Large-scale EXecution for Industry & Society

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GLOSSARY

Acronym	Description
KPIs	Key Performance Indicators
EC	European Commission
SC	Super Computing
ISC	International Super Computing
IP	Intellectual Property
PACT	International Conference on Parallel Computing Technologies
HPCA	International Symposium on High-Performance Computer Architecture
CF	ACM Computing Frontiers
HPC	High Performance Computing
HPEC	IEEE High Performance Extreme Computing Conference
HPCS	High-Performance Computing and Simulations
HPDA	High Performance Data Analytics
CISIS	Computational Intelligence in Security for Information Systems
BDVA	Big Data Value Association
HiPEAC	High Performance and Embedded Architecture and Compilation community

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EXECUTIVE SUMMARY

This deliverable is the first version of the Impact Plan and describes the Dissemination and Communication Strategy of the LEXIS project. The deliverable is produced in the early stage of the project lifetime; thus, it represents a first step towards the coordination of many initiatives. These initiatives are designed to increase the awareness of project goals and results amongst the communities and stakeholders external to the LEXIS consortium.

This document reports on the consortium's plan in defining dissemination and communication channels and tools; looks at how interest and participation can be stimulated in the project by various activities; describes it's plans on enabling technology adoption and transfer. Also, it intends to set the basis for defining actions aimed at fostering the creation of innovative services, as well as contributing to the definition of policies creating a ground for further exploiting new opportunities. Finally, through this document, the Key Performance Indicators (KPIs) used to measure the performance of the strategy set up are defined and presented.

Position of the deliverable in the whole project context

The purpose of this document, the first in a set of three deliverables, has the main objective of setting up the impact strategy and the related KPIs which will be used to measure the effectiveness of the executed strategy, by analysing communication, dissemination, exploitation strategy and Pilots related activities.

Description of the deliverable

This document reports on the strategy and plan for creating communities and stakeholders project (goals, results) awareness and to increase on them the impact of LEXIS activities, solutions and results. To this end, the communication, dissemination and exploitation strategies will be described. Further, the document intends to describe how the LEXIS consortium plans to promote the project and ensure the uptake of its results on a European level.

Dissemination, communication and exploitation activities cannot be one-shot actions, but they need to be continuously monitored to ensure the right strategy actions are executed. These actions will comprise the assessment, demonstration and dissemination of the project results and envisioned solutions on a step-by-step basis. To this end, a monitoring activity will be performed over the entire project duration to measure the efficacy of different tools, media and channels used, and to steer the project efforts on the most effective actions.

To conclude, the deliverable outlines the strategy for achieving impact through dissemination, communication and exploitation, guiding all the outreach activities of the project and beyond.

1 INTRODUCTION

The impact strategy of a project is as important as the technical aspects of a project and can determine the success of failure of a project by using all the component part of an impact strategy such as communication, dissemination, exploitation of results and business strategy. The following paragraphs outline the Lexis Impact strategy.

Effective communication is particularly important because of the geographic distances and different mind-sets that separate the interested audiences of a project, so we intend to establish a unified outlook between a sender and a receiver of the message we want to disseminate. Most of the communication means that we will follow is verbal, but nonverbal communication and the concept of silent languages must be also considered.

Effective communication requires three elements that are the sender, the message and the receiver connected by a message channel. The three key components for an effective communication strategy are:

1. Objectives,
2. Audiences,
3. Messages.

Once a sender has placed a message into a channel or a set of channels and directed them to the targeted destination, the completion of the process is dependent on the receiver's decoding – that is how the message is transformed into thought and whether the message was subjected to interference. The LEXIS consortium considered the potential parameters that may act as noise and proceeded with the formation of a plan designed to be:

- **Flexible** enough, in order to be adjusted in accordance with the results of the feedback received by the pilots.
- **Thorough** in both disseminating information and when creating publications produced both by the project and separately by partners via various activities (web channels, printed material) ensuring that information have been carefully reviewed and selected.
- **Multifaceted** by employing the following means:
  - Identify the target audiences for sharing tailored messages,
  - Consider the specificities of the target audiences,
  - Select and tune the dissemination and communication activities.

LEXIS will focus on the classical types of communication activities:

- Scientific Based,
- Print-based,
- Events-based,
- Web-based including social media,
- Press based.

1.1 RATIONALE AND GOALS

The Horizon 2020 program and the European Commission (EC) has defined the aim of the ICT-11-2018 call (of which LEXIS is part) to promote and introduce the use of High-Performance and Cloud Computing and Big Data across Europe. The goal of the project is to demonstrate the effectiveness of HPC and Big Data by building its own platform.

For a project like LEXIS with a heterogeneous consortium is extremely important to achieve high impact in numerous dimensions to be successful.

In this respect, this deliverable aims to set up the scene and present the impact strategy of the project. The impact strategy will be revised due to the project progresses and measured the effectiveness of the main goals.

1.2 METHODOLOGY

This section aims to set up the methodology geared towards performing a qualitative and quantitative assessment of the development and execution of the activities related to the impact measurement for LEXIS project.

A further aim is to exploit the findings of the project, by creating a cross assessment toolkit for measuring the success of the pilots and to assess subsequent results springing from the execution of the pilots.

The methodology and the evaluation instruments suggested in this deliverable will be used extensively in the pilots and the proof of concept will be applied to the production of the final impact evaluation report at the end of the project.

Beyond being a formal requirement, evaluation is about improving the work to be done and for each section of the project the KPIs and evaluation steps will be illustrated. The overview of evaluation instruments and the indicators and sources will be provided in the next versions of this deliverable.

Due to the nature of the evaluation and the prerequisite of measuring the success of the pilots, a functional benchmarking will be conducted, that is, we will not compare the pilots to direct competitors, but rather we will compare common elements of a set of practices between the pilots. The focus will be especially on how the different pilots evaluate the relevance, efficiency and effectiveness of the use of HPC, cloud computing and big data. Additionally, the performance, security, openness, and scalability of the project solutions springing from the analysis of the big data sources, will be evaluated, at a more technical level.

The pilots are different, and the consortium will seek to understand the use behaviour and the lessons learnt so as to provide feedback to the user requirements analysis and scenario creation. This will ensure that the delivered continually meet user needs.

In the end the KPIs and the general evaluation questions related to the project impact will be presented.

These KPI's will be measured and improved due to the course of the project and results will be analysed in the next versions of this deliverable.

1.2.1 Impact through dissemination

Dissemination concerns all the activities aimed at creating awareness of the project goals and results to a specific audience. The creation of such awareness outside the boundaries of the project consortium is important also to generate potential reuse of the results and stimulate the creation of newer projects collaborations. As such, dissemination cannot be reduced to a single action; indeed, it requires an accurate planning of the strategy to maximize its effectiveness in creating such awareness. To this end, the dissemination activities should exploit different methodologies to expose project goals and results, other than the classic way of publishing in scientific workshops, conferences and journals. For instance, the adoption of promotional material, eventually flavoured with international or local content and where possible with the collaboration of pilots, represents a flexible way of diffusing project goals and results using different channels and tools. Finally, the dissemination plan should provide feedback concerning the responsiveness of the audience to the specific action set. Monitoring how the audience and different targeted communities respond to different dissemination actions provides an effective way to better tune such actions and to focus on the most effective ones.

Starting from this premise, we plan to reach the largest possible audience and create awareness regarding our project goals and results through a set of actions. Such actions will include the presentation of project goals, activities, solutions and results in relevant international workshops, conferences and journals. Furthermore, workshops and other dedicated events will be organised. Finally, the LEXIS project will promote the engagement of specific audiences (even outside the specific scientific community) by producing sets of promotional materials. Monitoring the success of such actions during the entire project life, will allow LEXIS to better tune the dissemination actions towards the most effective ones.

1.2.2 Impact through communication

Communication involves spreading out information about an argument and fostering interest from the targeted stakeholder.

LEXIS communication will focus on the following types of audiences:

1. Industry users,
2. Scientific users,
3. General and public,
4. Media and Social media users.

Two levels of focus will be considered: feedback of LEXIS initiatives on communications (see section 3) and results in term of outcomes.

1.2.3 Impact through exploitation

LEXIS is a project driven by a focus on delivering clear results for the benefits of scientific teams and industry players involved. For this reason, the LEXIS partners will manage a full set of assets and activities aiming at delivering real life results and clear evidence of the numerous benefits of the LEXIS platform and project.

By maximising and coordinating along the 30 months of the project, and beyond, the various exploitation assets in full synchronisation with the dissemination, communication plans, LEXIS partners will drive an efficient action structured around the exploitation activities.

LEXIS exploitation activities will demonstrate and bring as results clear evidences for the stakeholders and beyond, such as the European scientific teams, the European industries and service providers that the LEXIS project is delivering a full set of major benefits to the existing stakeholders and beyond them to the European ecosystem, its competitivity, innovation, and also ability to prepare the future in a leading position.

1.2.4 Impact through pilot-specific activities

Impact through Pilot specific activities are a key aspect for increasing the visibility of the project and below the strategy to be followed by the consortium to attend the objectives in term of impact for each Pilot.

CIMA will have different impact strategies within the context of Copernicus Services, the Weather & Climate pilot will increase the timeliness and quality of prediction and analyses. Simplify the access to such services from the cloud, in order to expand the downstream markets: emergency management, sustainable food and energy production, air quality.

AVIO AERO will submit two different aeronautics pilots, one regarding turbomachinery and the second regarding Gearboxes. Both use cases are suffering similar issues: a complex flow physics modelling, especially in the second task dealing with biphasic mixture, that is based on CPU-intensive and time- consuming CAE simulations and puts Information and Communication Technologies challenges at the cutting edge of industrial applications. Lexis technology will help to overcome these bottlenecks (more physics-based software application, real-time solutions and Big Data analysis) pushing a change of paradigm in industrial design procedures, able to improve strategic business pillars like productivity, competitiveness and products quality.

The earthquake and tsunami pilot lead by **C**EA have dedicated opportunities for impact, mainly through two specific activities: targeted communication in the world areas where the pilot results will have the most effects, that is Indonesia and Japan; and through the production of data sets and open benchmarks for the portal.

1.2.5 Key Performance Indicators for measuring success

Once the general strategy covering all the LEXIS impact aspects is defined, the next step is to define the Key Performance Indicators (KPIs) to be used for measuring the effectiveness of the executed actions and to evaluate the progress made in disseminating, communicating and exploiting project results.

To this end, Table 1 reports the set of KPIs we intend to monitor across the project lifetime. Worth to mention that such continuous monitoring activity will allow the LEXIS consortium to eventually enlarge this initial set of KPIs by adding more specific ones or covering specific aspects of significance of the selected communication, dissemination and exploitation actions.

KPI	DESCRIPTION	EXPECTED VALUE	MONITORING AND EVALUATION
KPI_1	Project web site for public project outcomes dissemination and private use	Bounce rate < 30% for users that stay 30 seconds and more on the web page	Monthly
KPI_2	Social media project promotion: creation and use of social media channels to disseminate project activities and results	User actions (new followers, comments) >= 250 for each social media account	Quarterly
KPI_3	Hosting blog within the web site to foster and stimulate interest in the project pilot and activities	>= 1 post/month	Monthly
KPI_4	Scientific dissemination on peer-reviewed conferences and journals	>= 15 publications	Semi-annually
KPI_5	Workshops organized by the project partners to show, to a broader audience, project activities, developed technical solutions and results	>= 3 over the project lifetime	Semi-annually
KPI_6	Creation of a newsletter to facilitate the rapid communication of project activities and progresses	>= 100 subscriptions or induced clicks	Semi-annually
KPI_7	Exhibitions, fairs, workshops, conferences and seminars participation	>= 3 each partner	Semi-annually

Table 1 KPIs defined for evaluating the effectiveness of the communication, dissemination and exploitation actions

2 IMPACT THROUGH DISSEMINATION

2.1 INTRODUCTION

The dissemination activity has a central role in the LEXIS project to guarantee its success, by engaging stakeholders and to foster interest in the achieved results. To this end, in the following, a description of the dissemination strategy LEXIS project intends to apply is described.

The LEXIS consortium recognises that dissemination, similarly to the communication, has a fundamental role in correctly transmitting right messages to outside the consortium itself, as well as it involves the activity outcomes of all the WPs. Furthermore, LEXIS consortium recognises that dissemination activity requires a continuous action over the whole project life, with a constant monitoring of the effects of the applied actions (e.g., monitoring the effectiveness of using specific channels to spread project goals and results). In order to support such, the dissemination strategy will leverage both on the expertise on specific/vertical domain and on being involved in associations at national/international level. To this end, it is important to find effective (i.e., making the messages passed understandable) ways (i.e., channels, tools, specific material, etc.) to intercept the audience that is looking at results as LEXIS aims to generate. In addition, another expectation will be to acquire large credibility within communities to be able to promote the entire domain (i.e., convergence between HPC, Cloud computing and Big-Data).

An important aspect to be considered is the 'continuous' nature of the dissemination activity over the project lifetime, which implies to constantly monitoring the effectiveness of the specific implemented actions. To this end, LEXIS will focus on monitoring planned and implemented actions over the time to better tune them, by focusing on

the more effective channels, media and tools to promote the project goals and results. This may imply to recognise the benefit and advantages to use specific channels, media and tools, and to steer effort toward them.

2.2 DISSEMINATION STRATEGY

In this section, the initial dissemination strategy, as foreseen by LEXIS consortium, is detailed.

As a first action, LEXIS consortium recognised the need to consolidate the project's branding, by creating a solid and well-established image of the project itself.

To this end a project logo (i.e. multiple versions which can be used with more versatility depending on the specific contexts) has been created. The project logo is the first element to have, in order to be able to start targeting specific dissemination channels, media and tools. It is worth to note that, although less impacting on scientific communities, the project logo becomes more impacting on other types of audience which are more linked to the analysis of feasibility of the project results in different domains, sectors and use cases.

At this stage, it becomes important the identification of the targeted audience, as well as to identify all the possible stakeholders of interest for the project, in order to start to tune the way dissemination is executed. Once the audience is identified, the next action will leverage on project pilots to create awareness for the targeted audience/stakeholders regarding the LEXIS project.

Given the broad spectrum of technological solutions that LEXIS will put in place, as well as the different domains touched by the pilots, the consortium agreed in splitting audience in to the following main groups, which are representative of different types of communities interested in diverse aspects of the project:

- Scientific community,
- Industrial community,
- Business community,
- General public (interested company, Public administrations, etc.).

Scientific communities. Targeting scientific communities will mainly involve three actions: i) publishing in well recognized peer-reviewed international workshops/conferences and journals; ii) organizing dedicated workshops during international events; and iii) promoting and taking the ownership for coordinating the publication of thematic books. For all these three points, LEXIS project will exploit the expertise of academic partners, as well as that of large supercomputing centres and research institutes.

In the following, a short list of the most representative workshops/conferences and journals (the list is not exhaustive of all the publications that LEXIS will do), that represent the LEXIS consortium target, is provided:

- *Workshops/Conferences* (not limited to): Supercomputing (SC), ISC High-Performance, International Conference on Parallel Computing Technologies (PACT), International Symposium on High-Performance Computer Architecture (HPCA), ACM Computing Frontiers (CF), IEEE 2019 IEEE High Performance Extreme Computing Conference (HPEC), IEEE High-Performance Computing (HiPC), EuroPar, Design Automation Conference (DAC), IEEE International Conference on High-Performance Computing and Simulations (HPCS), International Conference on High Performance Computing and Communications (HPCC), International Conference on Computational Intelligence in Security for Information Systems (CISIS), Design Automation and Test in Europe (DATE), International Symposium on Code Generation and Optimization (CGO), Forum on specification & Design Languages (FDL), Languages, Compilers, Tools and Theory of Embedded Systems (LCTES), Principles and Practice of Parallel Programming (PPoPP), International Parallel & Distributed Processing Symposium (IPDPS).
- *Journals* (not limited to): Int. Journal of Supercomputing, ACM Transactions on Architecture and Code Optimization (TACO), IEEE Trans. on Sustainable Computing, Future Generation of Computer Systems (FGCS), Journal of Parallel and Distributed Computing (JPDC), IEEE Trans. on Parallel and Distributed Systems (TPDS), IEEE Trans. on Computers, IEEE Transactions on Computer-Aided Design of Integrated Circuits (TCAD), IEEE Design and Test, IEEE Computer, Parallel Computing (Elsevier), Concurrency and Computation: Practice and Experience, Journal of Systems Architecture, Microprocessors and Microsystems, Wiley Software: Practice and Experience, ACM Trans. on Parallel Computing, ACM Trans. on Design Automation of Electronic Systems (TODAES), IEEE Computer Architecture Letters (CAL).

For the scientific publications on peer-reviewed conferences and journals, the consortium will adopt the self-archiving "green open access" model.

For jointly written by project partners (consortium-wide publications) will be promptly made available by adopting the "golden open access" model. This latter model will also allow to target a wider audience in a quick way.

Industrial and business communities. Targeting industrial and business communities will mainly involve the organization of dedicate events, and the participation on (thematic) exhibitions. For instance, international conferences like HiPEAC (main conference), ISC, SC, DATE allow to promote the LEXIS project by hosting dedicated booths.

General public. General public will be intercepted by leveraging on dedicated events that will be organized by partners of LEXIS. In such case, the consortium foreseen to focus more on the project pilot outcomes to better capture their expectations. Beside the organisation of such specific events, LEXIS intends to target publication on national/international level magazines which help to quickly enlarge the basis of reached people.

To ensure quality of the dissemination actions, as well as to ensure its efficacy, the LEXIS consortium plans to measurement and tracking the progress of the dissemination strategy.

3 IMPACT THROUGH COMMUNICATION

The objective of the communication activity is to intercept and engage the largest possible group of people as possible, in order spread the news about the project's goals and results. The communication activity also seeks to make a broad range of communities aware of project's assets that are available and at their disposal.

To this end, the communication aspects should be taken care by the project consortium, which should define an appropriate communication plan and strategy to achieve the afore mentioned goals. To this end, a good communication strategy should define the actions required to effectively set the public relations activities, which include the definition of the communication objectives, the definition of ideas to catch the interest of audience, the definition of the audience groups to target, and the definition of messages to be communicated.

The implementation of a communication strategy as previously described, requires different actions at different stages; specifically, it is necessary to perform (depending on the maturity of the achieved results and project objectives) the assessment, planning, execution, evaluation and control of the communication actions.

In the following sections these aspects will be analysed.

3.1 COMMUNICATION STRATEGY, OBJECTIVES AND EXPECTED OUTCOMES

The LEXIS strategy for communication activities aims at engaging all partners, each based on its respective expertise domain, for promoting LEXIS project activities, results and project practices in both industrial and academic areas. The overview of LEXIS goals and how LEXIS consortium intends to achieve them will drive the tuning of communication actions. For maximizing the communication impact, communications activities will be organised on a per-partner expertise basis.

An effective communication strategy is influenced by several elements, as listed in the following:

- Communication objectives,
- Communication channels,
- Target audiences,
- Expected outcomes.

Communication objectives

Making the communication effective implies to be able to pass the intended message in such way it will persist in the audience and create further interest on the main topic of the message. To this end, for a qualitative and effective communication is necessary to clearly identify the way such message is constructed and passed to the audience.

Generally, communication messages are effective if they satisfy the following rules:

- Messages are short,
- Messages are simple,
- Messages are comprehensive,
- Messages are understandable.

Given the above-mentioned rules, the LEXIS communication strategy plans to create messages that can be summarised in very few bullet points (for instance, textual messages will be composed of a very small number of sentences). Also, messages will be created to carry the main idea that we intend to pass to the selected audience without introducing not essential details. By reducing to a minimum, the information delivered through the communications messages, we will able to simplify them and make them also understandable. Finally, a careful analysis of points in which the messages can be summarised, we will ensure that the information passed to the audience will be comprehensive.

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It is worth mentioning the fact that we do not want to 'communicate' with a specific audience without a specific reason. This simple fact implies that, behind every message we will create, there will be a strong motivation in creating a positive feedback with the targeted audience. Such analysis will be one of the points in which the LEXIS project intend to be focused, in order to maximize the effectiveness of the communication effort. This also implies the need of checking how the delivered messages are effective in catching all the expectations of the targeted audience.

Multipliers

Audience multipliers are important elements of the 'successful communication' equation. Their role is that of transmitting the messages to further different audiences (not directly considered by the LEXIS project) as well as to touch potentially new outlets. Multipliers are well represented by organizations that have a strong influence in their respective targeted audience. Leveraging (potentially) on them, will enlarge the basis of people reached by the project without further investments in terms of communication effort.

Communication channels

An important role in the effectiveness of the communication strategy is represented by the choice of communication channels. The number and the type of channels provide to the LEXIS consortium the possibility to explore a broad spectrum of different communication tools. Of course, each communication channel requires a careful analysis to understand the way (i.e., how) messages are delivered and at which speed. Knowing well the specific feature of each communication channels will allow the LEXIS project to implement messages that according to the rules presented in subsection "Communication objectives" are tailored to exploit the features of the specific channel. For instance, tweets are shorter and faster in reaching targeted people compared to web site or a blog.

To this end, LEXIS consortium intend to maximize the exposure of the project to the external audience covering many social media and web tools, ranging from a dedicated web site hosting also a blog, to social media such as Facebook, Twitter, LinkedIn, YouTube. The effectiveness of the messages delivered through such digital channels will be continuously monitored via a curation process.

Beside the digital communications channels, LEXIS will exploit more traditional channels, which include the preparation of dedicated brochures, rollups, posters, white papers, as well as the national/international level magazines. These traditional communication channels will be supported by dedicated 'promotional material pack'. During the first project stages, LEXIS consortium will select specific elements that will be part of this promotional material pack. Among the others, t-shirts with the project logo to be used during conferences and exhibitions, and other forms of gadgets will be selected (e.g., USB sticks, power banks, etc.).

Communication expected outcomes

The expected outcomes of the communication efforts are summarised in Table 2, which compares each promotion tool with the corresponding expected outcome.

PROMOTING LEXIS	EXPECTED OUTCOMES
Website as the main delivery point for all the LEXIS information and its update (consortium partners, objectives, achievements, publications, etc.)	Main delivery point of LEXIS information and its update. Easy to access for organisations
(Digital) promotional material – brochures, posters, white papers	Providing a quick and comprehensive view of the main goals and results achieved by LEXIS
Gadget, including t-shirt, USB sticks, power banks, etc.	Stimulating curiosity in reached people and creating attractiveness towards other project communication tools and media
Social media, including Facebook, YouTube, LinkedIn, Twitter.	Use a fresh and quick set of communication tools to stimulate people in following LEXIS project updates and fostering them in visiting the project website
Project blog	A dedicated blog that is useful to publish fresh updates with the possibility to present more detailed information. The different nature of such promoting tool w.r.t. the others allows to catch the attention of people that are looking for more detailed information

Table 2 Expected communication outcomes

3.2 TARGET AUDIENCES AND COMMUNICATION STRATEGY

The LEXIS communication strategy aims at targeting all interested and directly involved parties. Identifying the targeted audience includes identifying interested people and organisations which could help to spread the project goals, ideas and results across different communities. Following such premise, the audience that LEXIS consortium identified belongs to three main classes of interested parties:

1. Scientific stakeholders,
2. Industrial stakeholders,
3. General public.

For each of the three parties, the consortium foresees a mix of both academic and industrial members, although a prevalence of academic members is expected for the scientific stakeholder group, as well as a prevalence of industries is expected for the industrial stakeholder group.

Different audience groups mean also the need for differentiating the way messages are carried to them. This implies structuring the communication messages with different languages, styles and content. The language style will vary depending on the targeted group, going from a less technical and enriched for the industrial stakeholder group to a more specialised and technically sound for the scientific stakeholder group. Using styles that largely use jargon is found to be effective for groups (as the case for scientific communities) that has solid knowledge in the field and that can quickly understand the underlying message. Conversely, other groups need the use of less specialised language to effectively intercept their interest and thus correctly deliver the message. This is the case, for instance, of industrial stakeholders which are generally not interested in understanding all the technical details of the solutions envisioned by the project. Similarly, for the design style, it may actually be counter-productive, as well as a waste of resources, designing a report aimed at highly specialised audiences as a marketing-like report (e.g., making large use of pictures, colours, etc.). Finally, the content requires to be accurately aligned to the specific message destination class, to avoid delivery of inappropriate messages that will results in a less effective impact. To this end, during the project lifetime, all the audience classes previously identified will be targeted with carefully prepared messages, and for each of them, the most appropriate delivering tools and media will be leveraged.

3.2.1 Communication through cooperation

For a project like LEXIS is, creating consensus and awareness of results with the stakeholders is important but is also important that links with other similar projects or technical people using the same technology (or involved in the sectors where LEXIS is) is created.

For this reason, since the beginning of the project, the consortium has considered collaborating with some important hubs such as the Big Data Value Association (BDVA), or participating in the European Network on High Performance and Embedded Architecture and Compilation community (HiPEAC). These collaborations would include giving presentations and running workshops on the LEXIS technology and on individual Pilots.

The BDVA is an association focused on all the aspects concerning Big-Data technologies. Among the objectives of this association, there is the proposition of a strategic agenda, which summarises the research trends as well as potentially benefitting technologies and solutions. Being the LEXIS project sitting across multiple domains – High-Performance, Cloud, and Big-Data, the interaction with BDVA can be of worth to drive LEXIS solutions in the right direction. Also, we foreseen an interest of the BDVA association in the solutions adopted by LEXIS, which can serve as the basis for further innovative approaches in the Big-Data domain.

The HiPEAC network of excellence is representative of a large community in Europe, which is made of both academic and industrial members. The HiPEAC community is very well-recognised within Europe and has also started having a positive interaction with worldwide communities (US and Asia). Its role is that of promoting the exchange of innovative ideas, possibly achieving the maturity level of fully engineered products that can support the creation of start-ups, as well as fostering the collaboration between academic and industrial actors. Initially focusing on the high-performance computing systems, the HiPEAC has more recently enlarged its interests to embrace more general computing approaches, including communication and storage aspects, as well as touching all the levels of a modern computing architecture (from single chips to entire data centres). This opened vision represents a prolific ground for both presenting project results and to being fed back by potentially innovative ideas.

Partners of the LEXIS project are also closely integrated in the European leading initiatives establishing HPC within Europe and providing resources to European researchers and industry, like European Technology Platform in the area of High-Performance Computing (ETP4HPC), Partnership for Advanced Computing in Europe (PRACE), and the European High-Performance Computing Joint Undertaking (EuroHPC). This integration is very important for sharing the LEXIS project outputs with the community closely participating on the HPC development in Europe.

3.2.2 Open Data Portal

The Open Data Portal will be entailed and duly detailed in the Data Management Plan and updated in the next version of this deliverable.

3.3 EVENTS, WORKSHOPS AND WEB COMMUNICATION

Participation in relevant events is a crucial point in the communication and dissemination strategy of LEXIS project. Events like exhibitions and fairs, as well as the attendance to workshops and conferences is the right mean for increasing the likelihood of capturing the attention of scientific and industrial stakeholder groups. Such groups represent an excellent opportunity to disseminate the results obtained during the project lifetime. Thus, media events and exhibitions, as well as conferences and workshops, can be considered as mean suitable for capturing the attention of identified stakeholders, and where new stakeholders can be engaged.

Participation in events requires, in most cases, the creation of dedicated supporting material. In this regard, we can mention brochures, posters, rollups, business cards, white papers, etc., as useful supporting communication tools, very helpful to increase the engagement of the participants. In the following, these tools will be described in detail.

3.3.1 Initial event roadmap

The following table shows, for each partner, at least three events to which the partner plans to attend. The list of events presented covers the whole project duration, although it will be constantly updated to analyse their impact on the communication and dissemination strategy.

PARTNER	EVENTS		
IT4I	BDVA related events	EuroHPC Summit Week	SC
Bull/Atos	EXDCI2	Teratec	HiPEAC
LINKS	HiPEAC - EuroHPC Summit week	ISC	SC
TESEO	Meteorological Technology World Expo	ONE WITH ECMWF	ITS
CEA	HiPEAC	ISC	SC
LRZ	ISGC	RDA Plenary	IEEE eScience
ECMWF	ISC/PASC/CLOUD or similar	ECMWF Workshops	Internal seminars
ITHACA	Gi4DM	ECMWF Annual Seminar	Copernicus EMS-Mapping User Workshop
CIMA	Meteorological Technology World Expo	European Geophysical Union	American Geophysical Union
Avio Aero	International CAE Conference and Exhibition	Dissemination event about "AERODYNAMICS-AEROACOUSTICS"	Dissemination event about "HEAT TRANSFER & FLUID FLOW"
GFZ	EGU2019	Japan Geophysical Union annual Meeting	EGU2021
AWI	EGU2019	IMUM 2020	ITS 2021
O24	Infosecurity Denmark May 2019	Infosecurity Europe June 2019	Infosecurity Europe 2020
CYC	HiPEAC	OpenStack Days	Swiss Conference on Data Science (SDS)
BAY	ISC	SC	Teratec
NUM	FORUM TERATEC	POLLUTEC	Atmos'Fair

Table 3 Expected initial events roadmap

Organisation of project-specific workshops

Workshops are a good opportunity for showing out the project's outcomes. Workshops can be organized directly under LEXIS's brand (that would be of interest to all the partners) or by single partners (or groups of them) as internal company events for creating awareness about the project. In the latter case the workshops would present LEXIS, despite their main topic not necessarily being restricted to the project itself. It is expected to have at least three workshops organized by LEXIS during the life of the project.

The practical nature of workshops have, as a key, point the fact of proposing practical laboratories along their duration. In this way we could offers to the participants real hands-on experiences of the LEXIS platform and designed solutions, exposing the advantages brought by them. This would help in finding new stakeholders interested in the project, attracted by having personally tested its benefits.

HiPEAC represents a good venue for the organisation of a possible workshop, being of interest to different communities active in the HPC and Big-Data domains. Other possible venues where workshops could be organized include Big-Data Value Association (BDVA) and ETP4HPC events, as well as exhibitions/conferences like Supercomputing (SC) and ISC High-Performance (ISC) conferences.

3.3.2 Exhibition material

For each exhibition to which LEXIS project will be present, the preparation of ad-hoc material is planned. Currently one of the main ideas for this purpose involves the preparation of some "special prizes" to be delivered to the participants, organizing a sort of competition between them along the duration of the exhibition. Such special prizes will be distributed to the competition's winners after short thematic sessions during which project goals, solutions, and results will be presented. In this way it is expected to attract the interest of the participants, while promoting LEXIS itself. At the time of this report writing, the type of prize is still discussion among LEXIS partners.

Press based and media communication

One way to communicate LEXIS outcomes will be based on the traditional communication and dissemination tools, which will made use of paper-based material such as posters, white papers, brochures and rollups. Here below the preview of the concept for each type of communication tool mentioned:

Posters

A poster is one of the classical communication tools. The intention of the Lexis consortium is to use the poster to communicate the project LEXIS during events, workshops and conferences (see example in Figure 1). The plan is to have more posters that will be updated due to the course of the project once milestones will be reached.

Figure 1 Example of a LEXIS poster

Rollups

A rollup is another effective tool to communicate the project because it is visual and smart and aggregates the most of information in less space. The intention of LEXIS consortium is to use rollups during events, workshops and conferences, and also they will be updated due to the course of the project (see example in Figure 2).

Figure 2 Example of LEXIS rollup

Brochures

One of the most classic and immediate tools to communicate is a brochure because of the simplicity to be used and shared. The LEXIS consortium intend to use this kind of tool for promoting LEXIS results and creating awareness around the project since the beginning (see example in Figure 3 and Figure 4). Also, brochures will be maintained and updated due to the course of the project once milestones will be reached.

Figure 3 Example of LEXIS brochure – page 1

Figure 4 Example of LEXIS brochure – page 2

Gadgets and other communication material

Communication pass through creating awareness around the project and for this, the LEXIS consortium has in mind to have during events, workshops and conferences some gadgets related to the project to be distributed among people interested in the project. At this stage of the project, the consortium has planned to have the following types of gadgets, see Figure 5.

3.3.3 Web communication

Online activities are key factors for Lexis communication and dissemination in the outside world and for reaching the targeted audience of the project. The first communication tool will be the project website (www.lexis-project.eu) centralizing all the important messages and communications to be shared and results achieved during the whole project.

By the middle of April 2019, Lexis planned to launch the first version of the project website (actually, the website is under construction). The objective in term of usability of the website is to have a fresh design for the website, make it more accessible, easy to use and empowered by social features to trigger communication among the community members. The site will serve mainly as the online presentation and dissemination tool and will gradually evolve into a collaboration portal where stakeholders can be involved using the specific tool for ask something about the project or joining the project Blog. Activities boosted by the website are the good practice exchange, political leadership, and dissemination of the project results and further promotion of the pilot activities. While developing a great website which is half of the success equation, the other half is promotion. The methods and approaches described in the web-based strategy are all ultimately designed to improve natural growth of the potential user base and increase project visibility.

Figure 5 Example of LEXIS gadgets

Web strategy

LEXIS web strategy is based on the website being a central communication tool – enhanced using innovative techniques to boost the website visibility:

- **Application of SEO techniques:** LEXIS will increase the website's visibility in organic search engine results by optimizing the pages with keywords, the terms users are likely to search on the various search engines as Google. LEXIS will deploy several techniques: write keyword rich page titles and add description meta tags; include keywords in headers; position keywords in the first paragraph of the body text; use keywords in hyperlinks, etc. The aim will be to make the website appeared in top search results.
- **Creation of Infographics:** Infographics are used to engage the viewer more easily to the context than a text description or simple visualisation of data. They provide an elaborate form of data visualisation, making data, trends and issues more easily accessible to readers through a combination of visuals and texts. The main added value they provide is that they tend to transmit a message to many audiences and provoke some of them to seek more information about what they are watching.

Website

In LEXIS strategy, the website has a central role and acts the part of the first communication tool with the outside world and with our Audience. It represents the instrument to create the interest in the project evolution and results due to the entire project duration. The idea of the consortium is to have a user friendly and easy to be used template joining simple and short messages with high visual impact pictures.

The preliminary structure of the website is illustrated in Figure 6.

Usability

The usability represents a key aspect for a website because an easy to be used site is more attractive for an end user regarding the following aspects:

- Website design,
- Navigation,
- Architecture and functionality.

The idea for LEXIS's website was to have a smart design and very simple, reach all the content with a minimum amount of "clicks" and have a basic structure but able to give all the information about the project in short time. In order to give a "look" in term of connection between the other media channels we have inserted also the connection with Twitter and in particular to the "last tweet".

Social media

One of the other key aspects of LEXIS is to spread the project results and progress on the social media channels. To reach this goal, LEXIS will be linked to the most popular social media accounts. The consortium is truly convinced that feeding the information on internet using all the possible channels are a good way for extending the effectiveness of the message and increase the impact effect as well.

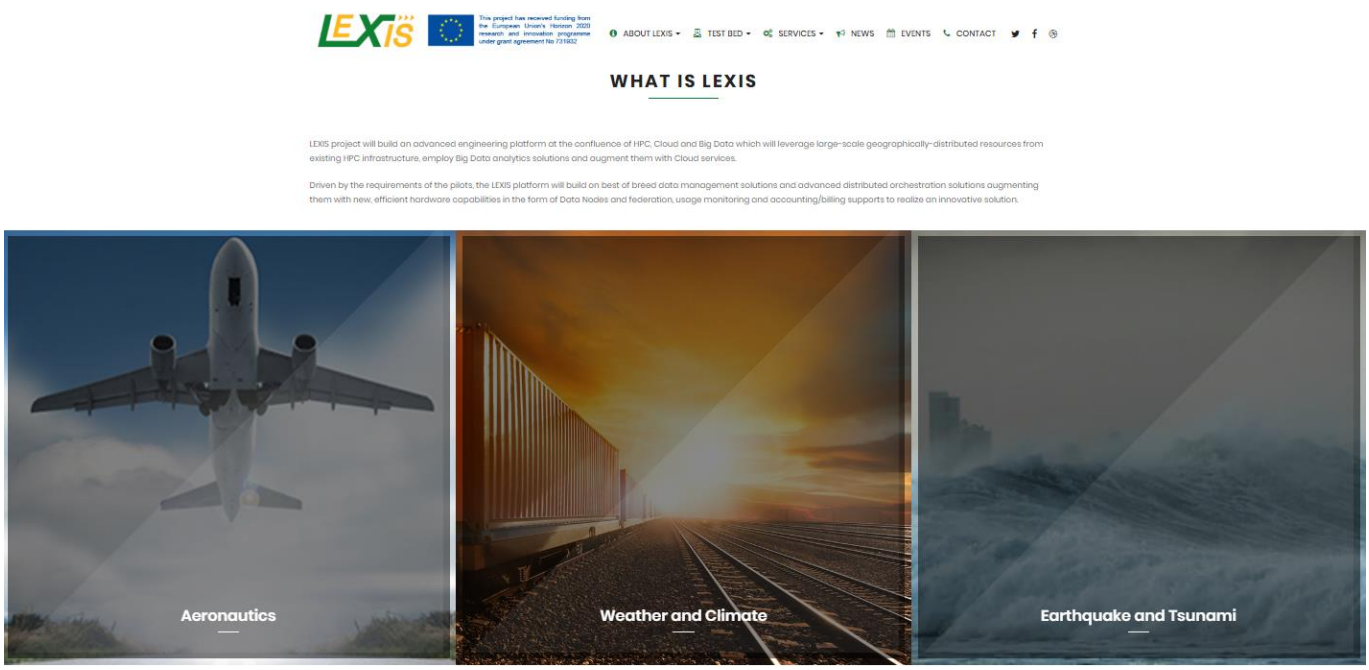

Figure 6 Preliminary structure of the LEXIS website

LEXIS has the following Social Media Accounts:

- Facebook page,
- Twitter account,
- LinkedIn profile,
- YouTube Channel.

Facebook page

A dedicated Facebook page [1] was created at the beginning of the project and will help to reach out and engage stakeholders during the entire lifecycle of the project. The project's Facebook page includes news, photos and information about the LEXIS project and the related activities, see Figure 7. The Facebook page is expected to enlarge the scope of audiences by its engagement profile.

Figure 7 LEXIS Facebook page

Twitter profile

LEXIS's Twitter page [2] has been active since the beginning of the project and is as important as the website in terms of communication and dissemination, see Figure 8. Using the right hashtags makes it possible to reach a

multitude of end users interested in the project and the technology part of the pilots. The Twitter account is already in use as a news dissemination tool, particularly for breaking news, events announcements, calls and as a means for enlarging the LEXIS community.

Figure 8 LEXIS Twitter page

LinkedIn page

LEXIS LinkedIn page [3] was created during the face to face meeting and has the main target to enlarge project visibility in term of potential and visibility between professionals and or expert's community, see Figure 9.

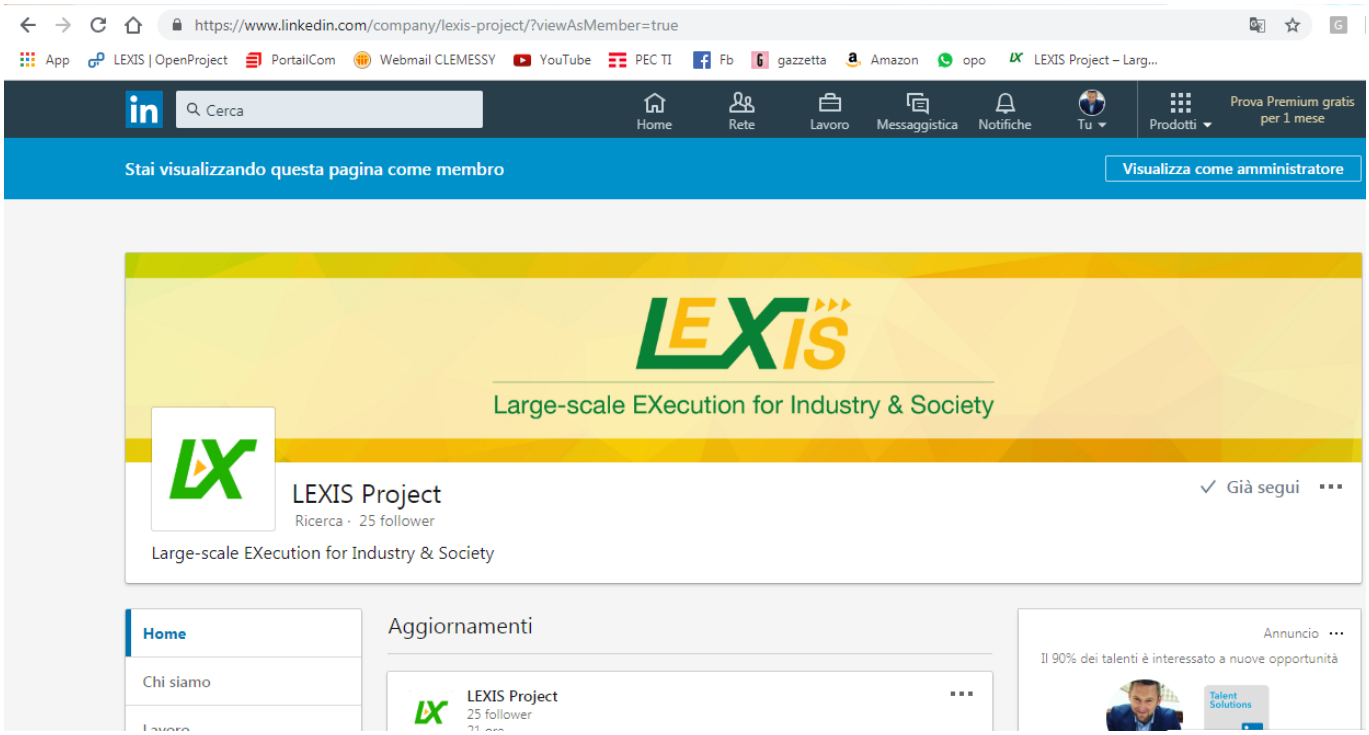

Figure 9 LEXIS LinkedIn page

YouTube Channel

LEXIS has also a YouTube channel [4] used to choose and promote interesting and relevant videos related to important events such as Workshops or big conferences (e.g. HiPEAC or SuperComputing).

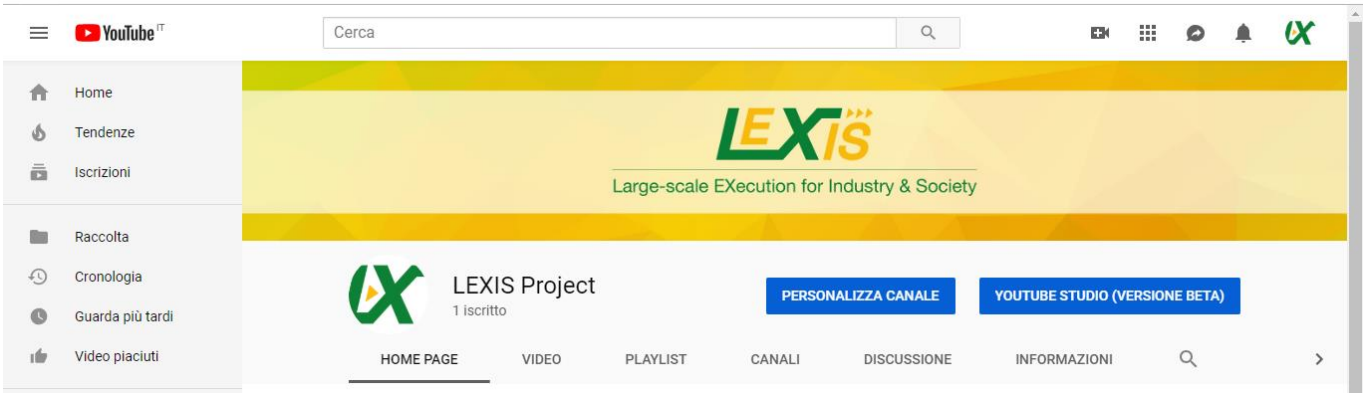

Figure 10 LEXIS YouTube channel

3.4 EVALUATION: KEY PERFORMANCE INDICATORS AND MEASUREMENTS

Number of KPIs (see Table 1) will be used to measure the impact of the LEXIS strategy. Our plan is to maintain and measure with regular basis the KPIs. These KPIs have been designed with our impact on dissemination plan in mind and measure the:

- Relevance (does the activity/action satisfies stakeholders or potential stakeholders needs),
- Efficiency (does our activities/actions reach a good level of visibility),
- Effectiveness (does our activities/actions create new opportunities for LEXIS platform exploitation).

4 IMPACT THROUGH EXPLOITATION

This chapter describes the Exploitation strategy of LEXIS and documents the initial intentions of each partner of the consortium. Exploitation actions will be more concrete once the first milestones of the project are reached. The sections below present the initial exploitation roadmap in terms of exploitable assets, exploitation activities in term of commercial and non-commercial scenarios and market impacts.

4.1 EXPLOITABLE ASSETS

The exploitable assets are:

- The LEXIS platform itself,
- The APIs, methods and technology solutions developed along the LEXIS project and made available in various ways including Open Source code and software,
- The Enabling platform developed along LEXIS: including Training platform, Workshops, Tutorials, technical & scientific assistance,
- The Dissemination Assets (see Table 4).

The different letters to describe how each partner is involved in the assets in Table 4 will be provided in the next version of this deliverable.

LEXIS partner	DISSEMINATION ASSETS						INTENTION		
	Digital (Web & Social networks)	Internal & External Facing Network	Events & Conferences	Technical & Scientific Publication	Other	Other (Description)	Non-Commercial Exploitation	Commercial Exploitation	Comments
IT4I	X	X	X	X	X	Participation to organisation & design of Tutorials & seminars	Scientific & HPC community		
CYC	X	X	X				European Big Data Value Forum, DataWorks Summit, Open Source community	Data Analytics, AI/ML community, Meet-ups, Big Data Developers Switzerland, Swiss Big Data User Group,	
Atos / Bull	X	X	X		X	Cross dissemination with SAGE 2	ISC	ISC	
LINKS	X	X	X	X			HiPEAC, SC, Heterogeneity Alliance, ISC, Networking 7 Storage, CISIS		Orchestration of dissemination as Dissemination Manager
CEA	X	X	X	X	X	Workshops for Earthquake and Tsunami Pilot	Teratec, ISC, SC, CEA events		
BAY	X	X	X	X	X	Trainings, Workshops, Hands-on, Video tutorials, coordination of white papers	Scientific, HPC and AI communities	Life Sciences, Oil & Gas, Finance, Engineering and Manufacturing industries	Significant actions planned for social networks due to the existing reach of Bayncore Group
TESEO	X	X	X		X	Trainings, Workshops, Hands-on, Video tutorials		Digital Innovation and Industry 4.0 Cluster, Cofindustria workgroup, ITS, Affidabilita & Tecnologie Aerospace and Defence,	Network: for Teseo exploitation in a Network could be internal or external. Internal means in Eiffage Group and external means outside the consortium with

								Fondazione ITS Meccatronica e Aerospazio Piemonte, ASSOCAM Camerana	outside potential stakeholders.
Avio Aero	X	X	X	X	X	Internal deployment, training and dissemination inside GE AVIO AERO group	University of Firenze	Internal deployment	
GFZ	X	X	X	X	X	Web Service for dissemination to institutions working on various hazards and risks,	Global Earthquake Model, regional institutions		
CIMA	X	X	X	X	X	Weather & test bed focused. Dissemination of the WCDA API	Scientific & HPC Community, Weather & Climate community		
ECWMF	X	X	X	X	X	WCDA API dissemination, Workshops	Open Source software release, Member states, Newsletter	Internal deployment for their Clients	
ITHACA	X	X	X	X	X	Workshops	Copernicus EMS Rapid Mapping Service, Indexed journals		
LRZ	X	X	X	X			Scientific & HPC community		Focus on data management and Data Flows Tools to promote the data exchange layers of LEXIS
O24	X	X	X					Cloud Security Alliance, EuroCloud, Clusir, Telecom Valley, BlackHat Europe, InfoSecurity	Fostering adoption by SMEs, Promoting the project, the pilots and its finding
AWI	X	X	X	X	X	Publishing to the Earth System Knowledge Platform (eskp.de)	Scientific Community, general public		Promotion of Optimized workflows as designed in LEXIS

Table 4 Dissemination assets of LEXIS partners

4.2 EXPLOITATION ACTIVITIES

LEXIS exploitation will be based on:

- Exploitable assets as listed above,
- An efficient Dissemination strategy as designed in the LEXIS project.

These exploitation activities will be structured in two groups:

- Direct exploitation by the Members of the consortium,
- Exploitation by Users outside the consortium.

These activities will serve both Non-commercial and Commercial goals:

- On demand HPC/Big Data/Cloud based services provided by the LEXIS platform,
- Transfer of technology and IP licensing,
- Platform of new services to extend the reach (active users of LEXIS platform and results) and the scope (extension to new usages) for both the research/academic and the industries.

Four categories of Exploitation Lines are planned:

1. LEXIS SERVICE: Exploitation of the LEXIS platform as an Operational Production - HPC/Big Data/HPDA Cloud based system, itself characterised by the following:
    a. Downstream and on-demand data access and data centric processing in a Cloud/HPDA environment,
    b. Hybrid/Converged HPC/Big Data/Cloud platform & Data Management with a global orchestration,
    c. Significant large Datasets available.
2. LEXIS DEVELOPMENT PLATFORM: Exploitation of the LEXIS project as a Development Platform for designing new solutions for the Industries, characterised by the following:
    a. Data Layer + Workflow orchestration on a virtualised HPC/HPD environment,
    b. Enabling customers to develop their own post-processing and analysis methods.
3. LEXIS TOOLS METHODS & TECHNOLOGIES: Exploitation of the Tools, Methods and Technologies developed along the LEXIS project
4. LEXIS CONSULTING & SERVICES: Exploitation via the development of a portfolio of new specialised Added Value Services:
    a. Transfer of Skills/Knowledge (Training courses),
    b. Transfer of Experience (Hands-on and Workshops),
    c. Technical & Scientific Assistance Services and Consulting,
    d. IP management and assistance.

The three pilots (Aeronautics, Earthquake & Tsunami, Weather & Climate) will be both:

- A validation/demonstration of the real-life exploitation
- Source of further exploitation for both research/academia and the industry

Both Commercial and Non-commercial scenarios for exploitation will include:

- Executive summary
- Mission Statement
- Business Plan / Business Case description
- Marketing / Communication plan
- Operations & Financial plan
- Development Lifecycle of the product/services
- Assessment of the situation in terms of IP management, Security, Compliance to data protection acts and privacy acts

4.2.1 Non-commercial scenarios

The targets are mainly the research and academic communities.

The four above mentioned Exploitation Lines are included.

For each of them a costing/billing analysis and policy will be developed. A non-commercial scenario excludes margins/profits, but the collaboration between LEXIS stakeholders and third parties needs to properly manage the complexity of the various costs included.

IP management is also critical to the success of such non-commercial scenarios.

The scenarios descriptions will include what will happen during the LEXIS project and the potential further development after the end of the project. The scalability of such scenarios will be assessed.

The development and execution of non-commercial scenarios will be supported by the dissemination/communication plan, including by advance communication to the targets to increase awareness and allowing quick adoption when the services/products are made available.

4.2.2 Commercial scenarios

The Targets are mainly the various industry stakeholders, from the giant corporations to the SMEs and potentially start-ups.

The four above mentioned Exploitation Lines are included.

A well-managed costing/billing analysis and policy will be adamant to make any commercial activity relevant and do-able. The partners involved in commercial scenarios will develop efficient and coordinated offers, in order to maximise the impact of LEXIS for clients, including offers relevant for SMEs and potentially Big Data and AI start-ups.

IP management, Security and Compliance with data management and privacy acts will be crucial in executing commercial scenarios.

The scenarios descriptions will include what will happen during the LEXIS project and the potential further development after the end of the project.

The scalability of commercial scenarios must be assessed for further development during the LEXIS project and after its end.

The commercial scenarios successes will be also supported by the dissemination/communication plan in order to increase awareness prior to the launch of commercial services.

4.3 MARKET IMPACT OF EXPLOITATION ACTIVITIES

In terms of exploitation activities, we foresee a market impact that can be described as follow.

- For the Scientific / Research market:
  - LEXIS demonstrates the clear benefits for research by bringing new extended capabilities in HPC/Big Data, allowing both new fields in research and a huge improvement in existing ones. Being immediately usable, these new capabilities will contribute to accelerate the pace of digitization and unleash innovation potential in Europe.
  - LEXIS brings to the market a development platform allowing various stakeholders (existing ones or next ones to join) to take advantage of easier, faster more accurate analytics services.
  - LEXIS opens the door to further development including additional cooperations to enhance not only the performances, the capabilities of the platform but also the scope of potential uses both within the fields covered (Aerospace, Weather & Climate, Earthquake & Tsunami) and within new fields when plugging entirely new big data sets.
- For the Industry/ Commercial market:
  - On top of similar impacts compared to the Scientific market, LEXIS is bringing to the industry sector the demonstration of real-life improvements of significant importance for competitivity, differentiation, innovation.
  - LEXIS brings solutions to engineering challenges, unleashing the potential for efficient innovation with a direct impact on the competitivity of industry players.
  - LEXIS brings also a platform for innovation with a full platform of enabling services (Training, Consulting, Scientific Assistance, …) , not only usable by the industry giants, but also by SMEs, due to

the LEXIS platform allowing to make the developments accessible and affordable like never before for European industry and service players.
- Allowing European industries to rely for strategic developments on a purely European platform, independently from infrastructures and services in this sector entirely under dominance of North America or the emerging superpower of China.

4.3.1 Benefits coming out from LEXIS Platform

Benefits coming out from LEXIS are numerous, some being very specific to sectors already involved in the LEXIS project and platform (Aerospace, Weather & Climate, Earthquakes & Tsunami). These last ones will be more specifically described later on (see "Impact through Pilots related activities")

The main benefits out of LEXIS PLATFORM are:

- Fully operational at short term, based on existing top-level infrastructures, sound innovation, with the backup of world-class scientific teams, super-computing centres, industry leaders and specialists.
- Tangible performance and demonstrated value for users via the three pilots embedded in the LEXIS project (Aerospace, Weather & Climate, Earthquake & Tsunami).
- A one-stop shop where scientists and industries can find everything to cover their needs and developments:
  - Computing and data management platform (HPC/Big Data/HPDA/Cloud with an Orchestration set of tools and methods, including full accessibility via a Cloud solutions)
  - Security and Compliance
  - Data Management
  - Scientific Assistance
  - Consulting
  - Training
  - IP assistance
  - Technical Support
- LEXIS is open: Structure designed for welcoming scientific projects, Industry projects, from giant organisations to very small ones i.e. SMEs and Technical Start-ups in Europe. LEXIS is also a naturally fertile ground for cross-sectors innovation, by design.
- Scalability & Flexibility: future proof, LEXIS can adapt to new technological developments, allowing considerable extension in scope (existing and future fields, datasets – structured and not structured) and capabilities (Computing, Data Management, Orchestration ...).
- LEXIS is already designed to deliver beyond-state-of-the-art progress, and is structured to evolve keeping this forward-thinking and operational approach in its development, including beyond the end of the current LEXIS project, for the benefit of the European ecosystem.

5 IMPACT THROUGH PILOTS RELATED ACTIVITIES

In general Pilot activities span across communication, dissemination and exploitation. For this reason, their contribution to impact achievement can be evaluated against the overall dissemination, communication and exploitation strategy used in the project and presented in the previous chapters.

It is anticipated that Pilot related activities could contribute to impact achievement with articles, demos, workshops, conference attendance and by engaging stakeholders. Here below the impact strategy for each Pilot of LEXIS project.

5.1 IMPACT THROUGH AERONAUTICS PILOT

Through the LEXIS Project, Avio Aero is looking to boost and promote a step-change in how to approach design tasks of aeronautical engines' critical parts, focusing on improving physics foot-print and reducing/optimizing overall jobs' execution time.

Having more time to dedicate to component design exploration will be a key enabler to cope with design requirements and get significant benefits in terms of next-gen engines' Specific Fuel Consumption (SFC) and emissions.

This change of paradigm (more physics-based software application, real-time solutions and Big Data analysis) with the associated improvement of quality and productivity should help to raise the competitiveness level of European jet engine manufacturers.

Avio Aero will evaluate LEXIS technology in two use case scenarios that rely on numerical analysis carried out through sophisticated computer-aided engineering tools.

Aeronautical turbines test case

Accurate prediction of flow physics in Turbomachinery has been and is nowadays the subject of intensive research to achieve better engines' efficiency, stability and operability. By introducing LEXIS Technology, we expect important impacts in terms of reduced computational time (enhanced HW/SW coupling) and avoidance of bottlenecks during post-processing of the simulation results. The large amount of data (aka 'big data') produced in this test case will be used to research/identify solutions for quick data access and management in LEXIS.

Rotating parts test case

This second task will focus on the design and development of Gearboxes - a key component of Avio Aero's business. The latest Computational Fluid Dynamic techniques (CFD) will be used to simulate the rotating of mechanical parts in the presence of air and oil. This task, staying at the leading edge of numerical technology, is completely new and could significantly impact Avio Aero's new products and technologies development processes. In case of positive feedback, both design approaches and experimental investigation plans will be strongly revised (less costs with better design are envisaged).

5.2 IMPACT THROUGH WEATHER AND CLIMATE PILOT

The Weather and Climate pilot will support and simplify the execution of complex stacks of weather-related computational models. This in turn will improve the prediction of water-food-energy nexus phenomena and their associated socio-economic impacts. The proposed workflow will concern multiple model layers chained together; (1) global weather and climate models, (2) regional weather models, (3) domain-specific application models (such as hydrological, drought and fire forecasts), and (4) impact models providing information for key decision and policy makers.

This pilot results will have an impact on a number of important Institutions and public/private actors. Civil Protection Agencies will take advantage of improved prediction of natural hazards. The European Civil Protection Mechanism can potentially take advantage of pro-active triggering of satellite/aerial (manned/unmanned) observation of areas forecast to be impacted by natural hazards. This includes the proper selection of observations and data types according to the expected major damage types (e.g. wind or flood damage in the case of cyclones). Private sector entities including those in the reinsurance, food and agriculture, health, and energy sectors make use of forecast data, and can benefit from improved weather predictions. Prediction services with increased accuracy will be provided to private sector entities including in the food and agriculture, health, reinsurance, and energy sectors.

In synthesis, the Weather and Climate pilot will have a substantial positive impact on the integration between model layers through the Weather and Climate Data API, from global and regional forecasting through to application and impact models. This better integration between forecasting and impact modelling will also facilitate proactive requests for rapid mapping services in case of hazard prevision.

5.3 IMPACT THROUGH EARTHQUAKE AND TSUNAMI PILOT

The earthquake and tsunami pilot will interconnect, under real-time constraints and triggered by disaster events, best in class simulation and loss calculations on an always live exposure model. As such, its impact will be the demonstration by itself of that flow, compared to the state-of-the-art approach of both pre-computed scenarios and very approximate loss estimations coming days after the event.

In this pilot, specific activities will augment the impact by focusing on a direct to market strategy with the inaTEWS tsunami early warning system run by the BKMG government agency in Indonesia, and by establishing links during the project with external entities such as disaster relief agencies and related government agencies in Indonesia and Japan, through two workshops planned as part of the pilot activities.

The pilot, being focused on a majority of open-sourced, crowd-source data sets such as OpenStreetMap, the open source world mapping effort, it will significantly contribute to the project impact by providing open benchmarks and datasets, so as to allow external companies and partners to experiment their technologies on the benchmark.

The pilot has a significant impact activity on the scientific level; most partners in the pilot are science and research oriented, with a publication activity planned in the course of the project, as well as relations with other research projects and scientific conferences in the same space. This is already underway, with contacts with the Vestec FET-HPC project and submission of a conjoint workshop proposal for Supercomputing 2019.

6 CONCLUSION

This deliverable has put in place the impact strategy in terms of communication, dissemination, exploitation and pilot related activities fixing up the roadmap for each and the evaluation KPIs to be monitored for measuring success.

The intention of LEXIS consortium is to attend relevant and important events, disseminate at important venues with the purpose of increasing the project visibility and evangelising amongst potential end users and stakeholders.

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