The merger platform

Foreword

On 19 June 2015, the Government in the Council of State decided to merge the Norwegian University of Science and Technology, Gjøvik University College, Sør-Trøndelag University College and Aalesund University College into one university named the Norwegian University of Science and Technology. This gave the final go-ahead for the NTNU merger from 2016.

The purpose of this merger platform is to provide a common foundation for the merged NTNU. Part I explains the institution’s profile and distinctive character. Part 2 presents a platform for core tasks, internationalization, support services and the multi-campus university. Part 3 focuses on describing subject areas in which the potential for synergies is regarded as high. In this part, development possibilities and levels of ambition are described in greater depth and more specific terms. This document thus outlines academic opportunities offered by the merger, assessed a few months before the launch of a merged institution. The merger platform is therefore not an ordinary strategy document, and the aim has not been to provide a complete and balanced formulation of the role, place and level of all the fields of study at NTNU.

A working group was appointed by the steering committee for the merger in the spring of 2015 to prepare a discussion document for the merger platform, led by Dean Einar Hjorthol. After the hearing process, the working group prepared a revised document, which was then finalized and adopted by the steering committee at a meeting on 19 August 2015. The final document will be submitted to the new NTNU Board. The document forms the basis and part of the decision support for the way that NTNU is to organize its activities.

The working group has not formulated a vision in the document text itself, but proposes to the steering committee that Knowledge for a better world should be the vision for the new institution.

A large number of staff members, student and organizational representatives have contributed constructively, critically and energetically in the consultation process. Among other initiatives, seven working groups were appointed in different subject areas with 300 participants in total, who provided important feedback on the discussion document. These working groups will continue to follow the merger process. From the responses to the discussion document, we interpret great enthusiasm and skill in terms of developing a good basis for the merger. Warm thanks to you all!

Trondheim, 19 August 2015

The steering committee for the merger project

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Part 1. NTNU’s profile and distinctive character

NTNU aims to be a university with an international focus and a multi-campus university with headquarters in Trondheim and campuses in Ålesund and Gjøvik. Our main profile will be in science and technology, with great academic breadth that includes the humanities, social sciences, economics, medicine, health sciences, educational science, architecture, entrepreneurship, art disciplines and artistic activities. NTNU will be a national hub in programmes of professional study.

NTNU’s academic breadth and interdisciplinary skills will contribute to sustainable social development. They will help to solve complex issues and improve understanding of the links between technology, society and the environment.

NTNU aims to conduct free and independent development of knowledge and to protect and promote academic freedom. Researchers have the right to freedom in their choice of topic, method, implementation of research and publication of results.

Creative, constructive, critical, respectful and considerate are NTNU’s core values.

NTNU will be a university that:

- leads the field in the development of knowledge in selected areas internationally by providing good development opportunities for academic communities of especially high quality
- is an important research institution with activities throughout the range of basic research, practice-oriented and applied research, and the arts
- provides bachelor’s, master’s, professional, and doctoral programmes of study at a high international level
- is the most important national provider of knowledge to Norwegian business and industry and defines the premises for technological development in Norway
- has great strategic willingness and ability to realize new opportunities at the regional, national and international level
- works together with strong academic environments internationally and recruits expert staff internationally
- has well-developed cooperation with the working world internationally, nationally and regionally
- values and encourages interdisciplinarity and innovative education, research and artistic activities
- offers high quality in its programmes of study, and is nationally and internationally attractive to people who are keen to study
- has first-class infrastructure, extensive experimental activities in research and education, and practice in professional life as important learning arenas in relevant programmes of study
- is a driving force for entrepreneurship and innovation
- shares its knowledge and participates in public debate
- carries out its mission in line with ethical standards
- provides an environment for work and learning that is adapted to diversity and creates a basis for staff and students to realize their potential
- builds on fundamental democratic values and represent an unprejudiced and independent voice
Part 2. A strengthened university

The merger provides the foundation for a strengthened university, with high ambitions in research, education, dissemination, outreach and innovation.

2.1 Forward-looking education

Our programmes of study are intended to provide sound knowledge, skills and general competence that represent a good foundation for careers in the working world and lifelong learning. Our students will encounter research in a diversity of subject and disciplines, and the programmes of study will have a clear international perspective. Graduates will be capable of reflecting on the distinctive characteristics, strengths and limitations of different fields of study. They must be able to meet national and global challenges, and they must have expertise in ethics, interdisciplinary cooperation and innovation. A hallmark of NTNU graduates will be that they are responsible and committed members of society with a high level of knowledge and integrity.

Our students will experience teaching, learning and learning environments of high quality and with stringent requirements for quality. The programmes of study will be subject to continuous quality development and they will be assured a good foundation for research. We will commit resources and lay the foundation for excellent education. We will have academic environments that lead the international field in the quality of their programmes of study.

Subjects in the programmes of professional study at NTNU will have a solid foundation in disciplinary knowledge and a practice-oriented profile. Research at a high level is vital so that our programmes of study reflect ‘next practices’ and not only best practices. The links between the professional and discipline-based programmes of study will mutually strengthen quality, and the academic expertise in these environments will be applied across boundaries. Here, the merger creates the basis for mutual strengthening of the professional programmes and the disciplines. Systematic dialogue with the working world on the content of our programmes will ensure social relevance.

The programmes of study will be innovative and experimental. We will use new tools and new technology where they strengthen education quality, learning outcomes, student commitment and motivation to study. Many programmes of study at NTNU demand a strong element of experiments, practising of skills, calculations and creative activities. Up-to-date infrastructure is therefore a necessary framework condition for good learning processes.

NTNU must itself conduct research on what results in good learning outcomes and promotes education quality. We will develop learning, learning activities and forms of assessment that make an optimal contribution to students’ learning outcomes, and that fulfil society’s needs for graduate skills. Forms of learning and assessment will be adapted to the nature of the programmes, and we will pave the way for skills transfer between academic environments and campuses regarding the best teaching practices. This requires flexibility, coordination and division of work across boundaries in the organization.

NTNU is to offer coherent and comprehensive programmes of study and we will provide for master’s degrees to be taken as a combination of a bachelor’s degree and a 2-year master’s programme, or as a 5/6-year integrated educational pathway. We will strive to coordinate programmes of study where this is academically relevant.

As a multi-campus university, NTNU must have a high level of expertise in technology-supported learning, and an infrastructure to support this. Common solutions will ensure good communication regardless of the location of students and staff.
NTNU will be a preferred partner for continuing and further education and will develop sought-after programmes in cooperation with sponsors and the working world. Selected programmes of study will also be offered through flexible and decentralized schemes.

2.2 Strong research communities

NTNU aims to be an internationally outstanding university with high quality in all research and artistic activities. We will have several world-leading research communities. At the same time, we will take care to provide breadth characterized by high quality in all NTNU’s fields of study. Artistic activities are an important aspect of NTNU’s academic profile. We will prepare the way for originality in research and artistic activities and for projects with the potential to transcend boundaries.

As a university, NTNU has a particular responsibility for basic research. The intrinsic value of basic research at the university is important for the development of knowledge in all fields of study, and forms the basis for both education and innovation. Providing our students with up-to-date insight into basic research enables us to educate candidates with the skills to challenge established truths, to meet global challenges, and develop future industries. NTNU is to have a nationally leading role in fundamental technological and scientific research.

NTNU’s doctoral education will be comprehensive with a high level of ambition in international terms. Doctoral education is an important part of the university’s mission in society and a driver in the long-term development of knowledge. NTNU will offer doctoral education throughout its academic breadth, and has a particular national responsibility for doctoral education in scientific and technological subjects. Effective use of the combined resources will ensure high quality. Doctoral education at NTNU is funded from various sources, both within its own budget and through external grants, and NTNU will take advantage of the opportunities for co-financing of PhD candidates with the private and public sectors.

As a national hub in programmes of professional study, NTNU will be an important partner for innovation in the public and private sectors. We will emphasize applied and practice-oriented research and development work. NTNU aims to be a strong and visible research institution within the programmes of professional study.

Scientific breakthroughs and solutions to society’s complex problems often emerge at the intersection between subject areas. We will harness the power of our broad portfolio of subjects and interdisciplinary skills to respond to major global challenges. NTNU is to have cross-cutting thematic areas of research and a clear commitment to enabling technologies. NTNU’s current thematic initiatives underpin the areas of energy, the oceans, climate and sustainable social development, as well as health and welfare. In terms of previous decisions by the NTNU Board, these continue until 2023. Climate as a theme will be a key research area at NTNU, and the university will be Norway’s largest institution for the education of highly qualified graduates in this field.

So that we can contribute at the leading edge of international knowledge development, we will establish the basis for building solid academic environments by setting strategic priorities, through international recruitment, and by investing in first-class laboratories and infrastructure for our core tasks.

Research at NTNU will be funded from various sources. External funding helps to build capacity and develop quality in our research. Establishing centres with external funding will be an important means of creating and supporting world-leading environments. NTNU will pave the way for and expects our researchers to succeed in national and international competition for research funding. Cooperation in the arena of European education, research and innovation is a priority. At NTNU, private funding of research will be an important supplement to public-sector sources.

Research at NTNU must take place in an ethically sound manner. We will ensure good scientific practice and have mechanisms to handle suspected violations of norms in research ethics.
2.3 The central role of the disciplines in the development of NTNU

The disciplines play a vital role in the further development of NTNU as an internationally recognized broad-spectrum university. Development in the disciplines is based on the distinctive character and intrinsic value of these subjects. To a great extent, genuine scientific discoveries drive academic development. The disciplines will develop on their own terms in an international community with high international standards. Basic research is a significant part of the identity of the disciplines. High quality in basic research is essential for further academic development and thus for quality in all programmes of study.

The disciplines result in important production of knowledge and knowledge creation. Fundamental understanding from the disciplines creates the basis for the development of society, technology and fields of study. Education in the disciplines provides unique methodological and theoretical skills combined with depth of insight, involving great capacity to absorb new knowledge in a lifelong perspective. These programmes of study are of a general nature that is not intended to provide qualification for specific occupations, but to provide skills that methodologically and theoretically equip candidates to acquire new knowledge.

Discipline knowledge will be combined with professional knowledge to ensure that the programmes of study are relevant to working life in the short and the long term. The link between disciplinary and professional subjects can strengthen all academic communities at the centres of study, when their resources are applied across boundaries. With a solid basis in the disciplines, the programmes of professional study can provide perspectives beyond their particular profession. The disciplines form a foundation for good professional programmes and represent the generic elements of the programmes. The discipline-based fields of study will play a key role in the teaching of fundamental courses at NTNU.

2.4 A partner for innovation and the development of society

NTNU aims to develop knowledge that pushes the boundaries of our understanding of nature, humans, society and culture. In teamwork with others, we will develop knowledge, technology and artistic activities, which we will make available to society through different channels and for a variety of audiences.

With its main profile in technology and science combined with its interdisciplinary strength, NTNU has a particular responsibility to contribute to the development and application of new and improved technology that helps to make society sustainable. NTNU’s commitment to sustainable technological development and application crosses the boundaries of subjects, sectors and industries. Enabling technologies create a basis for innovation and new solutions in a wide range of commercial sectors through new production methods and products. NTNU’s commitment to biotechnology, ICT and nanotechnology combined with advanced production technology create one of NTNU’s advantages as a promoter of innovation.

NTNU aims to be a preferred partner in commercial and industrial development nationally and in the regions where we are located. We will work together with businesses competing both nationally and globally, and we will contribute to creating value in high-priority and forward-looking areas of society.

NTNU will also be a preferred partner for collaboration in cultural life and the public sector. Good interaction and cooperation between education, research and regional working life are necessary to ensure knowledge-based and improved services, in the area of health among others.

Through the merger, NTNU’s profile in working life will be strengthened through the role of the university colleges as hubs of knowledge in the Gjøvik, Ålesund and Trondheim regions. We will benefit from complementary academic strengths at our campuses to increase cooperation with international, national and regional industry, and we will strengthen our position as a preferred R&D and innovation partner for the working world.
Students and staff across the breadth of NTNU’s activities will be encouraged and given opportunities to participate in entrepreneurship and innovation. Commercialization of ideas and research results will be supported through good infrastructure and professional support functions.

Effective teamwork with the institute sector is to be a competitive advantage for NTNU. We will build on the three-way collaboration between NTNU, SINTEF and Norwegian stakeholders in the private sector and public administration, which is a formula for success in the national and international context.

As a university, NTNU must contribute to reflection and constructive social criticism. We will raise ethical issues in society and smooth the path for our staff and students to communicate their knowledge and to participate and influence public debate.

2.5 A university with an international focus

Knowledge is developed worldwide, and NTNU aims to be a prominent contributor to the global development of knowledge. International cooperation is a way to strengthen quality. International cooperation is also a prerequisite for NTNU to contribute to knowledge-based solutions for global challenges, and for the potential to contribute to knowledge building in the parts of the world where it is needed. Internationalization must be integrated in the activity of all NTNU’s academic environments, in programmes of study, in research activity and in innovation initiatives. Knowledge from NTNU’s activities is to be available to the public. Dissemination, outreach and communication will strengthen NTNU’s international visibility and reputation. Teamwork in the sphere of European education, research and innovation is a priority for NTNU’s international cooperation.

NTNU is to establish long-term cooperation with outstanding international academic environments. We will form strategic alliances with good institutions and support international collaborative projects. International mobility and international recruitment of outstanding specialists and students are important methods to strengthen NTNU’s education and research activity.

Internationalization of NTNU’s programmes of study will ensure diversity and increase quality, international experience and insight into global issues. All NTNU’s PhD candidates are to be part of an international research community.

Research at NTNU will have an international focus. Even if the issues are national, regional or local, our research must contribute to the global community of knowledge, with the aim of publication through international channels.

NTNU will strengthen its cooperation in the core tasks with institutions in developing countries where this results in skills development and mutual academic benefits.

2.6 An attractive university

NTNU will strengthen its attractiveness as a place of study, a place to work, and a partner. The university will offer favourable conditions for staff to conduct research and teaching of high quality.

NTNU will attract the most talented students nationally and internationally. Our graduates will be in demand in the job market and in academia, and a diploma from the university will be a recognized hallmark of quality. NTNU will work vigorously to make its campuses the best places to study in the Nordic countries by creating a rewarding learning environment with room for diversity, where all students feel that they are taken care of and they belong. NTNU will benefit from strong cultures for student volunteer activities and will create a setting that encourages growth in the culture of volunteering on all campuses. The university will work closely together with student welfare associations and student organizations.
A working career at NTNU can follow several tracks. NTNU is a large university with many different roles and responsibilities for its staff. To operate our diverse activities, we depend on different types of skills in the academic core tasks, leadership, administration and operations. Our recruitment and career policy must provide scope for developing all these skills. NTNU is to be an attractive and professional employer that provides a basis for all staff to develop throughout their careers. For academic staff, we will explore several possible tracks.

NTNU will have an active recruitment policy for all job categories. In particular, we will have measures to attract excellent researchers from academic environments in the international forefront. NTNU will emphasize gender balance among students and staff and will have goal-oriented methods to achieve this.

We will have an active policy for salaries and human resources that contributes to good environments for work and learning, emphasizing recruitment, development of employees, equal opportunity and diversity. NTNU will have a generous and secure working environment, where employees experience job satisfaction and development in a supportive and academically challenging work community. We will conduct systematic HSE work and link clear leadership with good processes for participation, co-determination and involvement.

2.7 Good administrative and technical services
A well-functioning university requires skilled administrative and technical services that are closely integrated with the academic activity. Different processes demand teamwork between academic, administrative and technical staff in their work towards common goals. An important principle at NTNU will be that all employees know and respect each other’s roles and responsibilities.

NTNU aims for high quality in the administrative and technical services with effective use of resources. The administration and the technical services will have the capacity and skills to offer good support services that are accessible to students, staff and external partners.

NTNU must be in the forefront in terms of user-friendly and effective support systems. The organization must use IT systems that best realize quality in education, research and administrative activities.

NTNU’s library services must help to ensure that NTNU can achieve its goals for high quality in education and research. The library is to have up-to-date, relevant information resources and good technological solutions for its users.

2.8 One university – three cities
NTNU is a multi-campus university that will make its mark in the three cities and in the regions where we have our main activity. Cooperation between the campuses must build on teamwork, good academic integration and a division of tasks that develops the advantages of each academic environment. The complementary strengths in our centres of study and academic environments will be used to realize high academic ambitions. The academic portfolio is to be coordinated so that we ensure relevant skills and best practices. Academic initiatives will be supported through an organization model and a funding model that promote good utilization of resources and staff.

NTNU is to have a clear policy of developing activity at the campuses in Gjøvik and Ålesund in interaction with staff, students, the working world and community life. Unified development of the campus in Trondheim will also be important in the coming years.

The form of organization at NTNU will provide scope for subjects, people and cultures to develop their distinctive character, and for the realization of diversity and creativity. At the same time, the new organization will pave the way for creating a sense of shared identity regardless of academic and geographical affiliation.
Part 3. High ambitions for the academic environments

The merger strengthens the potential for development in subject areas where two or more of today’s institutions are active. This is especially relevant in technology and natural science; economics and technology management; medicine, health and welfare; and educational science with teacher education. There is also significant potential in the meeting of these subject areas with fields of expertise in the humanities and social sciences, art, design, architecture and professional education in the new institution.

3.1 Technology and natural sciences

NTNU’s academic environments in technology and natural sciences will represent a power centre in the national context, which makes a strong contribution to meeting the needs of society for expertise and research in technology and science. Our main profile in science and technology combined with our academic breadth will be an advantage for NTNU’s contribution to facing challenges in society.

With few exceptions, NTNU will cover all types of technology programmes and take on a dominant role throughout the spectrum from bachelor’s programmes in engineering sciences to PhD programmes in technology. This strengthens NTNU’s national mandate. Norway needs both practically oriented bachelor’s degree programmes and master’s graduates with a more theoretical basis in technology. NTNU will provide differentiated courses of study and a differentiated degree structure, taking account of students’ wishes and the needs of the job market. In line with our mission in society, NTNU will provide different educational pathways in technology: Integrated 5-year engineering education, 3-year engineering education, 2-year master’s degree programmes and doctoral education.

A bachelor’s degree in engineering sciences from NTNU will be visible as an education of high quality. This engineering role is in demand in business and industry. NTNU is to exert national influence through high quality, relevant content and a broad range of subjects in 3-year engineering programmes. Bachelor’s graduates will have a solid foundation for continuing their studies with a 2-year master’s degree programme.

The five-year integrated engineering programme of study at NTNU is to be developed further as a high-profile education at the national and international level. The programme builds on a strong theoretical basis in technological and science subjects for the first three years, with further specialization in the last two.

NTNU will have a wide-ranging portfolio of 2-year master’s programmes with a national and international profile, which take advantage of the specializations in engineering education and strong technology environments at NTNU’s campuses.

NTNU aims to be a national leader in doctoral programmes in technology. This means that NTNU must provide doctoral programmes at a high international level within a wide range of technology areas and develop these programmes of study in accordance with academic development and the needs of society.

All the technological programmes of study will be grounded in basic research in mathematics and science as well as fundamental research in technology (engineering) at a high international level, and in substantial experimental elements and broad application of ICT across the fields of study. The programmes of study in engineering science and technology will be developed in close contact with the working world. New needs will be reflected in the specializations and learning activities offered by the programmes of study.

The academic environments in science and technology have several roles in the area of education at NTNU, both in terms of the disciplines and as a provider of courses in the disciplines to the programmes of study in technology and to the master’s programmes in education in the natural sciences. NTNU will
offer education at bachelor’s, master’s and PhD level in the science disciplines. Studies offered in English will be emphasized at master’s and PhD level. These subjects represent a key aspect of NTNU’s main profile and they will be developed in line with its status in the disciplines.

Research activities ranging from basic disciplinary research in science to applied technological research focused on industry will form the foundation for NTNU’s contribution to technological development and sustainability. In many contexts, the fundamental technological research at NTNU represents a bridge between basic research in the natural sciences and applied research centred on innovation. We will have academic environments in science and technology that are at the forefront of international research, and we will have first-class infrastructure to support our research activities.

NTNU will contribute to European cooperation in technology and science. The Nordic Five Tech alliance of the leading Nordic technical universities will also be developed further.

In many areas, the merger offers obvious synergies. An example is the area of ICT. Because of the merger, NTNU is Norway’s leading institution in research and higher education in information and communications technology (ICT). NTNU will have high ambitions for ICT as a subject and empowering technology and will actively exploit the complementary strengths of our various campuses and academic environments. The academic environments will develop their academic profile based on their strengths and prerequisites. NTNU will take advantage of the academic breadth in NTNU’s ICT environments to strengthen interdisciplinarity and academic convergence both within the ICT subjects and in relation to other fields of study. Our portfolio of programmes of study covers all the most important ICT disciplines, and we will be an important provider of advanced ICT skills both through programmes of professional study and through programmes in the natural sciences. Similar synergies apply to a number of other areas in technology and natural sciences.

We will:

- strengthen our leading national role in technological and scientific research and education
- contribute to sustainable technological development in society, in part through NTNU’s strategic thematic areas
- provide Norway’s best programmes of study in technology at all levels
- have strong elements of experimental and field-based learning methods in our programmes
- strengthen the ICT component in NTNU’s programmes of study
- further develop the role of mathematical and natural science subjects in the programmes of professional study
- develop the enabling technologies as an academic advantage at NTNU
- coordinate the academic portfolio in the technology area by ensuring effective use of resources and applying the strengths of the academic environments in a suitable way
- strengthen our cooperation with leading research communities internationally

3.2 Economics and technology management

With engineering education in industrial economics as well as master’s programmes for siviløkonom (business) economists and samfunnsøkonom (social) economists, NTNU will have a unique position in this field of study. Further development of the close links between the environments in economics and technology will give our graduates and researchers a unique benefit that represents a major advantage from a social perspective.

NTNU will be a high-profile international and national player in economics and technology management. We will contribute to economic and sustainable creation of value. We will safeguard qualities relevant to society and develop them further. NTNU will take advantage of the breadth in academic environments
and disciplines in economics and technology management for cooperation with and development of the private and public sectors.

Research activity will be strengthened and developed. The interaction between the complementary communities in economics creates opportunities for large research projects at a high international level. Working together also gives us opportunities to develop high-quality and sought-after programmes of study. Our students will be offered unique possibilities that they will not find anywhere else.

With leading-edge subjects and great breadth, the combined subject area is powerful in itself and will strengthen its position further together with the other academic environments at NTNU. We must take advantage of synergies between disciplines in economics and technology management and disciplines in the social sciences and humanities.

The NTNU of the future will be a spearhead in innovation, entrepreneurship and commercialization of technology. A combined academic environment in economics and technology management will cover all aspects significant for the start-up of new business and for development in existing firms. We will:

- develop our distinctive national profile in economics and technology management and strengthen our position as an international player in research and education
- develop strong academic communities in the disciplines and programmes of study in economics, and take advantage of our good foundation for interdisciplinary cooperation throughout the breadth of technology, health, the social sciences and the humanities
- benefit from our good basis for education and research within innovation, entrepreneurship and commercialization of technology
- work for an international accreditation

3.3 Medicine, health and welfare

NTNU has a wide-ranging portfolio of subjects in the field of medicine, health, welfare, social services and care. Through a unified field of study, NTNU will build tomorrow’s programmes in health and welfare and contribute research, service development and technology development of high quality within a wide range of subjects. NTNU has a great advantage in the link between this field and the other fields at NTNU. The university’s leading-edge expertise in medical technology and its close links with many subjects enable an interdisciplinary approach to future health challenges in close interaction with the health sector.

NTNU’s research activities in medicine, health and welfare will range from medical basic research, clinical research, translational research, and practice-oriented research to experimental development. NTNU will have strong skills in health and social care disciplines. We will emphasize development of both profession-specific skills and shared skills in social care disciplines. We will have a broad-based academic approach and contribute to good public health.

NTNU has outstanding environments in biomedical research, which resulted in the Nobel Prize in medicine in 2014. Our research in medicine, health and welfare disciplines is to have an international focus and to be of high quality. NTNU will focus attention on global health challenges. These issues also require a broad perspective with contributions from a variety of subjects and disciplines.

NTNU will have high-profile programmes of study in medicine, health and welfare. We will offer programmes of professional study at bachelor’s and master’s level, integrated programmes of professional study in medicine and psychology, and PhD education of high quality. The programmes must provide a good understanding of the health and welfare system as a whole and capability for interdisciplinary cooperation in solutions for the individual user or patient.
Good interaction between education, research and the working world is necessary to ensure knowledge-based and improved services. Through our broad approach, we will contribute to developing business and industry related to health and welfare services, through cooperation with existing businesses and through establishing new ones.

We will:

- further develop our distinctive character and our position as an international player in research and education
- apply the power of our technological expertise in the areas of health, medical applications, care and welfare services
- be a leader in basic research and translational research in medicine, as well as in medical technology, global health and health surveys, biobanks and registers
- benefit from our advantages in health data, such as the Nord-Trøndelag Health Study (HUNT), to develop knowledge, services and firms
- work in close integration with the university hospital St Olavs Hospital, and have close cooperation with the Central Norway Regional Health Authority and South-Eastern Norway Regional Health Authority with underlying local health trusts
- strengthen our engagement and cooperation with municipalities, county administrations and the private sector in studies of practice and research projects in health, welfare and social work services, and pave the way for the development of university municipality models
- develop the use of simulation in our programmes of study

3.4 Teacher education and educational science

NTNU has a good foundation for addressing the combined challenges facing Norwegian schools by educating well-qualified teachers, leaders and personnel with specialist education. NTNU will provide 5-year integrated programmes of study at master’s level for the school grades 1-7, 5-10, 8-13, vocational teacher education and the one-year programme in educational theory and practice (PPU). NTNU’s role as host for national training centres in mathematics and writing require effective interaction with the research communities and it will be used as an advantage in the market for continuing and further education.

A hallmark of the teachers who graduate from NTNU will be solid research-based skills in their disciplines, subject didactics and educational theory and practice, which are relevant to the applicable school stage. Through practice-oriented education models, we educate professional and development-oriented practitioners with insight into how to create the basis for and lead good processes in teaching and education for a diverse group of students. The programmes of study in education may be organized in different ways, but effective collaborative processes between academic environments and development-oriented university schools will provide quality assurance for the programmes.

The NTNU merger means that considerable specialist knowledge in the science of education will be gathered in one institution. NTNU is to be a leading light in research in educational science and is to play a national role in setting standards for education of teachers for the entire school pathway.

The science of education is a multidisciplinary and interdisciplinary field of research and education with many disciplines. Some of the disciplines are included in several professionally oriented programmes of study. The common denominator is education for and research on learning and education from a life-cycle perspective. Teacher education and pedagogy are the areas of focus. As a whole, the science of education represents a unique breadth and importance in research and education at all levels. These academic environments will make their mark at the national and international level.

We will:
• assume a national responsibility for the education of teachers with strong skills in subject areas in which NTNU has particular advantages and responsibilities, including contributing to good recruitment of science teachers in all types of schools
• offer a wide range of specializations in individual disciplines and professional studies for teachers throughout the school years from 1 to 13
• educate graduates with the skills to create good transitions between school levels
• strengthen NTNU’s role within research in educational science with the aim of high international quality and become a national leader in the area
• further develop the concept of the university school and conduct critical and constructive research in line with the school’s broad social mandate, in interaction with a solid network of school owners and development-oriented placement schools
• strengthen cooperation across academic communities in educational science, the humanities and practical and aesthetic fields to ensure recruitment to a sustainable education and research environment in the humanities and artistic disciplines

3.5 Subjects in the humanities and social sciences
Research and education in the social sciences and humanities make up a high proportion of NTNU’s combined activities. These subject areas are important for NTNU’s identity and role as a broad-spectrum university. Solid and outstanding disciplines form the foundation for subjects in the humanities and social sciences, and the distinctive character and intrinsic value of these subjects provide the basis for their development (see Section 2.3 on the disciplines at NTNU). Basic research will be an important element in the identity of these subjects. In addition, basic research is a prerequisite for popular education and for debate in society. For democracy, it is important that knowledge from free research communities can inform and influence public dialogue and provide correctives to key decision makers.

The humanities and social sciences will have academic environments in the top international league and provide high-quality programmes of study in a wide range of subjects at all degree levels. In the national context, the humanities field at NTNU has a unique profile in that practical and aesthetic subjects as well as artistic activities play a distinct role.

Subjects in the humanities and social sciences foster insight and provide perspectives on the relationships between technology, science, humans and society. For this reason, they represent key elements in NTNU’s interdisciplinary initiatives. Their role in the interdisciplinary areas will be strengthened.

Subjects in the humanities and social sciences are included in a number of interdisciplinary programmes of study, and the academic environments offer a broad selection at course level. At the same time, the subjects provide a foundation for the areas of professional study, including subjects in health and welfare, economics and technology management and teacher education. The breadth in the disciplines will give the programmes of professional study at NTNU an advantage in quality.

We will:
• develop outstanding academic environments in the humanities and social sciences
• develop study programmes that help to enable all graduates from NTNU to have a fundamental understanding of culture and society, with a capacity for critical and ethical reflection
• provide the disciplines with the leeway to develop their unique character so that they can play a clear role in the forefront of international research
• further develop the programmes of study within the subjects in the humanities and social sciences as well as the role of the subjects in the programmes of professional study and in interdisciplinary research and education
3.6 Art and architecture

NTNU’s academic environments in architecture, art, music, theatre, dance and film represent one of NTNU’s distinctive qualities as a university. In total, the area represents one of Norway’s largest and foremost environments in the arts. The communities in artistic subjects will play a key role for NTNU’s unique interdisciplinary expertise, especially in art and technology.

NTNU is to have internationally leading academic environments in selected areas and to conduct research and artistic activities at a high international level.

NTNU will provide a wide range of programmes of study at all degree-conferring levels, including integrated 5-year master’s programmes in architecture, visual arts and music performance studies and PhD programmes within artistic activities.

We will:

- work together with the foremost international environments
- combine artistic and scientific methods in interdisciplinary cooperation
- contribute creative thinking and new approaches within strategic thematic areas
- help to enrich and renew the way in which NTNU teaches, conducts research and dissemination
- make a focused commitment to showcase and disseminate art nationally and internationally

3.7 The Museum of Natural History and Archaeology

As part of its social mission, NTNU has responsibility to build, run and maintain a science museum with scientific collections and public exhibitions. In addition, the university museum has extensive responsibilities for resource management under the Cultural Heritage Act. Based on the museum’s research activity, NTNU will ensure a systematic development of the scientific collections and make these available to national and international research environments. The collections represent the oldest and longest documentation on changes in the areas of natural and cultural history. They provide important knowledge for cultural and natural resource management and form the basis for research, education, and public outreach initiatives. As a interdisciplinary multi-campus university, NTNU will develop the role of the Museum of Natural History and Archaeology as an important player in dissemination and outreach.