LEARNING, APPLYING, MULTIPLYING BIG DATA ANALYTICS

Horizon 2020 Grant Agreement No 809965
Contract start date: July 1st 2018, Duration: 30 months

LAMBDA Deliverable 1.2
External and intra-consortium
e-collaboration tool v1

Due date of deliverable: 31/12/2018
Actual submission date: 28/12/2018

Revision: Version 1.0

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

Author(s)	Dejan Paunović (PUPIN), Valentina Janev (PUPIN)
Contributor(s)	
Internal Reviewer(s)	Sahar Vahdati (UBO)
Approval Date	
Remarks	

Workpackage	WP 1 Project Management
Responsible for WP	Institute Mihajlo Pupin
Deliverable Lead	Institute Mihajlo Pupin (Dejan Paunović)
Related Tasks	Task 1.2 e-collaboration tool establishment and maintenance

Document History and Contributions

Version	Date	Author(s)	Description
0.1	31.07.2018	Dejan Paunović	First draft
0.2	30.11.2018	Valentina Janev	Description of the contents
0.3	21.12.2018	Sahar Vahdati	Review
0.4			

Executive Summary

This deliverable presents the **LAMBDA platform** and e-collaboration tools and serves as a quick reference guide to functionalities currently available at the following link. (see https://project-lambda.org/). The platform aims at facilitating the cooperation within the consortium and with LAMBDA stakeholders in the West Balkan Region (i.e., government agencies, universities, research and development organizations, and other organizations) on topics and activities relevant for the LAMBDA project.

The web site has been divided into three main Sections:
- Public part that web pages relevant for the LAMBDA learning[1], communication and dissemination activities[2] (see Menu in the rectangle on the right upper corner);
- Private part of the platform for the members of the consortium;
- Private part of the platform for the stakeholders[3] involved in LAMBDA activities as Advisory Board members, teachers, and participants at the Big Data Analytics School.

Everybody with a valid e-mail address can register with the platform and become an *authenticated user*. The **LAMBDA platform** is based on Drupal, leading open-source content-management framework. The platform is maintained by the members of the team from the Institute Mihajlo Pupin, however each partner has a representative who is a responsible contact for the platform.

Currently (December 2018), the **Stakeholders database**[4] links to information about 30 stakeholders invited to take part in 2019 activities. More than 50 clients will be involved in LAMBDA activities until the end of the project.

The **Summer School** pages contain the draft program of the Big Data Analytics (BDA) School that will be organized by the consortium in PUPIN premises.

Currently (December 2018), the **Knowledge Repository**[5] contains (1) Abstracts of the BDA School Lectures, links to tools developed by the consortium and that can be used for experimentation and links to related projects.

---

[1] https://project-lambda.org/Learning
[2] https://project-lambda.org/Events
[3] https://project-lambda.org/Multiplying
[4] https://project-lambda.org/Stakeholders-Section
[5] https://project-lambda.org/Knowledge-reporitory

Table of contents

Abbreviations and Acronyms

CMS   Content management System

EC   European Commission

ICT   Information and Communication Technologies

R&D   Research and Development

WP   Work Package

List of Figures

1. Introduction

For easier and more effective collaboration among consortium members (e.g facilitating joined paper and deliverable writing, version management, information sharing, etc) and with stakeholders, an e-collaboration tool has been established, **LAMBDA platform**[6], that is based on the Drupal Content Management System (CMS). The platform is maintained by the members of the team from the Institute Mihajlo Pupin, however each partner has a representative who is a responsible contact for the portal.

1.1 Purpose and Scope of the Deliverable

This deliverable briefly summarizes the activities related to the development of the platform as part of the LAMBDA WP1 / WP3 / WP5 activities, and serves as a quick reference guide to functionalities currently available on the public side of the platform

The Platform's contents have been divided into three main Sections:
- Public part that web pages relevant for the LAMBDA communication and dissemination activities (see Menu in the rectangle on the right upper corner in Figure 1);
- Private Section for information sharing inside the consortium (see Menu in the red rectangle in Figure 2);
- Stakeholders Section and database that stores information about Advisory Board members and LAMBDA stakeholders from the West Balkan Region (e.g. government agencies, universities, research and development organizations, and other organizations interested in topics and activities relevant for the LAMBDA project).
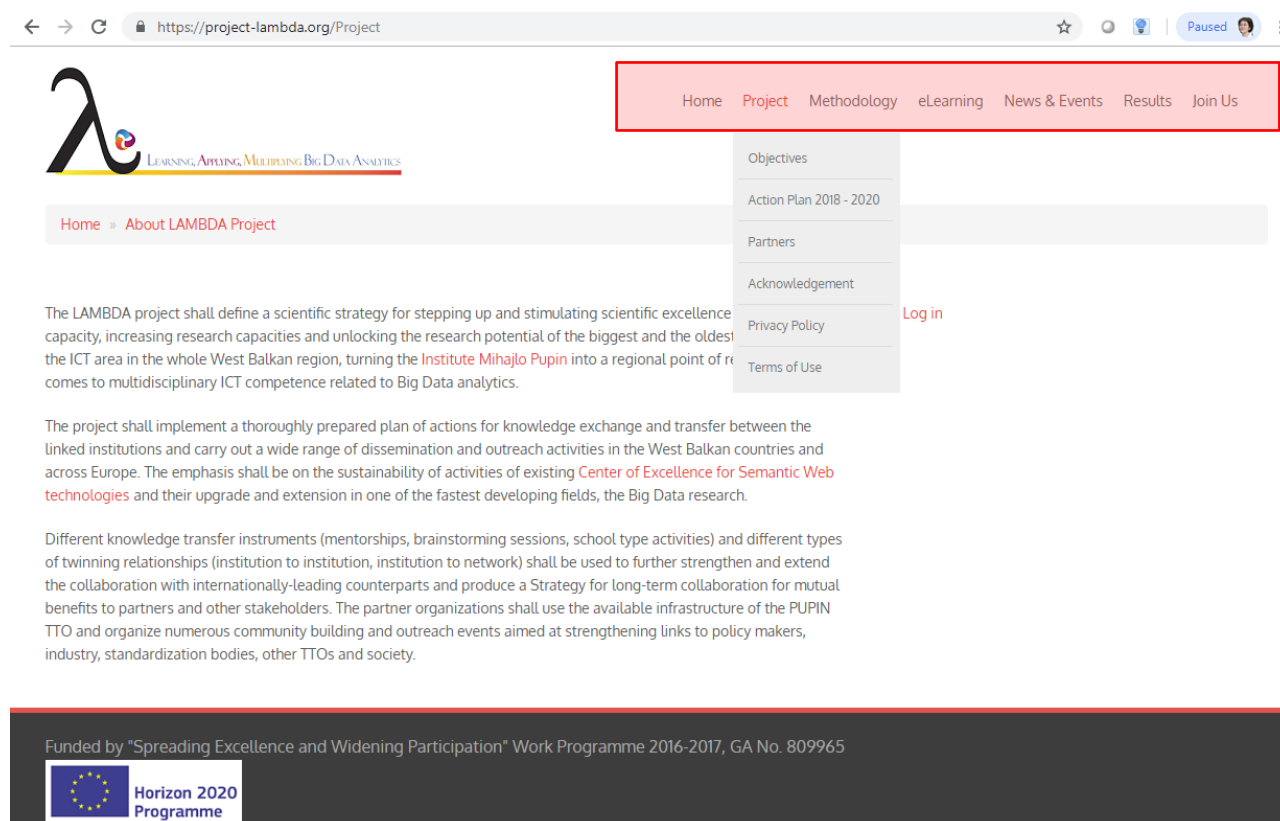

Figure 1. LAMBDA platform- Homepage

LAMBDA partners and Stakeholders have access to two additional Sub-sections:

- Big Data Analytics Summer School – with the goal to support the organization of the event and store relevant information (Agenda, reports, etc.):
- Knowledge repository – with the goal to store outputs relevant for the stakeholders (lectures, training materials, tools, related projects info).

Everybody with a valid e-mail address can register with the platform and become an *authenticated user*. Users can manage their accounts via the user menu displayed in the blue rectangle in Figure 2.
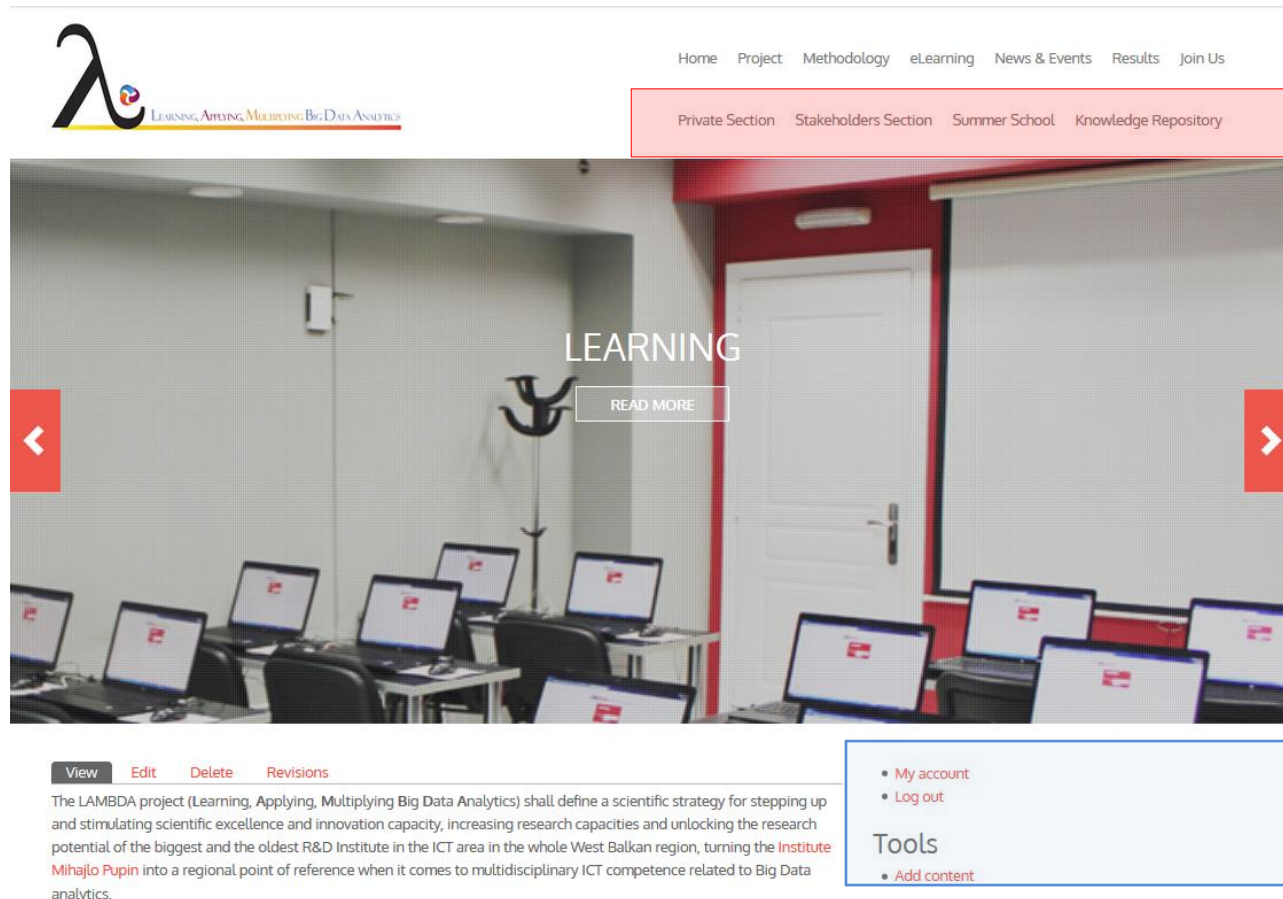

Figure 2. LAMBDA platform- visibility of Menu based on access rights

1.2 Relation to other deliverables

This deliverable is related to

1. Deliverable 1.7 Data Management Plan (DMP) outlines the strategy for data management to be applied throughout the course of the LAMBDA project, as well as the actions that will be taken after the LAMBDA project has finished.

2. Deliverable 3.1 The 'Trainers' Network' Infrastructure that describes the private part of the LAMBDA platform, link to SlideWiki.org server and Knowledge repository for storing lectures and other learning materials for intra-consortium use only and for sharing with associated partners.

3. Deliverable 5.1 Stakeholder Database that describes the work carried out in the first six months of the LAMBDA project including the process of setting up and managing the stakeholder database as a part of the private section of the LAMBDA platform (based on

the Drupal open-source CMS). Additionally it introduces the LAMBDA Network of Experts, established as a LinkedIn Group and the type of news shared within the group.

2. Open Source Content Management Systems

In order to fulfil the requirements of the web portal for the Lambda project the Open source content management systems are selected as an underlying technology. The advantages of out-of-the box creating and managing the content of the Web portal with the enough flexibility to build specific functionalities on top of them were the prevailing reasons to select them. The Open source CMSs come with no licensing fee, and are considered to be one of the most successful stories of Open source software in general.

The three well-known and widely used open source content management system (CMS) platforms are: Joomla, WordPress, and Drupal. We have selected these three tools from the plethora of other less popular. All three of these tools provide basic functionality for building and maintaining a web portal, but differ in the ways they provide them. They are all based on PHP and MySQL and offer a wide range of options to users and developers alike.

2.1 WordPress

WordPress started out as a user-friendly blogging platform. However, its popularity meant that over the years it has been massively developed and there are now thousands of themes and plugins which make it suitable to build almost any type of website. It has been used to create 27% of the world's websites and its WooCommerce plugin powers 30% of all online stores.

One of the reasons for its popularity is its ease of use. It is the easiest of the three CMS platforms mentioned and technical experience, though helpful, is not essential. Websites can be set up quickly and learning how to use the WordPress is intuitive.

WordPress contains an inbuilt editor to add text, images and video when creating content. Organising content using page menus or post/product categories is also simple, enabling visitors to find what they are looking for easily.
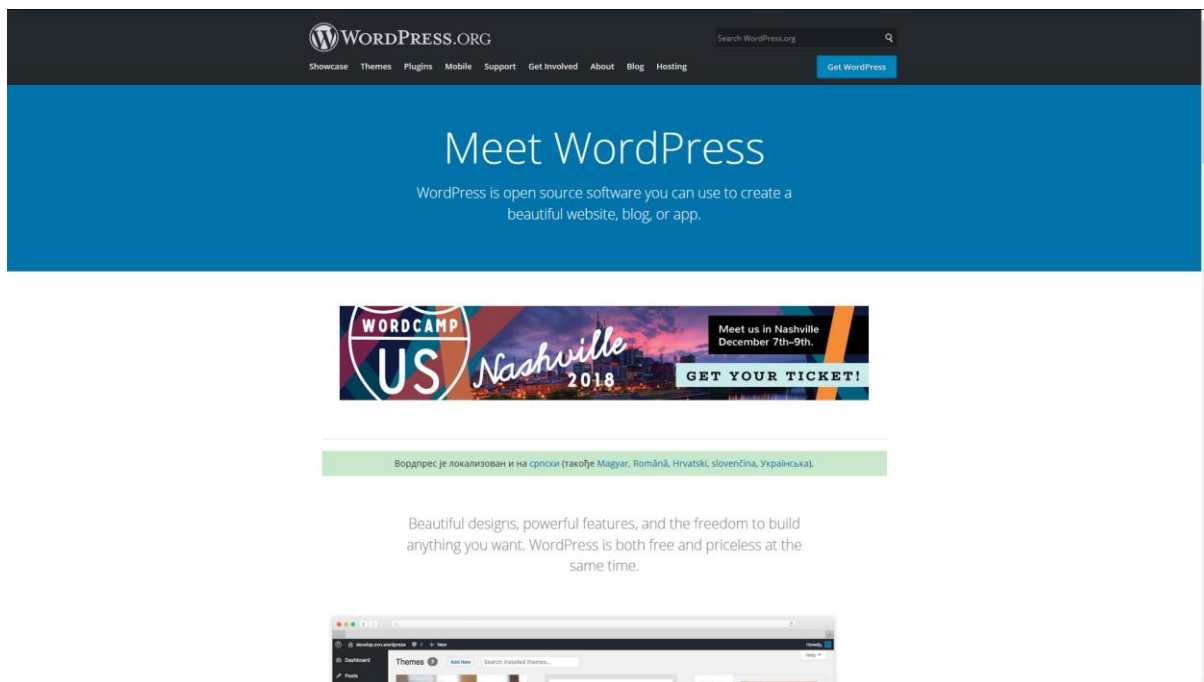
Figure 3. Example of WordPress page

Overall, WordPress is most suitable for less complex websites and for users looking for a platform that doesn't require lots of technical know-how.

2.2 Joomla

Launched in 2005, Joomla has quickly established itself as one of the leading CMS platforms and is used by millions of websites around the world. It comes with thousands of free themes and plugins enabling users to build a wide variety of different websites with customised designs and user-friendly functions.

Joomla is a little more complicated to use than WordPress and doesn't have as many themes or plugins to choose from. However, setting up a website is still relatively easy.

It's ideal for community sites with lots of registered users and for membership sites. One of its key features is the ability to create different permission levels for specific user groups, enabling limitation of user access to certain parts of the site.

Joomla is also a great platform for creating social networking sites or integrating networking features into other types of site.
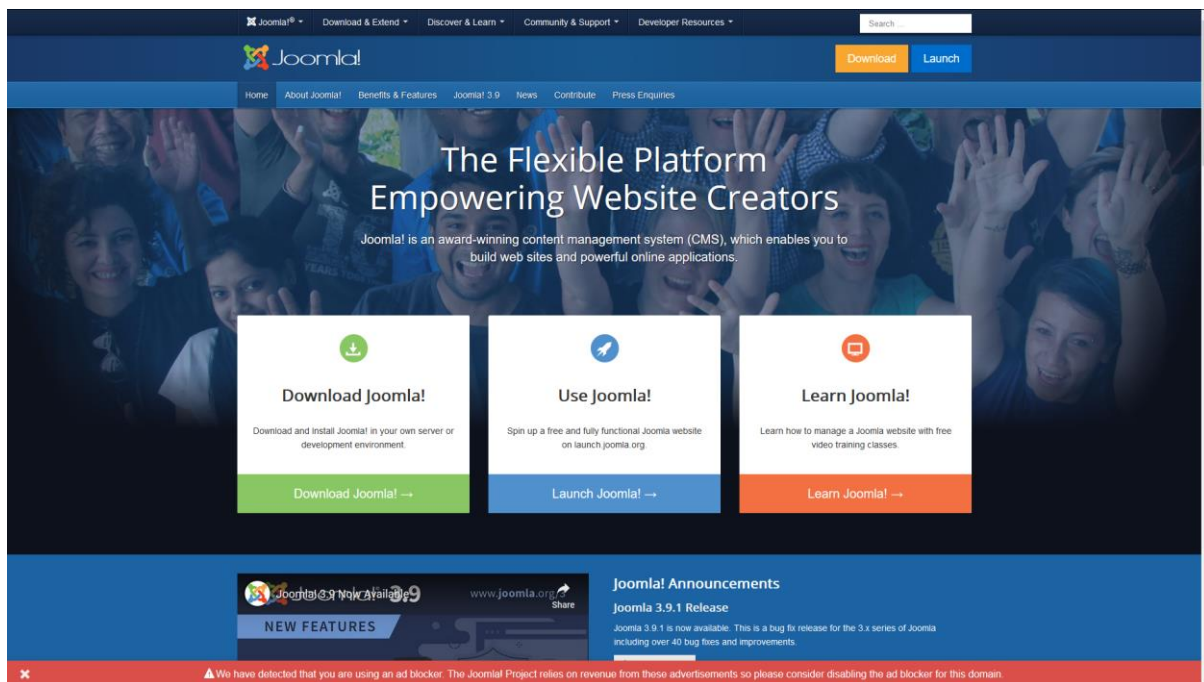
Figure 4. Example of Joomla page

Overall, Joomla lets users create websites that are structurally more flexible and which have more content than WordPress does.

2.3 Drupal

Drupal is the most powerful of the platforms mentioned here and an ideal one for creating complex websites. However, it is also one of the most complex CMS.

If a large website that processes lots of data is needed, then Drupal is the optimum choice. Often used to run university, media and government websites, it is a highly stable platform that can handle significant qualities of data much better than its competitors. It can also accommodate heavy traffic and be scaled up with little difficulty.

Drupal is also a highly versatile CMS with a huge number of modules (plugins) available to extend its functionality. Similarly, there are nearly 2,000 different themes to choose from, most of which can be customised to create stunning and unique websites. As it is an open source platform, these are constantly added to and updated.

Figure 5. Example of Drupal page

Overall, Drupal is best for building a big, powerful website but significant technical know-how is needed for managing it.

2.4 Comparison

A good CMS should be easy-to-use, SEO friendly, flexible and should offer strong security to the website. The following table shows the key differences between the three CMS systems that were compared.

	WordPress	Joomla	Drupal
Homepage	www.wordpress.org	www.joomla.org	www.drupal.org
Ease of use	Doesn't require technical experience. The interface is intuitive. A simple website can be set up in a matter of minutes.	Slightly more complex to use. Interface can seem a little intimidating for a novice user. Needs a little time investment to get familiar with the platform and the terminology.	Requires the most technical expertise out of the three. While the interface is easy when it comes to adding content, it's not so straightforward when it comes to changing appearance.
Features	- Comes with preinstalled plugin and template function - Ease-of-use - User-friendly and best for beginners and amateurs - Has over 45,000	- Can be used for Multipurpose like government applications and organizational websites - Easy to use, not too technical - There are thousands of templates and	- Comes with thousands of free modules - Very advanced - Has enterprise-grade security - Has basic and advanced features - Less resource-intensive - Has the neat code

	Plugins for almost all the functionality • Offers lots of customization options of a theme	themes available for Joomla CMS development • Can be easily migrated to any server	and exceptionally potent modules that are liked by major search engines
One-Click Install	Yes	Yes	Yes
Available Themes	2000+	1000+	1800+
Available Plugins	45000+ plugins	32000+ modules	7000+ extensions
eCommerce	Yes with WooCommerce	Yes, extensions for managing products and content	Yes, and No - Drupal 8, the latest version, does not support a stable e-commerce module yet.
SEO Friendly	Excellent SEO	Basic SEO, requires additional tweaks	Excellent SEO
Mobile Friendly	Yes	Yes	Yes
Speed	Can handle traffic well but requires better hosting plans as the traffic grows.	If not tweaked properly it can consume resources rather quickly.	Typically loads more quickly, and has faster response times than websites made with WordPress or Joomla.

Although Drupal is the 3rd most popular CMS platform among the three, after thorough analysis, we have found that it would be the most appropriate solution for the development of the Lambda portal due to the following:

1. Advanced: Drupal is technically advanced as compared to the other two and thus it provides some great features and functionality. It requires more technical expertise as well, but we have not considered that as the drawback but instead as a significant potential.

2. Secure: Drupal provides strong, enterprise-grade security to the website. Websites built with Drupal are significantly more secured as compared to the WordPress, which is why it is used in most commercial websites.

3. Customization: Drupal also have lots of themes and plugins, which makes it easily extendable and extremely versatile.

4. Community: Drupal is also an open source software having great community support.

5. Speed: Drupal is less resource-intensive and its pages typically load quicker and have faster response times than WordPress and Joomla.

2.5 Drupal Architecture

The architecture of Drupal CMS is truly modular and it consists of a few core modules and a plethora of plug-ins that can be switched on and off as required. For functionality that is missing a new plug-in can be developed. The core provides basic services which enable the modules to implement specific features as presented in the next figure.
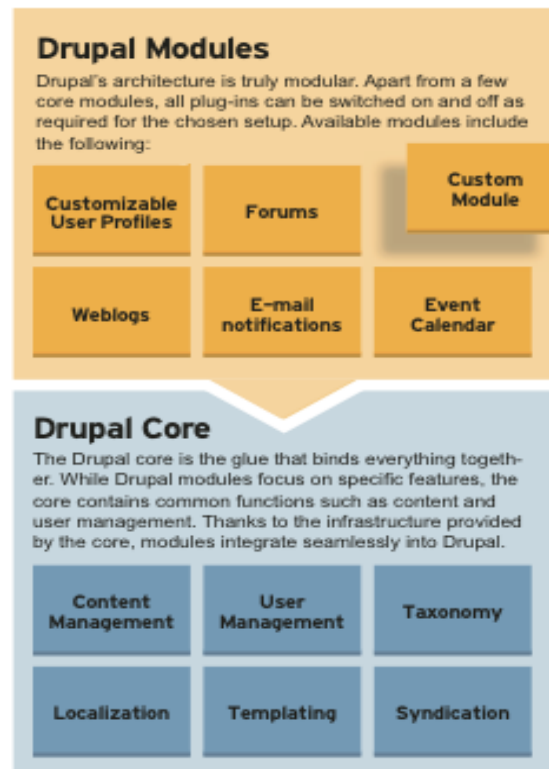
Figure 6. Modularity of Drupal architecture

The architecture is divided into several layers of abstraction which have shared responsibility. The layers are Data layer, Modules layer, Block and Menus layer, User permissions layer and Template layer as shown on the next figure.
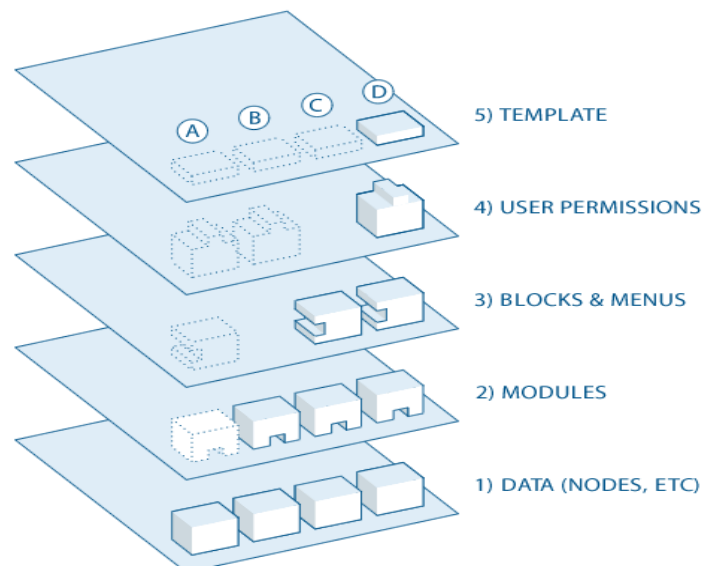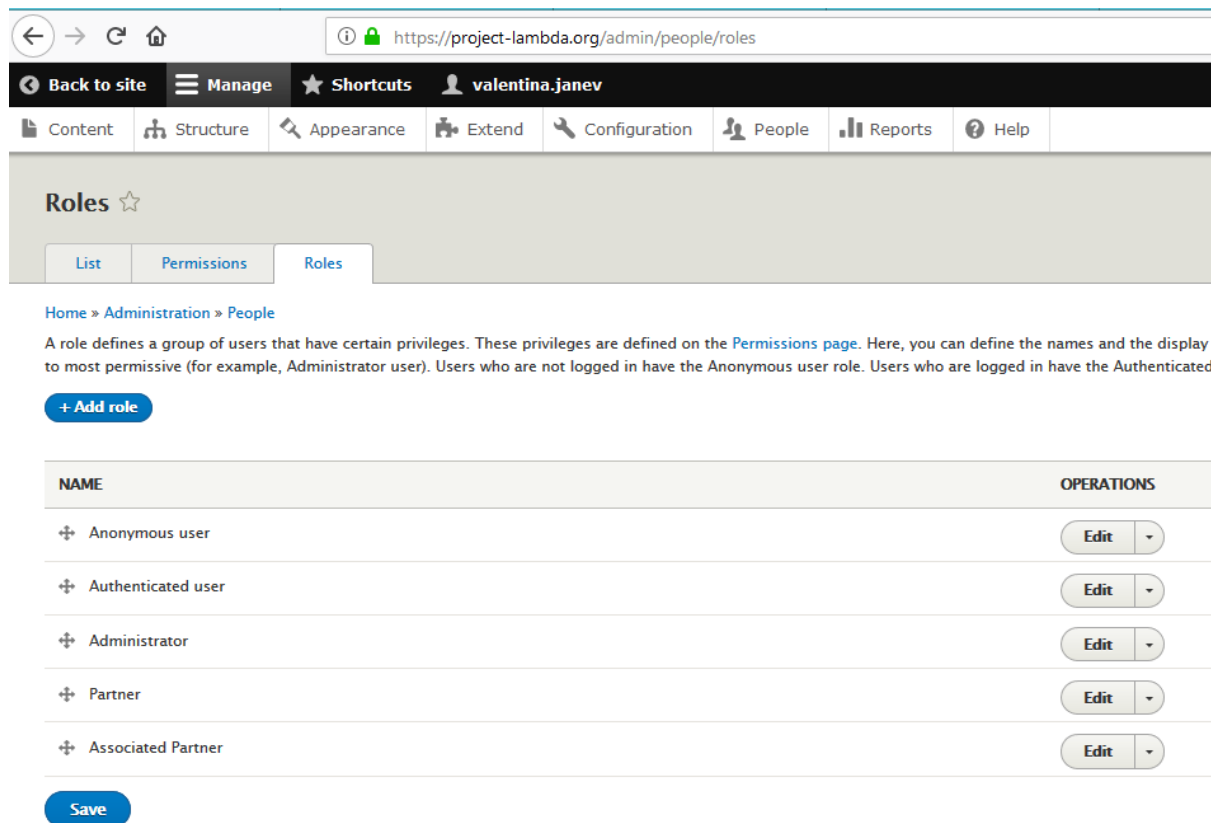

Figure 7. Drupal abstraction layers

3. LAMBDA Platform – Public site

The **LAMBDA** portal (public site) is a virtual open space which aims at promoting the activities of the consortium[7] and the LAMBDA Network of experts[8]. The **LAMBDA portal** is based on Drupal, leading open-source content-management framework. The platform is maintained by the members of the team from the Institute Mihajlo Pupin, however each partner has a representative who is a responsible contact for the **platform**.

Figure 8. Platform - User roles

3.1 User roles and permissions

The Drupal platform was configured for the needs of the future newcomers and professionals in the BDA domain. Currently, 3 different user roles have been defined:

1. *Partner*, full access to the private pages of the platform.
2. *Associated Partner*, full access to the Stakeholder database and contents in the Knowledge Repository.
3. *Administrator*, for managing the whole content management system.

Most of the contents, except the Virtual Marketplace, are public.
Note: Only users with *administrator* privileges can see the customization options presented in Figure 8.

---

[7] https://project-lambda.org/Partners
[8] https://www.linkedin.com/groups/12129621/

3.2 Overview of Contents – Public site

The main menu links to the following web pages:
- Home
- Project
  Objectives, Partners
  Action Plan 2018-2020
  Action Plan 2019
  Acknowledgement
  Privacy Policy
  Terms of Use)
- Methodology
  Learning Big Data Analytics
  Applying Big Data Analytics
  Multiplying Big Data Analytics)
- eLearning
  Link to SlideWiki
  SlideWiki Search
  SlideWiki - LAMBDA decks
  SlideWiki – Big Data contents
  LAMBDA Knowledge Repository
- News
  Announcements (e.g. Big Data Analytics School)
  Events
  Staff Exchange
  News from the LinkedIn NoE, News from Twitter)
- Results
  Lectures
  Deliverables
  Publications

3.2.1 Learning Big Data Analytics

The consortium will use the award-winning open-source SlideWiki platform (initiated and developed by the members of this consortium (IAIS and PUPIN) to create high-quality e-learning materials to be used in training and dissemination events.

The following Modules will be available via the SlideWiki platform:

- **Module 1** Enterprise Knowledge Graphs (UOXF): LAMBDA training materials will include formal conceptual frameworks for designing and maintaining knowledge graphs; such as strategies for the semiautomatic construction of such graphs from the combination of proprietary enterprise data and relevant public domain knowledge; opportunities and implications in terms of performance and access control.
- **Module 2** Semantic Big Data Architectures (IAIS/PUPIN): LAMBDA training materials will include approaches for better supporting the variety dimension of Big Data comprising RDF, RDF-Schema and OWL knowledge representation formalisms, mapping standards such as R2RML, JSON-LD and CSVW, the SPARQL query language etc. Integrating semantic and Big Data technologies can help making Big Data architectures and applications more flexible, adaptive and their implementation more efficient.
- **Module 3** Smart Data Analytics (UBO): LAMBDA training materials will include different algorithms and tools related to Distributed Semantic Analytics, Semantic Question Answering, Structured Machine Learning, Deep Learning, Software Engineering for Data Science, Semantic Data Management, Knowledge Extraction and Validation.

Teaching activities relevant for the project (University of Bonn)

Teaching activities relevant for the project (University of Oxford)

Figure 9. Platform – Link to LAMBDA Lectures

3.2.2 Applying Big Data Analytics

LAMBDA consortium will organize brainstorming sessions to discuss and critically analyze the state-of-the-art Big Data approaches for a wide range of societal challenges including energy efficiency, safety and security, smart cities, traffic management, e-Government, e-Environment, e-Health, etc.

LAMBDA researchers (professors, PhD students) will meet in small groups (in-person) and discuss solutions developed in previous projects forthe real world Big Data Analytics scenarios. The output will be used to design new innovativeproducts based on research and existing open-source tools.
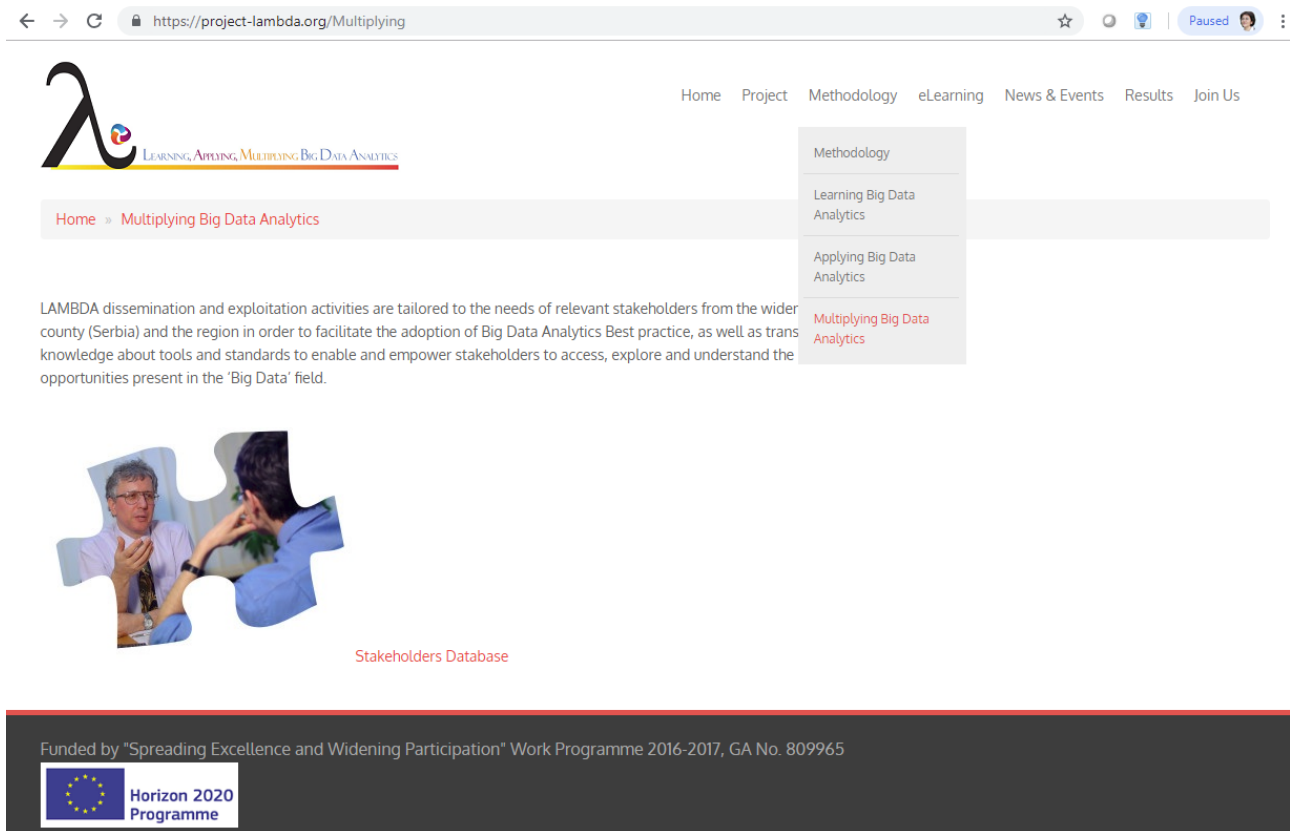
See related projects:
- Energy Management
- Safety and Security
- Environment and Resource Efficiency
- Inclusive societies and e-Government

Figure 10. Platform – Link to Related Projects

3.2.3 Multiplying Big Data Analytics

Figure 11. Platform – Link to Stakeholders Database

LAMBDA dissemination and exploitation activities are tailored to the needs of relevant stakeholders from the widening county (Serbia) and the region in order to facilitate the adoption of Big Data Analytics Best practice, as well as transfer knowledge about tools and standards to enable and empower stakeholders to access, explore and understand the opportunities present in the 'Big Data' field. Link to Stakeholders database.

4. LAMBDA Platform – Private site

Currently (December 2018), the **Stakeholders database** links to information about 30 stakeholders invited to take part in 2019 activities. More than 50 clients will be involved in LAMBDA activities until the end of the project.

The **Summer School** page contains the draft program of the Big Data Analytics (BDA) School that will be organized by the consortium in PUPIN premises.

Currently (December 2018), the **Knowledge Repository** contains (1) Abstracts of the BDA School Lectures, links to tools developed by the consortium and that can be used for experimentation and links to related projects.

In the private part of the portal, the LAMBDA partners are enabled to add content with initial certain rights. A form-based method is used to facilitate the content import.
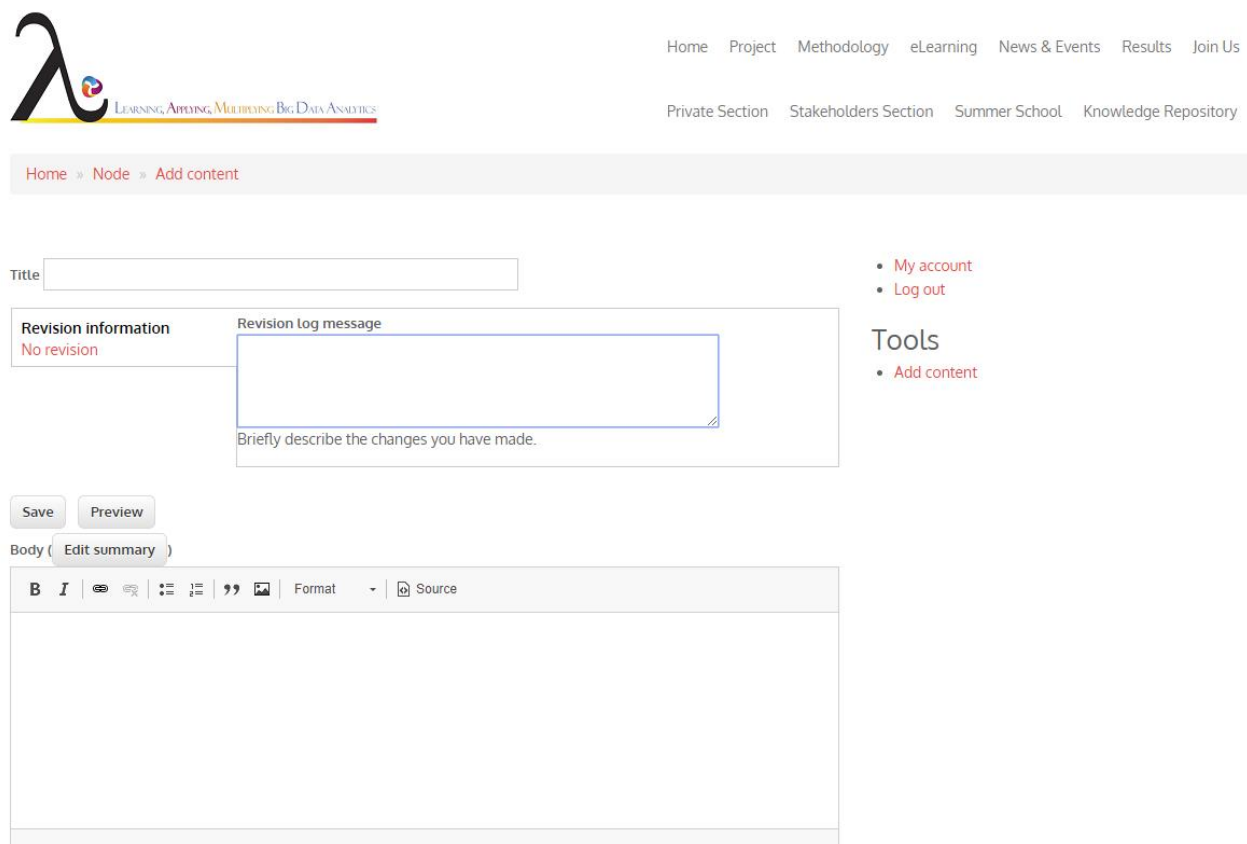
Figure 12. Platform – front-end edits of the content

Furthermore, the already existing content of the pages are editable through the user interface. This option is facilitated for the internal users and project partners.

Figure 13. Platform - content edition from UI

Figure 14. Platform – revision content edition

The revision of the edits is automatically provided for tracking the changes.

5. Platform Information Architecture

The platform is a set of web pages that could contain many types of content[9], such as informational pages (articles), news items, company pages, etc.

---

[9] https://danube-goes-circular.eu/#overlay=%3Fq%3Dadmin%252Fstructure%252Ftypes

Figure 15. Platform - content types

Figure 16. Platform - content type – R&D organization

Example: In order to structure the information, each content type is described with a set of attributes, for instance, R&D organization is described with the following fields, see also Figure

6. Data Protection Issues

The consortium members agree to carry out this project in accordance with Data Protection Regulations and will comply with data protection acts, directives, and opinions, both at European and at National level, including:

- the General Data Protection Regulation 2016/679;
- the Charter of Fundamental Rights of the EU, specifically the article concerning the protection of personal data;
- and the opinions of the European Group on Ethics in Science and New Technologies in their report "Citizens Rights and New Technologies: A European Challenge" on the Charter on Fundamental Rights related to technological innovation.

During the course of this project, consortium members will take all the necessary steps to ensure that all participants understand the objectives of this project and the processes employed during LAMBDA to achieve them. All beneficiaries will follow local and national regulations regarding data protection and, in the event that the handling of potentially sensitive data becomes a requirement, they will seek to obtain approval from the relevant local/national authority in charge of data protection.

For the need of the project two public pages have been created. At registration, the LAMBDA user has to give consent to
- the Terms of Use
- the LAMBDA Privacy Policy

6.1 Terms of Use

The **Terms of Use** document was defined by the PUPIN Legal Department and controled by other LAMBDA partners from Germany and UK. The text of the document is included in this documentation.

This is a human-readable **summary** of the Terms of Use for LAMBDA Platform.

Disclaimer: This summary is not a legal document. It is simply a handy reference for understanding the full terms. Think of it as the user-friendly interface to the legal language of our Terms of Use. By registering with the LAMBDA platform you will give consent for your data to be stored in LAMBDA database and processed for the purposes of the LAMBDA project. Please, visit also the Privacy Policy page.

Registered users are free to:

- **Create** a profile of their company and **Use** the possibilities of the **LAMBDA Tools** for networking.
- Re-use the **LAMBDA Learning materials**.

Under the following conditions

- **Responsibility** – You take responsibility for your edits (since we only *host* your content).
- **Civility** – You support a civil environment and do not harass other users.
- **Lawful behaviour** – You do not violate copyright or other laws.
- **No Harm** – You do not harm our technology infrastructure.
- **Terms of Use and Policies** – You adhere to the Terms of Use and to the applicable community policies when you visit our sites or participate in our communities.

With the understanding that

- This service may contain **translations** powered by third party services. Selecting to use the translate service will result in data being sent to third-party services. We disclaims all warranties related to the

---

translations, expressed or implied, including any warranties of accuracy, reliability, and any implied warranties of merchantability, fitness for a particular purpose and noninfringement.
- **You license freely your contributions;** the contents (images) you upload will be is in the public domain.

Refraining from Certain Activities

We reserve the rights to remove content that we consider to be inappropriate, offensive or spam. Certain activities, whether legal or illegal, may be harmful to other users and violate our rules, and some activities may also subject you to liability. Therefore, for your own protection and for that of other users, you may not engage in such activities on our sites.

These activities include:

Harassing and Abusing Others

- Engaging in harassment, threats, stalking, spamming, or vandalism; and
- Transmitting chain mail, junk mail, or spam to other users.

Violating the Privacy of Others

- Infringing the privacy rights of others under the EU General Data Protection Regulation (GDPR) or other applicable laws (which may include the laws where you live or where you view or edit content); The EU GDPR Regulation aims to strengthen the rights of individuals to manage personal data held on them.
- Soliciting personally identifiable information for purposes of harassment, exploitation, violation of privacy, or any promotional or commercial purpose not explicitly approved by the project; and
- Soliciting personally identifiable information from anyone under the age of 18 for an illegal purpose or violating any applicable law regarding the health or well-being of minors.

Engaging in False Statements, Impersonation, or Fraud

- Intentionally or knowingly posting content that constitutes libel or defamation;
- With the intent to deceive, posting content that is false or inaccurate;
- Attempting to impersonate another user or individual, misrepresenting your affiliation with any individual or entity, or using the username of another user with the intent to deceive; and
- Engaging in fraud.

Committing Infringement

- Infringing copyrights, trademarks, patents, or other proprietary rights under applicable law.

Misusing Our Services for Other Illegal Purposes

- Posting child pornography or any other content that violates applicable law concerning child pornography;
- Posting or trafficking in obscene material that is unlawful under applicable law; and
- Using the services in a manner that is inconsistent with applicable law.

Engaging in Disruptive and Illegal Misuse of Facilities

- Posting or distributing content that contains any viruses, malware, worms, Trojan horses, malicious code, or other device that could harm our technical infrastructure or system or that of our users;
- Engaging in automated uses of the site that are abusive or disruptive of the services and have not been approved by the project community;
- Disrupting the services by placing an undue burden on a project website or the networks or servers connected with a project website;
- Disrupting the services by inundating any of the project websites with communications or other traffic

that suggests no serious intent to use the project website for its stated purpose;

- Knowingly accessing, tampering with, or using any of our non-public areas in our computer systems without authorization; and
- Probing, scanning, or testing the vulnerability of any of our technical systems or networks unless all the following conditions are met:
    - o such actions do not unduly abuse or disrupt our technical systems or networks;
    - o such actions are not for personal gain (except for credit for your work);
    - o you report any vulnerabilities to project's developers (or fix it yourself); and
    - o you do not undertake such actions with malicious or destructive intent.

6.2 Privacy Policy

This Policy (together with our Terms Of Use and any other documents referred to on it) sets out the basis on which any personal data we collect from you, or that you provide to us, will be processed by us. Please read the following carefully to understand our views and practices regarding your personal data and how we will treat it.

Information We May Collect From You

We may collect and process **Information/Contents you give us** or you upload to the platform. You may give us information about you by filling in forms on our site. This includes information you provide when you register to use our site, subscribe to our service, or participate in Ideas & Discussions section on the private part of the portal. The information you give us may include your name, e-mail address, images of the material to be promoted via the LAMBDA Network. Your personal data and all contents uploaded by you will be stored in the LAMBDA database maintained by the Institute Mihajlo Pupin.

Uses Made of The Information

We use information held about you in the following ways:

- to carry out our obligations arising from the LAMBDA project;
- to provide you with information about the LAMBDA project;
- to allow you to participate in interactive features of our service, when you choose to do so; to provide you, or permit other registered users to receive information as a result of subscription to the LAMBDA content and/or match-making functionalities of the LAMBDA platform.

Your Rights

At any time, you have the right to request from the administrator: the access to your personal data, change, deletion or restriction of data processing and data transfer rights, or to file an objection to data processing. You also have the right to withdraw your consent and the right to receive a copy of your personal data that are being processed. You can accomplish all of these rights by sending a request to the data administrator via email address: dejan.paunovic@pupin.rs.

You have the right to ask us not to process your personal data for marketing purposes. We will usually inform you (before collecting your data) if we intend to use your data for such purposes. You have the possibility to manage your User profile and delete your profile at any time.

Our site may, from time to time, contain links to and from the websites of our partner networks, advertisers and affiliates. If you follow a link to any of these websites, please note that these websites have their own privacy policies and that we do not accept any responsibility or liability for these policies. Please check these policies before you submit any personal data to these websites.

In the case of unauthorized data processing, you have all rights from the General Data Protection Regulation, GDPR, (EU citizens) and Law on personal data protection (citizens of the Republic of Serbia), whose application is supervised by the Commissioner for information of public importance and personal data protection (via email: **office@poverenik.rs**).

Changes to our Privacy Policy

Any changes we may make to our privacy policy in the future will be posted on this page and, where appropriate, notified to you by e-mail. Please check back frequently to see any updates or changes to our privacy policy.

Contact

Questions, comments and requests regarding this privacy policy are welcomed and should be addressed to info@pupin.rs

7. Conclusion

Task 1.2 e-collaboration tool establishment and maintenance [M01-M30l] include activities related to
- the launch of the LAMBDA Website (month 1),
- the establishment and maintenance intra-consortium e-collaboration tool (using Drupal open-source CMS).
- sustaining project activities for at least five years (5) after the end of the project as part of the PUPIN TTO activities.

This deliverable briefly summarizes the activities related to the development of the platform and serves as a quick reference guide to functionalities currently available on the public side of the platform by month six. The next report D1.3 (month 30) will present the final version of the LAMBDA e- e-collaboration tools.