**TEMPLATE 2 – GAP ANALYSIS - OVERVIEW**

Case number: 2018NO360548

Name Organisation under review: Norwegian University of Science and Technology (NTNU)

Organisation’s contact details: Senior adviser Kristin Wergeland Brekke (Rector’s Office), [kristin.brekke@ntnu.no](mailto:kristin.brekke@ntnu.no), phone + 47 93 49 20 89

Submission date:  12 December 2018

* The Original GAP analysis (2009) was submitted to the commission 15 May 2014 before the site-visit 18 June 2014 (Action plan 2010-2014)
* template 2 is based on the original Gap analysis, and has been updated in the autumn 2018 taking into account national and institutional developments.

Date endorsement Charter and Code: 17 November 2008

**GAP analysis**

The Charter and Code provides the basis for the Gap analysis. In order to aid cohesion, the 40 articles have been renumbered under the following headings. Please provide the outcome of your organisation’s GAP analysis below. If your organisation currently does not fully meet the criteria, please list whether national or organisational legislation may be limiting the Charter’s implementation, initiatives that have already been taken to improve the situation or new proposals that could remedy the current situation.

**NOTE FROM NTNU**

**The subsequent rating of performance aims to satisfy the *HRS4R E-Tool Technical Guidelines for Institutions* (2018) which states that:**

*If the institution is already fulfilling some of the principles, the rating will be “fully implemented”. Nevertheless, the institution is required to provide evidence of the specific case (i.e. examples of programmes, policy in practice, etc.).*

NTNU considers that the NTNU strategy, policies and guidelines are in conformity with the Charter and Code principles, and that the principles as such are “fully implemented” at NTNU. However, practise may very between Departments and Faculties, and cultural change takes time. Limitations in capacity – human, economic and physical resources – may also influence how much it is possible to accomplish in the short and longer term. Stakeholders confirm that there is room for improvement in several areas, and their input is taken into account in daily work and longer-term development.

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| **European Charter for Researchers and Code of Conduct for the Recruitment of Researchers :  GAP analysis overview** | | | |
| Status: to what extent does this organisation meet the following principles? | ++ = **fully** implemented  +/- = **almost but not fully** implemented  -/+ = **partially** implemented  -- = **insufficiently** implemented | In case of --, -/+, or +/-, please **indicate the actual “gap**” between the principle and the current practice in your organisation.    Free text 300 words maximum | If relevant, list any national/regional legislation or organisational regulation currently impeding implementation  Free text 200 words maximum |
| **Ethical and Professional Aspects** | | | |
| 1. Research freedom | ++ fully implemented | The [NTNU Strategy 2018-2025](https://www.ntnu.edu/strategy-2018-2025) states that “Academic freedom is the basis for our activities”. How, is reflected in NTNUs values “creative, critical, constructive, and respectful”. |  |
| 2. Ethical principles | ++ fully implemented | NTNU follows the codes of ethics of [the Norwegian National Research Ethics Committees](http://www.etikkom.no/en/). Cases of suspected misconduct are handled at the appropriate level by the Department/Faculty or by the NTNU [Research Ethics Committee](https://innsida.ntnu.no/wiki/-/wiki/English/The+Research+Ethics+Committee). The [NTNU Ethics portal](https://www.ntnu.edu/ethics-portal) invites staff to reflect on typical research ethical dilemmas. Research ethics is part of the researcher education in accordance with the European Qualifications Framework.  See also principles 3 and 31 on IPR, and principle 32 on co-authorship. |  |
| 3.Professional responsibility | ++ fully implemented | NTNUs vision “[Knowledge for a better world](https://www.ntnu.edu/strategy-2018-2025)” underlines the responsibility to share knowledge, research results and data. [NTNUs IPR policy](https://innsida.ntnu.no/c/wiki/get_page_attachment?p_l_id=22780&nodeId=24647&title=Intellektuelle+rettigheter&fileName=Intellectual%20Properties%20-%20IPR%20.pdf) clarifies the ownership and management of IPR for staff, students, and external partners. Patentable inventions developed by NTNU employees are owned by NTNU (Act respecting the right to employees’ inventions).  See principle 2 on research ethics and principle 4 on project management. |  |
| 4. Professional attitude | ++ fully implemented | The individual researcher is responsible for their own research. The project manager (supervisor) is responsible to follow regulations and fulfil contractual obligations. Nonconformity is a management responsibility according to the NTNU internal control system. See [step-by-step guide to research project management](https://innsida.ntnu.no/prosjekt). For projects which require approval according to among others the Health Research Act and General Data Protection Regulation, institutional guidelines exist. In consequence of the new GDPR Regulations, procedures for approval and handling of personal data are revised, and a Data Protection Officer engaged (2018). |  |
| 5. Contractual and legal obligations | ++ fully implemented | NTNUs standard employment contract includes reference to relevant legislation on working conditions such as the Civil Service Act and the Working Environment Act. See principle 3 with respect to IPR regulations and principle 4 with respect to research project management. |  |
| 6. Accountability | ++ fully implemented | See principle 4 on research project management. Auditing rights are standard in EU research contracts, contracts with the Research Council of Norway, and more and more contracts with companies. The Office of the Auditor General in Norway and the newly established Internal Audit at NTNU will also scrutinize research related activities in their thematic audits. |  |
| 7. Good practice in research | ++ fully implemented | NTNU works systematically with Health, Environment and Security (HES), including learning, guidelines, nonconformity procedures, risk analysis and crisis preparedness.  NTNU has [guidelines for ICT safety](https://innsida.ntnu.no/wiki/-/wiki/English/Information+safety) in accordance with national requirements. In NTNUs internal control system, the responsibility for protection of personal data and biological material rests with the project manager: risk assessment, approval of data collection, safe storage, access to data and deletion. NTNU has solutions for safe data storage, transfer of data and deletion (see [health research](https://innsida.ntnu.no/wiki/-/wiki/Norsk/Oppbevaring+og+utlevering+av+forskningsdata+fra+helseforskning) – in Norwegian only). |  |
| 8. Dissemination, exploitation of results | ++ fully implemented | NTNUs strategy «Knowledge for a better world» emphasises the social responsibility to disseminate knowledge and exploit research results. NTNU has developed an ecosystem for innovation and entrepreneurship encouraging and [supporting commercialization](https://innsida.ntnu.no/kommersialisering). It includes among others an [NTNU Technology Transfer Office](https://www.ntnutto.no/home/) (legal duty of employees to report inventions) and pre-seed funding through [NTNU Discovery](https://ntnudiscovery.no/en/startpage/).  Researchers are encouraged to [disseminate research](https://innsida.ntnu.no/formidling) in academic publications and to the wider public. Publications are registered in the national database Christin; Registrations are taken into account in the national and institutional budget model. NTNU encourages [Open Access](https://innsida.ntnu.no/wiki/-/wiki/English/Publish+with+Open+Access) to research publication (publication funding available) and access to [Open Data](https://innsida.ntnu.no/wiki/-/wiki/English/NTNU+Open+Data) ([data management plans](https://innsida.ntnu.no/wiki/-/wiki/English/Data+management+plan) and infrastructure). It is challenging areas, and NTNU is preparing for a future where Open Access and Data become an obligation for publically funded research (EU, Research Council of Norway, Ministry funding). |  |
| 9. Public engagement | ++ fully implemented | NTNU is widely involved in society through external research collaboration and dissemination to the wider public (science and innovation fairs, school visits, contributions to TV-programmes). [Gemini](https://geminiresearchnews.com/) is NTNUs own channel for research news. See also Principle 8 dissemination. |  |
| 10. Non discrimination | ++ fully implemented | NTNU strategy, [HR Policy](https://innsida.ntnu.no/wiki/-/wiki/English/Human+resources+policy+for+NTNU) and Staff Regulations for Academic Posts state that NTNU shall show tolerance irrespective of gender, culture or outlook on life. NTNU is particularly focusing on gender equality and diversity. NTNU is committed to adapt the workplace, duties, and working hours to the employees working ability and phase of life. Permanent academic staff must master Norwegian or a Scandinavian language within 3 years; Norwegian courses are offered. It is often possible to teach in English at higher levels. The [NTNU Action Plan for Gender Equality and Diversity](https://innsida.ntnu.no/wiki/-/wiki/English/Policy+for+Gender+Equality+and+Diversity+2018-2021)  addresses the need to take suitable actions to better integrate the increasing number of international staff at NTNU. Norwegian is the official working language of the university, but more systematic parallel information in English is needed on the web and at the Departments. |  |
| 11. Evaluation/ appraisal systems | ++ fully implemented | Norway has a unique appraisal system whereby academic staff may apply for promotion according to [national regulations](https://www.regjeringen.no/en/dokumenter/regulations-concerning-appointment-and-p/id270830/): Associate professors (R3) may apply for promotion to professor (R4), lecturers (R1) may apply for promotion to research lecturer “førstelektor” (R3), and research lecturers (R3) may apply for promotion to senior research lecturer “dosent” (R4). Researchers/staff may apply for a wage raise based on among others academic performance (NTNU pay policy). There are annual wage negotiations between the working parties. Managers may give feedback on staff performance at the annual appraisal interview; The performance may have an impact on the distribution of Department duties and facilitation of career development. |  |
| **Recruitment and Selection** | | | |
| 12. Recruitment | ++ fully implemented | See the subsequent principles from the Code of Conduct. |  |
| 13. Recruitment (Code) | ++ fully implemented | NTNU practises open, transparent, merit-based recruitment (OTM-R). This is regulated in [NTNUs HR Policy](https://innsida.ntnu.no/wiki/-/wiki/English/Human+resources+policy+for+NTNU) and procedures for the recruitment of academic staff ([Staff Regulations for Academic Positions](https://innsida.ntnu.no/wiki/-/wiki/Norsk/Personalreglement)). |  |
| 14. Selection (Code) | ++ fully implemented | The selection process is defined in the Staff Regulations for Academic Positions. Academic qualifications are assessed by an expert committee of three members (both gender and two externals). The teaching skills committee shall also have three members (both gender and a student). Interviews are conducted on site or videoconference. Simplified procedures are applied for recruitment positions (PhD, Postdoc). |  |
| 15. Transparency (Code) | ++ fully implemented | Qualifications requirements are listed and the recruitment process briefly described in the job announcement. Applicants who are selected for peer assessment, receive the academic assessment reports from the expert committee and teaching committee. | With respect to the total assessment and final appointment decision, national legislation does not permit insight into the reasons behind the final hiring decision and does not open for complaints on the decision (Public Administration Act). |
| 16. Judging merit (Code) | ++ fully implemented | NTNU Regulations for Academic Positions stipulates that in the total assessment, the expert assessment shall be emphasized, but the assessment of teaching skills, interview, and reference checks may provide basis for changing the ranking or not nominating an applicant. |  |
| 17. Variations in the chronological order of CVs (Code) | ++ fully implemented | All relevant qualifications are taken into account in the total assessment. |  |
| 18. Recognition of mobility experience (Code) | ++ fully implemented | Mobility experience is appreciated in the total assessment. |  |
| 19. Recognition of qualifications (Code) | ++ fully implemented | Non-formal qualifications cannot replace formal qualifications, but is perceived as positive in many academic positions. Adjunct professors are typically recruited from industry and the health sector. NTNU is the Norwegian university with the most PhDs from industry co-funded through the national funding scheme for Industrial PhDs. |  |
| 20. Seniority (Code) | ++ fully implemented | NTNU has a flexible approach to experience and age. PhD fellowships are normally granted to younger researchers, but may also be granted to more mature candidates typically with a background from a university college/research institute, industry or other work places. |  |
| 21. Postdoctoral appointments (Code) | ++ fully implemented | The title and qualifications requirement for postdocs are regulated in [National regulations concerning terms and conditions of employment for post-doctoral research fellow, research fellow and research assistant)](https://www.regjeringen.no/en/dokumenter/Regulations-concerning-terms-and-conditions-of-employment-for-post-doctoral-research-fellow-research-fellow-and-research-assistant/id92637/) and NTNU Pay Policy ([Lønnspolitikk](https://innsida.ntnu.no/wiki/-/wiki/Norsk/L%C3%B8nnspolitikk)). At NTNU, most postdocs have 2 year fixed term positions, but NTNU is also permitted to offer 3 to 4 year positions with duty work. It is not allowed to have more than one postdoc position at the same institution. NTNU is looking into how the university may improve the [career development and career support for Postdocs](https://innsida.ntnu.no/wiki/-/wiki/English/Career+support+and+development+for+postdocs). |  |
| **Working Conditions and Social Security** | | | |
| 22. Recognition of the profession | ++ fully implemented | Early stage researchers are recognized as professionals: candidates with a Master’s degree may obtain academic posts and be admitted to doctoral education provided that the candidate has sufficient funding. |  |
| 23. Research environment | ++ fully implemented | NTNU works systematically with [Health, Safety and Environment](https://innsida.ntnu.no/hms).  NTNU has a good basic infrastructure for researchers in terms of office space, laboratories, working capital, software and library resources. Integration in national and international research networks is encouraged and facilitated. The university has several [internationally outstanding research groups](https://www.ntnu.edu/research) and laboratories. Research activity is largely project funded in Norway. |  |
| 24. Working conditions | ++ fully implemented | In general, good and flexible [working conditions](https://innsida.ntnu.no/wiki/-/wiki/English/Working+conditions+for+employees) in Norway including adjustments for handicapped, [leave of absence](https://innsida.ntnu.no/permisjon), and opportunity for reduced working hours adapted to circumstances of life. All employees are entitled to have a [performance appraisal](https://innsida.ntnu.no/wiki/-/wiki/English/Appraisal+interview+with+international+staff+members) and discuss salary and working conditions with the employer. [Internet solutions](https://innsida.ntnu.no/programvare) facilitate remote research work and collaboration.  [NTNU International Researcher Support](https://www.ntnu.edu/nirs) provides information on mobility matters for outgoing and incoming researcher. International mobility is encouraged for PhDs and Postdocs. Associate and full professors are entitled to apply for a [sabbatical leave](https://innsida.ntnu.no/en/forskertermin) of one year after four years of service. It is possible to have sabbatical leave every five years through the career provided you fulfil the criteria. |  |
| 25. Stability and permanence of employment | ++ fully implemented | Norwegian legislation is in conformity with EU legislation on Fixed-Term Work. PhDs (3-4 years) and Postdocs (2-4 years) have fixed-term contracts; The longer contracts include duty work.  University employees are entitled to a permanent position if they carry out permanent tasks such as teaching or management. This typically applies to lecturers, professors, and Department Heads.  Only deputies may be temporary engaged to perform teaching work. Researchers on externally funded projects may also be temporary engaged. NTNU aims to offer permanent positions if the length of the project or volume of activity in the research area warrants it. NTNU has an increasing number of researchers on temporary and permanent contracts who are depending on further external funding for the continuation of their contract. Ensuring fair treatment, and career opportunities for these researchers requires permanent attention from Departments and HR. |  |
| 26. Funding and salaries | ++ fully implemented | Research fellows, researchers, and academic staff have regular salary and good social benefits as public sector employees in Norway. Most externally funded PhDs are NTNU employees. |  |
| 27. Gender balance | ++ fully implemented | Promoting a better gender balance is a priority area as can be seen from the NTNU action plan for [gender equality and diversity](https://innsida.ntnu.no/wiki/-/wiki/English/Policy+for+Gender+Equality+and+Diversity+2018-2021) (2019-21) and the [HR Policy for NTNU](https://innsida.ntnu.no/wiki/-/wiki/English/Human+resources+policy+for+NTNU) (2007). It is a priority to find female applicants to management and academic posts, - particularly in science and technology where women are underrepresented at NTNU. Both gender shall be represented on expert assessment committees, teaching qualifications committees and appointment committees. Mentor programmes, start packages and qualifications fellowships are among the tools at hand to promote the career development of female staff. |  |
| 28. Career development | ++ fully implemented | All researchers are entitled to having a performance appraisal with their manager (typically Head of Research Group/Department Head). NTNU [guidelines](https://innsida.ntnu.no/wiki/-/wiki/English/Checklist+employee+appraisal+interview+topics?_36_redirect=https%3A%2F%2Finnsida.ntnu.no%2Fwiki%2F-%2Fwiki%2FEnglish%2Frecent_changes%3Fp_r_p_185834411_title%3DAppraisal%2Binterview%2Bfor%2Bemployees) recommend that career development is included in these conversations. Special guidelines are made for PhDs, Postdocs and international staff. Also PhDs and Postdocs who have supervisors, are entitled to an appraisal interview. NTNU runs institutional mentor programmes for selected groups: [female associate professors](https://innsida.ntnu.no/wiki/-/wiki/English/Mentor+program+for+women), postdocs, and participants in [research excellence programmes](https://www.ntnu.edu/research/research-excellence). Management development programmes are offered for Department Heads, leaders of research groups and education programmes. Various skills oriented [courses](https://innsida.ntnu.no/kurs) are provided at institutional level. Generic skills development in the PhD education is, however, a Faculty responsibility. It is possible to apply for leave or funding for continuing education. See principle 11 on the Norwegian appraisal system and principle 33 on pedagogical skills development. |  |
| 29. Value of mobility | ++ fully implemented | International experience and networks are valued relating to academic appointments. Experience from outside academia is appreciated to the extent it is relevant for the post. NTNU salary and social benefits can be transferred during guest researcher/sabbatical periods abroad. Transfer of social security provisions between sectors and countries subject to job changes, must be solved at national and international level. |  |
| 30. Access to career advice | ++ fully implemented | See principle 28 with respect to career advice from managers and mentors. The Norwegian Ministry of Education urges the universities to improve the career advice and offer staff development through all stages of their career. This is a development area for Norwegian universities.  The majority of the PhDs candidates educated at NTNU will have their career outside NTNU; Research groups and senior staff aim to include junior staff in their academic networks and external partnerships. In an institutional effort to raise awareness of the added value of PhD education in other sectors of working life, the first [annual PhD-conference](https://www.ntnu.edu/alumni/phd-conferences) was organized in 2017. In the Postdoc Action pilot project 2017-2019; new [career instruments](https://innsida.ntnu.no/wiki/-/wiki/English/Career+support+and+development+for+postdocs) were developed, and national and international online resources identified for career advice and job placement assistance. These instruments and resources will also be relevant to other research staff at NTNU. |  |
| 31. Intellectual Property Rights | ++ fully implemented | IPR developed by NTNU employees is as a general rule owned by the university according to national legislation and [NTNU IPR Policy](https://innsida.ntnu.no/wiki/-/wiki/English/Intellectual+property+rights). NTNU will not require commercial rights to traditional academic literature, musical works and works of art. See principle 8 with respect to IPR protection and support for commercialization. |  |
| 32. Co-authorship | ++ fully implemented | Students, research fellows and researchers are recognized as independent authors and co-authors according to international practise in each discipline ([Code of ethics for employees at NTNU](https://innsida.ntnu.no/wiki/-/wiki/English/Code+of+ethics+for+employees+at+NTNU)). Students/research fellows contributions to patents are are recognized ([NTNU IPR Policy](https://innsida.ntnu.no/wiki/-/wiki/English/Intellectual+property+rights)). |  |
| 33. Teaching | ++ fully implemented | NTNU may according to national regulations offer longer contracts for Research Fellows/Postdocs to gain teaching experience from duty work. It is not a right and depends on available funding and local needs. Formal [pedagogical competence training](https://www.ntnu.edu/ipl/educational-development) is obligatory for permanent academic staff. A shorter 3 day programme is available for PhDs/Postdocs. NTNU encourages staff to make use of new education and learning methods ([learning support](https://innsida.ntnu.no/undervisningsstotte), [network activities](https://www.ntnu.no/drive), [Teaching Excellence](https://www.ntnu.edu/teaching-excellence)), and takes education competence and performance into account in the internal appraisal system.  Note that at NTNU, supervision is part of the research work for academic staff, while only PhD-courses are considered a teaching duty. Competence development courses for supervisors are offered at institutional level and by some Faculties. | Current national regulations makes it difficult to allocate teaching duties to research staff as it may trigger employment rights to other “similar posts” (a court case ruled that associate professor could be considered a “similar” post). A committee appointed by the Ministry of Education recommended (2018) that the future academic career system in Norway should allow a more flexible use of research and teaching posts without triggering rights to associate and full professor positions. |
| 34. Complains/ appeals | ++ fully implemented | Conflicts shall be solved by the line management; locally at the research group/department level, or at Faculty level if this is more appropriate. Serious cases shall be handled in accordance with the [routines for whistleblowing](https://innsida.ntnu.no/wiki/-/wiki/English/Whistleblowing%20); It is an option to have a complaint examined at NTNU-level. In the revised routine for annual reporting in the PhD education, PhDs may ask for a meeting with the PhD administration at their Faculty if they have a concern or complaint, including conflicts with supervisors. Employee representatives or personal safety deputies (“verneombud”) may provide assistance in resolving work-related conflicts. |  |
| 35. Participation in decision-making bodies | ++ fully implemented | Permanent and temporary academic staff elects representatives to Department Boards, Faculty Boards and the University Board. A non-hierarchical organization is characteristic of the Norwegian working life culture; Initiatives and views of junior staff are appreciated. Regular consultation and information meetings are held at the Departments. Labour unions attend to their member’s interest in wage negotiations and individual cases relating to the working environment. Institutional standing committees facilitate consultation and co-determination between the working parties on matters relating to the working environment ([AMU](https://innsida.ntnu.no/wiki/-/wiki/English/Workplace+Environment+Committee+-+AMU)) and organizational development ([SESAM](https://innsida.ntnu.no/wiki/-/wiki/Norsk/Sentralt+samarbeidsutvalg+-+SESAM)). |  |
| **Training and Development** | | | |
| 36. Relation with supervisors | ++ fully implemented | Research fellows are admitted to organized researcher education programmes at NTNU. Improving the quality in the PhD education has been a priority the past ten years. In 2011, the NTNU Handbook defined a common quality standard at all Faculties, including recommendations on good procedures from admission to doctoral examination; In addition to annual progress reports, formalized reviews takes place at admission, mid-term and the end of the PhD period. As a quality measure, each candidate has two supervisors who are research active. They may have an additional non-academic supervisor. See [PHD 1-2-3 for NTNU’s PhD candidates](https://innsida.ntnu.no/doktorgrad) for links to the PhD Handbook, PhD regulations and follow-up procedures. |  |
| 37. Supervision and managerial duties | ++ fully implemented | Good [quality in supervision](https://innsida.ntnu.no/wiki/-/wiki/English/PhD+candidate+supervision) is essential for the quality in the PhD education; training courses for supervisors is offered. Career development is to be included in the annual appraisal interviews ([guidelines](https://innsida.ntnu.no/wiki/-/wiki/English/Checklist+employee+appraisal+interview+topics-.+Ph.D.+Candidates?_36_redirect=https%3A%2F%2Finnsida.ntnu.no%2Fwiki%2F-%2Fwiki%2FEnglish%2Frecent_changes%3Fp_r_p_185834411_title%3DChecklist%2Bemployee%2Bappraisal%2Binterview%2Btopics%2Bpost%2Bdoc) are available). In NTNUs management development programmes such as the programme for leaders of research groups, the significance of academic leadership for the career development of researchers is recognized. |  |
| 38. Continuing Professional Development | ++ fully implemented | Academic staff either have their own funds or may apply for funding to attend conferences and participate in the international research community. NTNU has excellent [library facilities](https://www.ntnu.edu/ub) with online journals. Several competence development [courses](https://innsida.ntnu.no/kurs) offered at institutional level are relevant to academic staff. Temporary reductions in teaching loads can be granted for the purpose of career development (qualification for promotion), or due to heavy management responsibilities (research, education, institutional roles). |  |
| 39. Access to research training and continuous development | ++ fully implemented | See principle 38.  NTNU competence development courses, and academic qualifications programmes are evaluated by participants. |  |
| 40. Supervision | ++ fully implemented | See Principle 36 and 37 about organized PhD education, supervision, progress reports and review procedures.  Postdocs have an appointed academic adviser to follow-up progress. |  |