



Co-funded by the Erasmus+ Programme of the European Union

Internal Report No. 4

Zoran Kalinic, University of Kragujevac, Serbia, zkalinic@kg.ac.rs Vladimir Rankovic, University of Kragujevac, Serbia, vladimir.rankovich@gmail.com Mirko Savic, University of Novi Sad, Serbia, mirkosavic69@gmail.com Laslo Seres, University of Novi Sad, Serbia, laslo.seres@ef.uns.ac.rs Vladan Devedzic, University of Belgrade, Serbia, devedzic@gmail.com Zorica Stanimirovic, University of Belgrade, Serbia, zoricast@matf.bg.ac.rs Vesna Jankovic-Milic, University of Nis, Serbia, vesna.jankovic-milic@eknfak.ni.ac.rs Jelena Stankovic, University of Nis, Serbia, jelena.stankovic@eknfak.ni.ac.rs Ronald Hochreiter, WU, Vienna, Austria, Ronald.Hochreiter@wu.ac.at Laura Vana, WU, Vienna, Austria, laura.vana@wu.ac.at Contacts: Rachid Chelouah, EISTI, Cergy, France, rc@eisti.eu Maria Malek, EISTI, Cergy, France, maria.malek@eisti.fr Gianluca Cubadda, University of Rome Tor Vergata, Italy, gianluca.cubadda@uniroma2.it Luca Gnan, University of Rome Tor Vergata, Italy, luca.gnan@uniroma2.it Federica Corrente, University of Rome Tor Vergata, Italy, federica.corrente@uniroma2.it Josep Maria Salanova Grau, CERTH, Thessaloniki, Greece, jose@certh.gr Jason Papathanasiou, CERTH, Thessaloniki, Greece, jason.papathanasiou@gmail.com Jelena Bulatović, SAM, Serbia, jelena.bulatovic@sam.org.rs Danijela Rakić, SAM, Serbia, danijela.rakic@sam.org.rs

Project acronym:	ADA
Project full title:	Advanced Data Analytics in Business
Project No:	598829-EPP-1-2018-1-RS-EPPKA2-CBHE-JP
Funding scheme:	ERASMUS+
Project start date:	November 15, 2018
Project duration:	36 months

Abstract	This report is joint Internal Report No. 4, i.e. the report of quality control and monitoring of the ADA project, for the period from 15 November 2020 until 15 February 2021 and it is a result of the activity 5.3 Internal Project Control and Monitoring. It consists of the internal quality reports of each project partner as well as a summary of all activities during
	reporting period.

Title of document:	Internal Report No. 4
Work package:	WP5: Quality Control and Monitoring
Activity:	5.3 Internal Project Control and Monitoring
Last version date:	15/02/2021
File name:	Internal Report No. 4.pdf
Number of pages:	23
Dissemination level:	Consortium

VERSIONING AND CONTRIBUTION HISTORY

Version	Date	Revision description	Partner responsible
1.0	15/02/2021	Creation of document	UNIKG

DISCLAIMER

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Contents

Internal Report No. 4 - Summary	1
ANNEXES	3
University of Novi Sad (UNS)	4
University of Belgrade (UB)	6
University of Nis (UNI)	9
University of Kragujevac (UNIKG)	11
Vienna University of Economics and Business Administration (WU)	14
Graduate School in Computer Science and Mathematics Engineering (EISTI)	16
University of Rome Tor Vergata (UNITOV)	
Centre for Research and Technology Hellas (CERTH)	20
Serbian Association of Managers (SAM)	22



Internal Report No. 4 - Summary

This Report represents fourth periodical report of quality control and monitoring of the ADA project, scheduled by WorkPlan from the Project Application. The Report covers period from 15 November 2020 until 15 February 2021 and it is an output of the project activity 5.3 Internal Project Control and Monitoring. Each ADA project partner prepared its own internal report, with more details about the activities, experienced problems and measures taken by each partner and all these reports are presented in the Annexes section.

Still present COVID-19 pandemic heavily influences many ADA project activities. The accreditation of new master study programs in advanced data analytics at three Serbian HEI partners is one of the key outcomes of the ADA project. But, due to COVID-19 pandemic, administrative obstacles and long accreditation process in Serbia, the accreditation of new master study programs at all three Serbian HEI partners (UNS, UB and UNI) is not finished yet. UNS is in the final phase of accreditation (UNS resolved minor deficiencies in its application and it is expected that official representatives of NAT will soon visit this institution). UB and UNI are still working on accreditation documentation and its adoption on University bodies, and it is to be expected that during following period they will complete the documentation and submit it to the officials for accreditation. Forth Serbian HEI partner, UNIKG, already accredited new study program (which includes new courses developed under ADA project), and enrolled first students to these courses in October 2020.



On December 5, 2020, UB successfully organized online Workshop on teaching methodology, during which ADA project partners presented and discussed their experiences in teaching advanced data analytics courses. In addition, UB prepared a Guide in methodology, which is published at project web-site.

All planned travels and study visits are still postponed, due to on-going COVID-19 pandemic, and ADA project team members continued to communicate and work online. The selected professors at all ADA project partners worked on preparation of teaching materials for the study programs and courses developed under ADA project, including LLL courses for professionals.

In the next period, an organization of online Steering Committee meeting is planned. During this meeting, the representative of each ADA project partner will report the performed activities and experienced problems at each partner and activity plan for the future period will be discussed and adopted. In addition, ADA project team will start to work on preparation and implementation of first round of LLL courses, as planned by the Project Application. Finally, Project Coordinator will ask authorities from Brussels to extend the project duration (without additional funding), in order to finish all postponed project activities.



ANNEXES

Internal report No. 4

- University of Novi Sad, Serbia
- University of Belgrade, Serbia
- University of Niš, Serbia
- University of Kragujevac, Serbia
- Vienna University of Economics and Business, Austria
- Graduate School in Computer Science and Mathematics Engineering, Cergy, France
- University of Rome Tor Vergata, Italy
- Centre for Research and Technology Hellas, Greece
- Serbian Association of Managers, Serbia







Project partner	University of Novi Sad (UNS)
Reporting period	15.11.2020 – 15.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	On December 2020 we have got the letter from NAT to improve the accreditation material. The improved version of accreditation material was set
	to NAT in January 2021. We are expecting the visit from NAT on March 25 th .
Have you experienced any problems or deviations from the plan and schedule (and which)?	Study program of UNS has been submitted for accreditation in June 2020, but we still don't know the outcome.
(explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	Since the final outcome of the accreditation will be after March 2021, the start of the program will be postponed for October 2022.
Measures undertaken to overcome problems and shortcomings:	
Suggestions for other partners and for future period (if any):	-











Activities planned for the following reporting period:	Waiting for the possibility to organize the rest of study visits after Covid 19 crisis is over. Waiting for the outcome of accreditation procedure. Preparation for LLL courses.					
Estimated degree of realisation of the WP	WP1 Development of a new program in Advance Data Analytics in Business					Data
activities (from LFM matrix of project proposal) for	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
which project partner is responsible for (to be filled only by project	1.1 Analysis of best practice and comparative analysis					х
partners leading work package):	1.2 Learning outcomes and competencies					х
	1.3 Program, modules, syllabi of all courses and ECTS					x
	WP6 Management of the project					
	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
	6.1 Project coordination meetings				х	
	6.2 Efficient overall project management				Х	
	6.3 Efficient local project management				Х	
	6.4 Interim Report (IR) and Final Report (FR)			х		
Prepared by:	Mirko Savić					
Date of reporting:	15/02/2021					







Project partner	University of Belgrade (UB)
Reporting period	15.11.2020 – 15.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	WP2.2 Organization of workshop in Serbia on teaching methodology in advanced data analytics
	Workshop on teaching methodology was successfully organized online, on December 5, 2020, by the University of Belgrade.
	WP2.3 Preparation of the Guide in methodology
	The ADA guide in methodology for teaching advanced data analytics has been developed and published on the project Website. The guide has been developed jointly by UB and UNS.
	WP2.5 Preparation of the courses and teaching material
	As in the <u>previous reporting period</u> , UB has continued to prepare for the new master study program, in terms of modifying some of the intended topics to cover in specific courses. Changes have been introduced in the study program in a couple of courses, due to the problems with participation of some of the teachers, reported in the previous reports.
	WP2.7 Preparations for accreditation of the new study programs
	See the next section.









Have you experienced any problems or deviations from the plan and schedule (and which)?	Yes. WP2.7 Preparations for accreditation of the new study programs The administrative activities that have been blocking the
(explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	accreditation of the new study program throughout the last academic year and the first half of the ongoing academic year are not over yet. Recent troubles of the UB management affect the accreditation process as well, although the ADA UB team hoped to submit the program for accreditation in the past months.
Measures undertaken to overcome problems and shortcomings:	Continuous attempts to get in touch with relevant people. No results yet.
Suggestions for other partners and for future period (if any):	The same as in the <u>previous reporting period</u> : to ask the funding agency for a 1-year extension of the project lifetime, without extra funding, in order to complete the accreditation process.
Activities planned for the following reporting period:	There is no point in strict planning – administration is much too inefficient and enigmatically unpredictable.
	Having said that, the plans are to try to complete the administrative procedures and submit the program for accreditation, as well as to install the rest of the equipment procured in August 2020.













Estimated degree of	WP2 Preparations for	or imple	ementat	ion of n	ew mas	ter
realisation of the WP	program					
activities (from LFM matrix	program					
,		0%-	20%-	40%-	60%-	80%-
of project proposal) for	Activity	20%	40%	60%	80%	100%
which project partner is	WP2.1 Purchase	2070	4070	0070	0070	10070
responsible for						Х
	of equipment WP2.2					
(to be filled only by project						
partners leading work	Organization of					
package):	workshop in					V
	Serbia on teaching					X
	methodology in advanced data					
	analytics WP2.3 Preparation					
	of the Guide in					x
						^
	methodology					
	WP2.4 Study visits of staff from Serbia		х			
	to EU		^			
	WP2.5 Preparation					
	of the courses and					x
	teaching material					^
	WP2.6 Preparation					
	of the LLL program			Х		
	WP2.7					
	Preparations for					
	accreditation of the					x
	new study					^
	programs					
	WP2.8					
	Development of					
	the ADA project					Х
	booklet					
Prepared by:	Vladan Devedžić	1				
	15.02.2021					
Date of reporting:	15.02.2021					







Project partner	University of Nis (UNI)
Reporting period	15.11.2020 – 15.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	 All necessary equipment for realization of master program was purchased and put to use. All researchers attended the online Workshop on teaching methodology, organized by the University of Belgrade in December 2020; In accordance with the legal documents related to the conditions and manner of engaging visiting professors at the University of Nis, the reports necessary to obtain approval for their engagement have been prepared.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	According to the plan, activity 3.1. Accreditation of the master study program was meant to be realized in the period between October 2019 and the end of March 2020, but due to Covid-19 pandemic and transitions to a new mode of operation at universities, all activities have been postponed.
Measures undertaken to overcome problems and shortcomings:	Any measures to overcome current problems related to accreditation procedure are out of the UNI control due to the uncertainty of the COVID-19 situation. All universities in Serbia, who are project partners, operate by strict government guidelines.



















Suggestions for other partners and for future period (if any):						
Activities planned for the following reporting period:	Documentation has be the standards for acceleration that the study progra National Accreditation Having in mind the rec is expected that the end ADA in Business man October 2021.	reditatio ramme Body cent dev enrolme	on of th will b (NAT) a velopm ent of th	e study e subr as soor ent of tl ne first	/ progra nitted n as po he situa genera	am, so to the ssible. ation, it tion at
Estimated degree of	WP3 Implementation	of the p	rogram	l		
realisation of the WP activities (from LFM matrix	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	3.1 Accreditation of master study program				х	
	3.2 New master program implemented	x				
	3.3 New LLL program implemented	x				
	3.4 Report on feedback and final analysis	x				
Prepared by:	Vesna Janković-Milić					
Date of reporting:	15.02.2021.					







Project partner	University of Kragujevac (UNIKG)
Reporting period	15.11.2020 – 15.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	Due to on-going COVID-19 pandemic, all planned mobilities are still postponed. So, in the reporting period, UNIKG team members worked on preparation of teaching materials for new courses developed under ADA project. In addition, the lectures on the one of the newly accredited courses (Machine Learning) already were taught during this period at the Faculty of Economics, UNIKG, at new master program Artificial Intelligence in Business.
	Several UNIKG team members were present during online Workshop on teaching methodology, organized by University of Belgrade on December, 5, 2020, and our representative also had a presentation of UNIKG experiences in teaching advanced data analytics courses.
	Finally, UNIKG continually worked on coordination of work in WP4 and WP5, which it leads. In the reporting period, UNIKG representatives maintained project website, and also coordinated preparation of Internal Report No. 4.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation	As already said, COVID-19 pandemic caused postponing of planned mobilites. Other activities at UNIKG were performed as scheduled.



















	1						
of the impact on other tasks, available resources and the overall planning)							
Measures undertaken to overcome problems and shortcomings:	-						
Suggestions for other partners and for future period (if any):	No						
Activities planned for the following reporting period:	Due to COVID-19 problems, it is hard to predict how what will be possible to do in the next period. UNIK use online communication with all project partners.				(G will		
	UNIKG will coordinate courses. First round is					LL	
	In addition, as a Leader if WP4 and WP5, UNI continue to coordinate the activities in these W Packages, and to maintain project website and profile.				e Work	Work	
Estimated degree of	WP4 Dissemination ar	nd expl	oitation	of proj	ect res	ults	
realisation of the WP activities (from LFM matrix of project proposal) for	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%	
which project proposal) for responsible for (to be filled only by project	4.1 Set-up Dissemination and exploitation plan					х	
partners leading work package):	4.2 Design of project visual identity					Х	
	4.3 Design and setup of project web site					х	
	4.4 Raising awareness for ADA				х		
	4.5 Final Conference	x					

















	WP5 Quality control and monitoring					
	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
	5.1 Defining plan for project quality control					х
	5.2 Defining metrics for ADA					х
	5.3 Internal project control and monitoring				х	
	5.4 External evaluation	х				
Prepared by:	Zoran Kalinić					
Date of reporting:	15.02.2021					







Project partner	Vienna University of Economics and Business Administration (WU)
Reporting period	15.11.2020 – 15.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	WU continued to develop programs for the Data Science Bachelor specialization as well as dedicated programs for LLL always with the ADA project in mind.
	During Winter 2020 Ronald Hochreiter at WU delivers Bachelor lectures on Data Science II (Data Analytics) and Data Science V (Data Science Lab), which require a continuous development of content which is also relevant for various ADA courses.
	Regarding LLL courses, Ronald Hochreiter is now the co-leader of the Executive Academy program on Data Science, which is an important part of the new professional MBA on Digital Transformation and Data Science.
	Furthermore, Ronald Hochreiter held a special session on Data Analytics for Law Tech for the LL.M. DigiTax program.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	Due to Corona the cooperation with other partners was unfortunately limited, but a successful joint workshop (online) was undertaken on December 7 th , 2020. Partner WU (Ronald Hochreiter) held a talk.





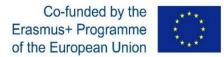




Measures undertaken to overcome problems and shortcomings:	WU representatives worked as much as it was possible under given circumstances, mainly online.			sible		
Suggestions for other partners and for future period (if any):	No					
Activities planned for the following reporting period:	Continuation of the de on Bachelor, Master a improving the lectures Academy.	and LLL	level b	y contir	nuously	
Estimated degree of	WP					
realisation of the WP activities (from LFM matrix of project proposal) for	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
which project partner is						
responsible for						
(to be filled only by project partners leading work						
package):						
Prepared by:	AssocProf. PD Dr. Ronald Hochreiter					
Date of reporting:	15/02/2021					







Project partner	Graduate School in Computer Science and Mathematics Engineering (EISTI)
Reporting period	15.11.2020 – 15.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	Because of COVID-19 pandemic, no management meetings and study visits organized in Erasmus+ ADA project. During the period covered by this report, professors of EISTI worked on preparation of lectures which they will teach at Serbian universities, after new study programs accreditation and enrollment.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	Corona virus outbreak caused another postponement of study visit of ADA consortium to EISTI, planned for this period. We hope that this visit will be realized after the situation improves.







Measures undertaken to overcome problems and shortcomings:	N/A					
Suggestions for other partners and for future period (if any):	N/A					
Activities planned for the following reporting period:	In the following period continue to work on th Serbian students withi In addition, we hope th we will be able to orga of 2021.	e prepa n the A nat if C0	aration DA pro OVID-1	of lectu ject. 9 pand	res for emic er	nds,
Estimated degree of realisation of the WP	WP					
activities (from LFM matrix of project proposal) for	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
which project partner is						
responsible for (to be filled only by project						
partners leading work						
package):						
Prepared by:	Maria Malek					
Date of reporting:	15/02/2021					







Project partner	University of Roma Ter Vergeta (UNITO)()
Reporting period	University of Rome Tor Vergata (UNITOV) 15.11.2020 – 15.02.2021
	13.11.2020 - 13.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	Our professors involved in the project worked prepared teaching materials and presentations to be delivered to students to be enrolled in new master study programs in Serbia. Prof Bianchi, one of the professors of the board, was involved in presenting the teaching methodologies implemented at the Master in Big Data in Business of the University of Rome Tor Vergata during the online meeting held in December 2020 organized by University of Belgrade.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	Unfortunately, due to the Covid-19 Health Emergency we could not proceed as expected with the implementation of the project. We wish for a positive contribution online and in presence, as the pandemic situation in Italy is slightly getting better due to the vaccination.









Measures undertaken to overcome problems and shortcomings:	Online meetings are helping during this period, but the preferable solution is to have meetings in presence.					
Suggestions for other partners and for future period (if any):	Our University is implementing blended modalities (both online and in presence) for lectures and seminars. We could propose to have meetings in presence with a reduced number of participants and respecting social distancing.					
Activities planned for the following reporting period:	We are looking for ins which are deciding ac health emergency situ	cording			•	
Estimated degree of	WP					
realisation of the WP activities (from LFM matrix of project proposal) for	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
which project partner is responsible for (to be filled only by project partners leading work						
package): Prepared by:	Federica Corrente					
Date of reporting:	15/02/2021					







Project partner	Centre for Research and Technology Hellas (CERTH)
Reporting period	15.11.2020 – 15.02.2021
Description of all activities realised by project partner during reporting period and achieved results:	Preparation of the teaching material and planning of the teaching lessons to be executed by the CERTH participants. CERTH has selected the professors to teach to students to be enrolled in new master study programs in Serbia (Jason Papathanasiou and Loukas Tsironis) and prepared a presentation and participated in the online Workshop on teaching methodology on December 2020, organized by the University of Belgrade. CERTH finally prepared the material for the LLL courses.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	The Covid-19 pandemic caused some delays in the preparation of material for teaching.









Measures undertaken to overcome problems and shortcomings:	Preparation of material will be conducted in the forthcoming months.					
Suggestions for other partners and for future period (if any):	N/A					
Activities planned for the following reporting period:	Continue with the pre and planning the teac CERTH participants.					
Estimated degree of realisation of the WP	WP					
activities (from LFM matrix of project proposal) for which project partner is	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
responsible for						
(to be filled only by project partners leading work						
package):						
Prepared by:	Josep Maria Salanova Grau and Jason Papathanasiou					
Date of reporting:	15/02/2021					







Project partner	Serbian Association of Managers (SAM)
Reporting period	15/11/2020-15/02/2021
Description of all activities realised by project partner during reporting period and achieved results:	On December 1, 2020, SAM organized a Forum of managers with a title "Effects of the Circular migrations on Serbia – How we can be responsible today for Serbia's tomorrow" where panellists discussed whether Serbia, due to the brain drain, has adequate cadre. The Forum was again opportunity to raise the issue of the lack of data scientists.
	SAM continued to strengthen its connections with faculties of economics, during the reporting period in particular with one in Belgrade. SAM launched a podcast "Ecof&SAM Business Talks) with experience and successful managers as special guests, aiming to bring closer students to the business best practices and mangers profession.
Have you experienced any problems or deviations from the plan and schedule (and which)? (explanations for tasks not fully implemented, critical objectives not fully achieved and/or not being on schedule. Explanation of the impact on other tasks, available resources and the overall planning)	Due to pandemic and emergency state in Serbia, dissemination of the information of the project among business audience was limited, due to the public focus on health and economic issues.











Measures undertaken to overcome problems and shortcomings:	N/A					
Suggestions for other partners and for future period (if any):	None					
Activities planned for the following reporting period:	Additional promotion of the project results, in particular life-long learning modules that will be lunched in spring- summer 2021, has been planned, in coordination with other partners. Promotion is going to be adjusted to the general state of the country due to pandemic of COVID 19.					
Estimated degree of realisation of the WP activities (from LFM matrix of project proposal) for which project partner is responsible for (to be filled only by project partners leading work package):	WP					
	Activity	0%- 20%	20%- 40%	40%- 60%	60%- 80%	80%- 100%
Prepared by:	Jelena Bulatovic, SAM					
Date of reporting:	February 15 th , 2021					

