

International Action Plan 2014–2017

Norwegian University of Science and Technology – NTNU



NTNU – Trondheim
Norwegian University of
Science and Technology

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Photo: Rune Petter Ness/NTNU Communication Division

International Action Plan 2014–2017

The starting point for NTNU's strategy *Knowledge for a better world* is the global knowledge society and the university's participation in the global development of knowledge. The International Action Plan is a tool to help NTNU achieve the goals set out in the strategy by paving the way for active participation in the global development of knowledge.

The ambition is to integrate internationalization in all academic activity in all of NTNU's academic communities: in all programmes of study, in all research activity and in innovation initiatives. Knowledge developed at NTNU should be made openly available. Dissemination, outreach and communication should strengthen NTNU's international visibility and reputation.

The aim is to strengthen the quality and relevance of NTNU's endeavours and increase the university's international recognition. The International Action Plan is an instrument. It sets clear institutional priorities for international cooperation and includes initiatives to support the internationalization of individual researchers and academic groups.

The 2014–2017 Action Plan focuses on specific priority areas that require particular attention. The plan is not intended to restrict the broad-based international activities taking place at NTNU, but to support the extensive ongoing efforts towards internationalization in the academic communities.

Three criteria form the basis for the priorities set for the International Action Plan: (1) Principles laid down in NTNU's strategic plan, (2) areas of particular political importance and political attention and (3) areas where NTNU is not performing well enough. Goals and actions have therefore been defined in areas that are particularly important in realizing the strategic plan, in areas where institutional attention is necessary, and in areas where there is a need to strengthen NTNU's international engagement. Three main areas have been given priority:

- I Participation in the global knowledge society**
- II International mobility**
- III Internationalization of programmes of study**

I. Participation in the global knowledge society

International cooperation is a prerequisite for access to the latest research results and provides the opportunity to participate in the development of new research, gain insight into new teaching methods and participate in the development of new education programmes and methods. The European programmes offer opportunities for cooperation with leading environments in Europe and the rest of the world. Cooperation with outstanding international academic communities provides quality and relevance in NTNU's activities. Cooperation with institutions in developing countries contributes to fulfilling NTNU's social responsibility from a global perspective.

Overarching goal:

Cooperation in the European education, research and innovation area is a priority for NTNU's international collaboration. During the plan period, NTNU will increase participation in European education, research and innovation to strengthen the university's contribution to the global development of knowledge. To enhance the quality of research and education, high priority should be given to cooperation with outstanding academic communities worldwide. Strategically founded research and educational cooperation with developing countries should help to strengthen NTNU's mission in society.



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Participation in the European education, research and innovation area

Goal: Horizon 2020

NTNU's participation in EU's Framework Programme for Research and Innovation *Horizon 2020* should correspond to at least NOK 1 billion in total income for the programme period.

Action:

- NTNU's systematic efforts to mobilize for participation in *Horizon 2020* should be given priority.
- NTNU's existing incentive and support schemes for *Horizon 2020* should be continued.
- NTNU should explore the establishment of an office in Brussels to support the university's research groups that are applying for European funding.
- NTNU should use its cooperation with strategic partners to increase participation in *Horizon 2020*.

NTNU participates in 126 projects in the EU's Seventh Framework Programme with a total income of just over NOK 520 million.

Goal: European Research Council (ERC) Grants

NTNU should at least double its portfolio of ERC grants in *Horizon 2020* in relation to EU's Seventh Framework Programme.

Action:

- NTNU will contribute to long-term career development and recognition of academic merit for talented young researchers through the *NTNU Outstanding Academic Fellows Programme* so that they can compete for ERC grants.
- Through the *NTNU Onsager Fellowship*, NTNU will recruit talented young researchers who can compete for ERC grants.

NTNU has been awarded 8 ERC grants in EU's Seventh Framework Programme.

Goal: The European Institute of Innovation and Technology (EIT) Knowledge and Innovation Communities (KICs)

NTNU should seek participation in established and new EIT KICs with the goal of participating in at least 3 KICs.

Action:

- NTNU will identify relevant communities of expertise and work towards participation in existing and relevant new KICs.

NTNU participated in 8 Erasmus Mundus joint degrees in the EU's Lifelong Learning Programme 2007–2013.

Goal: Joint Programming Initiatives (JPI)

NTNU should take advantage of the opportunities offered by the 10 established Joint Programming Initiatives in which Norway participates. The goal is to participate in at least 20 applications to the JPIs per year.

Action:

- NTNU should chart and set priorities for the JPIs. For high-priority JPIs, establishment of mirror groups linked to NTNU's Strategic Research Areas will be considered.

Goal: Erasmus+

NTNU should actively take advantage of the instruments in *Erasmus+* to support European cooperation in education and should participate in at least 10 European Joint Master's Programmes and at least 5 strategic partnerships and actively make the most of the programme elements that support cooperation with countries outside Europe.

Action:

- NTNU's efforts to mobilize for participation in *Erasmus+* should be given priority.
- NTNU's existing support schemes for participation in *Erasmus+* should be developed further and incentives should be established.



Cooperation with outstanding international research groups

Goal:

NTNU should establish long-term cooperation with selected international academic groups at the forefront of their fields, with particular attention to increased joint publication and higher quality in the programmes of study.

Action:

- All units at NTNU should identify their most important international partners. Specific plans for cooperation with the chosen partners should be developed. Models for cooperation should be established and shared.
- The publication strategy of the research communities should be developed further with an emphasis on joint publication with outstanding international research groups.
- There should be a focus on cooperation in education to keep in touch with important international trends.

In 2013, 40 % of NTNU's publications were international joint publications, an increase of just over 13 % from 2012.

Cooperation with developing countries

Goal:

NTNU should strengthen its cooperation with institutions in developing countries in education, research and innovation to promote skills development and mutual academic benefits. The focus should be on institutionally based cooperation with selected institutions in developing countries.

Action:

- NTNU's faculties should identify their most important institutional partners in developing countries. Strategic institutional partnerships, preferably across faculties, should be developed with institutions in developing countries.
- NTNU should maintain an ongoing dialogue with the Ministry of Foreign Affairs and the Norwegian Agency for Development Cooperation (Norad) about national priorities for cooperation with developing countries, take advantage of available national and international funding sources and work together with the business community to support cooperation with developing countries.

Photo: Ole Gunnar Dahlhaug



NTNU technology in use at the Jhimruk power station in Nepal.

II. International mobility

Enhanced internationalization of education, research and innovation at NTNU can only be achieved if NTNU's academic staff and students have experience from excellent academic environments outside of Norway. During the plan period, exchange schemes for students and staff as well as international recruitment of outstanding academic staff will be important measures to strengthen NTNU's education and research activity as well as NTNU's international reputation.

Overarching goal:

International mobility for students and academic staff is a priority in NTNU's international cooperation. The mobility of students and staff should be considered in relation to each other through the alignment of international cooperation in research and education.

There should be a reasonable balance between the number of students who come to NTNU on exchange programmes and the number of outgoing exchange students from NTNU. Student exchange should preferably take place as part of agreements.

International experience from excellent academic environments outside Norway should be strengthened significantly among NTNU's permanent academic staff, PhD candidates and postdoctoral fellows. NTNU should pay special attention to the recruitment of outstanding young researchers as well as outstanding established researchers from abroad.



Outgoing and incoming student mobility

Goal: International mobility for NTNU's degree students

By 2017, at least 40 % of NTNU's degree students should have a period of study at an educational institution in a foreign country lasting one or two semesters.

Action:

- NTNU's programmes of study should identify one semester or one year in the course of study that provides opportunities for international student exchange.
- NTNU's programmes of study should set goals for increasing outgoing student mobility.
- The programmes of study should arrange for student exchanges to take place as part of cooperation agreements and should identify a selection of partner institutions with which to enter into agreements regarding exchanges.

Goal: International student mobility to NTNU

Incoming students in exchange programmes must have relevant competence in relation to the courses they are taking at NTNU and must be integrated into a programme of study.

Action:

- NTNU should develop common procedures for the quality assurance of incoming exchange students.
- NTNU should make suitable academic and social arrangements for international students.

About 30 % of NTNU's students participated in exchange programmes abroad from 2010 to 2013.



There are approximately 2100 international students at NTNU at any one time.

Outgoing and incoming researcher mobility

Goal: International mobility for NTNU's academic staff

- Arrangements should be made to provide NTNU's permanent academic staff with opportunities for research stays abroad. New employees who do not have degrees or work experience from countries outside Norway should normally complete a research stay abroad within 3 years.
- During their postdoctoral period, at least 30 % of NTNU's postdoctoral fellows who do not have international experience should complete a research stay in an academic environment of high quality outside Norway.
- During their PhD period, at least 40 % of NTNU's PhD candidates should have a research stay in a high-quality academic environment abroad.

In 2012, 25 % of NTNU's PhD candidates had a research stay abroad.

39 % of individuals who were awarded a doctoral degree by NTNU between 2010–2013 were foreign nationals.

Action:

- A common policy for research stays abroad should be established as part of the sabbatical scheme for permanent academic staff.
- In recruitment to permanent academic positions at NTNU, international experience should be emphasized. A plan for internationalization should be set up for academic staff.
- A plan for international mobility of PhD candidates should be drafted in connection with their admission to the doctoral programme and for postdoctoral fellows upon commencement of the position.
- National and international funding sources should be used actively to support international researcher mobility.

Goal: International researcher mobility to NTNU

NTNU should have an active policy for the recruitment of high quality international academic staff to permanent academic positions, recruitment positions, adjunct positions and visiting researchers.

Action:

- All units at NTNU should have plans for international recruitment and relevant measures for recruitment of academic staff, especially of talented young researchers.
- Schemes for *International Chairs*, international visiting scholars and adjunct professors should be established.
- The *NTNU Onsager Fellowship* for the recruitment of talented young researchers should be launched as a pilot.
- NTNU's reception and practical support of international researchers should be evaluated.

III. Internationalization of programmes of study

*Internationalization is vital to the quality and relevance of the programmes of study.
An international learning environment encourages reflection and growth for each individual
and provides students with the skills they need in the global and national labour markets.
International participation in the programmes of study encourages improved quality.*

Overarching goal:

Internationalization of the education offered by NTNU should ensure diversity and provide high quality, international experience and insight into global issues.



NTNU offers 45 international master's programmes.

Internationalization of the bachelor and master's degree programmes

Goal:

- NTNU's programmes of study should be adapted to an international job market and reflect global challenges.
- Where appropriate, bachelor's programmes and 2-year master's degree programmes at NTNU should be designed for international recruitment.
- NTNU's programmes of study should be designed for an international learning environment that is developed through the diversity of students and teaching staff.
- NTNU should increase its educational cooperation with priority institutions abroad.

Action:

- NTNU's programmes of study should develop learning outcomes that reflect global challenges.
- Where appropriate, teaching at the master's level should be in English.
- The programmes of study should introduce teaching methods that take advantage of the diversity among students and teaching staff in the internationalization of the learning environment. NTNU should consider offering courses to support teaching staff in handling teaching in an international setting.
- NTNU should develop good models for international programme cooperation so that international programmes can be coordinated with all of NTNU's educational offerings in a rational way.

Internationalization of PhD programmes

Goal:

All NTNU's PhD candidates should be part of an international research community, which includes active participation in international conferences, publishing in respected international journals with peer review and cooperation with research groups in other countries.

Action:

- The PhD programmes should ensure that a plan for internationalization is developed for each PhD candidate and should develop procedures to ensure that the plans are carried out.