**Periodic Report**

**on implementation of the project**

**NICOPA**

**within the first 6 months**

**PC universities**

* **Deadline of this periodic report:**

20 June 2019

* **Please, send it by email not later than the deadline to:**

a.starikow@ecm-space.de

arnold.sterenharz@ecm-office.de

* Please, prepare a short presentation based on this report in English up to 20th June 2019, which we will post on the Website of the NICOPA project.

**Name of the university/organization: M. Kozybayev North Kazakhstan State University**

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| --- | --- | --- |
|  | **Questions/Tasks** | **Comments and Recommendations (you can remove them to put your answers instead)** |
| **1.** | Provide your internal work plan of theNICOPA project activities in detail, as well as the work group with persons, responsible for the WP activities, according to the work plan. | 1.Development of an action plan for the project at NKSU.  2. Make a list of subjects taught for modernization and implementation in the educational process.  3. a) Development of questionnaires for the analysis of existing curricula / disciplines (questionnaire for teachers, students, graduates, young professionals);  + questionnaires for non-academic partners interested in the project: potential employers, local associations, representatives of industrial enterprises, and other parties that are relevant to the project  b) Develop a schedule for the survey.  c) Conducting a survey of various target groups.  d) Analysis of the survey.  4. To develop an analytical report on the results of the analysis of existing curricula / disciplines. To make a list of curriculum plans to be updated. To develop a schedule for updating selected training programs.  5. Prepare a documentation set for PAGIS and VCR.  6. a) Development of criteria for the selection of teachers for participation in trainings planned in EU universities.  b) Planning and conducting training activities for selected candidates to participate in trainings, including language courses. 7. To develop and approve a package of organizational documents for the PASO creation at each target institution. |
| **2.** | Provide the list of the courses to update and what has to be done (what are the needs?) to update the courses | Table 2 in the Appendix. |
| **3.** | Report on thecriteriafor the selection of teachers to participate in trainings at EU universities. | **Criteria selection of teachers for internships at European universities**  1) no less than 3 years work experience in M.Kozybayeva NKSU;  2) knowledge of English at the Intermediate level in accordance with the international scale; 3) experience in the development of modular educational programs, curricula, teaching materials and curricula for special disciplines (in the field of precision farming is welcome!);  4) at least 2 years of lecturing experience;  5) work in M. Kozybaeva NKSU after an internship of at least 3 years;  6) the desire to obtain new knowledge and competence in the field of Precision Agriculture on the experience of European universities and their implementation in the educational process at M. Kozybaev NKSU by upgrading or developing new courses;  7) basic education in the field of radio electronics, instrument making, agriculture, agro engineering, physics, astronomy;  8) the presence of a degree: doctor of science, candidate of science, doctor PhD; and / or academic degree: master.  NowteachersstudyEnglish. |
| **4.** | Provide information about the teachers who will develop new courses at your University on the basis of the EU Universities developed teaching materials and recommendations. | 1) KoshekovKairat;  2) Savostin Aleksey;  3) Ritter Dmitry;  4) Shayakhmetova Altyn;  5) Sartin Sergey;  6) Akhmetov Murat. |
| **5.** | Report on persons responsible for the equipment purchase and software installation (these should be 2 different persons) | Table 3 in the Appendix. |
| **6.** | Dissemination plan | Dissemination planin the Annex 1. |
| **7.** | Schedule of dissemination events | Dissemination eventsin the Annex 2. |
| **8.** | Report on non-consortium organization that can be interested in the project | Report on non-consortium organization Annex3. |
| **9.** | Report on implemented activities concerning dissemination of the project results. | 1) <http://www.nkzu.kz/page/view?id=1247>;  2) Article in newspaper "Parasat" in Annex 4;  3) Report before the university administration. |
| **10.** | Conduct a survey of students regarding the level of awareness of NICOPA project. | Analyze the responses of the questionnaire and provide results in Annex\_6 |
| **11.** | Quality Assurance Plan of your university and Quality Group of your university (2-4 persons) | Quality Assurance Planin Annex 5.  Quality Group in Table 4. |
| **12.** | Preparation of documentation for a PASO office | Draft of PASO in Annex 7. |
| **13.** | Report on the communication process between your University and other PC Universities, EU partners, the Coordinator and other project participants. | No communication problem. |
| **14.** | Additional information | --- |

Approved:

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*Local project coordinator*

**Appendix**

**Table 1.Working group for the NICOPA project**

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| --- | --- | --- | --- |
| **No** | **Name, Surname, email** | **Position** | **Responsibility**  **(WP, tasks according to the work plan)** |
| 1 co-ordinator | KoshekovKairat, kkoshekov@mail.ru | D.T.S, Head Department of "Electric Power Engineering", the local project coordinator | Koshekov K. is responsible for internal communication on all issues of project implementation at the university, external communication with project management and other organizations of the consortium, scientific support of the project, implementation of the project plan and documentation of all completed project activities, presentation of reports, participation in coordination meetings, creation of a laboratory office on the precision farming at the university, organizing and conducting master classes |
| 2 | Shayakhmetova Altyn,  altyn.sh@mail.ru | C.N.S., Dean of Agrotechnology Faculty | Shayakhmetova A.S. is responsible for the analysis, updating and development of training modules / programs and other educational and methodological documentation in accordance with the requirements of the Bologna process and existing new developments in the field of precision farming on the specialties 5B080100Agrnomy and 5B080700Forest resources and forestry, implementation of the project results at the university, testing at industrial enterprises and in educational organizations of the North-Kazakhstan oblast,organizing questionnaires for students, graduates and employers, performance in the media, the organization and conducting master classes,organizing of accreditation (or approval) of new and modernized modules at the university and timely starting pilot training since September 2020 |
| 3 | Sartin Sergey,  sartin78@mail.ru | C.Ph.M.S., Head Department of "Physics" | Sartin S.A is responsible for the analysis, updating and development of training modules / programs and other educational and methodological documentation in accordance with the requirements of the Bologna process and existing new developments in the field of precision farming on the following specialties: 5В012800Physics and Computer Science and 5В061100- and 6М061100-Physics and Astronomy; implementation of the project results at the university, testing at industrial enterprises and in educational organizations of the North Kazakhstan Oblast, organizing questionnaires for students, graduates and employers,performance in the media, the organization and conducting master classes, organizing accreditation (or approval) of new and upgraded modules at the university and t timely starting pilot training since September 2020 |
| 4 | Savostin Aleksey,  alexey.savostin@gmail.com | C.T.S., Associate Professor of "Electric Power Engineering" Department | Savostin A.A. is responsible for the analysis, updating and development of training modules / programs and other educational and methodological documentation in accordance with the requirements of the Bologna process and existing new developments in the field of precision farming on the specialties: 5В071600- and 6М071600Instrument Engineering, 5В071900- and 6М071900Radio Engineering, Electronics and Telecommunications; implementation of the project results at the university, testing at industrial enterprises and in educational organizations of the North Kazakhstan Oblast, organizing questionnaires for students, graduates and employers, performancein the media, organizing accreditation (or approval) of new and upgraded modules at the university and timely starting pilot training since September 2020 |
| 5 | Koshen Bauyrzhan, | D.N.S., Professor of "Agronomy and Forestry"Department | Koshen B.M. is responsible for developing recommendations for modernizing training modules / plans, choosing equipment for a new laboratory and developing topics for advanced training courses, scientific support for hardware implementation of precision farming technologies, analysis and processing of questionnaires and materials from stakeholders in the field of precision farming |
| 6 | Omarov Zhomart | CEO "Shagala Agro" LLC, general director | Omarov Zh.Zh. is responsible for the practical testing of the project results, the qualitative assessment of educational and methodological documentation on the relevance, novelty and practical significance |
| 7 | Ritter Dmitry, dritter@mail.ru | C.T.S., Associate Professor of "Electric Power Engineering" Department | Ritter D.V. is responsible for the reception and commissioning of new equipment and the creation of a new classroom / laboratory, the organization of the project quality group and the implementation of internal and external quality assessment activities (WP3) |
| 8 | Akhmetov Murat, tompik.m@mail.ru | Master, Senior Teacher of "Agronomy and Forestry"Department | Akhmetov M.B.isresponsible for preparation of publications on the project and handouts, information stands, placement of information about theproject results on the website of NKSU named after M. Kozybayev, collecting materials, photos, videos for updating the Web-platform, communication with graduates |
| 9 | Mustafina Aigerim, | Student of IE-17 group | Mustafina A.B. is responsible for explanatory activity about the project goals and objectives for students, office work on the project in the office, evaluation of the developed training modules / programs for overwork and the quality of mastering the material studied by students. |

**Table2. Courses that are to be upgraded and the deadlines of their updates.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of the course to be upgraded** | **Person/teacher/department/faculty responsible for the course upgrade** | **What has to be upgraded in the course?** | **Deadlines** |
| Implementation:  1. Optimization of computer vision algorithms and real-time implementation.  2. Global navigation satellite systems (NAVSTAR, GLONASS, GALILEO, etc.).  3. Remote sensing and application of PAs associated with the Earth and the environment. | **EP**"Physics and Astronomy" (Ba) and "Physics" (Ba), Sartin S.A, Department of "Physics" | 1. Remote sensing and application of PA and the environment: 8 ECTS.  2. Global navigation satellite systems (NAVSTAR, GLONASS, GALILEO, etc.): 3.5 ECTS.  3. Optimization of computer vision algorithms and real-time implementation: 4 ECTS. | 31.03.2020 |
| Implementation:  1. Using SENTINEL 1-2-3 images for monitoring agricultural fields.  2. Web technologies (Agro SDI, Geoportals, Geo-services, Geo-analytical systems).  3. Basics of precision farming - characteristics, technology, economic efficiency, optimal use of resources. | **EP**"Physics and Astronomy" (Ma) and "Physics" (Ma), Sartin S.A, Department of "Physics" | 1. Using SENTINEL 1-2-3 images for monitoring agricultural fields: 4 ECTS.  2. Basics of precision farming - characteristics, technology, economic efficiency, optimal use of resources: 5 ECTS | 31.03.2020 |
| Implementation:  1. Using SENTINEL 1-2-3 images for monitoring agricultural fields.  2. Yield sensors for precision farming.  3. The use of precision farming for growing crops. | **EP**"Agronomy" (Ma), Shayakhmetova A.S., Agrotechnology Faculty, "Agronomy and Forestry" Department | 1. Using SENTINEL 1-2-3 images for monitoring agricultural fields: 4 ECTS.  2. Web technologies (Agro SDI, Geoportals, Geo-services, Geo-analytical systems): 3ECTS.  3. Yield sensors for precision farming: 3 ECTS.  4. Physical properties of the soil and its measurement: 4 ECTS.  5. Management and decision making in precision agriculture - 3 ECTS.  6. Intensive course on the development of new technologies "in the field" - 2.5 ECTS. | 31.03.2020 |
| Modernization:  1. Systems of precision farming.  2. Sustainableagriculturallandmanagement. | **EP**"Agronomy "(Ba), Akhmetov M.B, "Agronomy and Forestry"Department | 1. Remote sensing and application of PA and the environment: 8 ECTS.  2. Basics of precision farming characteristics, technology, economic efficiency, optimal use of resources: 5 ECTS.  3. Application of precision farming for growing crops: 4 ECTS.  4. Launching initiatives for future engineers - 2.5 ECTS.  5. Management and decision making in precision agriculture - 3 ECTS.  6. Intensive course on the development of new technologies "in the field" - 2.5 ECTS. | 31.03.2020 |
| Modernization:  1. Technologiesinforestry. | **EP**"Forest resources and forestry "(Ba), Koshen B.M," Agronomy and Forestry "Department | 1. Remote sensing and application of PA and the environment: 8 ECTS.  2. Global navigation satellite systems (NAVSTAR, GLONASS, GALILEO, etc.): 3.5 ECTS.  3. Optimization of computer vision algorithms and real-time implementation: 4 ECTS.  4. Physical properties of the soil and its measurement: 4 ECTS. | 31.03.2020 |
| Implementation:  1. Optimization of computer vision and real-time implementation.  2. Launching initiatives for future engineers. | **EP**"Radio engineering, electronics and telecommunications "(Ma), Savostin A.A," Electric Power Engineering "Department | 1. Using SENTINEL 1-2-3 images for monitoring agricultural fields: 4 ECTS.  2. Global navigation satellite systems (NAVSTAR, GLONASS, GALILEO, etc.): 3.5 ECTS.  3.Optimization of computer vision and real-time algorithms: 4 ECTS.  4 Launching initiatives for future engineers - 2.5 ECTS.  5. Intensive course on the development of new technologies "in the field" - 2.5 ECTS. | 31.03.2020 |
| Modernization:  1. Global navigation satellite systems (NAVSTAR, GLONASS, GALILEO, etc.). | **EP**"Radio engineering, electronics and telecommunications "(Ba), Ritter D.V, "ElectricPowerEngineering" Department | 1. Remote sensing and application of PA and the environment: 8 ECTS.  2. Global navigation satellite systems (NAVSTAR, GLONASS, GALILEO, etc.): 3.5 ECTS.  3. Web technologies (Agro SDI, Geoportals, Geo-services, Geo-analytical systems): 3ECTS. | 31.03.2020 |
| Modernization:  1. Elements of artificial intelligence in technical systems.  Implementation:  2. Launch initiatives for future engineers. | **EP**"Instrument making "(Ма), Savostin A.A, "Electric Power Engineering" Department | . Optimization of computer vision algorithms and real-time implementation: 4 ECTS.  2. Web technologies (Agro SDI, Geoportals, Geo-services, Geo-analytical systems): 3ECTS.  3. Basics of precision farming - characteristics, technologies, economic efficiency, optimal use of resources: 5 ECTS.  4. Launching initiatives for future engineers - 2.5 ECTS.  5. Intensive course on the development of new technologies "in the field" - 2.5 ECTS. | 31.03.2020 |
| Modernization:  1. Sensors of technological processes.  2. Intelligentmeasuringsystems | **EP**"Instrument making е"(Ва), Koshekov K. T, "Electric Power Engineering" Department | 1. Remote sensing and application of PA and the environment: 8 ECTS.  2. Using SENTINEL 1-2-3 images for monitoring agricultural fields: 4 ECTS.  3. Global navigation satellite systems (NAVSTAR, GLONASS, GALILEO, etc.): 3.5 ECTS.  4Web technologies (Agro SDI, Geoportals, Geo-services, Geo-analytical systems): 3ECTS. | 31.03.2020 |

**Table 3. Responsible persons for the installation of the equipment & software**

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| --- | --- | --- | --- |
| **Equipment/Software** | **Name of the person(s) responsible for the equipment/softwareinstallation** | **Occupation of the responsible persons** | **Contact information of the responsible persons** |
| Equipment/Software | Ritter Dmitry | Associate Professor of "Electric Power Engineering" Department | dritter@mail.ru, 877741038609 |

**Table 4. Quality group**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name, Surname** | **Occupation** | **Organization** | **Contact info (email)** |
| Omarov Zhomart | Director | CEO "Shagala Agro" LLC | altyn.sh@mail.ru |
| Mustafina Aigerim | Student of IE-17 group | M.Kozybaev NKZU | Prosto.aigera@gmail.ru  87074887610 |
| Igor Grishanov | Director, PhD | "ABI ZHER" LTD | agrosever@mail.ru |