

Identical letters to:

Sør-Trøndelag University College
Aalesund University College
Gjøvik University College
NTNU

Comments and suggestions on different concepts for the academic organizational structure

The steering group for the merger has established a group, led by Pro-Rector Berit Kjeldstad, to propose an organizational structure for academic activities at NTNU. The group is to submit its final report on 1 November, but during the process it has written the attached working paper to outline four concepts.

The group has not prepared an impact assessment of the four concepts at this stage. This assessment will take place only after this consultation round, when a decision has been made on the concepts that should be developed further into real alternatives. The group suggests several overarching criteria that can be used to assess the strengths and weaknesses of the various concepts.

Detailed discussion of the basic units at level 3 is outside the group's mandate, but the group has identified the principles of a model for the organization of level 3 comprising three different types of basic units: department, school and centre.

The project management is interested in receiving comments on the following questions, among others:

- Which criteria should form the basis for choosing the concept for the organization of the academic activities at level 2?
- Which three criteria should take precedence in an assessment of the academic organization at level 2?
- What strengths and weaknesses do you see in the four concepts in relation to the criteria?
- For the criteria you have arrived at, are there other concepts that would fulfil them in a better way?
- Is the approach presented in the working paper for the organization of level 3 viable in principle and concept?

The deadline for submitting comments and suggestions is 15 September. Please send comments to postmottak@adm.ntnu.no

Further information on the merger process has been posted on the merger pages on the Web; see the link: <http://www.ntnu.no/fusjon>.

Yours faithfully

Per Kjøl
Merger Secretariat

Enclosure:

- 1 On the academic organization of the new NTNU: four concepts

On the academic organization of the new NTNU: four concepts

0. Group for academic organization: mandate and members

In the merger project, a group has been created to prepare proposals for the organization of the university. The mandate states that the group's work is to be divided into two phases. First, the group is to create a foundation for discussion that charts various relevant models and principles for the organization of academic activities at the future NTNU, and to assess the advantages and disadvantages of these models. The term "models" refers to organization in the form of entities such as faculties, schools, or research centres. A prerequisite is that the future NTNU will continue to have a unified and appointed leadership. This working paper is the group's deliverable in phase 1.

Based on the foundation for discussion and consideration by the steering committee, the group is to present specific alternatives for the future academic organization of NTNU by 1 November. This proposal is to be distributed for broad consultation in the four organizations. The proposal will be revised in the light of the comments before it is submitted to the new Board.

The group has the following members:

- Berit Kjeldstad, Pro-Rector, NTNU (chair)
- Marit Reitan, Dean, NTNU
- Ingvald Strømmen, Dean, NTNU
- Solrun Valen, Dean, HiST
- Camilla Nereid, Dean, HiST
- Hans Petter Hildre, Dean, HiÅ
- Nils Kalstad Svendsen, Dean, HiG
- Maria Honerød, Student, NTNU
- Hans Marius Martinsen, Student, HiÅ
- Kristian Steinnes, employee representative, Forskerforbundet (the Norwegian Association of Researchers) - NTNU
- The deputies for the employee representatives are Terje Tvedt, Tekna (the Norwegian Society of Graduate Technical and Scientific Professionals) (HiÅ) and Ronny Kjelsberg, NTL (Norsk Tjenestemannslag - the Norwegian Civil Service Union) (HiST)

A working group has also been established to consider the administrative organization of activities at the new institution. This means that the group working with the academic organizational structure will not outline administrative solutions in detail. These reports must be linked together at some point to enable solutions that include an effective support network and use of resources.

1. Introduction

The group has conducted three meetings so far: 28 April, 28 May and 19 June. To help strengthen the knowledge base, the project secretariat has asked the Nordic Institute for Studies in Innovation, Research and Education (NIFU) to report on various organization models and experience from mergers in the sector. The results were presented and discussed at the group's meeting on 28 May. The report (in Norwegian) has been published on the merger project's web site and is briefly discussed in appendix B below. With this point of departure, six concepts for the academic organization of a multi-campus university were outlined. These concepts were based on different principles ranging from division into broad areas of knowledge via thematic and programme-based structures to federal organization. The presentation has been published on the merger project's website.¹

This broad approach provided the basis for an open and fruitful discussion at a meeting on 28 May. However, the group agreed that it would be practical to narrow down the number of alternatives as a basis for comments and suggestions from the organization. The number of concepts was therefore reduced to four, which were presented at the group's meeting on 19 June. They reflect approaches that differ in terms of the breadth at level 2, thematic versus discipline-based structures and autonomy for satellite campuses. They are also positioned at different places on the spectrum between "pure" models (thematic or discipline-based) on the one hand and hybrid models on the other.² These four concepts form the basis of this working paper and our invitation for comments. The group is open to the possibility that other concepts or models will emerge in the consultation process. Variants of the four proposed concepts may also enter the picture.

We emphasize that *concepts*, not actual models, are presented here. When names are assigned to faculties here, the aim is primarily to create a concrete basis for discussion. The group expects input on alternative academic structures.

Focus on level 2

The group's mandate is to assess the future organization of the academic activities at level 2 (the "faculty structure"). There are several reasons for focusing on this level. Inevitably, the institution must have at least three organizational levels. One reason for this is to prevent the span of control from becoming so large that follow-up of staff becomes impossible in practice. The faculty/department level is important for planning and coordinating academic activities, especially in master's and PhD programmes. These entities must be scaled to enable them to implement the institution's strategy and to take care of host faculties' responsibilities for multidisciplinary and interdisciplinary activity, if this approach is desired. Entities of a certain size provide good opportunities for building an institutional culture.

The group acknowledges that it is difficult or impossible to think about the academic organizational structure at level 2 without considering what will happen at the levels below. At this stage, we have tried to solve this by presenting principles for the organization of academic activities at level 3 using three different types of basic unit – department, school and centre.

The process

We are in phase 1, which will last until 1 November. This working paper is a step on the way to the Board's decision early in the spring semester of 2016. It will be distributed to the institutions for

¹ See www.ntnu.no/fusjon: Mulige konsepter og kriterier for faglig organisering [Possible concepts and criteria for the academic organizational structure].

² With regard to the term "hybrid" in this connection, see Appendix B.

consideration in their line organization, to the unions, the student democracy and the working groups in different subject areas. At this stage, the group for the academic organizational structure is asking for comments by 15 September. The contributions will be summarized and discussed in the group again before a revised working document is submitted to the steering committee.

The proposal to be presented on 1 November needs to be more specific. It must include analyses and assessment of the strengths and weaknesses of the models that have been given priority. It must also discuss academic, financial and staff-related consequences of the organizational structure. The ambition is to describe the subject areas that should be assigned to the level 2 units and to describe more detailed principles for organization of units at level 3. The aim is *not* to suggest a detailed and permanent structure for the units at the third (and fourth) levels, but we must present and evaluate alternative groupings of the existing academic activities within the various models.

This steering committee will submit the proposal to a formal hearing before it presents its recommendation to the Board of the new institution early in the spring semester of 2016.

2. Formal framework and latitude for action

The Norwegian Act relating to Universities and University Colleges specifies a framework for the future organization of the academic activities. An objective of the Act is to ensure that universities and university colleges provide education and conduct research and artistic activities at a high international level. The Act obliges the institutions to promote and protect academic freedom, and safeguards the academic freedom of the individual employee in the practice of teaching, research and artistic activities.

Organizationally, the Act focuses on the top level in the organization. NTNU's name is protected by the Act. The Act stipulates that the institution must have a board as the highest governing body, which is responsible for all activities at the institution, and a rector. It expressly obliges the universities to build up, manage and develop museums. For this reason, the NTNU University Museum is an independent entity in all the concepts presented in this document.

All decisions in other respects are based on delegation from the Board. The various groups in the university population are to be represented, plus external members. The right of participation must be ensured for students and staff. Students must have 20% representation in collegiate bodies with the right to make decisions. The Act stipulates that the heads of entities at levels 2 and 3 must be elected or appointed for four years, and may hold their positions as leaders for a maximum of three terms of office.

The institutions must manage their resources effectively. This point may be relevant in the process of linking the academic organization with the technical and administrative organization. The institution must actively seek external funding and seek cooperation with local and regional working life, among others. It is also relevant to mention that the institution must have a council for cooperation with working life and a learning environment committee. Beyond this, the institutions have great freedom to determine their own academic and value-related foundation as well as to organize their academic, technical and administrative activities.

The Government has decided that the Norwegian University of Science and Technology, Gjøvik University College, Sør-Trøndelag University College and Aalesund University College are to be organized as one university under the name of the Norwegian University of Science and Technology (NTNU) from 1 January 2016. The Royal Decree states that the basis for the institutions is that after

the merger NTNU will be an internationally outstanding university with active campuses in Trondheim, Gjøvik and Ålesund. NTNU's main profile will be in science and technology, with great academic breadth that includes the humanities, social sciences, medicine, health sciences, the science of education, architecture and artistic activity. The aim of the institutions is that NTNU will be a national hub in programmes of professional study.³

The mandate of the group for the academic organizational structure specifies that it is a prerequisite that the future NTNU will continue to have unitary and appointed management. This implies that NTNU must have an external chair of the Board and must essentially be structured as a line organization with the Rector as the top-level leader of the whole institution.

Line managers have overall responsibility for their unit. Line managers are to be appointed in fixed-term posts. A draft of the merger platform has been issued, describing some guiding principles for organization of the activities.⁴ The group has noted the general signals from the merger platform. A summary of the factors we have emphasized appears in Appendix A below.

3. Criteria for the choice of concept

The group has not attempted to assess the impact of the concepts presented here for comment. This kind of assessment can only take place once the organization has responded with comments and the concepts that should be developed further into real alternatives have been determined. The organization and the structure/incorporation at level 3 will naturally have a major impact on the choice of model. Here, the input from both the line organization and the working groups in different subject areas will be important. At this stage, however, the group believes it is possible and constructive to discuss the organization at level 2 in terms of principles without going into detail about the units at level 3. Still, we have outlined the principles of a model for the organization of level 3 that includes three different types of unit: department, school and centre.

To make it possible to conduct an impact assessment of the different concepts in the next stage, the group has discussed overarching criteria. Below, we provide examples of criteria that can be used to assess the strengths and weaknesses of the various concepts at this stage. They are not shown in order of priority. We assume that other and better criteria may be launched during the consultation round. The final criteria should probably be significantly fewer and measurable in practice, quantitatively or qualitatively.

- **Distinctive character and recognizability**

To what extent does the academic organizational structure help to boost the visibility and potential for further development of NTNU's distinctive character and profile? This applies to the uniqueness of the whole institution, but also the local profile at the campuses. To what extent will NTNU's academic organization be recognizable nationally and internationally? This is relevant in connection with both recruitment and cooperation in education and research.

- **Academic identity**

To what extent will the organizational structure help NTNU's different academic environments to retain and strengthen their academic identity and affiliation? How could the organizational structure impede or foster academic affiliation across geographical boundaries?

³ See the Royal Degree of 19 June 2015: <https://www.regjeringen.no/no/dokumenter/sammenslaing-av-ntnu-hogskolen-i-sor-trondelag-hogskolen-i-gjovik-og-hogskolen-i-alesund/id2423958/>

⁴ See www.ntnu.no/fusjon. The document can be downloaded here: http://www.ntnu.no/documents/1262755726/1262827395/Fusjonsplattform_utkast1.pdf/7646e878-90d8-4db8-bcd8-5329ab36e53f

- **Academic synergy, interdisciplinarity and mobility**

To what extent can the academic organizational structure contribute to positive synergy and pave the way to increased interdisciplinary cooperation? To what extent can the organizational structure facilitate mobility for students and staff? For example, there may be internal mobility in study pathways or research and teaching cooperation across campus and unit boundaries.

- **Flexibility**

To what extent can the organizational structure give NTNU the flexibility to respond to academic development and changes in society? How easy is it to make changes in the organizational structure if circumstances require them?

- **Costs**

What administrative and human resources costs are related to making the changes required for the various concepts? How long will it take before we have a well-functioning organization, and to what extent will the new academic organization require changes in internal financial allocations?

- **Long-term basic research**

How does the organizational structure help to take care of long-term basic research, and to make this knowledge available for education and practice?

- **Management and participation**

How will the academic organization ensure good management and participation, keeping in mind the great geographical distance between the units?

- **Relevance to society**

To what extent does the academic organizational structure contribute to recognition of NTNU as relevant in and for society – regionally, nationally and internationally?

- **Strategic capability**

How does the organizational structure help enable faculties to develop good leadership, appropriate administrative support and strategic commitments, with the financial capacity to carry out strategic initiatives?

4. Organizational models

As the NIFU report shows, there are many ways to organize a university, whether it has one or more campuses. Hardly any empirical evidence suggests that any particular organizational model improves the likelihood of high academic quality and attractiveness. On the other hand, it is reasonable to assume that effective and appropriate organization is important for academic activities, governance and management.

The group has discussed various university structures, both real-life examples and idealized models. A key distinction at level 2 appears to differentiate between a traditional organizational structure based on disciplines on one hand, and a more thematic and often interdisciplinary structure on the other. The first type often uses the term *faculty* as the name of the unit at level 2. The names of faculties normally reflect knowledge areas or disciplines, but the academic division varies internationally to some extent.

Thematically organized institutions operate with various terms at level 2 – faculty, school or department. There is no uniform terminology internationally. The names of units may reflect various interdisciplinary combinations, thematic areas of focus or a specific purpose as a

professional programme of study – for example *School of Engineering*.

A great many universities have hybrid organizational models. They may have academic units at levels 2 and 3 that are either discipline-based or thematic based on the nature of the activities, and/or they may have a variety of organizational structures, for example for education and research. They may also have cross-cutting or overarching structures for academic activities across faculty boundaries. The formal structure rarely tells the whole story of the academic organizational structure in real life, or of governance and management in practice.

For multi-campus universities, there may be a distinction between institutions that have grown organically and thus need larger premises and universities resulting from mergers of several institutions with their own campuses. While the first type is likely to keep and possibly supplement the existing academic organizational structure, merged institutions will often introduce new structures. No fixed rules determine how this will take place, however; time, geographical distance, academic character and the institutions' size are all important parameters for the organizational structure.

Most university models build on more or less standardized elements or building blocks. The institution will usually have a central academic and administrative management (level 1) and will be divided into a number of divisions (faculties, schools, etc.), which in turn are divided into units (such as departments and centres). Standardization is primarily a question of management structure and powers, not about size or academic profile. In the Norwegian higher education sector, there is great variation in the designations of divisions and units at the university colleges, while the universities have a fairly uniform structure of faculties (level 2) and departments/centres (level 3).

In the consolidation of the new NTNU, it will be practical to use organizational entity types that create clear lines of management for research and education and that are recognizable in the university world, while being flexible enough to accommodate the diverse academic activities of the four merging institutions. The group proposes using four building blocks in all the models to be developed: *faculty* to designate the division at level 2, and *department*, *school* and *centre* as the names of the units at level 3. The group proposes that the NTNU University Museum should remain a division at level 2, headed by a director with the same status as a dean. A tentative description of the entities appears below.

Faculty Division at level 2, headed by a dean. The faculty awards degrees and has overarching responsibility for all academic activities in its defined subject areas. The faculty has specific responsibility for PhD education, but may also have responsibility for bachelor's and master's programmes. The faculty may host academic activities and initiatives across the organization (host faculty).

Department Unit at level 3, led by a head of department. The department is responsible for teaching and research in its discipline/subject areas and usually runs its own programmes of study (bachelor and master).

School Unit at level 3, led by a head of school. The school is generally responsible for career-oriented education (programmes of professional study), development of subjects and research focused on practice. Courses of study may bridge faculty boundaries, and the overarching faculty is then the host faculty.

Centre Unit at level 3, led by a centre director. The centre primarily conducts research, but contributes teaching and supervision to programmes of study, especially at master's

and PhD level.

In this model, the faculties will have the same duties and the same responsibility that NTNU's faculties have today. The same applies to departments. Today, centres are organized in different ways at the four institutions; here, the group proposes that they are normally units at level 3. NTNU's current regulations provide scope for establishing academic units at level 4, so that a department could also create one or more centres, according to specific procedures.

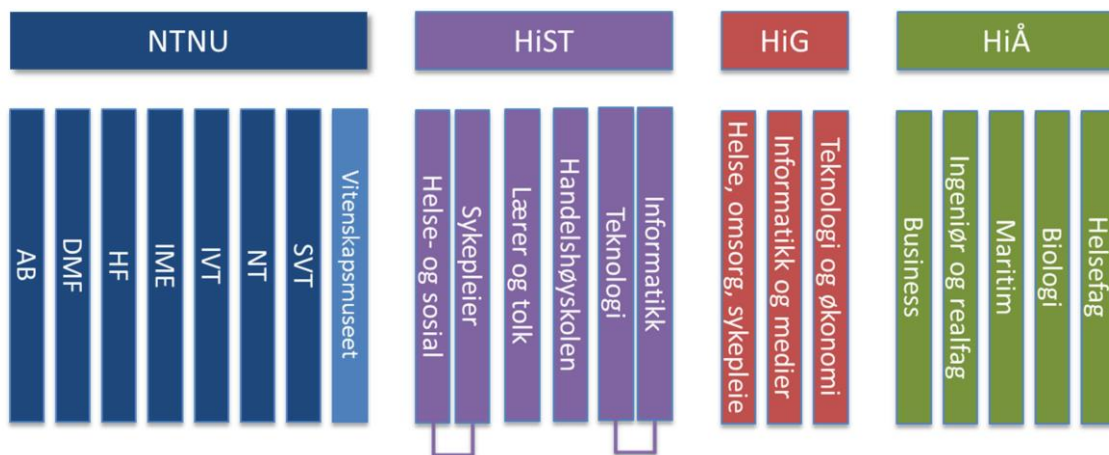
School is a new term for an entity in our context, but in practice several of the education programmes at all the four institutions are organized as schools today. In contrast to a number of institutions abroad that have schools instead of or as well as faculties at level 2, the working group proposes that schools primarily become a unit at level 3. Naturally, the unit does not need to use the term "school" in its name, but may be referred to as a *programme* or *...education*.

Leaders at level 3 are assumed to have the same authority and status with respect to academic, administrative and personnel-related management.

The group believes that this basic model is clear and flexible enough to accommodate most of the academic activities at the merging institutions, and can therefore serve as a starting point for further discussion of the academic organizational structure. The first stage involves arriving at a model for level 2, the faculty structure in the new NTNU.

5. Presentation of various concepts

At the outset, the four merging institutions have 22 entities (faculties/departments) at level 2. In August 2015, HiST is reorganizing from six departments to four faculties, after which there will be 20 units at level 2:



NTNU:

AB Faculty of Architecture and Fine Art

DMF Faculty of Medicine

HF Faculty of Humanities

IME Faculty of Information Technology, Mathematics and Electrical Engineering

IVT Faculty of Engineering Science and Technology

NT Faculty of Science and Technology

SVT Faculty of Social Sciences and Technology Management

NTNU University Museum

HiST:

Health and Social Work
Nursing
Teaching and Interpreting
Trondheim Business School
Technology
Informatics and e-Learning

HiG:

Health
IT and Media
Technology and economics

HiA:

International Business
Engineering and Natural Sciences
Maritime Technology and Operations
Life Sciences
Health Sciences

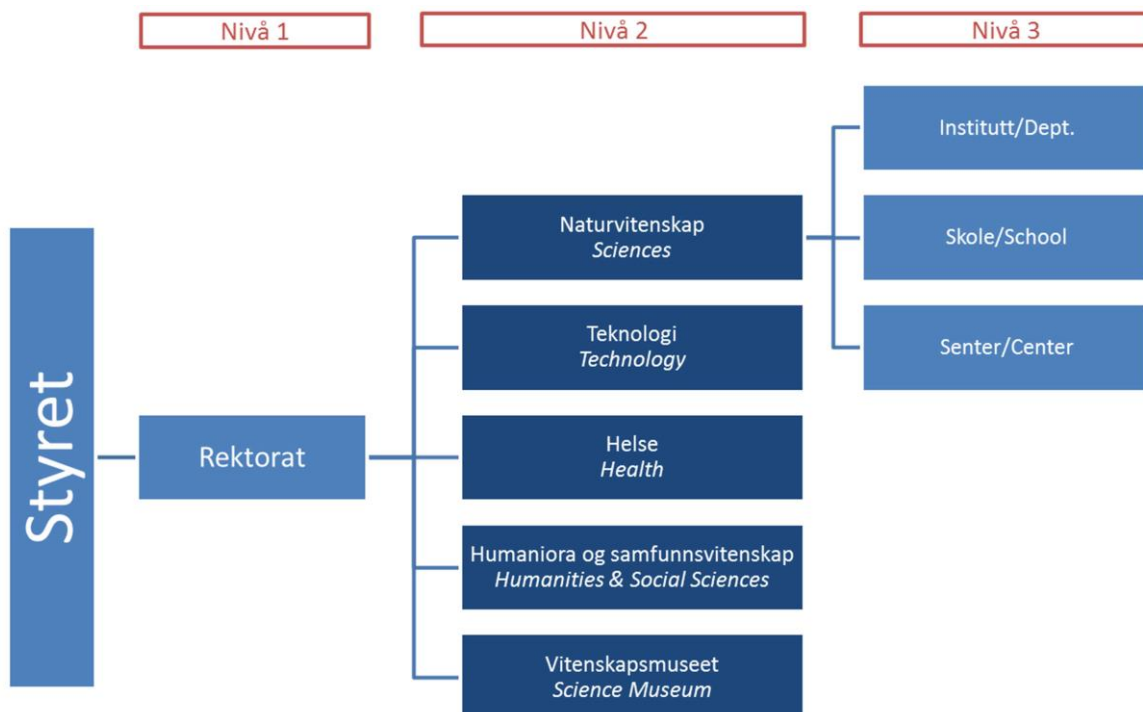
As section 2 above indicates, the institution has considerable freedom in the choice of its internal academic organizational structure. The group emphasizes that the model chosen must meet many and sometimes varying needs – such as academic and geographical identity, recognizable main profile, high-quality management of research and education, effective use of resources, mission in society, the environment, and other aspects. The costs of the organizational change must be an important consideration – in terms of academic, human, financial and other costs. The merger provides an opportunity for new and radical thinking about the academic organizational structure. As mentioned above, (see section 1), the group has discussed various principles, but at this stage it has chosen to concentrate on four concepts that are all perceived as realistic to implement within a reasonable time frame. These concepts are briefly presented and commented below. As mentioned above, the concepts reflect approaches that differ in terms of the breadth at level 2, thematic versus discipline-based structures and autonomy for satellite campuses. In the concepts, the faculties have been given names. These are not binding, and it is both possible and desirable to receive input on alternative possibilities.

In all four concepts, the NTNU University Museum remains a separate entity at level 2. As mentioned above, this is related to the special status of university museums under the Act relating to Universities and University Colleges – see Section 1.4, No. 2.

It is also a general principle that the academic activity at level 3 can be organized in terms of the three types of units: department, school or centre. So far, we have not investigated examples of this in relation to existing activities, and we have not explored level 4 in greater depth.

K1: Narrow faculty structure

This concept assumes a small number of faculties – four in number, plus the NTNU University Museum. The faculties will have varying sizes, but will generally be large entities. This will probably trigger a need for correspondingly large units at level 3 to take care of academic diversity. At the same time, the Rectorate's management group (the council of deans) will be very compact. The academic structure mirrors broad areas of knowledge as they are often defined internationally. However, there is no distinction between physical sciences (natural sciences) and life sciences (biological subjects). In this concept, humanities and social sciences, technology and engineering are gathered in two large faculties. A point that clearly needs to be clarified is the positioning of individual disciplines such as computer science (technology or science?) and psychology (health or social science?). In this concept, as in the following ones, it is assumed that all faculties can organize their units at level 3 in departments, schools or centres.



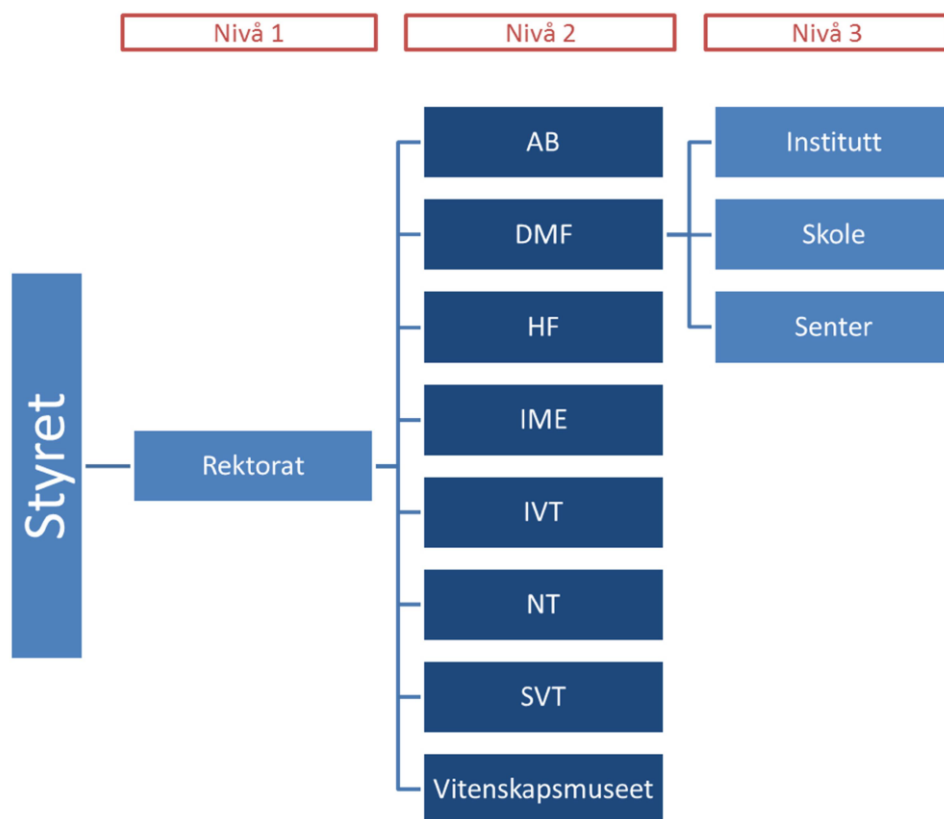
Nivå 1 = Level 1 Nivå 2 = Level 2 Nivå 3 = Level 3

Styret = The Board

Rektorat = Rectorate

K2: The current NTNU structure

This concept operates with seven faculties plus the NTNU University Museum, that is, the same basic structure as in today's NTNU. The academic structure also reflects NTNU's structure, but it is of course possible to make adjustments in relation to the current structure if academic or geographical considerations dictate them. A model based on this concept thus requires incorporation of the academic activities at the three university colleges into the existing faculty structure at NTNU, and the major changes will primarily take place at level 3. The size of the management group at level 1 (the council of deans) will not be changed, but there is reason to believe that the number of units at level 3 will be larger than today, at least initially.



Nivå 1 = Level 1 Nivå 2 = Level 2 Nivå 3 = Level 3

Styret = Board

Rektorat = Rectorate

Institutt = Department

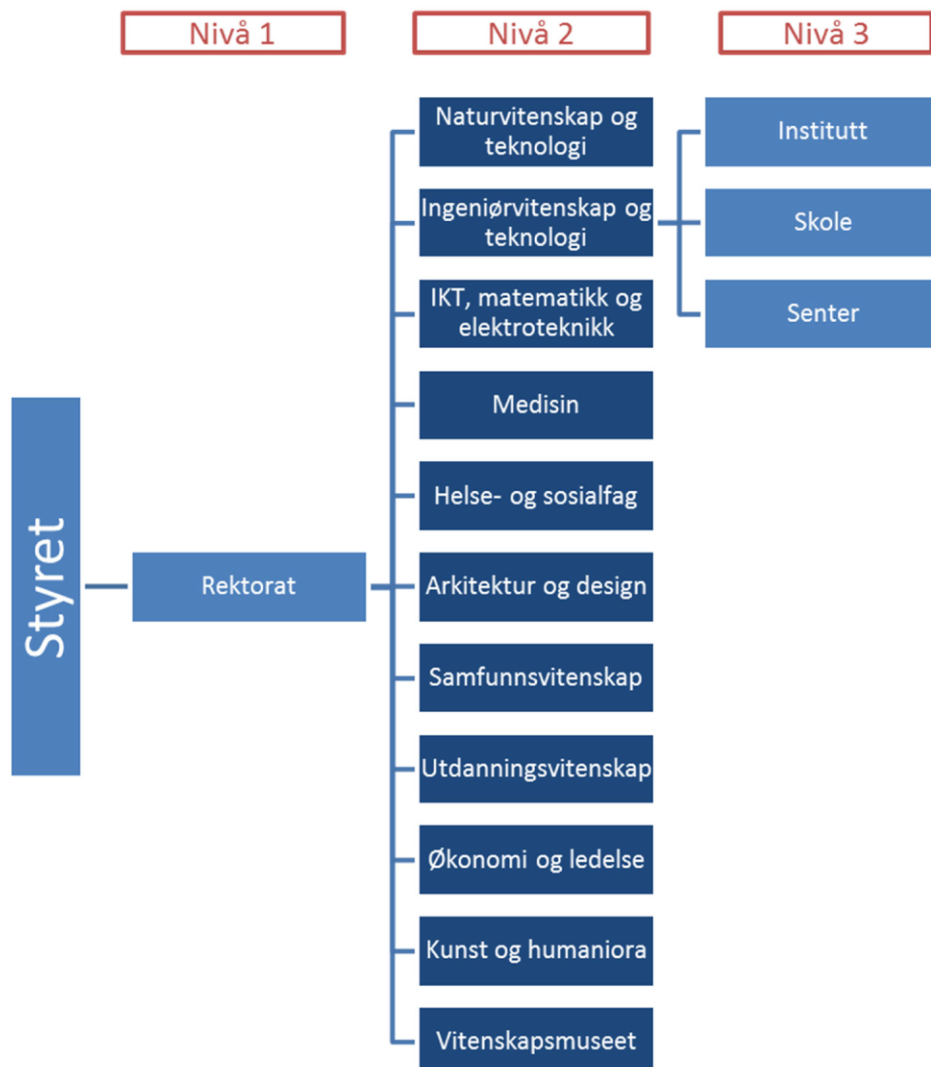
Skole = School

Senter = Centre

AB = Faculty of Architecture and Fine Art; DMF = Faculty of Medicine; HF = Faculty of Humanities; IME = Faculty of Information Technology, Mathematics and Electrical Engineering; IVT = Faculty of Engineering Science and Technology; NT = Faculty of Science and Technology; SVT = Faculty of Social Sciences and Technology Management; Vitenskapsmuseet = NTNU University Museum

K3: Broad faculty structure

Concept 3 is based on K2, but with a larger number of faculties, i.e. ten plus the NTNU University Museum. Here, the proposal is to create new faculties for health and social care disciplines, education science, and economics and technology management respectively, but other structural variants could be envisaged. To illustrate the possibility of changing existing structures, the positioning of art and design subjects shown is different from the current structure. A greater breadth at level 2 will probably result in a “leaner” level 3, and will be perceived as a higher degree of specialization. An additional consequence is that the management team at level 1, the council of deans, becomes a relatively large group. The faculties will have varying sizes as well as different profiles with regard to disciplines and professions. Compared with the current situation at NTNU, the Faculty of Social Sciences and Technology Management (SVT) will be greatly reduced even with the incorporation of social science environments at the university colleges. Engineering education, teacher education and health-related subjects will be distributed among at least three faculties.



Nivå 1 = Level 1 Nivå 2 = Level 2 Nivå 3 = Level 3
Styret = The Board

Naturvitenskap og teknologi = Natural Sciences and Technology
Ingeniørvitenskap og teknologi = Engineering Science and Technology

IKT, matematikk og elektroteknikk = ICT, Mathematics and Electrical Engineering

Medisin = Medicine

Helse- og sosialfag = Health and Social Care

Arkitektur og design = Architecture and Design

Samfunnsvitenskap = Social Sciences

Utdanningsvitenskap = Science of Education

Økonomi og ledelse = Economics and Management

Kunst og humaniora = Arts and Humanities

Vitenskapsmuseet = NTNU University Museum

Rektorat = Rectorate

Institutt = Department

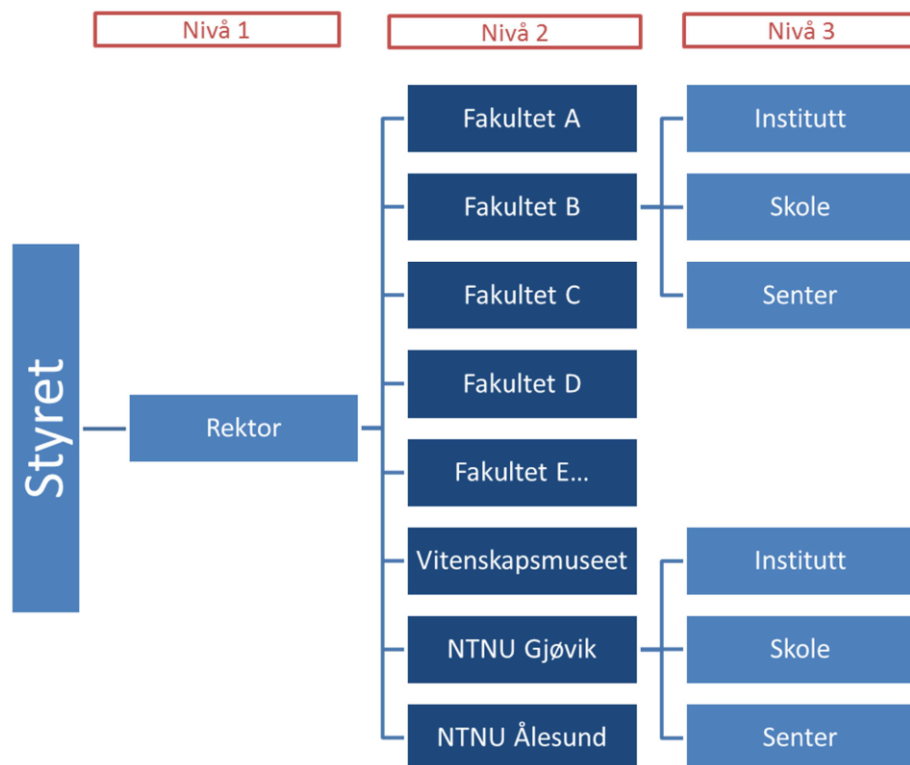
Skole = School

Senter = Centre

K4: Campus-based faculty structure

This concept differs in principle from the other three in several ways. First, it implies that the university colleges in Gjøvik and Ålesund are included as faculties in the structure, whereas HiST is fully integrated in the Trondheim faculties (for the sake of simplicity, Trondheim is here regarded as one campus). Second, with regard to how many and which faculties the campus in Trondheim will consist of, the concept is open; both a narrow and a broad faculty structure are conceivable. While the faculties in Trondheim will be structured more or less by discipline, the Gjøvik and Ålesund faculties will be interdisciplinary. The concept primarily emphasizes geography, and a consequence may be the duplication of academic communities within NTNU.

There will also be some logistical and communication challenges related to level 1 (the council of deans), which must be solved. However, the concept itself does not imply that the faculties in Gjøvik and Ålesund have or must get greater autonomy than their sister faculties at the campus in Trondheim.



Nivå 1 = Level 1 Nivå 2 = Level 2 Nivå 3 = Level 3

Styret = The Board

Rektorat = Rectorate

Vitenskapsmuseet = NTNU University Museum

Institutt = Department

Skole = School

Senter = Centre

6. A well-functioning organization

An organizational structure with an overview of academic or technical and administrative units at level 1, 2 and 3 does not in itself reveal much about how the organization will function. One must also include lines of responsibility and reporting, roles and distribution of tasks, financial allocation models and incentives, communication channels and forums, as well as processes, procedures and routines. In addition, education leadership and research leadership must be integrated in the organization. Introducing a good organizational structure is especially challenging in a multi-campus university with significant distances.

The academic and administrative activities must be integrated in a common structure. A working group has been established to consider the administrative organizational structure. The group will probably propose solutions related to the organization of management and support services as well as delegations and authority in administrative issues at the campuses in Gjøvik and Ålesund. At some point, proposals from these two groups must be matched and assessed in the process toward finding a good overall organizational solution.

In the organizational structure, one must consider the geographical distance between the institutions, the strengths of the institutions and their need for autonomy to fulfil their particular mission to their regions. The academic organizational structure must create the basis for taking advantage of the strengths of the three campuses and developing them further.

For example, the university colleges provide effective programmes of professional study, primarily at bachelor's degree level. HiST has a wide selection of programmes and a good record of application volume and quality as well as timely completion of studies. HiG and HiÅ have close links between academic environments and industry in the region. This close cooperation requires great flexibility and versatility, with corresponding autonomy.

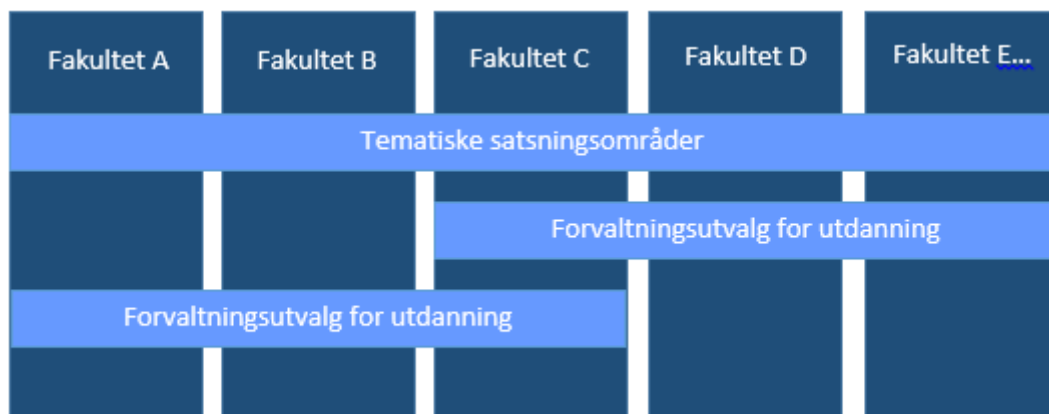
NTNU conducts research, some of which is interdisciplinary and multidisciplinary, of a high international standard. The institution offers a wide range of high-quality programmes leading to bachelor's, master's and PhD degrees in subject disciplines and professional studies. Much of the portfolio offered is interdisciplinary and multidisciplinary, consisting of courses from several faculties and a combination of strong discipline subjects and professional subjects. To achieve programmes with a well-functioning mix of courses and progress of study, coordination and management are needed. Interdisciplinary research and education place great demands on the leadership of research and education. Whichever principles are chosen, there will be a need for cross-cutting structures that enable management across units, often termed matrix structures. Such types of management structures are not shown in the general concepts.

Management of research and education

Effective management of research and education is vital with regard to lines of management, academic grounding, establishing common processes across entities and, not least, establishing a common culture. This is also a prerequisite for consolidating and developing academic environments and assuring their quality. Management of research and education takes place at all levels.

At present, several of the institutions have thematic areas of focus, executive committees or programme committees that function across department and faculty boundaries. In addition, there are heads of programmes of study at different levels depending on where the programme is placed.

This is not reflected in the simplified organization charts.



Tematiske satsningsområder = Thematic areas of focus

Forvaltningsutvalg for utdanning = Management committee for programmes of study

Having responsibility for programmes of study is perceived by many people in the sector as an ill-defined and challenging task, with little time, little authority, and many interfaces. For NTNU, work on the quality assurance system has contributed to a somewhat clearer framework and requirements for the responsibility that the heads of our programmes have in quality initiatives. However, what the quality assurance system describes is not perceived as sufficient. When the academic organizational structure is in place, the way that the management of education is to be practised at the different levels must also be made clear.

Appendices

A. Guiding principles from the merger platform

The merger platform creates requirements and expectations for the new NTNU that the academic organizational structure must help to fulfil.⁵ At this preliminary stage, the foundation for the group is that the merger platform provides general guiding principles for the choice of alternative concepts. In the next phase, when the concepts will be developed into models that also include the academic activities at level 3 and 4, these principles will be able to function as criteria for the choice of an appropriate organizational solution.

Among the principles that the group has registered are that the new NTNU is to

- have a strong research base for its programmes of study
- have extensive interdisciplinary cooperation
- have great strategic willingness and ability to realize new opportunities at the regional, national and international level
- have programmes of study that undergo continuous quality improvement and are characterized by the same requirements for quality
- have programmes of study that are coordinated where this is academically relevant, taking advantage of the opportunity to draw on the resources of all relevant academic environments, including through programmes of study offered across the campuses
- build cooperation between the campuses based on teamwork, good academic integration, and a division of tasks that makes the most of the advantages of each academic environment and develops them.
- have seamless transitions from bachelor's to master's to PhD degrees.
- ensure that the bonds between programmes of professional study and individual disciplines will mutually strengthen quality, and the academic skills in the environments will be leveraged across boundaries
- ensure that the strong environments in the disciplines play a key role in the teaching of basic courses
- have several world-leading research communities, at the same time taking care to provide breadth characterized by high quality in all NTNU's subject areas.
- have a particular responsibility for basic research. The intrinsic value of basic research at the university is important for the development of knowledge in all subject areas, and forms the basis for both education and innovation.
- smooth the path toward building solid academic environments through strategic priority setting, international recruitment, and investment in first-class laboratories and infrastructure for research and education. Establishing centres with external funding will

⁵ The merger platform document is available here:
http://www.ntnu.no/documents/1262755726/1262827395/Fusjonsplattform_utkast1.pdf/7646e878-90d8-4db8-bcd8-5329ab36e53f

be an important means of developing world-leading environments.

- have cross-cutting thematic areas of research that underpin our focus areas: energy, the oceans, climate and sustainable social development, as well as health and welfare. A clear commitment to enabling technologies will also be an NTNU hallmark.
- have a clear policy of developing activity at the campuses in Gjøvik and Ålesund in interaction with staff, students, industry and society. Unified development of the campus in Trondheim will also be important in the years ahead.
- work vigorously to make its campuses the best places to study in the Nordic region by creating a rewarding learning environment where all students feel that they are taken care of and they belong
- be a preferred partner in commercial and industrial development nationally and in the regions where we are located.
- be a preferred partner for continuing and further education
- integrate internationalization in the activity of all NTNU's academic environments; in programmes of study, in research and in innovation initiatives.

B. Organization of multi-campus universities – working paper from NIFU

Merger processes are complex, in terms of both the process itself and the principles that will form the basis for the organizational structure and governance. The new NTNU will be a multi-campus university represented in three cities, and the group has been asked to explore different arguments for the organizational structure and governance of such university.

The group asked the Nordic Institute for Studies in Innovation, Research and Education (NIFU) to chart various ways of organizing universities.⁶ The working paper from NIFU emphasizes some key development characteristics that seem to influence thinking about university organization in a more general context. The working paper also provides empirical examples of how some leading (technical) universities have chosen to organize their activities.

The working paper addresses two main perspectives for the organizational structure: academic/thematic and geographical. Historically, the proximity of the disciplines has been an important organizational principle, and variants of organizational structures based on disciplines can be regarded as the most common organizational model at Norwegian universities. The development of knowledge has contributed to changes in the traditional concept of disciplines. For example, research projects and the establishment of centres with external funding create new organizational structures. An alternative form of traditional discipline-based organization has been “schools” thinking. The working paper from NIFU shows that the concept of schools is not at all clear, and must be explained with specific examples. The second principle – geography – relates to how closely different campuses should be linked to each other and whether organizational integration across geography is practical or whether different campuses should have “parallel” academic organizational structures.

⁶ Elken M. & Stensaker B. (2015) Organisering av flercampusuniversitet. En diskusjon av prinsipper og etablert praksis ved noen utenlandske læresteder. Arbeidsnotat 10/2015. Oslo. NIFU

Main findings

NIFU's review of universities, regardless of whether they are located on one or more campuses, shows great diversity in organizational structures. Both schools and traditional faculties are used. Multi-campus universities do not appear to be organized in ways that are essentially different from universities with only one campus. The second finding was that in the universities NIFU has looked at more closely, hybrid rather than "pure" models tend to dominate. Many universities operate with departments as a substructure below both schools and faculties, and traditional discipline-based organization structures seem to thrive alongside more thematic organizational structures. A third interesting finding is that "world-leading" universities do not seem to show a clear tendency in terms of their academic organizational structure. Although many of the universities that NIFU has looked at are indisputably excellent institutions, it is difficult to see a strong association between excellence and organizational structure. Instead, the common characteristic of these universities is the diversity of their structures.