GON project	X5GON project overview (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Luzern, CH	Tuesday, 29. January 2019	Scientific Community (higher education, Research)	50	European
32	Performed	Presenting at event	UOS	Rudiger Rolf (OUS), Carlos Turro (UPV)	Presentation of the X5GON project	Open Educational Resources	Video in Open Educational Ressources (OER)	Vienna, Austria	Saturday, February 16, 2019	Scientific Community (higher education, Research)	80	Global
33	Performed	Participation to a conference	K4A	Davor Orlic (K4A)	Attending the UNESCO Roundtable on Artificial Intelligence: Reflection	X5GON project overview and extendibility to SDG4	Artificial Intelligence and Education efforts	Paris, France	Friday, September 14, 2018	Policy makers	50	Global

					on its complexity and impact on our society							
34	Performed	Presenting at event	UCL, K4A	John Shawe Taylor (UCL), Davor Orlic (K4A)	UNESCO Conference on Harnessing Artificial Intelligence to advance Knowledge Societies and Good Governance, An Open Discussion following the Internet Governance Forum (IGF) 2018, Mozilla Foundation. Contribution to Session 1: AI Advocacy, Session 4: Understanding Openness and inclusiveness in the age of advanced ICTs	X5GON technologies fit for Global South reuse	Artificial Intelligence and Education efforts	Paris, France	Friday, November 15, 2019	Policy makers	150	Global

35	Performed	Organisation of a workshop	NA	Colin de la Higuera (NA)	X5GON workshop before 3rd meeting - This international workshop is part of the 3rd X5GON meeting - an EU funded project on Media Convergence, under H2020 Leadership in enabling and industrial technologies	X5GON workshop	X5GON Project Showcase and presentations related to open education, OER repositories, language technologies, personalisation, policy actions and more	Nantes, France	Tuesday, October 16, 2018	Scientific Community (higher education, Research)	50	Institutional
36	Performed	Participation to a conference	K4A	Davor Orlic (K4A)	We have been given VIP tickets to attend the World Summit in AI			Amsterdam, Netherlands	Monday, October 22, 2018	Industry, Investors, Enterprise	1000	European
37	Performed	Presenting at event	K4A	Davor Orlic (K4A)	UNESCO First High-level Forum on AI in Africa - The Forum's objective is to enrich the global reflection on artificial	Contribution to Outcome Statement of the Forum on Artificial Intelligence in Africa Benguerir (Kingdom of Morocco),		Benguerir, Morocco	Thursday, December 12, 2019	Policy makers	150	Global

					intelligence by drawing up a complete inventory of the situation and towards an assessment of an African scale, by taking into account challenges, opportunities and issues specific to local contexts. Plenary session "Universal Access to Information and Knowledge, and Artificial intelligence in Africa"	December 13, 2018						
38	Performed	Presenting at event	JSI, PO	Kristijan Perčić (PO), Mitja Jermol (JSI)	EU Media Convergence and Social Media Concertation meeting - We attended the Concertation	X5GON project overview (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site	Brussels, Belgium	Saturday, February 9, 2019	Scientific Community (higher education, Research)	50	European

					meeting in Brussels, with the objective to bring together projects to discuss and share, to learn from each other and to find synergies and possibilities for future collaborations.		Global OER Network					
39	Performed	Presenting at event	K4A, UCL	John Shawe Taylor (UCL), Davor Orlic (K4A)	Presenting at the introductory panel for major flagship UNESCO conference "Principles for AI: Towards a Humanistic Approach"	X5GON technologies extendable to fit UNESCO OER Recommendation and all UNESCO Member States (Q/A session)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Paris, France	Monday, March 4, 2019	Policy makers	800	Global
40	Performed	Presenting at event	K4A, UCL	John Shawe Taylor (UCL), Davor	UNESCO workshop Workshop on Artificial Intelligence in	X5GON technologies extendable to all UNESCO	X5gon: Cross Modal, Cross Cultural, Cross Lingual,	Paris, France	Monday, March 4, 2019	Scientific Community (higher educati	50	Global

				Orlic (K4A)	Knowledge Societies: A ROAM Approach	Member States (Q/A session)	Cross Domain, and Cross Site Global OER Network			on, Research), Policy makers		
41	Performed	Organisation of a workshop	JSI, K4A, MIZS	Davor Orlic (K4A), Mitja Jermol (JSI)	UNESCO Mobile Learning Week 2019 - Workshop on using AI and OER data – convergence among OER platforms offers unprecedented opportunities	X5GON project overview for policymakers in UNESCO Member States (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Paris, France	Saturday, March 9, 2019	Policy makers	50	Global
42	Performed	Organisation of a workshop	UOS	Rudiger Rolf (OUS), Frank Ollerma nn (UOS)	X5GON workshop before 4th meeting - This international workshop is part of the 4th X5GON meeting and will focus on sustainability solutions for OER technologies	X5GON workshop	X5GON Project Showcase and presentations related to open education, OER repositories, language technologies, personalisation, policy actions and more	Osnabrück , Germany	Tuesday , March 12, 2019	Scientific Community (higher education, Research)	50	National

43	Performed	Organisation of a workshop	K4A, UCL	Davor Orlic (K4A), John Shawe Taylor (UCL)	Workshop within the AI4D initiative in sub-Saharan Africa - Toward a Network of Excellence in Artificial Intelligence for Development (AI4D) in sub-Saharan Africa	X5GON exploitation efforts in Sub-Saharan Africa	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Nairobi, Kenia	April 3-5, 2019	Scientific Community (higher education, Research), Industry	60	Global
44	Performed	Communication campaign (e.g radio, TV)	UCL	John Shawe Taylor (UCL)	Interview at Workshop "Toward a Network of Excellence in Artificial Intelligence for Development (AI4D) in sub-Saharan Africa"	Showcase X5GON as feasible technology for online education in Global South	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Berlin, Germany	April 11, 2019	General Public	50	Global
45	Performed	Lobbying meeting, Press Release	JSI, PO	Kristijan Perčič (PO), Iztok Renčelj (PO), Mitja Jermol (JSI)	Pošta Slovenije, in cooperation with the Jožef Stefan Institute, both partners in X5GON handed over	X5GON project overview (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site	Ljubljana, Slovenija	Tuesday, April 16, 2019	Industry	60	National

					part of new office spaces in Ljubljana to four high-tech startups. X5GON was showcased as a unique project connecting the two partners.		Global OER Network					
46	Performed	Presenting at event	UPV	Alfons Juan (UPV)	SCIC-Universities conference, Interpretation - Preparing for Interpreting 3.0	X5GON project overview (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network		Thursday, April 4, 2019	Industry	50	European
47	Performed	Presenting at event	K4A	Davor Orlic (K4A)	Slovenian Open Knowledge Day - X5GON was presented as one of the main platforms using Wikipedia as its base technology	X5GON project overview and relevance of creating the Wikifier in the core of the X5GON platform to Wikipedia (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Ljubljana, Slovenija	Monday, May 6, 2019	Civil Society	50	National

					with the Wikifier at its core. The presentation followed Jan Gerlach, from the Wikimedia Foundation at the Slovenian Open Knowledge Day							
48	Performed	Presenting at event	K4A	Davor Orlic (K4A)	Slovenian Rectors' Conference - Transformation of the Educational Process in the age of Digitisation	Rectors conference discussing Open Education and X5GON technologies (Q/A session with moderator)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Vipava, Slovenia	Thursday, May 23, 2019	Scientific Community (higher education, Research)	100	National
49	Performed	Lobbying meeting	JSI, MIZS	Mitja Jermol (JSI)	UNESCO OER Recommendation final meeting - The UNESCO OER Recommendation was approved by UNESCO member	X5GON project overview for policymakers in UNESCO Member States (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Paris, France	Tuesday, May 28, 2019	Policy makers	80	Global

					states on 28th May, by consensus. Its final step for approval will take place at the UNESCO General Assembly in November, 2019. X5GON is the technology to be offered to Member States to implement the policy.							
50	Performed	Organisation of a workshop	K4A, MIZS	Davor Orlic (K4A), Borut Čampelj (MIZS)	PLA, Peer Learning Activities, EAC - DG Education and Culture, ET2020 Working Group Digital Education: Learning, Teaching and Assessment	X5GON project overview for policymakers in EU Member States (presentation)	X5GON Co-design workshop	Ljubljana, Slovenija	26-28 June 2019	Policy makers	50	European

51	Performed	Organisation of a workshop	JSI, K4A	Davor Orlic (K4A), Mitja Jermol (JSI)	International Open Education Design Workshop - run by UNESCO Chair on Open Technologies for OER and Open Learning at the Jožef Stefan Institute (JSI) . The Workshop programme is tailored to cover the topics relevant to Open Education.	X5GON Handout and Testing	Towards Assessing Quality of Educational Content At Scale	Vipava, Slovenia	July 1 to 5, 2019	General Public, Civil Society	50	Global
52	Performed	Participation to an event other than a conference, workshop, Hackathon	JSI, K4A	Davor Orlic (K4A), Mitja Jermol (JSI)	Mentoring Programme – Open Education for a better world - The mentoring programme 2019 supported 35 mentees ensuring they settle in	X5GON Handout and Testing	Towards Assessing Quality of Educational Content At Scale	Ljubljana, Slovenija	August 2019 to July 2019	General Public, Civil Society	70	Global

					quickly and are able to achieve their potential and is specifically designed for each of the problems they are trying to solve under the supervision of 41 mentors.							
53	Planned	Organisation of a workshop	K4A, NA	Davor Orlic (K4A), Colin de la Higuera (NA)	IJCAI workshop on AI and the United Nations SDGs - The Workshop is based on the proposition of X5GON being a technology fit for purpose to solve SD4 to Ensure inclusive and equitable quality education	X5GON project overview (presentation)	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Macao, China	Sunday, August 11, 2019	Scientific Community (higher education, Research)	50	Global

					and promote lifelong learning opportunities for all							
54	Performed	Presenting at event	JSI	Erik Novak (JSI)	Invited talk at IJCAI workshop on AI and the United Nations SDGs	X5GON project overview (presentation)	Presentation on X5GON platform and fitting into SDG framework	Macao, China	Sunday, August 11, 2019	Scientific Community (higher education, Research)	50	Global
55	Planned	Organisation of a hackathon	UCL	John Shawe Taylor (UCL)	G7 Hackathon - A Hackathon supporting open education for NGOs and low income communities with AI driven applications	Using techniques and technologies from X5GON, a Hackathon is to be run with UCL in the UK leading the design and management with three phases, from October to early December.	X5gon: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network	Paris, France	December 5 – 7, 2019	Industry	50	European

56	Planned	Non-scientific and non-peer reviewed publications (popularised publications)	JSI, K4A	Davor Orlic (K4A), Mitja Jermol (JSI)	UNESCO publication "Artificial Intelligence and frontier technologies for OER" - X5GON is contributing to the upcoming report on the use of AI and frontier technologies for OER, together with UNESCO's Communication and Information Sector. The report is an initial scoping study trying to understand how similar technologies to X5GON can be suited to further the development and expansion of OER in	X5GON breakdown of technologies overview in book chapter	First draft of the report.	Paris, France	December 5 – 7, 2019	General Public	5000	Global
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					achieving United Nations SDG 4.							
57	Planned	Non-scientific and non-peer reviewed publications (popularised publications)	NA	Colin de la Higuera (NA)	UNESCO publication on teaching AI	X5GON breakdown of technologies overview in book chapter	First draft of the report.	Nantes, France	December 5 – 7, 2019	General Public	5000	Global
58	Performed	Participation to a workshop	UCL	Stefan Kreitmayr (UCL)	Accepted workshop contribution paper	Paper: Future Learner Experiences with AI and Open Educational Resources	Workshop: Towards a Responsible Innovation Agenda for HCI – CHI 2019	Glasgow, UK	May 4 2019	Scientific Community (higher education, Research)	100	Global
59	Performed	Participation to a workshop	UCL	Stefan Kreitmayr (UCL)	Accepted workshop contribution paper	Paper: The challenges of Learning Machine Learning for Non-technical	Workshop: Human-Centered Study of Data Science Work Practices	Glasgow, UK	May 5 2019	Scientific Community (higher education,	100	Global

						Users or Novice Programme rs				Resear ch)		
60	Perform ed	Presenting at event	UCL	Stefan Kreitma yer (UCL)	Poster presentation of research paper	Design in the Wild: Interfacing the OER learning journey	32nd International BCS Human Computer Interaction Conference (HCI)	Belfast, UK	Thursda y, July 4, 2019	Scientifi c Commu nity (higher educati on, Resear ch)	1000	Global
61	Planned	Presenting at event	NA	Colin de la Higuera (NA)	A talk on AI at a local engineer school, with X5-GON presented	L'intelligenc e artificielle	ICAM	Nantes	Wednes day, January 30, 2019	Scientifi c Commu nity (higher educati on, Resear ch)	20	Local
62	Perform ed	Presenting at event	NA	Colin de la Higuera (NA)	A talk on social networks for the training of High school teachers	Les réseaux sociaux	Webinaires SNT	Nantes	Tuesday , March 5, 2019	Scientifi c Commu nity (higher educati on, Resear ch)	2000	Local
63	Perform ed	Presenting at event	NA	Colin de la Higuera (NA)	A presentation during the X5GON event	Using MOOCs in India	X5-GON event	Osnabrück	Tuesday , March 12, 2019	Scientifi c Commu nity (higher	80	Europea n

										education, Research)		
64	Performed	Presenting at event	NA	Colin de la Higuera (NA)	I presented AI to an audience of Alumni from the French Engineering schools. With X5-GON included	L'intelligence artificielle	IESF Pays de la Loire	Nantes	Thursday, March 28, 2019	Industry	250	Regional
65	Performed	Presenting at event	NA	Colin de la Higuera (NA)	Presentation at UNESCO	L'intelligence artificielle	WSIS forum 2019	Geneva	Monday, April 8, 2019	Policy makers	20	Global
66	Performed	Presenting at event	NA	Colin de la Higuera (NA)	A webinar toward regional audience to get them interested in working on X5-GON material	L'intelligence artificielle	Webinaire AILE	Nantes	Monday, May 13, 2019	Scientific Community (higher education, Research)	20	Regional
67	Performed	Presenting at event	NA	Colin de la Higuera (NA)	A citizen event about the impact of AI on education. I presented X5-GON	L'intelligence artificielle	Former à l'intelligence artificielle pour répondre aux défis d'aujourd'hui et de demain ! aura lieu	Nantes	Wednesday, April 24, 2019	General Public	40	Local

68	Performed	Organisation of a workshop	NA	Colin de la Higuera (NA)	A meeting for Human resources specialists about AI. We gave a talk and participated to a panel.	L'intelligence artificielle : impact et risques.	A local event organized by Mickael Page	Nantes	Thursday, May 16, 2019	Scientific Community (higher education, Research)	40	Local
69	Performed	Presenting at event	NA	Colin de la Higuera (NA)	We presented X5-GON at this event	X5GON	Journées IA	Rennes	Friday, June 21, 2019	Scientific Community (higher education, Research)	50	Regional
70	Performed	Presenting at event	NA	Colin de la Higuera (NA)	An event organized by Dell in Nantes with an audience of Dell B2B clients	L'intelligence artificielle	Dell Technologies Forum	Nantes	Tuesday, June 18, 2019	Industry	20	Regional
71	Performed	Presenting at event	NA	Colin de la Higuera (NA)	A presentation of X5-GON in the context of the doctoral school presentations.	L'intelligence artificielle	Rencontres Doctorales	Nantes	Thursday, June 6, 2019	Scientific Community (higher education, Research)	30	Institutional

72	Performed	Presenting at event	NA	Colin de la Higuera (NA)	This is a meeting of European experts for education. We gave a keynote on teaching AI and participated to the X5-GON workshop which was organized on the 28th.	Towards teaching artificial intelligence	Teaching for AI	Ljubljana	Thursday, June 27, 2019	Policy makers	60	European
73	Performed	Presenting at event	NA	Colin de la Higuera (NA)	A Unesco event on the impact of AI. We were invited to participate to a panel and give a talk.	A presentation of the report on teaching AI, at a Unesco meeting	Teaching for AI	Paris	Friday, July 12, 2019	Policy makers	40	Global
74	Performed	Presenting at event	JSI	Jasna Urbančič (JSI)	Presentation of the X5GON project	X5GON: Connecting OER Repositories	X5GON: Connecting OER Repositories	Achorage, Alaska	Wednesday, August 7, 2019	Scientific Community (higher education, Research)	50	International
75	Performed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion at Brussels meeting - indicators in digital	X5gon engine; OER e-materials at EU	Expert meeting - indicators in digital education	EC, Brussels	Tuesday, September 11, 2018	Policy makers	30	European

					education (one possibilities - indicator on OER and activities) - at the meeting and in breaks							
76	Performed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at Brussels meeting on Erasmus + and Horizon 2020 meeting (good experience from running and previous projects) - at the meeting and in breaks	X5gon engine; OER e-materials at EU	Expert meeting - EU projects (Erasmus +, Action 3 policy experimentation)	EC, Brussels	Tuesday, September 18, 2018	Policy makers	30	European
77	Performed	Participation to a workshop	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at NEI meeting of the project NA-MA POTI - at the meeting and in breaks; possibilities of involvement of external stakeholders	X5gon engine; OER e-materials at EU	project NA-MA POTI meeting	National Education Institute, Slovenia	Wednesday, September 19, 2018	Policy makers	1	National

					(for example India)							
78	Performed	Lobbying meeting	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at SVRK meeting of the project Semena sprememb - possibilities to share OER e-materials of teachers in the project	X5gon engine; OER e-materials at EU	Dissemination to particular expert	SVRK, Ljubljana	Thursday, September 20, 2018	Policy makers	30	National
79	Performed	Policy event	MIZS	Borut Čampelj (MIZS)	promotion X5gon in Brussels meeting - (Digital Education: Learning, Teaching and Assessment) DELTA GROUP (OER and activities; and information for possible workshop in Slovenia at Peer learning in	X5gon engine; OER e-materials at EU	Expert meeting - Digital Education: Learning, Teaching and Assessment (E&T 2020)	EC, Brussels	Monday, September 24, 2018	Policy makers	40	European

					AI in education)							
80	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	promotion of X5gon in meeting at the conference on digital higher education in Portoroz	X5gon engine; OER e-materials at EU	conference on digital higher education in Portoroz	Portoroz, Slovenia	Friday, September 28, 2018	Policy makers	30	National
81	Performed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon on the Conference in Austria - under presidency (good experience from running and previous projects) - at the workshops/debates and in breaks	X5gon engine; OER e-materials at EU	conference on digital education under Presidency Austria	Eisenstadt, Austria	Tuesday, October 9, 2018	Policy makers	20	European
82	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of x5gon on the Conference in Brdo, Slovenia - at	X5gon engine; OER e-materials at EU	Conference on innovation	Brdo, Slovenia	Monday, October 22, 2018	General Public	20	National

					the workshops/debates and in breaks							
83	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the Conference with headmasters and experts of MUNERA projects at VET (at presentation and debates during break)	X5gon engine; OER e-materials at EU	Conference on education - project MUNERA	Ljubljana, Slovenia	Thursday, October 25, 2018	General Public	40	National
84	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of x5gon at the conference Digitalisation 4.0 (adult education institutions and educators) also in breaks (possibilities to use results of X5gon)	X5gon engine; OER e-materials at EU	Conference on adult education	Ljubljana, Slovenia	Thursday, November 8, 2018	General Public	25	National
85	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the Annual Conference with	X5gon engine; OER e-materials at EU	Annual Conference with headmasters of upper-	Portoroz, Slovenia	Tuesday, November 20, 2018	Policy makers	80	National

					headmaster s of upper- secondary schools in Slovenia (Portoroz), at the workshops and breaks		secondary schools in Slovenia					
86	Perform ed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of x5gon at the conference - results of 2nd survey ICT in education (including OER) - promotion in debates/bre aks	X5gon engine; OER e- materials at EU	conference for policy makers - results of 2nd survey ICT in education	EC, Brussels	Friday, Novemb er 23, 2018	Policy makers	20	Europea n
87	Perform ed	Participatio n to a workshop	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the NA-MA POTI project meeting with teachers and headmaster s	X5gon engine; OER e- materials at EU	NA-MA POTI project meeting with teachers and headmasters	Ljubljana, Slovenia	Friday, Novemb er 30, 2018	Policy makers	30	National
88	Perform ed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the expert meeting in National Council of Republic Slovenia on	X5gon engine; OER e- materials at EU	expert meeting in National Council of Republic Slovenia on digitalisation	Ljubljana, Slovenia	Tuesday , Decemb er 4, 2018	Policy makers	15	National

					digitalisation and platforms (in debates and breaks)		and platforms					
89	Performed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the policy meeting - panel discussion on ICT strategy in education in Ministry of Education Croatia at panel discussion and debates and breaks	X5gon engine; OER e-materials at EU	policy meeting - panel discussion on ICT strategy in education in Ministry of Education Croatia	Zagreb, Croatia	Wednesday, December 5, 2018	Policy makers	30	Regional
90	Performed	Participation to a workshop	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the expert meeting of Internet Safety (Faculty of Social Sciences - coordinator of Safe.si project)	X5gon engine; OER e-materials at EU	expert meeting of Internet Safety	Ljubljana, Slovenia	Monday, December 10, 2018	Policy makers	12	National
91	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the conference on Public	X5gon engine; OER e-	conference on Public Administration	Brdo, Slovenia	Tuesday, December	General Public	30	National

					Administrati on (Brdo) - presentation and debates in workshops and breaks; notes from Project Managemen t Board	materials at EU			er 11, 2018			
92	Perform ed	Participatio n to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the conference Eminent (debates and breaks)	X5gon engine; OER e- materials at EU	conference Eminent	Lisabon, Portugal	Thursda y, Decemb er 13, 2018	Policy makers	20	Europea n
93	Perform ed	Participatio n to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon at the conference Microsoft on AI (debates in breaks)	X5gon engine; OER e- materials at EU	conference Microsoft on AI	Ljubljana, Slovenia	Tuesday , Decemb er 18, 2018	Policy makers	10	National
94	Perform ed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project at the peer learning meeting in Luxemburg (DELTA group and other experts; (Digital Education: Learning, Teaching and	X5gon engine; OER e- materials at EU	peer learning meeting in Luxemburg (DELTA group and other experts)	Luxemburg	Tuesday , January 8, 2019	Policy makers	15	Europea n

					Assessment))							
95	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project at Bett show - various stakeholders from Slovenia and other countries	X5gon engine; OER e-materials at EU	Bett show	London, UK	Thursday, January 24, 2019	Policy makers	10	European
96	Performed	Lobbying meeting	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER - Dare Stojan, member of Social-economic committee	X5gon engine; OER e-materials at EU	meeting with expert	Ljubljana, Slovenia	Monday, February 4, 2019	Policy makers	1	National
97	Performed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform at DELTA meeting in Brussels (E&T 2020; discussion in breaks); possible	X5gon engine; OER e-materials at EU	DELTA meeting in Brussels (E&T 2020)	EC, Brussels	Thursday, February 14, 2019	Policy makers	15	European

					peer learning in Slovenia							
98	Performed	Presenting at event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform Scientix conference in Beograd (discussions and possible activities in Balkan region)	X5gon engine; OER e-materials at EU	Scientix conference in Beograd	Beograd, Serbia	Friday, February 22, 2019	Policy makers	100	European
99	Performed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform on the Management board at ARNES institution (I am member of Board)	X5gon engine; OER e-materials at EU	Management board at ARNES institution	Ljubljana, Slovenia	Thursday, February 28, 2019	Policy makers	5	Institutional
100	Performed	Lobbying meeting	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER and platform in	X5gon engine; OER e-materials at EU	meeting with expert	Ljubljana, Slovenia	Monday, March 4, 2019	Policy makers	1	Institutional

					National Education Institute (Andreja Bačnik)							
101	Performed	Participation to a workshop	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform at the meeting of Listiac project (new Erasmus + project)	X5gon engine; OER e-materials at EU	meeting of Listiac project	Helsinki, Finland	Tuesday, March 19, 2019	Policy makers	18	European
102	Performed	Presenting at event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform at the Ministry of Education Singapur, National Education Institute, University of Singapur	X5gon engine; OER e-materials at EU	Meeting at Ministry of Education Singapur, National Education Institute, University of Singapur	Singapore	Monday, March 25, 2019	Policy makers	45	Global
103	Performed	Lobbying meeting	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project among headmasters and teachers from	X5gon engine; OER e-materials at EU	Policy discussion with national experts in excursion in Singapore	Singapore	Tuesday, March 26, 2019	Policy makers	10	National

					Slovenia at the excursion in Singapur							
104	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform in the conference for headmasters from Singapur and other experts (in breaks)	X5gon engine; OER e-materials at EU	conference for headmasters from Singapur and other experts	Singapore	Wednesday, March 27, 2019	Policy makers	8	International
105	Performed	Participation to a workshop	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities workshops in deliZnami (share with us) for co-workers	X5gon engine; OER e-materials at EU	workshops in deliZnami	Ljubljana, Slovenia	Tuesday, April 2, 2019	Policy makers	4	Institutional
106	Performed	Participation to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform in the conference SELFIE in Madrid (in	X5gon engine; OER e-materials at EU	conference SELFIE	Madrid, Spain	Thursday, April 4, 2019	Policy makers	12	European

					breaks; various experts from ministries of education, national education institutions; teachers and researchers; EUN Schoolnet)							
10 7	Perform ed	Policy event	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform at the Microsoft workshop for policy makers at the Ministry, National education institutions, headmaster s	X5gon engine; OER e- materials at EU	Microsoft workshop for policy makers at the Ministry, National education institutions, headmasters	Ljubljana, Slovenia	Tuesday , April 9, 2019	Policy makers	8	National
10 8	Perform ed	Organisatio n of a workshop	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform at the National School for Leadership	X5gon engine; OER e- materials at EU	National School for Leadership in Education - workshop for future headmasters	Ljubljana, Slovenia	Saturda y, May 18, 2019	Other	8	National

					in Education - workshop for future headmaster s							
10 9	Perform ed	Participatio n to a conference	MIZS	Borut Čampelj (MIZS)	Promotion of X5gon project activities on OER, AI and platform at Microsoft NT conference (EDU track) with Microsoft experts and headmaster s and teachers in breaks; and meetings with Microsoft	X5gon engine; OER e- materials at EU	Microsoft NT conference (EDU track)	Portoroz, Slovenia	Tuesday , May 21, 2019	Policy makers	20	National
11 0	Perform ed	Policy event	MIZS	Borut Čampelj (MIZS)	promotion of X5gon project in breaks at DELTA (Digital Education: Learning, Teaching and Assessment) PLA meeting (experts on	X5gon engine; OER e- materials at EU	DELTA (Digital Education: Learning, Teaching and Assessment) PLA meeting (experts on ICT in education)	Ljubljana, Slovenia	Thursda y, June 27, 2019	Policy makers	55	Europea n

					ICT in education)							
111	Performed	Organisation of a workshop	MIZS	Borut Čampelj (MIZS)	X5gon workshop at DELTA (Digital Education: Learning, Teaching and Assessment) peer learning (E&T 2020) (experts on ICT in education)	X5gon activities - added value; X5gon engine; OER e-materials at EU	DELTA (Digital Education: Learning, Teaching and Assessment) PLA meeting (experts on ICT in education)	Ljubljana, Slovenia	Friday, June 28, 2019	Policy makers	55	European
112	Performed	Lobbying meeting	PO	Kristijan Perčič (PO)	Presenting the x5gon project and opens for cooperation with startup Equaleyes solutions	Teachers dashboard workshop, what they need	Meeting for cooperation	Maribor, Slovenia	Wednesday, April 3, 2019	Medias	5	Local
113	Performed	Lobbying meeting	PO	Kristijan Perčič (PO)	Presenting x5gon and key functionalities	X5GON project overview (presentation)	X5GON Project Showcase	Ljubljana, Slovenia	Monday, June 3, 2019	Customers	8	Local
114	Performed	Enterprise, Industry meeting	PO	Kristijan Perčič (PO)	Presenting the x5gon project on	X5GON project overview	Meeting for establishing	Maribor, Slovenia	Tuesday, April 16, 2019	Industry	100	Regional

					startup event in Ljubljana - open space on PS Tržaška	(presentation)	of research cloud					
115	Performed	Enterprise, Industry meeting	PO	Kristijan Perčič (PO)	Presenting the x5gon project to Sonja Rnjak CEEMA (Central, Eastern Europe, Middle East and Africa) and Denis Stanarevič at Hewlett Packard Enterprise	X5GON project overview (presentation)	Meeting for cooperation	Maribor, Slovenia	Thursday, May 30, 2019	Enterprise	10	Regional
116	Performed	Enterprise, Industry meeting	PO	Kristijan Perčič (PO)	Presenting x5gon to B2 - Slovenian leading e-learning company - intent for cooperation	X5GON project overview (presentation)	Presentation Introduction to Open Education for Business and Industry	Vipava, Slovenia	Tuesday, June 18, 2019	Customers	7	Local
117	Performed	Presenting at event	PO	Kristijan Perčič (PO)	Conference Open education for better world, Presenting the OE on industry track	Introduction to OE for Business and Industry	X5GON adoption and potential for industry		Saturday, April 6, 2019	Industry	70	Global

118	Performed	Lobbying meeting	MIZS, K4A	Mojca Ifko-Pinosa (MIZS), Davor Orlic (K4A)	X5GON Presentation meeting with executives of educational institutions in Slovenia	X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia	Exploitation meeting for SI HEIs joining X5GON Connect service	Ljubljana, Slovenia	Wednesday, September 19, 2018	Scientific Community (higher education, Research)	15	National
119	Performed	Lobbying meeting	MIZS, K4A, JSI	Mojca Ifko-Pinosa (MIZS), Davor Orlic (K4A), Erik Novak (JSI)	X5GON Presentation meeting with executives of educational institutions in Slovenia	X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia	Exploitation meeting for SI HEIs joining X5GON Connect service	Ljubljana, Slovenia	Monday, November 19, 2018	Scientific Community (higher education, Research)	14	National
120	Performed	Lobbying meeting	MIZS, K4A, JSI	Mojca Ifko-Pinosa (MIZS), Davor Orlic (K4A), Erik Novak (JSI)	Meeting with top management of all Slovenian universities and national institutions for disabled communities	X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia	Exploitation meeting for SI HEIs joining X5GON Connect service	Maribor, Slovenia	Wednesday, November 28, 2018	Scientific Community (higher education, Research)	5	Institutional

12 1	Perform ed	Lobbying meeting	MIZS, K4A, JSI	Mojca Ifko- Pinosa (MIZS), Davor Orlic (K4A), Erik Novak (JSI)	Meeting with top managemen t of University of Maribor Library	X5GON project overview and the value of the X5GON for the educational system in the Republic of Slovenia	Exploitation meeting for joining X5GON Connect service	Ljubljana, Slovenija	Wednes day, Decemb er 19, 2018	Scientifi c Commu nity (higher educati on, Resear ch)	5	Institutio nal
12 2	Perform ed	Lobbying meeting	MIZS, K4A, JSI, PO	Mojca Ifko- Pinosa (MIZS), Davor Orlic (K4A), Erik Novak (JSI), Kristijan Perčič (PO)	Meeting with Zavod za gluhe in naglušne (Institute for the Deaf and Hard of Hearing)	X5GON project overview and the value of the X5GON for the deaf and hard of hearing community in the Republic of Slovenia	Exploitation meeting for disabilities piloting of recommenda tion and material search	Ljubljana, Slovenija	Wednes day, Decemb er 19, 2018	Scientifi c Commu nity (higher educati on, Resear ch)	4	Institutio nal
12 3	Perform ed	Lobbying meeting	MIZS, PO	Mojca Ifko- Pinosa (MIZS), Kristijan Perčič (PO)	Meeting with Center za izobraževanj e, rehabilitacijo , inkluzijo in svetovanje za slepe in slabovidne Ljubljana (Center for Education, Rehabilitatio	X5GON project overview and the value of the X5GON for the blind and visually impaired community in the Republic of Slovenia	Exploitation meeting for disabilities piloting of recommenda tion and material search	Ljubljana, Slovenija	Wednes day, Decemb er 19, 2018	Scientifi c Commu nity (higher educati on, Resear ch)	4	National

					n, Inclusion and Counseling for the Blind and Visually Impaired Ljubljana)							
124	Performed	Lobbying meeting	MIZS, K4A	Mojca Ilfko-Pinosa (MIZS), Davor Orlic (K4A)	Meeting with Zavod za zaposlovanje RS (Employment Service of Slovenia)	X5GON project overview and the value of the X5GON for non-formal education	Exploitation meeting for joining X5GON platform	Ljubljana, Slovenija	Thursday, April 25, 2019	Policy makers	5	Institutional
125	Performed	Participation to a conference, Participation to a hackathon	K4A	Davor Orlic (K4A)	Presentation and organisation of Deep Learning Indaba	Involvement in the organising committee and presentation of X5GON feed, API and datasets	Presentation of potential pan-African cooperation with X5GON platform	Nairobi, Kenya	Sunday, August 25, 2019	Policy makers, Scientific Community (higher education, Research), Industry	700	Global

Table B1: List of FORESEEN applications for patents, trademarks, registered designs, etc.

NO.	Type of IP Rights ⁹	Application Reference ¹⁰		Date of the Application	Official title of the application	Applicant(s)	Has the IPR protection been awarded? ¹¹	If available, official publication number of award of protection ¹²
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

⁹ Possible options: Patent, Trademark, Registered design, Utility model, Other

¹⁰ Possible options: International applications of patents; National applications of patents; Other registered IPR

¹¹ Possible options: Yes, No, Not Applicable

¹² 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										
N O.	Type of Exploitable Foreground ¹³	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL ¹⁴	Expected TRL ¹⁴	Is the Exploitable Foreground Confidential? ¹⁵	Exploitation Channel ¹⁶	Sector(s) of application ¹⁷	Knowledge Transfer ¹⁸	Owner & Other Beneficiary (s) involved
1	Exploitation of R&D results via standards, 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 universities, Stimulating entrepreneurship), Contract research	JSI, PO

¹³ 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

¹⁴ Possible options: TRL1, TRL2, TRL3, TRL4, TRL5, TRL6, TRL7, TRL8, TRL9

¹⁵ Possible options: Yes, No

¹⁶ 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

¹⁷ 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

¹⁸ 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)

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2	General advancement of knowledge	X5oerfeed, a pre-processing and open source pipeline for content understanding	Cross Modal module is extracting features and content from the material. Because OER material are found in different formats and types we need to handle each type separately.	TLR8	TLR9	No	Creating and providing a service	Wikifiying, Machine Learning	Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship)	JSI, PO
3	General advancement of knowledge	X5oerfeed, a pre-processing and open source pipeline for content understanding	Cross Cultural and Lingual module sends the materials after feature extraction through the wikification process, linking text to Wikipedia, thus support cross and	TLR8	TLR9	No	Creating and providing a service	Wikifiying, Machine Learning	Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship)	JSI

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			multi-linguality enabling extraction and annotation of relevant information from OER material in different languages.							
4	General advancement of knowledge	X5oerfeed, a pre-processing and open source pipeline for content understanding	Cross Domain and Site modules comprise of a few seamless processes which connect all OER content and deliver the classification of materials with a database matching verification and into the	TLR8	TLR9	No	Creating and providing a service	Wikifiying, Machine Learning	Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship)	JSI

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			platform for delivery.							
5	General advancement of knowledge	X5snippet	A generic product for each OER repository that transparently tracks user activity data, which essentially informs the platform which user accessed what OER material found in a repository. The snippet activates itself and sends user activity data to the X5GON platform.	TLR8	TLR9	No	Creating and providing a service	Wikifiying, Machine Learning	Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship)	JSI
6	General advancement of knowledge	X5analytics	The learning analytics engine that track data of	TLR8	TLR9	No	Creating and providing a service	Wikifiying, Machine Learning	Spin-offs and entrepreneurship (Spin-offs, Start ups,	JSI

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			users and their progress to drive an ML analytics engine improving recommendations through better understanding of users, their progress and goals, and hence their match with knowledge resources of all types.						Incubators at universities, Stimulating entrepreneurship)	
7	General advancement of knowledge	X5recommend	The recommendation engine enabling cross-site and cross-lingual recommendation with a specific focus on automatic	TLR8		No	Creating and providing a service	Wikifying, Machine Learning	Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship)	JSI

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			recognition and quality assurance of OER materials							
8	General advancement of knowledge	X5platform	Is made out of the X5analytics and X5recommend services packed into an API. It is designed to efficiently handle different types of OER material as well as mapping material written/spoken in different languages into a common semantic space.	TLR8	TLR9	No	Creating and providing a service	Wikifiying, Machine Learning	Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship)	JSI

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9	Exploitation of results through (social) innovation, Exploitation of results through EU policies	UNESCO Recommendation on OER	This recommendation is an instrument in which "the General Conference formulates principles and norms for the international regulation of the particular question of OER and invites Member States to take whatever legislative or other steps may be required in conformity with the constitutional practice of each State	TLR9	TLR9	No	Standardisation activities	International Policy	Other publications, including professional publications and reports	JSI, K4A, MIZS

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			and the nature of the question under consideration to apply the principles and norms aforesaid within their respective territories” (Article 1 (b)). This is therefore a norm which is not subject to ratification but which Member States are invited to apply.							
10	General advancement of knowledge	X5learn	An Interactive Web Application that enables an informal lifelong learner to register and	TLR7	TLR8	No	Creating and providing a service	Wikifying, Machine Learning, Translation, Future User Interfaces	Scientific Publications, Other publications, including professional publications	UCL

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N O.	Type of Exploitable Foreground ¹³	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL ¹⁴	Expected TRL ¹⁴	Is the Exploitable Foreground Confidential? ¹⁵	Exploitation Channel ¹⁶	Sector(s) of application ¹⁷	Knowledge Transfer ¹⁸	Owner & Other Beneficiary (s) involved
			carry out learning activities using the services developed by X5GON platform.						and reports, Participation in conferences and workshops, Presentation of research, Supervision of a trainee or Ph.D. student, Financing of Ph.D. research, Sponsoring of research), Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship)	
11	General advancement of knowledge	X5gon-TTP	We brought into production ASR (Automatic	TLR8	TLR9	No	Creating and providing a service	ASR, Machine Translation	Cooperation in R&D projects (Joint R&D projects, etc.)	UPV

Table B2: List of exploitable foreground										
N O.	Type of Exploitable Foreground ¹³	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL ¹⁴	Expected TRL ¹⁴	Is the Exploitable Foreground Confidential? ¹⁵	Exploitation Channel ¹⁶	Sector(s) of application ¹⁷	Knowledge Transfer ¹⁸	Owner & Other Beneficiary (s) involved
			Speech Recognition) systems for automatic transcription of OER in the dominant languages of the official pilots, namely English, Spanish, Slovene and German							
12	General advancement of knowledge	TrueLearn Novelty Recommendation Model	A scalable, transparent, data-efficient machine learning model that can infer the learner knowledge and recommend most relevant educational resources with high accuracy	TRL6	TRL8	No	Further internal research, Creating and providing a service	Wikifying, Machine Learning, Recommendations, Content Representations	Scientific Publications, Participation in conferences and workshops, Spin-offs and entrepreneurship (Spin-offs, Start ups, Incubators at universities, Stimulating entrepreneurship	UCL

Table B2: List of exploitable foreground										
N O.	Type of Exploitable Foreground ¹³	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL ¹⁴	Expected TRL ¹⁴	Is the Exploitable Foreground Confidential? ¹⁵	Exploitation Channel ¹⁶	Sector(s) of application ¹⁷	Knowledge Transfer ¹⁸	Owner & Other Beneficiary (s) involved
									ip), Presentation of research, Supervision of a trainee or Ph.D. student, Financing of Ph.D. research, Sponsoring of research)	
13	General advancement of knowledge	X5Quality, a feature extraction engine for digital educational resources	A scalable model that can extract cross-modal quality features from a digital educational resource	TLR6	TLR8	No	Further internal research, Creating and providing a service	Text mining, Feature Extraction, Machine Learning	Scientific Publications, Other publications, including professional publications and reports, Presentation of research, Supervision of a trainee or Ph.D. student, Financing of Ph.D. research,	UCL

Table B2: List of exploitable foreground										
N O.	Type of Exploitable Foreground ¹³	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL ¹⁴	Expected TRL ¹⁴	Is the Exploitable Foreground Confidential? ¹⁵	Exploitation Channel ¹⁶	Sector(s) of application ¹⁷	Knowledge Transfer ¹⁸	Owner & Other Beneficiary (s) involved
									Sponsoring of research)	
14	General advancement of knowledge	X5Quality, a Machine Learning model that can predict a quality score using cross-modal features	A scalable, model for automatic evaluation of presentation quality in educational resources using the text representation of the resource.	TLR6	TLR8	No	Further internal research, Creating and providing a service	Machine Learning	Scientific Publications, Other publications, including professional publications and reports, Participation in conferences and workshops, Presentation of research, Supervision of a trainee or Ph.D. student, Financing of Ph.D. research, Sponsoring of research), Spin-offs and entrepreneurship (Spin-offs, Start ups,	UCL

Table B2: List of exploitable foreground										
N O.	Type of Exploitable Foreground ¹³	Title of Exploitable Foreground	Description of exploitable foreground	Current TRL ¹⁴	Expected TRL ¹⁴	Is the Exploitable Foreground Confidential? ¹⁵	Exploitation Channel ¹⁶	Sector(s) of application ¹⁷	Knowledge Transfer ¹⁸	Owner & Other Beneficiary (s) involved
									Incubators at universities, Stimulating entrepreneurship)	

A3: DRAFT UNESCO RECOMMENDATION IN OER



DRAFT Recommendation on Open Educational Resources (OER)

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,

Recalling that the Preamble of UNESCO's Constitution 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 fulfil in a spirit of mutual assistance and concern",

Recognizing the important role of 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.

Further recalling Article I of UNESCO's 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 seek, receive and impart information and ideas through any media and regardless of frontiers (Article 19), as well as the right to education (Article 26), and the right to freely participate in the cultural life of the community, to enjoy the arts, and to share in scientific advancement and its benefits; and the right to the protection of the moral and material interests resulting from any scientific, literary, or artistic production of which one is the author (Article 27),

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

Noting 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),

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

Also referring to the 1997 UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel as well as the 1966 ILO/UNESCO Recommendation concerning the Status of Teachers which stresses that as part of academic and professional freedom teachers "should be given the essential role in the choice and adaptation of teaching material, the selection of textbooks, and the application of teaching methods",

Reaffirming the importance of the United Nations 2030 Agenda for Sustainable Development, which underlines that the "spread of information and communications technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to

develop knowledge societies...” and of Goal 4 (SDG 4), which calls for the International community to “ensure inclusive and equitable quality education and promote lifelong opportunities for all”,

Acknowledging 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 Education 2030 Framework for Action that lists a set of strategic approaches for the implementation of SDG 4, and which underlines increasing access must be accompanied by measures to improve the quality and relevance of education and learning, and in particular that ‘ Education institutions and programmes should be adequately and equitably resourced.. and books other learning materials, open educational resources and technology that are non-discriminatory, learning conducive, learner friendly, context specific, cost effective and available to all learners – children, youth and adults.’

Recognizing that the development of 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 Knowledge Societies,

Recognizing that quality basic education, as well as media and information literacy are prerequisites to access and benefit from ICTs,

Also recognizing that, in building inclusive Knowledge Societies, Open Educational Resources (OER) can support quality education that is equitable, inclusive, open and participatory as well as enhance academic freedom and professional autonomy of teachers by widening the scope of materials available for teaching and learning,

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

Building on the Ljubljana OER Action Plan 2017 to mainstream OER to help all Member States to create inclusive Knowledge Societies and achieve the 2030 Sustainable Development Agenda, namely SDG 4 (quality education), SDG 5 (Gender equality), SDG 9 (Infrastructure), SDG 10 (Reduced inequalities within and across countries), SDG 16 (Peace, justice and strong institutions) and SDG 17 (Partnerships for the goals), 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 measures 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 the Recommendation;
3. *Also recommends* that Member States bring the 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 UNESCO, at such dates and in such manner as shall be determined, on the action taken in pursuance of this Recommendation.

I. DEFINITION AND SCOPE

1. Open Educational Resources (OER) are teaching, learning and research materials in any medium that may be composed of copyrightable materials released under an open license, materials not protected by copyright, materials for which copyright protection has expired, or a combination of the foregoing.

2. Open license refers to a copyright license that respects the intellectual property rights of the copyright owner and provides limited permissions granting the public the rights to access, use, adapt, and redistribute educational materials.

3. Information and communication technologies (ICT) provide great potential for effective, equitable and inclusive access to OER and their use, adaptation and redistribution. They can open possibilities for OER to be accessible anytime and anywhere for everyone including individuals with disabilities and individuals coming from marginalized or disadvantaged groups. They can help meet the needs of individual learners and effectively promote gender equality and incentivize innovative pedagogical, didactical and methodological approaches.

4. Stakeholders in this Recommendation include: educators, learners, governmental bodies, parents educational institutions, education support personnel, teacher trainers, educational policy makers, cultural institutions (such as libraries, archives and museums) and their users, technical infrastructure providers, researchers, research institutions, civil society organizations (including professional and student associations), publishers, the public and private sectors, intergovernmental organizations, copyright holders and authors, media and broadcasting groups and funding bodies.

II. AIMS AND OBJECTIVES

5. One key prerequisite to achieve SDG 4 is sustained investment and educational actions by governments and other key education stakeholders, as appropriate, in the creation, curation, regular updating, ensuring inclusive and equitable access, and effective use of high quality materials and programmes of study.

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, access, use, adaptation, redistribution, curation, and quality assurance of those materials, including, but not limited to translation, adaptation to different learning and cultural contexts, development of gender-sensitive materials, and the creation of alternative and accessible formats of materials for learners with special educational needs.

7. In addition, the judicious application of OER in combination with appropriate pedagogical methodologies can support 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 diverse and inclusive Knowledge Societies.

8. Furthermore, regional and global collaboration and advocacy in the creation, access, use, adaptation, redistribution and evaluation of OER can enable governments to optimise their own investments in

educational content creation, as well as IT infrastructure and curation, 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 and areas of action of this OER Recommendation are as follows:

(i) Capacity building: developing the capacity of all key education stakeholders to create, access, use, adapt, and redistribute OER, as well as to use and apply open licenses in a manner consistent with national copyright legislation and international obligations;

(ii) Developing supportive policy: encouraging governments, and education authorities and institutions to adopt regulatory frameworks to support open licensing of publicly funded educational materials, develop strategies to enable use and adaptation of OER in support of high quality, inclusive education and lifelong learning for all, and adopt integrated mechanisms to recognize the learning outcomes of OER-based programmes of study;

(iii) Effective, inclusive and equitable access to quality OER: supporting the adoption of strategies and programmes including through relevant technology solutions that ensure OER in any medium are shared in open formats and standards to maximize equitable access, co-creation, curation, and search ability, including for those from vulnerable groups and persons with disabilities;

(iv) Nurturing the creation of sustainability models for OER: supporting and encouraging the creation of sustainability models for OER at national and institutional levels, and the planning and pilot test of new sustainable forms of education and learning;

(v) Facilitating international cooperation: supporting international cooperation between 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 capacity of stakeholders to create, access, use, adapt and redistribute OER; (ii) Developing supportive policy; (iii) Encouraging inclusive and equitable quality OER; (iv) Nurturing the creation of sustainability models for OER; and (v) Facilitating international cooperation.

(i) Building capacity of stakeholders to create, access, use, adapt and redistribute OER

11. Member States are recommended to strategically plan and support OER capacity building and awareness raising at the institutional and national levels, targeting all education sectors and levels. Member States are encouraged to consider the following:

(a) building awareness among relevant stakeholder communities on how OER can increase access to educational resources, improve learning outcomes, maximise the impact of public funding, and empower educators and learners to become co-creators of knowledge;

(b) providing systematic and continuous capacity building (in-service and pre-service) on how to create, access, make available, use, adapt, and redistribute OER as an integral part of training programmes at all levels of education. This should include improving capacity of public authorities, policy makers, quality development and assurance professionals to understand OER and support their integration into teaching and learning;

(c) raising awareness concerning exceptions and limitations for the use of copyrighted works for educational and research purposes. This should be enacted to facilitate the integration of a wide range of works in OER, recognizing that the fulfilment of educational goals as well as the development of OER requires engagement with existing copyright protected works.

(d) leveraging open licensed tools, platforms and standards to help ensure OER can be easily found, accessed, used, adapted and redistributed in a safe, secure and privacy protected mode. This could include free and open source authoring tools, libraries and other repositories and search engines, systems for long term preservation and frontier technologies for automatic OER processing such as artificial intelligence methods and tools; and

(e) making available easily accessible resources that provide information and assistance to all OER stakeholders on OER related topics including copyright and open licensing of educational material.

(ii) 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 of effective OER practices. Through a transparent participatory process that includes dialogue with stakeholders, Member States are encouraged to consider the following:

(a) developing and implementing policies and/or regulatory frameworks which encourage that educational resources developed with public funds be openly licensed or dedicated to the public domain as appropriate, and financial and human resources coordinated for the implementation of the policies;

(b) encouraging and supporting institutions to develop or update legal or policy frameworks to stimulate the creation, access, use, adaptation and redistribution of quality OER by educators and learners; and to develop and integrate quality assurance mechanism for OER into the existing quality assurance strategies for teaching and learning materials;

(c) developing mechanisms to support and incentivize all stakeholders to publish source files and accessible OER using standard open file formats in public repositories;

(d) aligning 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) adjusting or reforming the curriculum and assessment in accordance with the needs of the use of OER and to motivate the active use, creation, and sharing of OER by teachers and students; and recognizing the learning outcomes of OER-based programmes of study;

(iii) Encourage inclusive and equitable quality OER

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

- (a) ensuring access to OER 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 (including printed) modalities for accessing resources where appropriate;
- (b) supporting OER stakeholders to develop gender-sensitive, culturally and linguistically relevant OER, and to create local language OER, particularly in indigenous languages which are less used, under-resourced and endangered;
- (c) ensuring that the principle of gender equality, non-discrimination, accessibility and inclusiveness is reflected in strategies and programmes for creating, accessing, using, adapting, and redistributing OER;
- (d) incentivising public and private investments in IT infrastructure and broadband, to provide increased access to OER, particularly for low-income, rural and remote communities; and
- (e) developing and adapting existing evidence-based standards, benchmarks and related criteria for the quality assurance of OER, as appropriate, which emphasize reviewing educational resources (both openly licensed and not openly licensed) under regular quality assurance mechanisms.

(iv) Nurturing 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 are encouraged to consider the following:

- (a) reviewing current provisions, procurement policies and regulations to expand and simplify the process of procuring quality goods and services to prioritize the creation, ownership, translation, adaptation, curation, and sharing of OER, where appropriate, as well as to develop the capacity of all OER stakeholders to participate in these activities;
- (b) catalysing sustainability models through traditional funding sources but also non-traditional reciprocity based revenue generation such as donations, memberships, pay what you want, and crowdfunding that may provide revenues and sustainability to OER provision;
- (c) promoting and raising awareness of other value added models using OER across institutions and countries where the focus is on participation, co-creation, generating value collectively, community partnerships, spurring innovation, and bringing people together for a common cause; and

(d) enacting regulatory frameworks that support the development of OER products and services that align with national standards as well as the interest and values of the OER stakeholders.

(v) Facilitating 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. Member States are encouraged to consider the following:

(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 international funding mechanisms for implementing and strengthening OER as well as to understand mechanisms that can support international, national, and regional efforts;

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

(d) 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 a combination of quantitative and qualitative approaches, as appropriate. Member States are encouraged to consider the following:

(a) deploying appropriate research programmes, 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, presenting, and disseminating progress, good practices, innovations and research reports on OER and its implications with the support of UNESCO and international open education communities; and

(c) developing strategies to monitor and evaluate the educational effectiveness and long-term financial efficiency of OER, which include participation of all relevant stakeholders. Such strategies could focus on improving learning processes and strengthening the connections between findings, decision-making, transparency, and accountability to ensure the best educational outcomes. This would include support to the development of an evidence base on the impact of OER on education and learning.