

HRS4R@FHTW

October 2014

> So spannend kann Technik sein.

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Foreword

In summer 2012, the UAS Technikum Wien's Rector Fritz Schmöllebeck and CEO Michael Würdinger signed the "European Charter for Researchers" and the "Code of Conduct for the Recruitment of Researchers" and secured the commitment of the UAS to this initiative.

To ensure that the principles of this document would be discussed and implemented in an HR strategy for R&D employees, the UASTW applied to be part of the initiative Human Resources Strategy for Researchers (HRS4R) promoted by the European Commission, and was included in its fourth cohort.

The HRS4R procedure consists of 5 steps:

- 1) Gap Analysis
- 2) HR strategy for R&D staff incl. action plan
- 3) Publication and submission to the European Commission
- 4) Implementation phase and self-evaluation
- 5) External examination of the implementation of the action plan

To this end, the UAS-internal project HRS4R@FHTW was initiated in the summer semester 2013. This document presents the results of the first two steps - Gap Analysis and Strategy including Action Plan.

Universities of Applied Sciences in Austria

The Austrian Universities of Applied Sciences sector has a short history. The Universities of Applied Sciences Studies Act (FHStG) entered into force in 1993; a year later the first ten University of Applied Sciences degree programs began. In contrast to other European countries the Universities of Applied Sciences sector has been built and expanded completely from scratch, not by improving existing educational institutions, but by the accreditation of individual programs. In the academic year 2012/13 there were 21 Universities of Applied Sciences, 387 UAS degree programs and about 43,600 students. Against the background of educational policy goals of decentralization and deregulation, privately organized operating organizations receive financial public funding to organize study programs. With the entry into force of the new University Quality Assurance Act (HS-QSG) on 01/03/2012 the FHStG and the conditions for the external and internal quality assurance were dramatically changed. The UAS courses are now given unlimited accreditation. The previously applicable mandatory external re-accreditation of programs in a five-year cycle has been abolished and replaced by an obligation to further develop the degree programs autonomously in a periodic process.

R&D at universities of applied sciences is oriented towards applications and relevance, and is based on need and on the challenges of the business and practice. The obligation to carry out R&D is anchored in the FHStG. Accreditation requires that the steps necessary to achieve the objectives and to ensure the principles of application-oriented research and development activities are carried out by members of the teaching and research staff (see § 8 para. 3 line 4 FHStG). Furthermore, the operator has to ensure that the teaching and research staff participate in application-oriented research and development work (see §. 10, para. 7). This is especially true for master programs. The flowback into the teaching thus plays a central role (see also § 3 para. 2 line 2a, which provides explicitly that there should be no university of applied sciences without masters courses). The law and financing model do not provide core funding for R&D at universities of applied sciences

from the federal government. The strategic impetus and the capital requirement for funded projects are to be borne by the operator. This fact significantly affects conditions and design possibilities of R&D at universities of applied sciences.

Austrian universities of applied sciences do not offer doctoral programs, this path is reserved for general universities and is open to graduates of UAS Master's or Diploma courses. If the standard duration of a UAS degree program is shorter than a comparative program at a general university, the doctoral program shall be extended by the difference in time. Dissertation collaboration is possible within the scope of individual R&D projects as well as institutional agreements with general universities in Austria and abroad.

The University of Applied Sciences Technikum Wien

The UASTW was the first institution in Vienna to receive its university of applied sciences status in 2000. The support body responsible for the UASTW is a non-profit organization that was founded on the initiative of well-known companies in the electrical and electronics industries and the FEEI (Association of the Electrical and Electronics Industry) in 1994. This means that companies, and not a public support body, form the association and board of directors.

In the academic year 2014/15 the UASTW offered 29 technical Bachelor's (12) and Master's (17) degree programs in the areas of:

- Communication Technologies & Electronic Engineering
- Information Technologies & Business Solutions
- Engineering & Environmental Technologies
- Life Science Technologies

In 2013/14, more than 3,500 people were studying at the UASTW (full-time or part-time or as distance learning) and over 8,500 have already received their Diploma, Bachelor or Master's degree here. Teaching and R&D are carried out by 15 departments that work across a range of degree programs in a clustered matrix organization. In the area of R&D at Austrian universities of applied sciences, the UASTW was most recently ranked fourth in relation to annual R&D turnover (data up to and including 2010), and first among universities of applied sciences that have no fixed state funding. Since 2012, the UASTW has been a full member of the European University Association (EUA).

After a strong structural and growth phase, in 2011/12 a strategy process meeting for systematic R&D development was held. During this process, four R&D priorities were identified:

- eHealth
- Embedded Systems
- Renewable Energy
- Tissue Engineering

The funded R&D activities of the USATW are increasingly focused on these four priority areas. They are being continually expanded and there is a push towards cross-institutional R&D cooperation in order to let R&D staff and students from other areas share in the expansion of the R&D priorities.

Typically, the academic staff is active both in teaching and R&D at the UASTW. The extent depends on their personal profile and development. This also applies to Junior Researchers who go into the R&D sector straight after a Master's degree or during their Master's program. The instrument of the dissertation cooperation for the higher qualification of academic staff has been selectively used so far and will be further developed in the future, specifically to increase the proportion of PhDs among R&D employees. This share currently amounts to between 30 and 40% and should be increased to 60% as part of the strategy period 2013-2017.

The funding is made up of federal funds for teaching based on the standard cost model of the study place federal funding and external funding. The external funding comes from grants (European, national, regional), from contract projects and other contributions.

The state of Vienna supports the Viennese universities of applied sciences, unlike other federal states in Austria, in the form of competitively acquired project-based funding, which is coupled to the universities' using their own resources, amounting to 30% of the total.

The UASTW supports R&D staff both in the university (University of Applied Sciences Technikum Wien Association) and in its 100% subsidiary Technikum Wien GmbH. In the future the HRS4R formulated here should contribute to the implementation of a level playing field for all R&D employees, regardless of their legal and disciplinary affiliation.

Indicators 2012/13:

(FTE = full time equivalent)

▪ Number of full and part-time employees in total	883
▪ Of whom are women	217 (25%)
▪ Staff in teaching and R&D	725 (82%)
▪ Full-time (fixed salaried) employees in FTE	229
▪ Of whom are women	94
▪ Full-time (fixed salaried) R&D employees in FTE	40
▪ Total Number of externally funded projects	69
▪ Volume of externally funded projects (€ million) total	3.3
▪ Of which is external funding (€ million)	2.5
▪ Of which is external funding from grants (€ million)	2.2

HRS4R@FHTW – The Project

The UAS-internal project HRS4R @ HTW for carrying out the gap analysis and drafting of the action plan was launched at the beginning of the summer semester 2013, in coordination between Rector, Head of Research Organization and the Senate of the UASTW.

In this first phase of the project, and in coordination between Rector, Head of Research Organization and the Senate of the UASTW, steps 1 and 2 of the HRS4R process were carried out with a large working group (gap analysis and the drafting of the HR strategy for R&D staff incl. action plan). This part of the project was completed in autumn 2014. Following the approval and publication of this outcome document, work in the implementation phase was started in small groups.

For step 1 and 2 of the project, a large working group was formed and actively involved, the following positions were represented (partly simultaneously):

- **R&D staff members from six departments:** Advanced Engineering Technologies, Biochemical Engineering, Biomedical Engineering Sciences, Embedded Systems, Information Engineering & Security, Sports Engineering & Biomechanics
- **Vice Rector**
- **The officer responsible for all R&D priorities:** eHealth, Embedded Systems, Renewable Energy, Tissue Engineering
- **Heads of six departments:** Biochemical Engineering, Biomedical Engineering Sciences, Electronic Engineering, Embedded Systems, Renewable Energy Systems, Information Engineering & Security
- **Heads or deputy heads of ten degree programs:** Electronics & Business, Information and Communication Systems & Services, Sports Equipment Technology
- **Heads or deputy heads/assistance of Master of Science in Engineering:** Embedded Systems, Renewable Urban Energy Systems, Industrial Electronics, Information Management and IT-Security, Innovation and Technology Management, Healthcare and Rehabilitation Technology, Tissue Engineering and Regenerative Medicine
- **Representatives of various service sectors:** Managing diversity and equal treatment, Coordination of R&D and Projectservice, Gender mainstreaming and promotion of women, Personalservicedepartment, Quality and Degree Program Development, Education & Further Training

A written survey to be completed by all R&D staff of the UASTW (approximately 40 FTE in R&D at the time of the gap analysis) was rejected, as this instrument is already very frequently used (employee survey, diversity actual analysis, ...), and therefore preference was given to a direct exchange and discussion in a project group. Using templates, a first representation of the status quo was created in a subgroup and this was then tested and supplemented by the entire project team. In spring 2014, the needs and the potential measures were then discussed and worked out with the entire project team within two workshops. Over the summer of 2014, the measures were first elaborated, then clustered, finalized and prioritized.

In the composition of the project team the following aspects were taken into consideration:

- Size of the team, so as to support discussion and diverse ideas and approaches
- Close coordination with the university administration (Rector's Office and Management)
- Inclusion of legal expertise
- In addition to those working actively in the project, the inclusion of researchers via department meetings
- Inclusion of all roles concerned and involved: departments as places of research, degree programs as places where the inclusion of the research in teaching is used, co-organizing service areas
- In the selection of researchers who were directly included in the project team, the principal focus was placed on diversity, so that the study centres of the UAS Technikum Wien were represented, but also the research focuses, male and female colleagues, of different age and / or length of service, different organizational background, with or without experience of other research institutions

Results of the gap analysis

For each topic cluster the actual situation at the UASTW was first summarized. Then under "Challenges and Measures" the priority areas were listed (based on the principles in Charter & Code), with the corresponding measures, responsibilities for implementing these measures, time frames and potential indicators.

I. Ethical and professional aspects

In accordance with the Universities of Applied Sciences Studies Act (FHStG), the operator has to ensure that the educational and R&D personnel take part in application-oriented R&D work (§ 10 para. 7). In principle, freedom of R&D is exercised at the UASTW, however, it is nevertheless molded by financial considerations. The financing of an R&D project will be clarified in advance and due to personnel and infrastructure needs has to be borne almost exclusively by external funding. In order to ensure sustainable financing for R & D, a strategy process took place in 2011/12, in which the R&D priorities were set. The funded R&D activities of the UASTW are increasingly focusing on these (cross-institutional) priorities, which are continually evolving. The projects completed in the Technikum Wien GmbH, a 100% subsidiary of the UASTW, only partially follow the logic of the priorities. In addition, commissioned projects could be found in other areas of competence of the departments.

Financial and controlling processes are regulated uniformly at the UASTW. For the majority of projects (funded projects) the specific requirements of the funding bodies have to be observed. The existing central controlling, which includes the total annual budget for R&D (to be adopted by the UAS Council and Managing Committee), and the corresponding multi-year plan are continuously being expanded.

Internal rules covering the dissemination of project results (both for staff and for students involved, depending on the context of the R&D activities) are in place and in addition to the publications, the flowback into the teaching plays a significant role. Also in place is a guide on copyright and rules for dealing with the application for and use of Intellectual Property Rights (IPR). Because of the necessity to protect resulting IPR in collaboration with companies, there may selectively be restrictions regarding dissemination activities. The UASTW is trying to avoid entering into any contractual arrangements with companies as part of projects which restrict R&D freedom. Accordingly, cooperation agreements consistently include the possibility of using the findings and results of the projects in academic teaching and R&D, as well as generating scientific publications from them. Since 2013, the UASTW has been a member of the Open Access Network Austria (OANA).

In addition to R&D cooperation with partners from science and industry and the resulting technology transfer, the UASTW ensures in many ways that the R&D results are made available to society; among other things via the ongoing flowback into teaching, participation in the scientific community and the activities to disseminate research results effectively to different audiences.

Funded R&D projects are subject to continuous evaluation by the funding body, scientific publications mostly undergo peer review by the respective community and therefore quality is assured. A regular internal UAS-comprehensive evaluation of the work of the R&D staff does not yet take place at this point. As part of the strategic activities for the development of quality in R&D at the UASTW, output criteria is a relevant field of action.

Equal treatment and equal opportunities are strategically anchored. In the academic year 2012/13 a comprehensive diversity actual analysis was performed. This inventory firstly had the objective to analyze the existing diversity and secondly to make other potential for change visible. Based on the results, an action plan was drafted and adopted, and principles of conduct were defined. These were approved in March 2014 by the UAS Council. These principles of conduct also include a chapter on scientific integrity, which can later serve as a starting section for a guide to good scientific practice. Currently, a guide for students on how to draft scientific papers is available. It is assumed that R&D employees comply with the ethical principles of their subject area. In the academic year 2013/14, a working group was established on the subject of plagiarism to define procedures in suspected cases. The UASTW is a member of the Austrian Agency for Scientific Integrity.

Challenges and Measures

Principle(s)	Action	Who is Responsible?	By When?	Possible Indicators
Research freedom, ethical principles, professional responsibility, good practice in research	Elaboration of binding principles for R&D employees	Head of Quality Assurance and Degree Program Development	31st of December 2016	An appropriate results document is approved and published
Dissemination of results	Creation of an Open Access Policy	Head of Research Organization	31st of August 2016	An appropriate results document is approved and published, measures are initiated
Evaluation system	Definition of input / output criteria for R&D (as part of the development of R&D strategy)	Head of Research Organization	31st of December 2015	Internal and output criteria are defined and linked to specific processes
Dissemination and exploitation of results	Measures for the promotion of publications	Head of Research Organization	31st of December 2016	Internal funding instruments for publications are implemented, the number of various publications rises

II. Recruitment

At the UASTW, R&D employees are full-time or part-time, on temporary or permanent contracts and either employed on fixed contracts or on a freelance basis. Sometimes they may also be students, especially from Master's degree programs, who begin as junior researchers. R&D employees may be employed either via the UAS Technikum Wien Association, or via its 100% subsidiary Technikum Wien GmbH. The main focus may be on R&D or on teaching and the proportion is then determined individually. Furthermore, junior researchers can also be actively employed in teaching. Austrian universities of applied sciences do not have the right to award doctorates and dissertations are written in cooperation with general universities in Austria and abroad. The central focus is on a mix of experience and qualifications, which also are the basis of the formal criteria required for a UAS professorship.

The vast majority of the new positions for R&D staff (project based) are advertised both internally and externally. In view of the increase in the proportion of women among the R&D personnel, specific channels, which directly address women, are also being used. If required, channels for students will also be used. The recruitment process for R&D staff follows clear procedures. Personnel decisions are made according to the 4-eyes principle. In some cases, a commission is convened either when provided for by the statutes (e.g. degree program directors) or if so required by the funding authority (e.g. endowed professorships).

Challenges and Measures

Principle(s)	Action	Who is Responsible?	By When?	Possible Indicators
Recruitment, selection, transparency	Optimization of the hiring process and establishing criteria for tenders	Head of HR Services	31st of August 2016	Criteria and policies are defined and implemented
Recruitment, selection, transparency	Guidelines for Appeals Commissions	Head of Quality Assurance and Degree Program Development	31st of August 2016	Guidelines for use and composition of appeals commissions are approved by the UAS Council

III. Working conditions and social security

The UASTW employs R&D staff under both temporary as well as permanent employment contracts, full and part-time. The framework conditions for R&D employees are dependent on financing in externally funded projects. Since the adoption of the R&D strategy in 2012, more permanent R&D employees have been hired in the R&D priority areas. The employment contracts can be individual solutions from a mix consisting of teaching, R&D and management.

Young R&D staff usually enter into projects as junior researchers on a temporary contract after their Master's degree or even during their Master's program, and have the opportunity to gain some first experience in teaching. After the first few projects, employment is changed to a permanent contract if possible. To date, no uniform job titles are used for more experienced R&D staff. A UAS-wide definition of classification criteria does not exist. Career paths are defined and communicated as prototypes but not yet standardized.

Conditions that have been defined for those on fixed contracts also apply to R&D employees, e.g. employment agreements, pension plans, salary adjustments, as well as equipment and technical infrastructure, internal communication channels and various in-service training opportunities.

In principle, R&D employees work in their respective department, where the head of the department is responsible for the personnel, also in terms of staff development, in-service training, staff appraisals, hiring of teachers and the like. The planning and the deployment in R&D projects is carried out in coordination between those responsible for R&D priorities and the department heads.

The UASTW has the goal of creating a more equitable gender balance in all areas enshrined in its strategy. A particular goal is to significantly increase the proportion of women in leading positions in the scientific field (teaching and R&D personnel, as well as degree program directors and heads of departments), and for this purpose appropriate measures are being continuously implemented. The same applies for Diversity Management, whose overarching objectives are anchored in the strategy and are tracked in detail in action plans. Among other things, in the academic year 2013/14, the University and Family Audit was carried out at the UASTW.

The UASTW has defined regulations in Private International Law, in particular relating to inventions in service and works contracts (as well as in the training contract for students). The acquisition rights of the UAS have been regulated, as well as the entitlement of employees to remuneration. Issues relating to copyright law are explained in a guide. Furthermore, the regulations in PIL relating to students who work in R&D projects, yet are not employed, were specifically defined.

In accordance with the statutes, teaching and R&D employees on a permanent contract are given passive and active voting rights for the appropriate curia in the council, regardless of whether their contract of service is limited or unlimited. In accordance with the statutes, the Council is tasked with establishing committees, commissions and working groups in which teaching and R&D personnel are appointed (e.g. in appointments committees).

Challenges and Measures

Principle(s)	Action	Who is Responsible?	By When?	Possible Indicators
Career Development	Definition of career paths, names and criteria for R&D positions	Head of Research Organization	31st of December 2015	Classifications, descriptions, criteria, conditions are adopted and communicated
Career Development	Internal support for dissertations	Operator	31st of August 2015	Possible models are defined and initial pilot projects are already underway
Career Development, Value of Mobility	Definition of sabbatical and parental leave models based on best practice examples	Head of HR Services	31st of August 2017	Possible models are defined and initial pilot projects are already underway
(Co-)authorship	Measures for support for publications (see section I. Ethical and Professional Aspects)	Head of research organization	31st of December 2016	A model for the provisioning of time or budget for publications has been implemented

IV. Training

R&D activities and personnel development for R&D staff will take place in the departments. Those responsible for the priority areas take charge of the project and staff scheduling with respect to the respective R&D priority. The personal care and supervision of R&D employees is assumed by the department heads or delegated to senior researchers. This group of people also carries out the annual staff appraisal with the R&D employees.

Interdisciplinary in-service training is organized by the relevant service sector. For this purpose, annual inputs and suggestions from senior staff (including the staff appraisals), from other service sectors and from staff surveys are translated into a program of in-service training that is open to all employees irrespective of their function, grading and type of employment.

In addition, there are targeted in-service training opportunities that are also aimed at freelance employees. The costs are borne by the training service sector together with the respective organizational units. Data on the training available and to what extent they are taken advantage of is centrally available and is regularly evaluated. Subject-specific in-service training is determined and financed by departments.

Participation in conferences, seminars, workshops and internal in-service training is also possible for R&D employees with fixed-term contracts, within consideration of the budgetary framework. There is also the opportunity for external students to participate in courses at the UASTW.

Challenges and Measures

Principle(s)	Action	Who is Responsible?	By When?	Possible Indicators
Continuing Professional Development and Access to Research Training	Development of the in-service training program with targeted training for specific groups of R&D employees	Head of In-service Training	31st of August 2015	Number of targeted in-service training opportunities for specific groups of R&D employees
Continuing Professional Development	Internal funding instruments for external in-service training and conference visits for R&D employees	Head of Research Organization	31st of December 2016	Budget and conditions for utilization are defined