



CAMPUS
DE EXCELENCIA
INTERNACIONAL

Universidad Politécnica de Madrid

Action Plan

Resubmission April 2019

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ABBREVIATIONS

- ICE: Institute of Education Sciences
- OTRI: Office for Transfer of Research Results
- OTT: Office for Tech Transfer
- R1, R2, R3, R4: EU R-Scale
 - R1 - First Stage Researcher (Up to the point of PhD)
 - R2 - Recognised Researcher (PhD holders or equivalent who are not yet fully independent)
 - R3 - Established Researcher (Researchers who have developed a level of independence)
 - R4 - Leading Researcher (Researchers leading their research area or field)
- UPM: Universidad Politécnica de Madrid
- VR AE: Vice Rectorate of Economic Affairs
- VR CE: Vice Rectorate for Quality and Efficiency
- VR RID: Vice Rectorate of Research, Innovation and Doctorate
- VR EAI: Vice Rectorate of Students and University Extension
- VR IAS: Vice Rectorate for Internationalization and Academic Strategy
- OPE: Office for European Projects
- TS: Technical Secretariat

CONTACT DETAILS

Name of Organisation under review:	Universidad Politécnica de Madrid
Organisation's contact details:	Prof. Dr. Asunción Gómez-Pérez Vice Rector of Research, Innovation and Doctoral Studies
Submission date:	30th May 2018
Date of Charter and Code Endorsement	November 2017

1. ORGANISATIONAL INFORMATION

TABLE 1 ORGANISATIONAL INFORMATION

STAFF & STUDENTS	FTE
Total researchers = staff, fellowship holders, bursary holders, PhD students involved in research (both full-time or part-time)	4.359
Of whom are international (i.e. foreign nationality)	1.829
Of whom are externally funded (i.e. for whom the organisation is a host organisation)	486
Of whom are women	1.291
Of whom are stage R3 or R4 (researchers with a large degree of autonomy, typically holding the status of Principal Investigator or Professor)	1.681
Of whom are stage R2 (in most organisations corresponding with postdoctoral level)	312
Of whom are stage R1 (in most organisations corresponding with doctoral level)	2.366
Total number of students (if relevant)	40.121
Total number of staff members (including management, administrative, teaching and research staff)	6.254
RESEARCH FUNDING	€
Total annual organisational budget	349.494.813€ (2018) 346.070.982€ (2016)
Annual organisational direct government funding (designated for research)	146.233.144 € (2016)
Annual competitive government-sourced funding (designated for research obtained in competition with other organisations, including EU funding)	40.047.791 € (2016)
Annual funding from private, non-governmental sources, designated for research	24.832.815 € (2016)
ORGANISATIONAL PROFILE	
<p>Universidad Politécnica de Madrid (UPM) is the largest Spanish engineering and technological university, with two recognitions as being a “Campus of International Excellence.”</p> <p>More than 4,300 researchers carry out their activities at the UPM, divided among 203 Research Groups, 19 Research Centres or Institutes, and 55 Laboratories.</p> <p>UPM was the top participant among Spanish universities in the 7th European Framework Programme, with 290 projects. In H2020, UPM keeps up its active participation thanks to its highly innovative profile.</p> <p>UPM researchers possess long and extensive experience in participation in other EU-funded programmes such as the European Space Agency, European Defence Agency, Eureka, Cost, etc.</p> <p>UPM signs around 600 contracts with private businesses annually, which support and back its research and technology development in all Engineering fields, Aeronautics, Agronomy, Architecture, Energy, Forestry, Industrial, Mining, Naval and Informatics and Telecommunication.</p> <p>Moreover, every year UPM applies for around 40 patents and receives a similar number of concessions. ActúaUPM is an internal programme that has generated more than 200 technological companies in the last 10 years, 80% of which still exist.</p> <p>Education:</p> <p>4 Campuses, 2 of which are recognised as a “Campus of International Excellence;”</p> <p>52 bachelor’s degrees offered;</p> <p>69 Dual Degree agreements offered;</p>	

83 master's degree qualifications offered, two of which under the Erasmus Mundus Programme;
45 Doctoral programmes, one of which under the Erasmus Mundus Programme.

Research (data from 2016):

773 PhD theses defended;

2.458 Research papers published in indexed journals;

537 Patent families in effect;

5 New spin-off companies;

96 Spin-off companies created in the last 25 years that were still operative in 2016;

9,75% licenced patents.

2. ACTIONS

2.1. ACTIONS ADDRESSING THE IMPLEMENTATION OF C&C - HRS4R GAP ANALYSIS

The detected gaps were grouped into several areas of improvement that were the basis for the subsequent design of the Action Plan. These areas of improvement are:

- 1) **Internationalisation.** To improve the internationalisation of the researchers, UPM will incorporate the following actions:
 - Translate job offers and contracts into English.
 - Create a unified job offer web page.
 - Create a centralised unit for the reception welcome and assistance to foreign researchers.
- 2) **Researchers recruited within research projects.** The present recruitment procedures and evaluation of these researchers show gaps. UPM will incorporate the following actions to improve and solve these gaps:
 - Update the existing norms and write a guide for the recruitment of researchers hired within research projects (managed by the OTT).
 - Write a manual for good recruitment practices.
 - Establish procedures for the official evaluation of R1 and R2 researchers hired within research projects.
- 3) **Information access.** There is not a centralised repository of information about university activities, facilities, regulations and other issues, and this information is not provided to the newcomers. To overcome this situation, UPM will:
 - Publish a catalogue of scientific infrastructures.
 - Elaborate a welcome manual for researchers.
 - Write an official UPM Manual of Good Research Practices.
- 4) **Training and career development of researchers.** UPM wishes to improve training and professional development of researchers. To improve the present situation, UPM plans to:
 - Improve the diffusion and announcements of UPM's training offers and direct these offers to all research profiles.
 - Launch a pilot mentorship programme.
 - Include ethical issues in the cross-disciplinary education of the R1 researchers.
 - Offer support for professional career development.
 - Launch a call for the incorporation and retention of talented researchers.
- 5) **Other issues under the organisational umbrella:**
 - Improve the system to control and monitor the teaching activities and load.
 - Approve a new programme DOCENTIA to include a better set of criterions and procedures (for R3 also)
 - Create UPM's price for scientific dissemination of science for society.

- Analyse the participation of women in research, innovation and doctorate.
- Implementation of the HRS4R by increased awareness and follow-up.

The HRS4R processes have helped to identify and prioritise actions focused on the underdeveloped areas, according to the consolidation of the European research environment for improving management and development of research talent.

Table 5 in the Annex shows the correlation between the Gap Analysis and actions proposed.

Table 6 in the Annex shows a summary of the diagnosis of the criteria and the number of actions designed for their implementation.

The table in the subsequent section presents a proposal of the actions to be developed by UPM to fill the gaps encountered in the analysis of the current implementation of the C&C criteria. The table includes: i) a short description of the action, ii) the chronogram and the estimated implementation time, iii) the person in charge (in bold) and the supporting team (in parentheses), and iv) the performance indicators to monitor its application.

The persons that will lead the implementation of these actions are:

- Vice Rector Dr Asunción de María Gómez-Pérez, **VR RID**, Vice Rectorate of Research, Innovation and Doctorate.
- Vice Rector Dr Alberto Garrido Colmenero, **VR CE**, Vice Rectorate of Quality and Efficiency
- Vice Rector Dr Antonio Hidalgo Nuchera, **VR AE**, Economic Affairs
- Vice Rector Dr Miguel Ángel Gómez Tierno, **VR EAI**, Vice Rectorate of Students and University Extension
- Rector Dr José M. Atienza, **VR IAS** Vice Rectorate for Internationalization and Academic Strategy

2.1.1. DESCRIPTION OF THE ACTIONS

TABLE 2 ACTION DESCRIPTION

Principle targeted	Action Title	Description of the action	Indicators (I) / Targets (T) (new text in red)
All	A1. HRS4R Kick-off, awareness and follow-up.	<p>Kick-off: Steering Committee of HRS4R (2-4 members): Decision-making body in charge of strengthening awareness, commitment and implementation of the Charter & Code criteria.</p> <ul style="list-style-type: none"> – Implementation of Working Group of HRS4R (6-8 members): Creation and implementation of a working group with the task of defining and implementing the majority of the actions, made up of people in charge of each topic, representatives of the different specific areas and services, and R1 to R4 researchers. – Implementation of Working Group OTM-R system (2-4 members): Creation and implementation of a working group with the task of reviewing and defining the processes for selecting and recruiting researchers, for the progressive adaptation to the OTM-R system. The group will consist of representatives of all services with competence in selection and recruitment of researchers. – Awareness: The goal is to attain an increasing application of the C&C criteria in the research community and in everyday research practices. – Organize a specific OTMR seminar for HHRR managers, researchers responsible of recruiting processes, HRS4R implementation Working Group’s members, etc. The seminar will be imparted by HRS4R-OTMR national experts and technical or research staff involved in the implementation of HRS4R from other universities. – Include the actions defined in this Action Plan in the Research Strategic Plan of the UPM (if possible). – Prepare online multilingual material explaining the advantages of the application of the C&C principles and updates of the HRS4R website, distribute it among all the researchers and incorporate this information into the welcome manual for researchers and online. – Schedule periodical briefings in various departments to influence the dissemination of the C&C key lessons to research staff. – Schedule periodical briefings with the institution’s management committees and boards to introduce the OTM-R and C&C key lessons to the administration staff. – Incorporate new researchers that wish to join the Implementation Working Group (IWG) and to become “Delegates for HRS4R” for the different campuses. 	<p>T: teams ready to start the implementation</p> <ul style="list-style-type: none"> – I: WG HRS4R constituted – I: WG OTMR constituted – I: Available organizational support (TS, cloud, VR Quality leadership) <p>T: Awareness of HRS4R in the research community and HHRR services</p> <ul style="list-style-type: none"> – At least 100 attendees and online participants in HRS4R-OTMR seminars – At least 5 new researchers joining the IWG – 10 minutes scheduled in every UPM’s management committees to inform about HRS4R updates. <p>T: Follow up mechanisms available</p> <ul style="list-style-type: none"> – I: Publish the result of Surveys to address the awareness (Quality Observatory)

- A special OTM-R seminar will be organised for all the Human Resources staff, the directors of the research institutes, and all of UPM’s staff with responsibilities in this process.
- **Follow-up and Support:** The Technical Secretariat will coordinate all the implementation process, connecting the Specific Working Teams with the IWG. The Secretariat will oversee reporting to the IWG, give support for the preparation of deliverables, and **ensure that all documents are delivered in an online version in Spanish and English**. The TS will also be responsible for a dynamic workflow articulated along the plan: a cloud tool for easy access to information, regular meetings, ad-hoc subcommittees with key people for specific matters depending on the evolution of the process, quality control and international benchmark.
- It will coordinate the deployment of the HRS4R Action Plan, control the quality of deliverables, follow up on indicators and elaborate reports for internal and external evaluation. Additionally, it will evolve, in a coordinated fashion, the communication plan, and the continuous evaluation process.
- The Vice Rectorate for Quality and Efficiency will be responsible for the quality of the implementation of C&C and mainly for OTM-R practices.

2,3, 6, 7, 31, 32 A2. Write the UPM’s manual of good research practices.

- Write UPM’s **manual of good research practices** including the following topics:
 - Researchers’ ethical principles
 - Professional responsibility
 - Accountability
 - Intellectual property
 - Co-authorship, co-direction normative, etc.
- Include ethical issues and cross-disciplinary education in the R1 researchers training. This information could be accessed via **seminars or face-to-face or digital courses**. Learning material should be written (Spanish and English online version), and instructors or digital platforms should be trained or implemented.
- This manual will be accessible in Spanish and English, will be available for download from the researchers’ webpage, and will be publicly presented in the technical schools and research centres; this manual will be provided to the newcomers together with the welcome manual.

T: UPM recruiting process in compliance with OTMR researchers, specially newcomers, adopt good research practices

- I: Every newcomer researcher is provided with the manual
- I: At least 100 attendees and on-line participants in seminars
- I: At least 10% of researchers (have) answered a Multiple-choice test to evaluate the knowledge of the topic included in the manual of good research practices.
- I: Evaluation of the ethical contents of the cross-disciplinary education course of R1.

7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	A3. Write a manual in good recruitment practices.	<ul style="list-style-type: none"> – Write a short manual in good recruitment practices for researchers that manage research projects and recruit other researchers, including OTM-R recommendations (Spanish and English online version). – Biennial self-assessment of compliance with the OTMR process, surveying new recruited researchers and human resources managers. Write a report summarizing the results and providing recommendations. 	<p>T: All researchers, especially those responsible of research recruitment, and all human resources personnel are informed about relevant information</p> <ul style="list-style-type: none"> – I: Every newcomer R4-R2 researcher is provided with the manual – I: At least 10% of researchers answers a Multiple-choice test about the information included in the manual concerning recruitment practices. – I: Published OTMR self-assessment report
11, 33	A4. Improve the control and evaluation systems of teaching activity.	<ul style="list-style-type: none"> – Improve the control system for teaching activities for R3 and R4 researchers. – Include all R2 researchers whose contracts include teaching activities in the new DOCENTIA teaching activity evaluation system. – Evaluate the teaching load in each profile R1-R4. 	<p>T: Control teaching activity</p> <ul style="list-style-type: none"> – I: Teaching control software operative – I: Publication of teaching activity at Group levels (Departments and Schools) – I: Certification of Individual Teaching Activity
10	A5. Analyse the participation of women in research, innovation and doctorate.	<ul style="list-style-type: none"> – Analyse the participation of women in research, innovation and doctorate by R1-R4 profile, every two years using surveys, interviews and working focus groups. Recommendations will be given after the analysis, including the writing of an action plan if needed. – Based on the results, review the Gender Plan, the functions of the Gender Unit and the Gender Observatory. 	<p>T: Obtain information about the distribution of woman by professional level and activity (research, innovation, doctorate)</p> <ul style="list-style-type: none"> – I: Report of the results of the analysis. – I: Institutional goal: increase the number of R3 and R4 women

11	A6. Establish procedures for the official evaluation of R1 and R2 researchers hired within research projects.	<ul style="list-style-type: none"> – Define and write guidelines for the evaluation of R1 and R2 researchers in research: Elaboration of a document certifying the positive evaluation of the research performed by R1 and R2 researchers hired within research projects. For example, a certificate of annual or biennial evaluation, or a document at the end of the project. – Biennial assessment of compliance with the guidelines for the evaluation of R1 and R2 researchers process: survey and report of results and recommendations. 	<p>T: Evaluate every R1 and R2 hired within research projects</p> <ul style="list-style-type: none"> – I: Guidelines or official procedures for the evaluation of R1 and R2. – I: 100% of R1 and R2 evaluated at the end of the period – I: 100% compliance with the guidelines for the evaluation of R1 and R2 researchers process at the end of the period.
12, 13	A7. Create the Central Unit for the Reception of foreign researchers.	<ul style="list-style-type: none"> – Creation of the Central Unit for the Reception for foreign researchers (CURF). A centralised service will be implemented for the reception and mentoring of new foreign researchers, strengthening the activity of the Euraxess Centre. It could include services for: Visa, residence permit, working in Spain; University guest houses and accommodations for visiting scientists and scholars; and for doctoral students, information about schools, kindergartens and day-care benefits; etc. – Creation of a web page for the foreign researchers summarising this information. – Biennial assessment of satisfaction of foreign researcher process: survey and report of results and recommendations. 	<p>T: New foreign researchers assisted by CURF</p> <ul style="list-style-type: none"> – I: Central Unit for the Reception of foreign researchers operating. – I: Website published. – I: 100% of new foreign researchers assisted by CURF – I: At least 50% satisfaction with CURF in the second year – I: Develop a menu of Services for foreign researchers
5,10,12,13, 15, 24, 26	A8. Translate job offers and contracts to English.	<ul style="list-style-type: none"> – The OTM-R working group will supervise the English translation of all the job offers published in Spanish and the posting of both versions on job offer platforms. All the contracts will be also translated into English, with special attention given to the contracts for researchers hired within research projects. Other documents will also be translated to English, such as the UPM good research practices manual, welcome manual etc. 	<p>T: All foreign researcher sign contracts in English</p> <ul style="list-style-type: none"> – I: 100% Contracts and job offers written in English. – I: 100% of foreign researchers sign the contract in English.
3, 5, 9, 31, 33, 36, 37,	A9. Improve the diffusion of UPM's training offers	<ul style="list-style-type: none"> – Reinforce the diffusion of the training offers, especially for R1 and R2 researchers of ICE, OTRI and OPE, in cross-disciplinary training and teaching. http://www.upm.es/Estudiantes/Estudios_Titulaciones/Estudios_Doctorado/Actividades_formativas_Doctorado. 	<p>T: Researchers know new training offer</p> <ul style="list-style-type: none"> – I: At least 20% of New training contents offer.

38, 39, 40	and address the training offer to all research profiles.	<ul style="list-style-type: none"> – Also reinforce the dissemination of the training courses webpage (https://eventos.upm.es/). – Centralise all the public engagement activities on one website and make it easily accessible. – Include a list of the calls of the self-funded research programme. 	<ul style="list-style-type: none"> – I: Public engagement website published. – I: Self-funded research programme list published. – I: Increase at least 50% attendance of R1 and R2 researchers to training courses
23	A10. Publish a catalogue of scientific infrastructures .	<ul style="list-style-type: none"> – Elaborate a catalogue including all the scientific and technological equipment available at the departments, institutes and research centres, highlighting the available singular scientific and technological institutes (ESFRI) The catalogue could also include other available scientific services, outside of UPM, that could be accessed by the UPM researchers. 	<p>T: Researchers has centralized information about infrastructure available</p> <ul style="list-style-type: none"> – I: Scientific infrastructures catalogue published. – I: Number of downloads/consultations.
28, 30	A11. Launch a pilot mentorship programme.	<ul style="list-style-type: none"> – Design a pilot programme of mentors for researchers, starting with the selection and training of a network of mentors aimed to develop the potential of young researchers, by transfer of knowledge and learning through the experiences of seniority. The mentor will help and guide the mentee to develop their research career, as well as other aspects in his personal and professional life. This network will be made up of senior researchers and professionals outside UPM, such as executives, businessmen, etc. – Biennial assessment of satisfaction with the Mentor Program: survey and report of results and recommendations. 	<p>T: Young researcher mentored</p> <ul style="list-style-type: none"> – I: Evaluation of the alumni of the mentorship service. – I: At least 20 mentors – I: At least 100 young researchers. – I: At least 60% satisfaction with Mentor program in the second year.
12, 14, 16, 18, 21	13, 15, 17, 19, write a guide for the recruitment of researchers hired within research projects (managed by the OTT).	<ul style="list-style-type: none"> – Update the recruiting norms for the hiring of researchers within research projects: a) include dissemination as a positive criterion; b) include a merits valorisation scale; c) include the current guidelines concerning disadvantaged groups. – Develop a recruitment OTM-R guide for the researchers recruited within projects, including the OTM-R and C&C recommendations: a) information about job conditions, labour rights and professional development prospects; b) information about the communication of the resolution of the call to the researchers; c) a clear description concerning the objectives and timetable of the post-doctoral appointments; d) recommendation of using personal interviews along the selection process. – Organize a specific seminar aimed at HHRR managers, researchers responsible of recruiting processes, HRS4R implementation Working Group's members, etc. to present the updated norms and Recruitment Guide. 	<p>T: UPM recruiting process in compliance with OTMR</p> <ul style="list-style-type: none"> – I: Updated norm – I: Recruitment guide approved. – I: At least 50 attendees and on-line participants in OTMR seminars. – I: 100% compliance with the OTMR guidelines for every recruiting process.

		<ul style="list-style-type: none"> – Biennial assessment of compliance with the OTM-R guidelines: survey and report of results and recommendations. 	
9	A13. Create the UPM's Prize for scientific dissemination.	<ul style="list-style-type: none"> – Design the essentials of the contest and call on a yearly basis: a prize for scientific dissemination for the 4 categories of different scientific profiles (R1, R2, and R3-R4). – In addition, this action could be reinforced by including the contest in the “investigator’s portal” intranet, an application to enable researchers to contact the Scientific Culture Unit directly, regarding the new results of their personal research that should be disseminated to society. 	<p>T: Encourage scientific communication</p> <ul style="list-style-type: none"> – I: Prize call disseminated, and prize awarded. – I: At least 20 applications received every year.
28, 30	A14. Offer support for professional career development.	<ul style="list-style-type: none"> – Design a map of professional research career options, inside and outside UPM, highlighting especially the influence and possibilities of international or industry opportunities in professional development. Specific R1 career advice will mainly include an analysis of destinations and positions outside the UPM, including the industrial sector (intersectoral). – Design training activities for professional development and include them at the cross-disciplinary training in the 3rd and 4th years of doctorate. – Foster and coordinate the activities, providing a higher visibility to the official agreements established with industry, business associations, business chairs, etc. 	<p>T: Provide support to researchers on their professional career</p> <ul style="list-style-type: none"> – I: Publication of the map of professional career options. – I: At least 100 attendees and on-line participants in training activities on “professional research career options”
13	A15. Create a unified job offer website.	<ul style="list-style-type: none"> – Create a unified and centralised job offer website, specially to group together the calls for the recruitment of researchers hired within a certain project. The website will manage the recruitment processes in a centralised fashion, in accordance with the OTM-R recommendations, and will include a job alert service. – 	<p>T: All job offers are managed centralized</p> <ul style="list-style-type: none"> – I: Job offer website operative. – I: 100% of job offers published on line
26, 25	A16. Launch a call for the incorporation and retention of talented researchers.	<ul style="list-style-type: none"> – Define the procedures to generate a call to incentivise the incorporation and retention of talent. The consolidation of five R2 positions, recruited by competitive calls. – In addition, to offer a more competitive job offer, efforts will be made to supplement the current salary of R2 researchers hired by competitive calls. 	<p>T: Retain talented researchers</p> <ul style="list-style-type: none"> – I: Call launched annually. – I: At least 5 researchers recruited annually.

<p>1,2, 3, 4, 5, 6, 7, 8, 10, 11, 13, 23, 24, 27, 28, 29, 31, 33, 34, 35, 36, 37, 38, 39, 40.</p>	<p>A17. Elaborate a welcome manual for researchers.</p>	<p>– Elaborate a welcome manual that would collect the most relevant aspects that new UPM researchers should know. It would also be disseminated among current UPM researchers. The manual should include issues like:</p> <ul style="list-style-type: none"> ▪ Recruiting, performance assessment, and HRS4R strategy ▪ Participation of the different professional profiles in the governing and decision-making bodies of UPM ▪ Complaints mechanism and functions of the University Ombudsmen ▪ Ethical aspects ▪ Anti-plagiarism software ▪ Intellectual properties guidelines ▪ Co-authorship, co-direction normative, etc. ▪ Professional attitude and description of the existing support systems for project management ▪ Good supervision practices at the UPM ▪ Security and risk prevention issues; workplace health, also including insurance procedures for international mobility ▪ Personal and professional life balance measures, non-discrimination and gender policies ▪ Mobility calls ▪ Centralised repository of training activities generated at UPM 	<p>T: All researchers, specially newcomers, are informed about relevant information</p> <ul style="list-style-type: none"> – I: Published manual. – I: N° of downloads/consultations
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<p>Respond s to evaluato r suggesti ons</p>	<p>A18 Improve general OTMR procedures</p>	<p>. The OTM-R implementation working group, will review and define the processes for selecting and recruiting researchers, for the progressive adaptation to the OTM-R system. The group will consist of representatives of all services with competence in selection and recruitment of researchers.</p> <p>Given the high commitment to implement the HRS4R, work is already underway on the adaptation of the recruitment procedures to the C & C and OTMR criteria for all the selection processes (contracts funded by external projects, Self-funded programme, regional, national calls, PDI – Teaching and Research Personnel, etc.).</p> <p>a) Improve access to candidates</p> <ul style="list-style-type: none"> • Write job announcements in English and Spanish. Publish them in international portals (Euraxess, international journals), own job search portal and social media, etc. • Create mailing lists to make available the job announcements to interested scientific personnel. <p>b) Review rules and procedures for the implementation of the OTM-R system in the recruitment of researchers: i) “UPM Self-funded programme” ii) “Researchers funded by external projects” and iii) “PDI – Teaching and Research Personnel</p> <ul style="list-style-type: none"> - Adjust scales: reviewing al C&C and OTMR Criteria - Define Committee appointment - c) Write an updated rule for recruitment, elaborate the Guide for recruitment and offer training courses both for researchers and administrative personel. 	<p>T: UPM recruiting process in compliance with OTMR</p> <ul style="list-style-type: none"> – I: Introduce a distribution list for the communication of new job offers. – I: Include all the calls for R3 and R4 researchers at the unified job search portal. – I: 100% of candidates informed automatically by mail about the selection process, including the evaluation reports for the unselected candidates. – I: 100% of the job offers published in English and Spanish. – I: 100% of job offers published at EURAXESS platform. – I: Publication of the evaluation criteria for each position. – I: OTMR policy revised and published.
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<p>Responders to evaluator suggestions</p>	<p>A19. Normalise the OTM-R's regulations for the recruitment of researchers.</p>	<p>To homogenize the current practices in job advertising, selection recruitment, rights and duties, complaints and evaluation.</p> <p>a) Write a "Selection and Recruiting OTM-R guidelines", Spanish and English online version will be available, including: i) insertion of disadvantaged groups in situations of equality, ii) publish in the jobs announcements how each criterion will be assessed and its maximum score, iii) contribute to define a blended system including not only quantitative methods but qualitative criteria also when possible and appropriate, and to consider the interviews as a method for assessing merit, 3. iv) a better dissemination of announcements; v) a better description of vacancies; vi) promote a better assessment of merits.</p> <p>b) Specific training actions will be provided to the administrative staff and researchers involved in recruiting processes based on the implementation of the OTM-R system.</p> <ul style="list-style-type: none"> - A reference of the procedure will be included in the Welcome Manual. 	<p>T: UPM recruiting process in compliance with OTMR</p> <ul style="list-style-type: none"> - I: Selection and Recruiting OTMR guide published. - I: Training courses on OTMR for administrative staff available. - I: Training courses on OTMR for researchers involved in recruiting processes available. - I: Basic information on OTMR included in Welcome Manual
<p>Responders to evaluator suggestions</p>	<p>A20. Open Science call to support junior and senior researchers:</p>	<p>To help researchers, UPM will collate a list of institutions and funders from around the world who have Open Access funds or policies to allow researchers to expense publication fees directly from their grants. Additionally, UPM is already working on a new Grant to support researchers publishing following Open Access criteria. It aims to lower barriers to publication based on cost for researchers who may be unable, or have limited ability, to publish in Open Access journals.</p>	<p>T: Support Open Science policy (following evaluators recommendation although not diagnosed)</p> <ul style="list-style-type: none"> - I: Nº of candidates to the Open Science Call - I: Increase of 50 % of papers published in open access (at least 10 % annual)

Responders' suggestions	A21: Training Catalogue updated:	<p>The UPM's Training Catalogue will be fully aligned with the current UPM Strategic Plan. It will be a work in progress as it will be adapted to the existing courses and develop new ones, to stay up-to-date with the evolving needs of our researchers. Emphasis will be made on the quality of trainers, a good mix of internal and external trainers with academic and non-academic background, on the following topics:</p> <ol style="list-style-type: none"> 1. Transferable skills: (e.g. Writing and Oral skills, Leadership and management skills, Entrepreneurial skills and Technology Transfer, Motivation Skills for Research Staff, Team Building, Presentation Skills for Research Staff, CV Clinic, Grant Writing, Research Integrity, Supervising and Working with PhD Students, Funding your Research, Communicating your research, Research Planning Tools and Techniques, Innovation & Entrepreneurship, Commercial Awareness and Knowledge Transfer) 2. Scientific tools and techniques (e.g. Statistical Analysis; Image creation and photographic edition; etc. 3. Health & Safety (e.g. Courses focused on job requirements in the laboratory and offices, safety course.) 4. Languages (e.g. English, Spanish) <ul style="list-style-type: none"> - Biennial assessment of satisfaction with Training offer: survey and report of results and recommendations. 	<p>T: Provide enhanced training offer in soft skills (following evaluators' recommendation although not diagnosed)</p> <ul style="list-style-type: none"> - I: % of new courses - I: At least a number of 25 and 50 attendees, depending on the type of the topic and methodology of the course; and at least 50 online participants in training courses - I: At least 60% satisfaction with the UPM's Training Catalogue
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2.1.2. GANTT DIAGRAM

The schedule is set to start activities on Q3 2018. Some actions are proposed with an evolutionary approach, to have partial versions that integrates results from other actions.

TABLE 3 GANTT DIAGRAM

Actions / Sub-actions	2019		2020				2021				2022				2023				2024				
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
A1. HRS4R Kick-off, awareness and follow-up.																							
Kick-off																							
A4. Improve the control and evaluation systems of teaching activity.																							
Design the systems																							
Validate and launch																							
A16. Launch a call for the incorporation and retention of talented researchers.																							
A11. Launch a pilot mentorship programme.																							
Design content																							
Launch pilot																							
Evaluate pilot																							
A6. Establish procedures for the official evaluation of R1 and R2 researchers hired...																							
Design procedure																							
Validate and launch procedure																							
A8. Translate job offers and contracts to English.																							
A10. Publish a catalogue of scientific infrastructures.																							
A12. Update the existing recommendations and write a guide for the recruitment ...																							
Update and write a guide																							
Publish and present the guide to all research contractors																							
A13. Create the UPM's Prize for scientific dissemination.																							
Design the prize																							
A14. Offer support for professional career development.																							
Design the service																							
Launch the service																							
A15. Create a unified job offer website.																							
A9. Improve the diffusion of UPM's training offers and address the training offer ...																							
A2. Write the UPM's manual of good research practices.																							
A3. Write a manual in good recruitment practices.																							
A5. Analyse the participation of women in research, innovation and doctorate.																							
A17. Elaborate a welcome manual for researchers.																							
A7. Create the Central Unit for the Reception of foreign researchers.																							

A18 Improve general OTMR procedures (new action)																			
A19. Normalise the OTM-R's regulations for the recruitment of researchers. (new action)																			
A20. Open Science call to support junior and senior researchers: (new action)																			
A21: Training Catalogue updated: (new action)																			

2.2. ACTIONS ADDRESSING THE IMPLEMENTATION OF OPEN, TRANSPARENT, AND MERIT-BASED RECRUITMENT PRINCIPLES

The main actions that will be implemented to address the OTM-R principles are:

- The creation and implementation of an OTM-R working group with the task of defining and reviewing the processes for selecting and recruiting researchers, for the progressive adaptation to the OTM-R system.
- **The goal of the awareness actions of the OTM-R is to attain** an increasing involvement of the OTM-R and C&C criteria in the research community. The OTM-R working group will supervise the **English translation** of all the job offers published in Spanish and the posting of both versions on job offer platforms.
- Write a short **manual in good recruitment practices** for researchers that manage research projects and recruit other researchers, including OTM-R recommendations.
- **Update the recruiting guidelines for the hiring of researchers within research projects:** a) include dissemination as a positive criterion; b) include a merits valorisation scale; c) include the current regulations concerning disadvantaged groups.
- **Develop a recruitment OTM-R guide** for the researchers recruited within projects, that includes the OTM-R and C&C recommendations: a) information about job conditions and labour rights, also including professional development prospects; b) information about how the resolution of the call is to be communicated to the researchers; c) a clear description concerning the objectives and timetable of the post-doctoral appointments; d) recommendation of using personal interviews along the selection process.
- Create a **unified and centralised job offer website**, especially to group the calls for the recruitment of researchers hired within a research project. The website will manage the recruitment processes in a centralised fashion, in accordance with the OTM-R recommendations, and will include a job alert service.
- Define the procedures to generate a **call to incentivise the incorporation and retention of talent**, following OTM-R criteria.

These new approaches will develop a key role in the development of the OTM-R policy.

The second group of actions are those related to training and dissemination of the OTM-R principles to the staff members implicated in the recruiting process, both researchers and administrative staff. In the case that further training is demanded, seminars will be addressed to PI's and other members of the selection committees. The need to promote specific training in recruiting, especially for interviews, will be evaluated. The "UPM **Recruitment OTM-R Guide**" will set clear and explicit rules and procedures for the recruitment of all researcher positions.

The third main action will be the continuous follow-up of the recruitment processes, assuring that all the staff members involved in recruiting processes, from selection to recruiting, integrate the OTM-R practices described in the "**Recruitment OTM-R guide**".

A special OTM-R seminar will be organised for all the Human Resources staff, the directors of the research institutes, and all UPM's staff interested in this process.

The quality control system for UPM's OTM-R policy will internally check the whole recruitment process, to be administered by the HR department or designated staff, and will also have a periodical, external review by an independent observer (a national expert in HRS4R). To monitor and assess the

extent to which the OTM-R system is being implemented, UPM will also adopt standards and reporting templates for internal reporting of all phases of a recruitment process.

UPM does not have a recruitment strategy to implement the principles of Open, Transparent and Merit-Based Recruitment, therefore no web link is available.

3. IMPLEMENTATION

3.1 IMPLEMENTATION AND CONTROL BOARDS

The design of this plan has enabled the development of a model of governance, coordination mechanisms and monitoring tools that will accelerate the adoption of new policies and practices of human resources management in research, which in turn will enable UPM to be in line with its European references.

For the above reasons, and regardless of the duration of the evaluation process to obtain the seal, the implementation of the plan will begin in the Q3 2018.

The implementation process will be performed through four different levels of responsibility:

1. **Steering Committee on HRS4R (SC)** will be the maximum office and will oversee the implementation process on a regular basis. It will be composed of the four Vice Rectors responsible for coordinating the implementation and the follow-up of the HRS4R-derived measures. It will also communicate the advances to UPM's Board of Directors.
2. **Implementation Working Group (IWG)** will be composed of 6-8 members of the Working Group and will invite other research and administrative staff members to participate. It will coordinate the deployment of the HRS4R Action Plan and will also control quality and follow up on indicators.
3. **Implementation OTM-R Working Group (OTM-R IWG)** will be composed of 3-4 Human Resources staff members responsible, and other administrative staff members will be invited to participate. It will coordinate the deployment of the specific OTM-R-related actions from the HRS4R Action Plan and will also control quality and follow up on indicators.
- **Technical Secretariat (TS)**, reporting to the Steering Committee will give support to the IWT and OTM-R IWG for the preparation of deliverables, and will support the SC to follow up on indicators. The TS will also be responsible for a dynamic workflow articulated during the course of the plan: a cloud tool of easy access to information, regular meetings, ad-hoc subcommittees with key people for specific matters depending on the evolution of the process, quality control and international benchmark.

3.2 TO INVOLVE THE RESEARCH COMMUNITY IN THE IMPLEMENTATION PROCESS

As seen above, the research community (R1-R4) will be a part of the IWG. They will be involved in the design of the actions, the pilot deployment testing and the periodical surveys developed by the Vice Rectorate of Quality and Efficiency.

3.3 TO ENSURE THAT ACTIONS WILL BE IMPLEMENTED AND ARE ALIGNED WITH UPM'S POLICIES.

As the first action, there will be a **declaration of UPM**, signed by the Governing Board.

The strategic framework for the implementation of the HR Action Plan is **UPM's Strategic Plan**. UPM will add an additional chapter or revision of the current strategic plan to include the HRS4R action plan.

The commitment of UPM includes a **budgetary allocation**, aimed at hiring/designating specialized personnel for the Technical Secretariat to provide methodological support in the design and implementation of the actions.

The previously detailed indicators will be included in **UPM's scorecard** and will be verified quarterly to find evidence of any alignment with the HRS4R with organisational policies.

A **communication plan** will be designed with the objective of raising awareness in the university community about the C & C and OTM - R criteria and, also, to report on progress in implementation. The communication plan will include updating of the web contents, creation of content for UPM's regular communications, etc.

The IWG shall also be responsible for verifying that UPM policies regarding different areas are **coherent** with the HRS4R and the actions developed within this Action Plan.

Additionally, there is a **strong commitment to quality seals** accreditations like HRA, and there is a specific Vice Rectorate for quality issues.

3.4 TO MONITOR THE PROGRESS

The monitoring and the follow-up of the plan will be continuous, being one of the main functions of the Technical Secretariat, under the responsibility of the Vice Chancellor for Quality and Efficiency.

The following specific mechanisms will be provided:

1. The **indicators** will be included in UPM's scorecard and will be verified quarterly to find any evidence of alignment with the HRS4R in our organisational policies.
2. **Reporting** to the Board of Directors on a quarterly basis.
3. **Reporting** and holding monthly meetings with the Steering Committee.
4. Quality control performed by an **external reviewer** and international expert on HRS4R issues.
5. **Internal audit** performed by the Vice Chancellor for Quality and Efficiency.

3.5 TO PREPARE THE INTERNAL AND EXTERNAL REVIEW

The internal evaluation will be performed by the IWG through the following actions:

1. the revision of the advancement of the project after the compromises reflected in the Action Plan,
2. the revision of the indicator progress reports,
3. the reports of activities,
4. the fulfilment of road maps for each action.

With this data, a progress report will be elaborated 12 months after the activity was initiated, and reported to the SC. A final report will be elaborated after 24 months, as it has been defined in the new procedure. For this final report, templates available in EURAXESS will be used