Action Plan

Case number: **2018CZ342584**
Name Organisation under review: **Technical University of Liberec**
Organisation's contact details: **Studentska 1402/2, Liberec, Liberec, 461 17**
Submission date: **05/12/2018**

1. Organisational Information

STAFF & STUDENTS	FTE
Total researchers = staff, fellowship holders, bursary holders, PhD. students either full-time or part-time involved in research *	157
Of whom are international (i.e. foreign nationality) *	11
Of whom are externally funded (i.e. for whom the organisation is host organisation) *	37
Of whom are women *	48
Of whom are stage R3 or R4 = Researchers with a large degree of autonomy, typically holding the status of Principal Investigator or Professor. *	30
Of whom are stage R2 = in most organisations corresponding with postdoctoral level *	77
Of whom are stage R1 = in most organisations corresponding with doctoral level *	50
Total number of students (if relevant) *	474
Total number of staff (including management, administrative, teaching and research staff) *	180

RESEARCH FUNDING (figures for most recent fiscal year)	€
Total annual organisational budget	10 229 858
Annual organisational direct government funding (designated for research)	835 838
Annual competitive government-sourced funding (designated for research, obtained in competition with other organisations – including EU funding)	7 398 966
Annual funding from private, non-government sources, designated for research	1 995 054

ORGANISATIONAL PROFILE

The Institute for Nanomaterials, Advanced Technology and Innovation (CxI) is a university institute at the Technical University of Liberec. Its aim is to contribute to the development of the region, which is traditionally oriented to technical industries. Research programs are focused on areas of material research and competitive engineering with an emphasis on the usability of the research and development results in practice. The Institute is organized in 8 research departments, 2 labs, 4 specialized departments.

The Institute has endorsed principles of the Charter and the Code as a separate organization. Information provided above is related only to the Institute.

2. Strengths and weaknesses of the current practice

Ethical and professional aspects

Strengths and Weaknesses

In the upcoming period, the attention will be necessarily paid to optimizing the future CxI structure, professional profiling of individual workplaces, determination of the core competencies and specifying areas of research. Another important task is to develop a new system of assessment of workplaces, teams, and workers, but also a form of communication with the employees (also with the research environment). These topics have already been the subject of serious discussions. CxI partial strategies are being prepared.

Strengths

1) A considerable degree of freedom - an essential prerequisite for free research - even the novice researcher is given a fairly large scope for specifying his field of study. Researchers can significantly influence not only the subject and the way of research but also their career path.

2) University environment - internal regulations codify the framework of an open and democratic community with elements of integrity and loyalty. The Code of Ethics contains the traditional principles of the academic environment in accordance with generally accepted rules.

3) The University Strategic Development Plan for 2020, with a view to 2030, defines frameworks of activities in the core activities of the University and its components.

4) Tolerant CxI environment - friendly, non-discriminatory.

5) The CxI environment allows research teams to choose the methods and means to achieve research goals - teams can propose (and carry out) research projects or solve tasks in collaboration with the application sphere partners.

6) Encouraging results (especially in the field of science and research and cooperation with companies) for the whole period of existence of the Institute (founded ten years ago) and management experience.

Weaknesses

1) Insufficient definition of long-term objectives in the field of science and research for the next period (Action 2).

2) Unclear organizational arrangements and roles within the university at the end of the sustainability

period of the project, CxI was instituted within.

3) Insufficient delimitation of powers and the level of responsibility of the executives and investigators in research activities (Actions 1,3,4).

4) The absence of some of the provisions in the regulation on health and safety at work (content of training and their organization with regard to the professional orientation of workers) (Action 5).

5) The concept of education (Action 6) is not developed for the use of research results and their dissemination.

6) The monitoring system, which was created in accordance with the project rules and indicators, is no longer sufficient. It does not respond to the future CxI needs and does not contain all the requirements of the Charter and the Code (Action 7).

7) Communication - lack of information and communication issues is a serious topic.

8) The Institute's economy has been subject to project conditions in the past. The Institute had a turnover of approximately 10 million euro, of which approximately 1 million euro was the institutional support (purposeful support for the development of research and science). Thus, about 10% of the funds did not have a predetermined destination. This represents a certain risk to the stability of the research directions, especially in the cases where project and procurement resources do not cover the necessary costs. This can be a serious risk for further development in the main research directions.

Recruitment and selection

Strengths and Weaknesses

Recruitment - searching and selecting suitable candidates for scientific research positions has always been a difficult task. Building a great research team is a necessary prerequisite for the development of a research institution. Therefore, the recruiting mechanisms needs to be strengthened in the coming period. On one hand, strengthening by using modern information technology for disseminating information on job vacancies, but also by adapting recruitment procedures in order to occupy the position with the best applicant. This fact is also confirmed by the GAP analysis, which points to the necessary revision of the information and recruitment system.

Strengths

1) Tender for the position - selection procedures are governed by rules in accordance with the university legislation that guarantees equal opportunities, openness, and transparency in the decision-making process. This is described in the internal regulations of the University "Tender Rules for the Occupation of Academic Staff and Other Staff of TUL Strengths". Specifics for the CxI environment are defined in Director's Directive 1/2012 on the Selection Procedure for the R&D staff positions (https://cxi.tul.cz/en/about-us/department-of-human-resources-development/internal-cxi- hr-documents).

2) Transparent recruitment procedure - selection procedures twice a year, the selection committee assesses the delivered documents, in the second round the applicant is being interviewed.

3) The administrative burden on applicants is reasonable, many of the required tasks might be done by the means of the electronic communication.

4) Attractiveness of the job positions.

5) Relatively favorable structure of the CxI employees (gender, age, qualification).

Weaknesses

1) A less efficient process of searching for applicants, especially in the international dimension. CxI uses the website of TUL to publish information about the job positions (tenders), but it has not developed an information system for the promotion of vacancies and the publishing of information in English.

2) No standards are specified for junior researchers (and post-graduate students) (Action 8).

3) There are no rules for the publishing of information on job vacancies (time limits and responsibility for electronic publishing), there is no obligation to include any information on the prospects of the work process, opportunities of career development. There is no rule to include information on the strengths and weaknesses of the candidacy to the decision on the result of the selection procedure and to ask for further information, e.g. on the composition of a selection board, etc., and to object (Actions 8, 9, 10).

4) The current set of evaluation criteria in the selection procedure focuses predominantly on bibliometric indicators and possibly on the specific results of the research work. Other relevant criteria, such as experience of team leadership, participation in educational activities, experience from other institutions, and foreign internship, have not yet been included in the mandatory criteria (Action 11).

5) There are no rules for judging merit and mobility. There are no rules for positioning for pre- and post-doctoral candidates, there is no formal position definition (post-doctoral candidate) (Action 15)

Working conditions

Strengths and Weaknesses

The Institute's founders have had in mind the following goal: CxI aims to be an attractive research workplace, where professional competencies, ethical standards, and social values are the centerpieces to the culture of the scientific community. This is in line with the Charter and Code for Researchers that CxI has subscribed to.

The Institute has a good experience with 10-years of quite successful existence of the project environment. A favorable background was created for the researchers by the Project (Operational Programme Research and Development for Innovation 2009- 2013), supported by the investment subsidies (reconstruction of the building L and purchase of the state of the art equipment). A lot of conditions and objectives were related to the project, any changes in the organization of the work environment were limited, an agreement with the grant provider was hardly possible. However, a number of ideas were presented, but the changes might be done after the ending of the sustainability period, (December 31, 2018).

The challenge for the next period is internationalization - on one hand, to create conditions for increasing the attractiveness of the topics and workplaces, to be attractive enough for cooperation, but also to motivate the staff to promote increased international activity. A draft of the strategic plan for internationalization and the establishment of joint workplaces is being prepared.

Strengths

1) University principles include recognition of the profession - the definition, rules and characteristics of the remuneration system are described in the internal regulations "TUL Rules" and "TUL Internal Wage Regulation" (https://www.tul.cz/en/international-office/important-university-documents-in-english).

   Specifics for the CxI environment are set up in the Director's Directive 2/2012 The Career Regulations of the CxI TUL R&D staff (https://cxi.tul.cz/en/about-us/department-of- human-

resources-development/internal-cxi-hr-documents).

2) Some Institute´s departments are extremely successful in terms of the quality of the results, but also in the acquisition of subsidy funds (or in cooperation with companies). https://cxi.tul.cz/en/research-projects

3) Next to the professional departments and laboratories, there are also other supporting workplaces that have more administrative character. They provide significant support to the researchers.

4) Favorable conditions for young researchers (children´s corner and the kindergarten in the University campus, practitioner, dentist, part-time work and home office is allowed etc.).

5) Relatively good labor-legal relations with the employees, including the remuneration conditions.

6) Good relations between Ph.D. students and their supervisors. Usually, it is possible to combine the research task of the Ph.D. student with the subject of the dissertation.

Weaknesses

1) Insufficient level of communication (one of the main outputs of the Satisfaction Survey), CxI information system (Action 16).

2) Sabbatical leave (Action 17) so far not used at CxI.

3) There are no defined conditions for the development of the career path for the science and research workers (Action 18).

4) The level of cooperation with international partners is different, some departments are more successful, and some do not have any international projects. A similar situation concerns the "mobility". Missing definitions of mobility and assessment of the individual and team ratings (Action 19).

5) Insufficient Career Guidance (Action 20).

6) In connection with the forthcoming amendment to the university regulations, the uncertainty of the labor-legal classification of some of the staff, who have been working at CxI as a researcher and pedagogue at the faculty.

Training and development

Strengths and Weaknesses

A good bunch of educated and competent staff is the most precious principle for the research organization. Therefore, the issue of lifelong (research oriented) education and career development is of particular importance. For beginners (and, as a rule, Ph.D. students), learning and gaining experience (including in other institutions or abroad) is part of their individual plans, even if they are already involved (sometimes only part-time) in the research tasks. For "higher-skilled" categories of employees, CxI has not developed a system of education and professional development yet. Experienced researchers, who participate in the study programs at the faculties and have excellent results in science and professional work, may apply for habilitation or appointment procedure to a professor. After successful processes (and the award of a scientific- pedagogical title), the educational competencies of the research institution will be strengthened.

Strengths

1) CxI has, in addition to research departments and laboratories, in the organizational structure (https://cxi.tul.cz/en/about-us/organizational-structure), also departments that provide support and service to the research teams, particularly in human resources, economics, law, organization, promotion, etc. The aim is to leave room to the research teams for creative work and professional

growth.

2) Support participation in training and courses outside the workplace, as well as the organization of educational events on different topics at the CxI premises.

3) Administrative staff is, by rule, sent to the training outside the TUL if the grant provider announces a new grant title, a call or updates the rules. Employees of the Grant Support Department regularly monitor the conditions of the programs and disseminate the relevant information to the researchers

4) Researchers have a number of opportunities to participate in professional events and conferences.

5) Some researchers that works partly as teachers or supervisors of Ph.D. students at a faculty, have comprehensive education systems- accredited study programs. The training of Ph.D. students (acting at CxI categorized in R1) under the guidance of habilitated trainers is carried out within accredited programs.

Weaknesses

1) CxI has not developed a comprehensive education system for individual levels and roles of employees.

2) CxI has not developed a system for evaluating employee development and promoting its qualitative growth (Action 23).

3) CxI does not have an environment for the systematic sharing of information on education and professional growth opportunities (Action 24).

3. Actions

Proposed ACTIONS

Action 1	GAP Principle(s)	Timing (at least by year's quarter/semester)
It is necessary to complete the Authorization of the science and research project or task Investigator with the specific assumptions, competencies and responsibilities related to the given task or project at the CXI TUL level. This Authorization must contain the process of informing interested parties, especially in case of a change, delay, conclusion or non-standard end of the research project or task solution, according to criterion 4.	(+/-) 3. Professional responsibility	Q3/2019
	Responsible Unit	**Indicator(s) / Target(s)**
	CxI Secretary	The goal is to complete the "Authorization of the Investigator" with the specific assumptions, competencies and responsibilities related to the given science and research project or task. Inform CxI staff by regular seminars and updated information at the cxi.tul.cz website. I: CxI staff

Action 2

The Strategic Plan of the TUL's educational and scientific, research, development and innovation, artistic and other creative activities, including annual updates and the TUL Strategic Development Plan for 2020, with a forward view to 2030, set the objectives in the field of science and research based on SMART (Specific, Measurable, Accepted, Realistic, Timed), tools to achieve them, and sources of their funding need to be developed for each science area.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 4. Professional attitude	Q3/2019

Responsible Unit	Indicator(s) / Target(s)
CxI Director	The aim is to develop the CxI TUL internal document governing specific strategic objectives in the field of science and research, and to define measures to achieve the objectives and the source of funding, then regularly inform about these to the CxI employees (through seminars, websites). The aim is to ensure that employees are not only informed about CxI's strategic goals, but also actively involved in the creation process. I: document defining strategic goals I: updated unified list of financing tools
	I: Informed employees of the CxI - CxI Information System (Module)

Proposed ACTIONS

Action 3

It is necessary to complete the Authorization of the science and research project or task Investigator with the specific assumptions, competencies and responsibilities related to the given task or project at the CxI TUL level. It is also necessary to briefly and regularly pass the summary of the rules to the researchers (institutions, providers) to be followed depending on the type of project / task. Ensure awareness of these obligations in the relevant internal TUL documents.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 5. Contractual and legal obligations	Q3/2019

Responsible Unit	Indicator(s) / Target(s)
CxI Secretary	The aim is to update the internal document - "Authorization of CxI TUL Investigator", which governs specific assumptions, competencies and responsibilities related to the science and research project or task. In addition, CxI TUL needs to regularly inform CxI staff about new opportunities, rules related to implemented projects through CxI TUL seminars, web sites and other internal documents I: updated document Authorization of the Investigator I: Informed CxI staff - CxI information system (module)

Action 4

It is necessary to complete the Authorization of the Investigator of science and research project or task with the specific assumptions, competencies and responsibilities related to the given task or project for successful performance of such position, at the CxI TUL level.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 6. Accountability	Q3/2019

Responsible Unit	Indicator(s) / Target(s)
CxI Secretary	The aim is to update the internal document - Authorization of the CxI TUL Investigator governing specific assumptions, competencies and
	responsibilities associated with the science and research project or task.
	I: Document Authorization of the Investigator
	I: CxI staff - CxI information system (module)

Action 5

Prepare a health and safety work plan (the "OSH Plan") at the CxI TUL level, which will respect the worker's expertise, including timetable for training. Modules tailored to groups of R&D personnel will allow more effective worker training and time savings. Develop a Data Management System that will respect the needs of CxI TUL workplaces.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(-/+) 7. Good practice in research	Q1/2020

Responsible Unit	Indicator(s) / Target(s)
CxI Secretary	The aim is to develop an OSH Plan, which will respect the competence of workplaces including the timetable of training sub topics. These will be divided into modules - seminars addressed to groups of R&D personnel. The aim is to develop the basics of Data Management System for the needs of the CxI TUL, which will take the specifics of the research environment into account. A user-friendly environment will be presented in a convenient way to the CxI staff to actively engage them in the process of creation and subsequent practical application. I: OSH plan I: trained CxI staff

Action 6

	GAP Principle(s)	Timing (at least by year's quarter/semester)
Develop a concept of education for dissemination and use of results relevant to the target group. In the field of preparation of research projects and professional publications, focus more on junior researchers; in the field of commercialization focus more on senior scientists. Specify competencies and responsibilities, in the internal CxI documents, in relation to the dissemination and use of R&D results. Update / make the section of the website cxi.tul.cz more attractive, in order to inform professional and lay public about the achievements, new results and interestingities from the CxI environment.	(+/-) 8. Dissemination, exploitation of results	Q4/2019
	Responsible Unit	**Indicator(s) / Target(s)**
	Department for promotion and cooperation with industry	The aim is to elaborate the concept of education (focused on the issue of dissemination of R&D results) tailored to specific target groups (senior, junior researchers, Ph.D. student). I: 2 annual workshops for Ph.D. students and junior scientists (project training, publications, IPR) I: 1 annual workshop about the news in the field of TT, especially for senior scientists I: updated web site, CxI contributions presented to the university magazine I: CxI information system (Module)

Action 7

Revise the Director's Directives 2/2012 Career Regulations of CxI TUL R&D staff in order to set quantitative and qualitative criteria. Create an evaluation system, in order to ensure systematic evaluation of all groups of employees, define the principles of feedback and have a link to the system of professional growth, development, education and remuneration. - Identify criteria and set parameters, - Adjust the system for the evaluation of teams and individuals, - Set rules for the gathering and processing of data, - Define feedback principles and remunerations.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(-/+) 11. Evaluation/ appraisal systems	Q4/2019 - pilot strategy of team and staff evaluation Q4/2020 - strategy for all CxI TUL researchers

Responsible Unit	Indicator(s) / Target(s)
CxI Director Department of human resources development	Revised internal document - the Director's Directive 2/2012 Career Regulations of CxI TUL R&D staff; set evaluation processes of R&D employees, in relation to regulation of remuneration. I: System of evaluation

Action 8

Revise CxI TUL Director's Directive 2/2012 Career Regulations of R&D staff internal documents. Define the admission and entry standards to the existing categorization of the R&D staff according to the international classification R1 - R4 and internal wage groups C1 - C5. Define specific standards for new junior researchers. Update the CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff in the same scope and solve the relation to the CxI TUL Rules of Procedure of the Selection Board for the positions of heads of research departments.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 12. Recruitment	Q4/2019

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revise Internal documents: - The CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D - CxI TUL Director's Directive 2/2012 Career Regulations of R&D, include acceptance and entry standards and specific standards for new junior employees
	I: Updated documents
	I: CxI Information system (Module)

Action 9

Revise the CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff. Complete the obligation to publish tenders electronically on international and world-wide platforms (EURAXESS, ResearchGate and others) and lay down the rules for the publication of all vacancies in the Czech and English language versions. Include the information on the potential career development of science and research workers into the existing job vacancy templates in the scope of vacant position. Make the selection process more attractive, especially for junior employees (joint workshops with students on assigned tasks, interactive practitioner). When recruiting new employees use communication channels of existing workers who often do not even know that a new employee is being sought for their team.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(-/+) 13. Recruitment (Code)	Q4/2019

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revised internal document - the CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff; set obligation to publish tenders electronically on international and world-wide platforms. Include the information on the potential career development. I: Updated documents

Proposed ACTIONS

Action 10

Revised CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff. Update the template for: - Name the chairman and other committee members, - Manners (rules) for the commission conduct, - The way to issue decisions. Add the obligation of the publisher to justify a decision and add an advice to ask for information about applicants selection procedure results into the decision. Add information about career opportunities for staff career development, according to the criterion 13. Recruitment (Code), to the vacancies template.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 15. Transparency (Code)	Q4/2019

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revised CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff governing the appointment of members and chairmen of the selection committees, decisions and informing the applicants.
	I: Updated directive (templates)

Action 11

Revise CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff and CxI Director's Directive 2/2012 Career Regulations of R&D staff internal documents. Include qualitative criteria for assessing the suitability of the candidate for the position of R&D staff. Define the admission and entry standards, according to the criteria 12 - Recruitment, to the existing categorization of the R&D staff according to the international classification R1 - R4 and internal wage groups C1 - C5.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 16. Judging merit (Code)	Q4/2019

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revised CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff and CxI Director's Directive 2/2012 Career Regulations of R&D staff internal documents. Include acceptance and entry standards and address other qualitative criteria.

Proposed ACTIONS

Action 12

Revise the CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff, add the importance and the way in which mobility is taken into account in the selection of R&D staff. Revise the CxI TUL Director's Directive 2/2012 Career Regulations of R&D staff, include the importance and the way in which mobility is taken into account.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 18. Recognition of mobility experience (Code)	Q4/2019

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revised internal documents: - CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff, governing the importance and the way in which mobility is taken into account in the selection of R&D staff. - CxI TUL Director's Directive 2/2012 Career Regulations of R&D staff I: updated regulations

_____

Action 13

	GAP Principle(s)	Timing (at least by year's quarter/semester)
Revise CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff and the CxI Director's Directive 2/2012 Career Regulations of R&D staff internal documents. Add links to relevant legislation on recognition of qualifications in the Czech Republic. Add the notion of informal qualifications. Modify the criteria for selecting the most suitable applicant so that informal qualifications are clearly taken into account.	(+/-) 19. Recognition of qualifications (Code)	Q4/2019

	Responsible Unit	Indicator(s) / Target(s)
	Department of human resources development	Revised CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff and the CxI Director's Directive 2/2012 Career Regulations of R&D staff internal documents governing the way informal qualification is taken into account during the selection procedure. I: updated regulations

Action 14

	GAP Principle(s)	Timing (at least by year's quarter/semester)
Revise the CxI TUL Director's Directive 2/2012 Career Regulations of R&D staff internal document. Define the admission and entry standards, to the existing categorization of R&D staff according to the international classification R1 - R4 and internal wage groups C1 - C5. In the same sense update the CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff according to the criterion 12.	(+/-) 20. Seniority (Code)	Q4/2019

	Responsible Unit	Indicator(s) / Target(s)
	Department of human resources development	Revised CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff and the CxI Director's Directive 2/2012 Career Regulations of R&D staff internal documents; included acceptance and entry standards according to criterion 12.

Action 15

Incorporate CxI TUL's position towards accepting post-docs, conditions of their financing and further function at the TUL into HR strategic documents. Revise the CxI Director's Directive 2/2012 Career Regulations of R&D staff internal document. Define the status of post-doctoral students and rules for their further professional growth. Define entry standards, to the existing categorization of the R&D staff according to the international classification R1 - R4 and internal wage groups C1 - C5. In the same sense update the CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff according to the criterion 12.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 21. Postdoctoral appointments (Code)	Q4/2019

Responsible Unit	Indicator(s) / Target(s)
CxI Director Department of human resources development	Revised CxI TUL Director's Directive 1/2012 On the selection procedure for positions of R&D staff and the CxI Director's Directive 2/2012 Career Regulations of R&D staff internal documents defining rules for the acceptance of post-graduate students and rules of their further professional development.
	I: CxI TUL strategic document

Action 16

Building a favorable work environment is a continuous process requiring regular dialogue. Employee feedback is provided mostly circumstantially, there is no control mechanism to determine whether the rectifications / improvements benefiting the target group have been implemented. The first employee satisfaction survey took place at the CxI in 2018. The aim is to identify

deficiencies or incentives, presented this way. The CxI Operational and Scientific Board was familiarized with the outcomes of the survey. The results are evaluated and processed at the management level and determine whether the agreed measures / remedies

have led to improvements in the given area. Questionnaire surveys will be used as a feedback mechanism. The new CxI TUL information system, which aims to simplify and streamline the search for necessary information (publications, projects, instrumentation, colleagues and their outputs), will also contribute to the favorable working environment.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 23. Research environment	Regular questionnaire survey, evaluation Q2/2020 - Information system of CxI

Responsible Unit	Indicator(s) / Target(s)
Directorate of CxI TUL	The aim is to carry out a questionnaire survey aimed at assessing the satisfaction of CxI TUL employees, repeatedly once a year. I: CxI staff The aim is to simplify and streamline the existing and, to some extent, fragmented CxI TUL information system, enabling one to access information from one access point.

Action 17

Analyze the legal status and conditions at the CxI TUL for the possibility of providing sabbatical also to R&D personnel, prepare a risk analysis, and define the conditions for employing sabbatical to R&D personnel at the CxI TUL.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 24. Working conditions	Q4/2019

Responsible Unit	Indicator(s) / Target(s)
CxI Secretary	CxI TUL internal document analyzing the legal status, CxI TUL conditions, and potential risks for providing "sabbatical" to science and research workers. I: analysis

Action 18

Revise the existing Director's Directive 2/2012 Career Regulations of the CxI TUL R&D staff and amend the rules for career development, further education and qualification and professional development of science and research workers.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(-/+) 28. Career development	Q4/2019 - pilot strategy Q4/2020 - strategy for all CxI TUL researchers

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revised Director's Directive 2/2012 Career Regulations of the CxI TUL R&D staff governing the rules for career development of science and research workers. I: R&D staff

Proposed ACTIONS

Action 19

Modify the existing Director's Directive 2/2012 Career Regulations of the CxI TUL R&D staff define the importance and way of assessing mobility in relation to the evaluation and remuneration of R&D personnel. Set indicators.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(-/+) 29. Value of mobility	Q4/2019 - edited internal document Q4/2020 - increasing the number of foreign mobiles compared to the current state

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revised internal document - Director's Directive 2/2012 Career Regulations of the CxI TUL R&D staff defining the value of mobility. I: Increase mobility by 10% in the course of 2 years

---

Action 20

Ensure science and research staff are aware of the possibilities of expert advice and the use of services provided by the Academic Counseling office and the TUL Support Center, through the updating of website content, regular distribution of information (social media, newsletter, information days). Web site localization to English language.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(-/+) 30. Access to career advice	Q4/2020

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Updated TUL Academic Counseling office and Support center web site to ensure the awareness of science and research staff about the possibilities of expert advice; website localized into English language. I: Update of the web site

Proposed ACTIONS

Action 21

It is necessary to create - a manual for new employees and to describe the role of a mentor for junior researchers in the organizational chart, - Rules of procedure of the CxI TUL. Operation Board

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 36. Relation with supervisors	Q2/2020

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	A manual for new employees Revised CxI TUL Organizational chart – role and competencies of a senior employee and a mentor to junior researchers. Rules of procedure of the CxI TUL Operation Board I: junior researchers, mentors

Action 22

The CxI TUL internal documents needs to define a general framework that adjusts the mentor - mentee relationship in order to be used by all research institutions according to their needs and set goals. An integral part will be the offer of so-called soft skills (management, communication) and an overview of mobility options for younger researchers.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 37. Supervision and managerial duties	Q2/2020

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	The CXI TUL internal document contains mechanisms for building relationships between senior and junior researchers. I: junior researchers I: overview of mobility, education offer

Action 23

The internal documents define the commitment of the employee to strive for the continuous growth of their qualifications and the development of their skills and abilities. It is necessary to revise the Director's Directive 2/2012 Career Regulations of CxI TUL R&D staff and to introduce criteria for assessment of personal development of science and research workers. Adjust the feedback system.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 38. Continuing Professional Development	Q4/2019 - pilot strategy Q4/2020 - strategy for all CxI TUL researchers

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Revised Director's Directive 2/2012 Career Regulations of CxI TUL R&D staff, criteria for assessing the personal development of science and research workers are introduced. Feedback system is adjusted. According to the criterion 11. I: R&D staff

Action 24

TUL has a wide range of potential career development. TUL Mobility Fund (a support to mobility of science and research staff), Erasmus + Support projects, participation in seminars and conferences, individual professional, language and social counselling, e-learning, teleconferencing and other supported activities. It is necessary to create a unified interface for sharing of information on career opportunities and options and improving the employability of science and research workers.

GAP Principle(s)	Timing (at least by year's quarter/semester)
(+/-) 39. Access to research training and continuous development	Q1/2020

Responsible Unit	Indicator(s) / Target(s)
Department of human resources development	Created web interface to share information on options and opportunities for career development and improvement in the employability of science and research workers. I: R&D staff I: CxI information system (module)

Proposed ACTIONS

Action 25

	GAP Principle(s)	Timing (at least by year's quarter/semester)
Internal Document Director's Directive 2/2012 The Career Regulations of CxI TUL R&D staff regulates the duties of senior and junior research positions. The document needs to be revised, feedback system from science and research staff needs to be set up and it is necessary to determine the competencies of those who provide support and information sharing to researchers at the beginning of their career development. Regular annual survey of the satisfaction of science and research workers through the survey needs to be established.	(+/-) 40. Supervision	Q4/2019
	Responsible Unit	**Indicator(s) / Target(s)**
	Department of human resources development	Revised Director's Directive 2/2012 Career Regulations of the CxI TUL R&D staff, updated feedback conditions from R&D staff and competencies. Created templates and conducted regular annual satisfaction survey of the R&D staff. I: junior R&D staff I: template - questionnaire

Action 26

	GAP Principle(s)	Timing (at least by year's quarter/semester)
The CxI structure - organizational arrangements, but also distribution of competencies and management share - was determined by project conditions (...). For the next period, in which CxI will no longer be bound by the project, certain changes can be expected. For example strengthening the competencies of the collective bodies - the scientific board - especially when deciding on the further direction of the CxI.	(+/-) 35. Participation in decision-making bodies	Q4/2019
	Responsible Unit	**Indicator(s) / Target(s)**
	CxI Director	Revised internal documents: - Rules of procedure of the Scientific Board, - Rules of procedure of the Operation Board.

Unselected principles:

(++) 1. Research freedom   (++) 2. Ethical principles   (++) 9. Public engagement

(++) 10. Non discrimination   (++) 14. Selection (Code)

(++) 17. Variations in the chronological order of CVs (Code)   (++) 22. Recognition of the profession

The Recruitment Policy at CxI TUL is, except for minor exceptions, in line with the OTM-R Policy. It is based on the TUL Directive Rules of the tender procedures for appointing academic and other staff and the CxI Director's Directive 1/2012 on the Selection Procedure for the R&D staff positions, that precise the TUL Rules for the CxI Environment (http://cxi.tul.cz/files/pages/other/About%20us%20(documents)/%C3%9A%C5%99edn%C3%AD%20deska/ENG/Selection%20of%20R%20%26%20D%20positions.pdf). Following the Selection procedure Directive, the Director's Directive 2/2012 Career Regulations of the CxI TUL R&D staff has been updated (http://cxi.tul.cz/files/pages/other/About%20us%20(documents)/%C3%9A%C5%99edn%C3%AD%20deska/Sm%C4%9Brnice%20%C5%99editele/2018/EN_KARI%C3%89RN%C3%8D%20%C3%98%C3%81D_verze%206.0.pdf).

Although the rules are known and respected, the written form of the OTM-R Policy was not available. Drafting the Document helped a lot to realize the continuity of the steps and logical links. On the other side, the summary of the CxI Recruitment Policy will be a good first sight of the organization towards the applicants.

In particular, to partial phases:

The template of the job advertisement matches the OTM-R Toolkit except for a few points, that have been incorporated in the Action Plan (action 9 and 10). With the transition to the internationally recognized categorization (R1-R4), the orientation of the applicants in the job position advertised will be clearer and faster. Also, the opportunities for professional and career development will be outlined.

Attention will be paid more to the structure of the advertisement, to make it better-arranged and attractive for the applicants. Using the link to the workplace, that offers the job position, will contribute to a better image of the future work, the new guide for the incoming employees will help with the initial orientation (Action 21). The information about the benefits (language school, children´s corner, and the kindergarten, legal and spiritual counseling, counseling for the disabled) will be linked. Following the action defined, the job advertisements will be, as a rule, published on Euraxess. Next to the job advertising, new ways of attracting the employees are being sought. The Lab of System Integration at CxI is preparing a joint workshop for bachelor and master students. The first part will be targeted at the demonstration of the devices used (3D HoloLens, robots programming), the second will be a common practitioner of the students for the assigned task. If this concept succeeds, a similar one will be prepared for other research teams with positions available (Action 9).

The OTM-R Policy is at most connected with the Recruitment and Selection section of the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers. We are aware of the strengths and weaknesses CxI TUL has in this area and the Directorate is ready to accept the new procedures and upgrading the existing ones. The gaps identified by the HR working group and consulted with the Group of Internal consultants were then discussed with the Operational Board of CxI, that is formed of the departments´ and labs´ heads, that are, to a large extent, responsible for the composing of the research teams and in this field closely cooperate with the Director for HR at CxI.

The weaknesses - gaps identified might be sorted in 3 groups, respecting the phases of the Recruitment process.

In the Advertising and Application Phase, the differences among the categories of researchers were not considered much (Action 8) and the description was rather general. With the transition to the categorization of R1-R4 and the "bridge" to the TUL categories C1-C5 (according to TUL Internal wage regulation), the standards will be defined, respecting the target group. Special attention will be paid to the position of postdocs (Action 15). From the mid of 2018, the jobs positions are, as a rule,

published in English on Euraxess. The increase in the number of applicants is considerable, although unequally among the courses (material research within tens of percent, competitive engineering within percentages).

In the Evaluation and selection phase, two gaps were identified. Next to minor technical matters (uniting the templates for the appointment of the members and chairman), the template for the final decision has to be completed (Action 10). Until now, the justification and the feedback – a short message summarizing the strengths and weaknesses of the applicant were missing. We believe, that this kind of report will contribute to better and more open communication between the Institution and the applicant, that might consider applying next time. Great attention must be paid to the Judging merit and Mobility (Action 11 and 12), as until now, more quantitative characteristics were considered. To assess whether an applicant fits into a team, it is important to assess the qualitative one as well. The discussion on the scale of characteristics, that should be assessed, is still open. Assessing the informal qualification and other qualification gained in the life-circle is a very complex and difficult task. This assessing relies on expertise and erudition of the selection committee. This kind of assessing will be always partly informal.

If your organisation already has a recruitment strategy which implements the principles of Open, Transparent and Merit-Based Recruitment, please provide the web link where this strategy can be found on your organisation's website:

URL:

https://cxi.tul.cz/en/about-us/department-of-human-resources-development/hr-excellence-in-research

4. Implementation

General overview of the expected overall implementation process of the action plan:

The implementation phase begins with the start of 2019, immediately with the beginning of the new period of CxI life cycle (the year 2018 is the last one of the sustainability period of the project within which CxI was instituted).

For the implementation period, the working group was appointed by the Director of CxI TUL. The core of the WG remains the same, original competencies have been retained. Responsible units and indicators are listed in AP. Within this phase, the HR WG will be closely cooperating with the CxI Directorate and Departments to fulfill the actions set in the Action Plan. The Steering Committee will be „guarding" the whole process of implementation.

Successful fulfillment of the HRS4R will contribute primarily to promotion and internationalization of the Institute.

Related benefits to the receiving of the HR award are:

- Prestige of the institution at national and international level, an internationally recognized brand
- Open and transparent working environment
- Creating joint and uniform institutional identity
- Quality management and management
- More visible position in the ERA, interconnection with the pan-European network of researchers and organizations
- High level of collaboration with strategic research partners

- Competent research teams and skilled employees
- Collegiate environment, Attractiveness for newcomers
- Acquisition of national and international research funding (advantage of the Technology Agency of the Czech Republic, HORIZON 2020 and others)

Processes adjustments should provide the employees with a more welcoming work environment and conditions, especially:

- Safe working environment
- More qualified and professional care of HR
- Transparent conditions for the selection and recruitment of the best applicants
- Support to newcomers (foreign as well the native)
- Career advancement: the system of education and career development, assessment of qualification and competencies
- Recognizing the experience of mobility in the private and public sectors
- Meaningful organization of activities (project management)
- High-quality support of functions for creative work, easy communication and access to information
- Clearly defined evaluation system (including remuneration)

Next to the processes adjustment, part of the action will be focused on the translation of the documents in English. Insufficient environment for the foreign colleagues was not mentioned as a gap in every action, but we are well aware that if a foreigner should come into the new environment and feel comfortable, appropriate conditions should be provided.

We are well aware there is always room for improvement, especially at work with people so we expect new challenges at the time of implementation.

How will the implementation committee and/or steering group regularly oversee progress?

Implementation of the HRS4R

With the intention to create a long-term sustainable working environment, open to both domestic and foreign top researchers, CxI has launched the implementation of the project "CxI TUL Management Mechanisms with an emphasis on improving the quality of R & D activities", starting in February 2018.

Processes, defined in the project description, and control mechanisms, including timelines, are established.

The Steering Committee will monitor the tasks in the various fields taking into account the objectives, that have been set. Specifically:

- Setting of the CxI strategic management system in accordance with the HRS4R,

- Establishment of an internal evaluation system of processes and human resources compatible with the TUL systems,

- Setting the conditions for the development of international cooperation in research and widening the internationalization,

- Setting the conditions for the development of inter-sector cooperation,

- Setting up a strategy for the popularization of research results.

Measures are proposed to achieve these objectives. Some as pilot applications, some directly implemented.

Coordinator of the activity, who is simultaneously a member of the broader project team, is responsible for each of these areas, The Steering Committee cooperates closely with the project team and monitors the outputs.

One of the main objectives is to implement the Human Resource Strategy for Researchers (HRS4R), which is in line with the European Commission Recommendation 2005/251 / EC on the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. CxI management considers the Action Plan and the implementation of human resources strategies as a high priority.

As a part of the Action Plan implementation, CxI focuses primarily on areas where CxI, based on the developed GAP analysis and OTM-R compliance (Checklist) - feels the biggest conceptual gaps. The aim is to create a robust basis for the actions roofed by the Action Plan, over a period of two years, followed by the development or building other areas.

In the first step, it is mainly the regulation of legislation and setting the processes, followed by its own realization - the application in real conditions.

From a time perspective: in the first months of the implementation phase, the Action plan will be devoted especially to the establishment of a permanent working group for concretizing a detailed timetable, technical succession - interconnection of the individual activities; Documents not yet published in English will be translated.

The individual planned actions will be implemented within the milestones set by the Action Plan.

The implementation process will be discussed regularly at the Collegium of Director (frequency of the meetings is usually twice a month), at the Operational Board (once in a month), the progress will be presented to the Scientific Council (meeting is usually twice in a year). The Steering group will continue with the meetings that are organized once in a month.

How do you intend to involve the research community, your main stakeholders, in the implementation process?

CxI management considers the action plan and the implementation of measures to achieve the goals as a priority. Therefore involving the CxI staff in the process is a necessary condition. The environment is considerably diversified, ranging from the science-oriented teams, where attempts leading to formalization and scheduling have not been very successful, over researchers with clearly defined orientation to a specific realization of ideas, works, and innovations. Next to the researchers, CxI includes a group of other staff, whose tasks are more of an administrative nature. Therefore, it might be assumed that the implementation process will involve employees from various areas of activity:

- representatives of CxI management (directorate, group leaders, department and laboratory heads, project managers),

- representatives of the youngest generation (Ph.D. students and young researchers),

- representatives of the research categories (R1 - R4, junior and senior researchers).

The implementation process will be the subject of meetings of the committees: scientific councils, Collegium of the Director, and Operational Board. It is envisaged to discuss and comment on the main topics - including CxI's strategic objectives, as well as other related topics.

Thematic meetings and workshops will be supporting the implementation process as well. The procedures, leading to the achievement of the goals set in the Action plan, will be explained step-by-step with respect to the professional focus of the relevant groups. The impact on the research community will be monitored by thematic surveys, which should, among other things, provide information about the community's capacity to accept the change.

Another way of support towards the successful implementation of the process will be the popularization of HRS4R, using various promotional methods - web page of CxI, TUL Facebook and other social media, leaflets, promotion - documentation (eg a guide for incoming employees, etc.), that will be financed by CxI funds.

How do you proceed with the alignment of organisational policies with the HRS4R? Make sure the HRS4R is recognized in the organisation's research strategy, as the overarching HR policy.

An updated concept of the Institute organisation is being prepared within the transition from the sustainability period to the next stage of the CxI life circle (the sustainability period of the European project, resp. Operational Programme Research and Development for Innovation ends in December 2018, this project financed the reconstruction of building L, more than 100 state of the art equipment was purchased, new research teams were built). Four working groups have been instituted in 2018 (human resources, internationalization, cooperation with the industry, the popularization of science), all groups have been preparing a strategy built under the roof of the Institute´s one. The Institute is very well aware of the indispensability of human resources, the overall Strategy is, therefore, mainly focused on people - from the search phase - recruitment- inclusion into the structure to their further development. The gist of the HR Strategy is based on the forty principles of the Core and Conduct, bringing in the specification of the Institute (inclusion within the University, predominantly competitive funding, strong link to the industry).

The updated concept, the Strategy, would not be accepted well if that would not have been properly communicated. Several workshops, meetings...have been made
within the last year. The heads of the departments and labs, all the staff is brought in, if there is an interest, and the response rate and the attendance shows there is. From the legislative point of view, the updated version of the Organisational rules is being prepared, as mentioned in the Action plan, the Directives will be updated, consulted at the Collegium of Director and the Scientific Council of CxI TUL. With the conviction, that the structural changes lead to greater openness, connectivity to European research idea, the admission and adaptation will be smoother.

How will you ensure that the proposed actions are implemented?*

The implementation of the partial steps must be preceded by the well-processed communication. It should be sufficiently explained, why had the management of CxI determined for a certain step/action, only then the implementation may be beneficial. If the employees feel, they are involved in the processes, bigger problems with implementation should not arise. If yes, then it will be on the assessment, whether the time to evaluate the change was too short or the implementation was not

fully processed.

Some of the proposed actions take the form of the Directives. The Directive is always published at the webpage of CxI and the link is sent to all CxI staff. The Directive
is presented at the meeting of the Operational Board (head of the departments and labs) as well, and then at the level of the departments and labs - this is usually performed by the head of the workplace.

More extensive actions or the one with a larger impact (for example the changes in the Organizational structure or implementation of the Appraisal system) will be presented before the documents become effective. Implementation of new systems (Appraisal system for example) will require a pilot before the full efficiency.

Some actions (for example a unified environment for sharing the information) will be designed in cooperation with the representatives of the researchers to meet their requirements and then it will be up to them to use the system.

If the action requires an IT support, the tool must be tested before launch.

An integral and essential part of the overall process will be the workshops, roundtables and various forms of personal meetings. As it was tested in the phase of elaboration and development of the GAP analysis and the Action Plan, rather small meetings will be organized, as the interaction is more alive, people tend to be more honest and communicative.

How will you monitor progress (timeline)?*

The basic timeline is developed as part of the Action Plan. We are well aware the plan may change as the current situation may require a different sequence of actions or another more important actions will appear. The actions proposed and agreed in the Action plans are, due to its nature and focus, divided among the CxI departments, that are responsible for the relevant agenda (Directorate, Secretary, Department of research, Department of human resource development, Department for promotion and cooperation with Industry, Department of grant support). These Departments/units will monitor the progress, where relevant. As the heads of the Departments are members of the Collegium of Director and at the same time of the Operational Board of CxI, reports on progress, incl. barriers, difficulties, new opportunities... will be passed on smoothly.

The progress, or satisfaction with the actions, will be also monitored by the Survey, that is planned to be repeated regularly focusing on the areas, where the respondents show dissatisfaction. The contribution of some actions may be proven in a longer time horizon.

Assessment of the overall impact on the Institute - its culture, environment, overall sentiment will be a complex task performed at the level of the Directorate.

In line with current development, the timeline and the preferences of individual tasks will be agreed and updated.

How will you measure progress (indicators) in view of the next assessment?*

Following the monitoring of the progress, a question of measuring the contributions may and will certainly arise.

Some actions will be easier to measure, especially when the output is quantified. One of this

measurable characteristics may be the rate of mobility (given as an example) and if it is not increased to the plan, we search for the reasons that might be: insufficient promoting of the mobility funds and the projects that support the internships, insufficient financial support, legislative obstacles that might be solved centrally... Even if the index is numeric, we have to search for verbal reasoning.

The statistics on the newly coming researchers will be easy to evaluate, the evaluation of the benefits they have brought in the Institution will be more complex, reviewed over a period. The way of measuring the progress is closely linked the characteristic of the indicator.

Most of the indicators are listed as, for example, all junior researchers, all staff...the reason is that we want the actions to be successful with the impact on the whole group, then the Institute may function as a whole.

The progress will be measured - assessed at the level of the department that is responsible for the relevant agenda. The reports will be then passed to the HR working group and the Directorate of CxI. The director of CxI will communicate the progress, as well as the obstacles, difficulties with the top management of TUL - at the level of the rectorate.

Some actions may not bring any significant improvement or even may fail. Then a step back to the gist of the action will be done at the level of the working group, proposed recommendations will be discussed by the coordinator with the CxI Director and other involved groups (Operational Board, Director Council etc.). The action might then be changed or even removed, replaced by another that is more beneficial.