Rune Brandshaug, acting library director

2016 was marked by NTNU’s merger with three university colleges and a change of library systems. The goal of these changes is to offer better services to employees and students. We have come through the year in a strengthened condition and are in a good position for future operations. The year was also marked by the retirement of library director Lisbeth Tangen. We extend a big thank you to her for her efforts on behalf of NTNU for almost 10 years.

The cost of purchasing literature remains a challenge. Costs have increased more than the library's basic budget increase and in 2016, were financed with available money from salaries. A very thorough effort was undertaken in negotiations with suppliers and for collaboration both within BOTT and with CERES.

NTNU’s policy is to go digital. Today, more than 90% of the library’s acquisitions are in the form of digital literature. For the first time, all compendia were offered in digital form. The library is responsible for the service, which is offered in collaboration with NTNU’s Graphic Centre.

A new and ambitious publication policy for NTNU was adopted, with the goal of having 90 per cent of all scientific publishing go through NTNU’s own archiving system, NTNU Open. The library was actively involved in its design and is responsible for its implementation at the university.

NTNU has large and significant special collections at the Gunnerus and Dora Libraries. Here, the goal is better quality, easier accessibility and more efficient work processes.

The library is active in the development of NTNU’s learning areas. The area in the Natural Science Building, U1, has been a big success. We have established close cooperation with the Campus Services Division with the hope of developing other areas.

NTNU has adopted a new LMS system, Blackboard. The library participated in the selection process and in several of the pilot projects. Work is also being done on the storage of learning objects, where the library is involved and will be given tasks.

The library aims to become more visible at NTNU through collaboration with other departments in the administration and at the faculties.
Merger and reorganization

The reorganization of NTNU was divided into two areas, academic (faculties) and administrative activities.

The University Library (UB) is organizationally defined as part of the administrative branch of the university, but started with the merger and reorganization later than other administrative units. The reorganization process at the UB began in the autumn of 2016.

A working group was established under the leadership of Professor John Brumo and a report that investigated lines of responsibility and reporting, an organizational model and future services was delivered in December.

The report did not provide a single recommendation for an organizational model, but described 3 possible models. The tight deadline for the working group did not allow for a deeper analysis of library services.

We did not complete the new organization of the University Library in 2016. Instead, a temporary model where the three former university college libraries were established as sections in an organizational structure at the University Library was temporarily put in place from 1 January 2017.

Rotvoll Library

Photo: Nils Kristian Th. Eikeland, NTNU University Library
Personell

The merger between the four academic institutions affected University Library employees.

Uncertainty throughout the year about the future internal organization of the library, in combination with a decline in the number of employees as a result of a hiring freeze, made it challenging to maintain good services.

However, as a result of a strong effort and many talented employees, the library came through the year in good shape, although some activities had to be postponed.

The library was not subject to the same administrative savings measures as the rest of the university administration. But the hiring freeze resulted in a reduction of employees at the library in 2016.

As of 1 January 2017 the University Library’s employment level is fixed at 135 full-time equivalents.
Access to knowledge

NTNU merged with the university colleges in Ålesund, Gjøvik and Sør-Trøndelag on 1 January 2016. It was important for the University Library to ensure that all employees and students had access to the same digital sources of knowledge offered through the library by this date.

This goal was mainly achieved. Most journals, databases and e-books were available to everyone in the merged NTNU community from this date. This meant a major new source of literature for the academic communities, especially for the former university colleges.

Expenses and literature

This commitment meant that all agreements entered into with publishers had to be renegotiated, which was resource intensive and had financial consequences. Multiple users and more campuses resulted in higher subscription costs. The University Library was allotted NOK 7.5 million in support for the merger, which covered some of these additional costs. The total expenses for the acquisition of knowledge sources at the University Library in 2016 were almost NOK 90 million.

The increasing cost of paying for academic literature remains a challenge. Costs have increased more than the library's basic budget increase, and in 2016 was funded by using money that would have been spent on wages but that was available as a result of the hiring freeze. A great deal of effort was made during the year in negotiations with suppliers and in collaboration with both BOTT and CRISTIN.
New library system

In 2016, the four institutions that were merged to create NTNU were separate institutions with their own budgets and accounts and with their own library systems. The Alma library system and the search tool Oria were merged in a few hectic days in July. The merger meant that the systems were shut down for a few days, but few users were directly affected by the closure. However, the merger and merging of library systems caused operational problems. A contributing factor was that NTNU simultaneously changed access control systems with a transition from barcodes to radio chips on employee access cards. Along with changes in user databases for both students and employees, this resulted in problems with logging into the library systems and thus inferior user services from the library. This was rectified during the course of the year and normal operations were eventually restored.
Early in 2016, NTNU decided to use Blackboard as its new e-learning system. NTNU's ambition for Blackboard is high: “We have now chosen the e-learning platform of the future. This will be the driver in the digitization of our learning activities,” said Berit Kjeldstad, NTNU’s Pro-Rector for Education, when the decision was made.

The library has participated actively in the e-learning procurement process. We want the new system to allow the library to serve as a content provider. It appears that Blackboard will offer this possibility, but the possibilities must be tested.

Sixty pilot subjects from all faculties have been included in the pilot testing of Blackboard. The University Library’s professionals are involved in working with the pilot subjects. We want to see how the library’s literature resources and services can be offered through Blackboard.

We will test alternatives and evaluate solutions in collaboration with the university’s instructors and other important actors. The goal is to showcase the library's activities and to make our services clearly visible in Blackboard.

The library wants to be a presence where communication between instructors and students takes place, and to actively contribute to the platforms the students use.
Digital learning resources, storage and access

The comprehensive assessment process for the new e-learning system (ELS) also included approaches for storage and access to digital learning resources, or learning objects. These learning objects include resources such as video recordings of lectures, Power Point presentations, figures, animations, illustrations and the like. Experience from the e-learning system itslearning has shown that objects that teachers want students to have access to are added to the ELS system. Switching ELS systems can make it difficult to shift learning objects into the new storage location. The ELS system also stores these objects in closed areas accessible only to those involved in the subject or class.

The ambition for NTNU is to be more open in this regard, by establishing an independent learning location for learning objects, often called a learning object repository (LOR), and sharing self-produced learning materials both within NTNU and openly.

In 2016, the University Library participated in developing specification requirements for an LOR and discussions about roles in the operation of an LOR. The library is prepared to enter into roles related to:

Metadata: How should learning objects be recorded, by whom, under which standard and subject to what kind of quality control?

Openness: Who should have access to the learning objects and what kind of permissions (licenses) for further use should apply? How should we address issues related to the verification of rights in relation to open access?
Digital compendia

NTNU realized its ambition to offer digital compendia to students in the autumn of 2016. Fully 116 different compendia were produced digitally through a collaboration between the University Library and the NTNU Graphic Centre. At the same time, the sale of printed compendia was terminated.

The library played a central role in this process after we were given the role as the Kopinor contact for NTNU in January 2015. The Kopinor agreement, which had been signed the previous year, gave the university the opportunity to produce materials digitally for the first time, while a new system of compensation for compendia was introduced, called BOLK.

In consultation with the Pro-Rector for Education, it was decided that the best approach was to establish a central clearing house and digital production for NTNU compendia. The library contributed its expertise to ensure that only excerpts from printed sources were included in the compendia. The Graphic Centre took responsibility for clearing rights in BOLK and for digital production.

Links to pdf files were provided to the instructors, who in turn made these available to current students in the subject areas of the e-learning system. Students may print the compendia if they want.

The feedback on this digital solution has been almost exclusively positive. The students have adopted the approach. After one year’s production, the solution will be evaluated.
New web pages: VIKO — help with academic writing

VIKO – “Your guide to information literacy” — was developed by the University Library in 2004. It is a web-based course that helps students with literature searches and report and thesis writing. In November 2015 a project group was established to look at the "road ahead" for VIKO.

Pilot project

The project group conducted in-depth interviews with students who had used VIKO and who had concrete feedback on what they liked / did not like with the existing offering. Electronic questionnaires were also sent to both students and teachers, regardless of whether they knew about VIKO from before.

The responses to the questionnaires showed that instructors believe it is very important to focus on academic writing at NTNU, and are very eager to have access to this type of information from the library. The students prioritize what teachers say is important, and many did not know about VIKO. The students want this type of information and want it to be available on NTNU's web pages, so that they can find what they are looking for when they need it.

The report from the preliminary project was delivered in March 2016. The project then became a development project in collaboration with the Communication Division at NTNU. They made clear that all information targeted to students should be made available on Innsida, the university’s intranet, under NTNU policy.
New solutions

Before Christmas 2016, the University Library published new web pages related to academic writing on Innsida. Some of the content came from a previous version of VIKO, while much is new. Short video tutorials have been made and more are to come. Different Innsida pages have been linked on a theme page called "Academic Writing", so named because all pages on Innsida must have a title that describes the content the user can expect to find on the linked pages.

We also want to continue to offer a good product for all external users, who are able to find VIKO at the same web address as before. During the spring of 2017, the appearance of this page was shifted so that it is almost identical to the Innsida theme page, and the links go to the same content.
The project Pilot U1 – An Innovative Learning Environment and Informal Meeting Space in the Natural Science Building was realized with the opening of U1 at the Natural Science Library in April 2016. The project is a collaboration between the University Library, the Property Division, the Student Services Division and the IT Division. Students have been active partners in the development of the areas. The aim was to establish flexible areas for learning and meetings across subject areas and academic affiliations.

U1 was the former location for library journals and traditional classrooms. Today, the area is furnished with different types of workplaces, digital displays, renovated group rooms and a glasshouse that works equally as well as a workplace with fatboys and blankets, as a venue for presentations. A separate area is furnished as a Makerspace. This area is well equipped with everything from 3D printers to sewing machines.

U1 is available 24/7 for students and staff at NTNU. The experience so far has been unquestionably positive. The students quickly began using the area from early morning until late in the evening. Furniture is moved around as needed and the flexibility works well.
The library has a half-time position for the development and operation of the area. The collaboration with the Property Division and students has worked well.

Pilot U1 will, as the name suggests, be evaluated continuously. The area has been instrumented with a visitor counter to record the number of users and how many people use it outside of the library's regular opening hours. We will also look at the users' overall experience to actively involve them in the further development of the area. Later, a larger evaluation of U1 will be conducted along with other similar areas at NTNU.

*Happy students from the Student Orchestra Dei Taktlause, testing fatboys at the opening of U1 in April 2016*

*Photo: Nils Kristian Th. Eikeland, NTNU UB*
Publishing

At NTNU, the University Library is the centre of expertise and administrator of services and support functions related to academic publishing by the university’s researchers. Our mandate is to help researchers and the research administration with all aspects of scientific publishing, from helping to find suitable publication channels for research to support for running their own academic journals and publishing research reports. The University Library offers training for researchers related to rights, duties and administration of the scientific publishing process.

New action plan for open access to research publications

In 2016, NTNU's Research Committee adopted a new action plan for open access to research publications. The most important point is that all of NTNU's research publications should be made publicly available after publication. The plan, which extends to 2020, also addresses the upgrading of NTNU's academic archive and expansion of the publishing support services provided by the University Library. These services include support for journal editors based at NTNU, as well as report publishing and release of monographs. The University Library is responsible for expanding and further developing this support, which in the long term may include more direct publishing of NTNU research.
Work with guidelines

The first item in the action plan is to establish guidelines for open access to NTNU's research publications. NTNU researchers are expected to put their publications into NTNU Open via the registration system for publications they use today, CRIStin. During the autumn of 2016, we began training library employees so they could answer questions related to open access, and we initiated a round of visits to NTNU's departments for training in the new archiving guidelines. The goal has been for the library to have visited all of NTNU departments before the summer of 2017.

NTNU Open — our academic archive

New publications are available through NTNU's academic archive, NTNU Open, which contains all academic publications written by NTNU researchers. NTNU Open has been given a new graphic profile, and the collections of the four merged institutions have been combined. We are now working with additional functionality related to the use of the archive for gathering and displaying the content in new ways.

Video about how to archive publications in NTNU Open

https://www.youtube.com/watch?v=iXlyz1Ue36w
Open Access Group at the University Library

The University Library created an Open Access (OA) group in the spring of 2016. The goal was to increase the focus on self-archiving and to promote awareness of OA publishing at NTNU through NTNU Open.

Open access is gaining increasing focus, and NTNU's goal is that 90% of all scientific publications should be open through our own archive.

The mandate of the working group is two-fold:
• disseminate knowledge about open access at the University Library and
• increase knowledge about open publication in the academic communities at NTNU and help ensure that researchers know about and are followed up on related to NTNU's action plans for open access.

The working group's action plan has been approved by the library's management team and work will continue in 2017.

The library's academic staff participated in a workshop in the autumn of 2016 with the goal of increasing their expertise on open access, so they would be able to visit the academic communities associated with the different libraries to inform them of the new OA Action Plan. This work has continued so that all NTNU departments should have received information over the course of the spring of 2017.
This online service makes images, manuscripts and maps from the University Library’s special collections digitally available. You can zoom in on details in the document and also download a digital copy. The service is free and is a replacement for BIBSYS Gallery and UB Digital.

The biggest difference for users is that they can now look more closely at digitized documents directly in their browsers, download them for free and find material through search engines such as Google.
The Special Collections Blog had its debut in August 2016. The blog tells stories related to the varied material at UB special collections. The blog is written by a group of employees from the Dora and the Gunnerus Libraries.

The University Library’s special collections consist of manuscripts, historical book collections, letters, diplomas, maps, pictures and private archives. The collections give us a broad picture of Norway's cultural and academic history.
Writing Night

Writing Night is an offer for students designed to help them get answers to questions related to writing academic assignments.

Students get help getting started with academic writing. During the course of the evening we answer questions related to texts they are working on, or how to complete and submit a thesis.

The library works with academics and teaching assistants. Library specialists also participate in the event.

Those who attend Writing Night become more familiar with the library and its services, get help with literature searches and attend various short workshops.

At Dragvoll the offer is a well-established event. In 2016 for the first time, NTNU Career, Orakel Support Services and SPSS Help also attended.

The Medicine and Health Library and the Natural Science Library also arranged their first Writing Nights in 2016.
Mysterium Tremendum - an exhibition about art in biology

During the Biologiløypa, an event that is organized every year for high school students at the Natural Science Building, 900 students came to the library to see sculptures and look for living creatures in microscopes.

NTNU experts gave popular science lectures on each individual animal in the exhibition. These lectures were so popular that it was difficult to find seating for everyone.

The exhibition was a collaboration between the library, the Department of Biology and the Faculty of Natural Sciences. It was located in the Natural Science Library from 23 September to 10 December 2016.

The exhibition was built around an artist's models of various biological installations. Students could see living water fleas, tardigrades, pollen and much more in the microscopes. Every day, we found students sitting at the microscopes, searching through moss samples for tardigrades and other creatures.
The art festival Trondheim Open is held throughout the entire city. There were open workshops, exhibitions, artist talks, guided tours and happenings at various locations in Trondheim. In 2016, the Trondheim Academy of Fine Arts became a part of Trondheim Open with its Open Academy. The academy’s art students exhibited the art they created for their examinations, among other things.

The Fine Art Library also participated by opening their doors to all who attended the art festival.
Academic publications by Library staff registered in CRistin

Ask, Kristine; Svendsen, Stine H. Bang; Karlstrøm, Henrik. Når jentene må inn i skapet: Seksuell trakasser og kjønnsfrihet i online dataspill. Norsk Medietidsskrift 2016 ;Volum 23.(1) s.1-21 NTNU

Buset, Karen Johanne; Declève, Ghislaine; Ovaska, Tuulevi. Collaboration internationale pour un benchmarking entre trois bibliothèques de santé européennes. Cahiers de la Documentation 2016 (4) s.13-18 NTNU


Stubberud, Anker; Varkey, Emma; McCrory, Douglas C.; Pedersen, Sindre Andre; Linde, Mattias. Bio-feedback as prophylaxis for pediatric migraine: A meta-analysis. Pediatrics 2016 ;Volum 138:e20160675.(2) NTNU STO
A day at the Library*

- 3,051 visited one of our libraries. (Figures from the Medicine and Health Library not included)
- 726 books were loaned out
- 1,367 visited us on the Web
- 9,400 articles were downloaded
- 4,995 e-books were downloaded
- 2,097 full text documents were downloaded from NTNU Open

* Figures are divided by all 365 days of the year
Statistics

The values for 2016 are for the merged libraries and therefore cannot be directly compared to values from 2015.

<table>
<thead>
<tr>
<th>The Library in numbers</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work years 1)</td>
<td>124</td>
<td>127</td>
</tr>
<tr>
<td>Budget in NOK 1000 2)</td>
<td>187 324</td>
<td>192 828</td>
</tr>
<tr>
<td>Visits to the Libraries 3)</td>
<td>853 916</td>
<td>1 113 609</td>
</tr>
<tr>
<td>Visits to the home page</td>
<td>428 752</td>
<td>498 862</td>
</tr>
<tr>
<td>Work places / reading rooms in the Libraries</td>
<td>1 593</td>
<td>2 376</td>
</tr>
<tr>
<td>Number of courses</td>
<td>267</td>
<td>485</td>
</tr>
<tr>
<td>Number of participants in courses</td>
<td>6 312</td>
<td>10 011</td>
</tr>
<tr>
<td>VIKO, number of visits 4)</td>
<td>238 968</td>
<td>335 959</td>
</tr>
</tbody>
</table>

1. This figure includes 11 work years from student assistants
2. Framework grants and project funding
3. There is a decline in 2014 because there were no tallies made in the Medicine and Health Library
4. VIKO—interactive courses on information literacy
Full text databases are collections of original documents in which all or a substantial part of the document is available electronically.

Calculation of price per download should be viewed as a trend more than an exact cost.

The illustration shows that of a total of 2.4 million downloads in 2016, Science Direct had the largest share of 45%.

<table>
<thead>
<tr>
<th>Use of full-text databases</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Downloads</td>
<td>Price per download</td>
</tr>
<tr>
<td>Science Direct</td>
<td>969 761</td>
<td>20 NOK</td>
</tr>
<tr>
<td>Springer Link</td>
<td>124 499</td>
<td>43 NOK</td>
</tr>
<tr>
<td>Wiley</td>
<td>170 688</td>
<td>37 NOK</td>
</tr>
<tr>
<td>American Chemical Society</td>
<td>48 675</td>
<td>18 NOK</td>
</tr>
<tr>
<td>JSTOR</td>
<td>84 056</td>
<td>4 NOK</td>
</tr>
</tbody>
</table>
## Downloads from Open Access journals at NTNU

<table>
<thead>
<tr>
<th>Journal Title</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIRONOMUS Newsletter on Chironomidae Research</td>
<td>19 376</td>
<td>12 378</td>
</tr>
<tr>
<td>Norsk epidemiologi</td>
<td>128 380</td>
<td>108 099</td>
</tr>
<tr>
<td>Fauna norvegica</td>
<td>10 894</td>
<td>10 511</td>
</tr>
<tr>
<td>Det Kongelige Norske Videnskabers Selskabs Skrifter</td>
<td>66 565</td>
<td>17 223</td>
</tr>
<tr>
<td>Etikk i praksis</td>
<td>28 639</td>
<td>43 154</td>
</tr>
<tr>
<td>Nordic Journal of Science and Technology Studies</td>
<td></td>
<td>69</td>
</tr>
</tbody>
</table>

The table shows the number of open journals available, where NTNU University Library is the host. The table shows the number of downloads. The publication of the Royal Norwegian Society of Science and Letters has shown a decrease in downloads, which may be due to the fact that no editions have been published since 2011. The Nordic Journal of Science and Technology Studies published two editions in 2016 and is a new journal on this platform.

## Loans and downloads

<table>
<thead>
<tr>
<th>Category</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial loans of printed literature</td>
<td>95 000</td>
<td>144 000</td>
</tr>
<tr>
<td>Downloads from article databases</td>
<td>1 978 000</td>
<td>3 518 000</td>
</tr>
<tr>
<td>Downloads from e-books</td>
<td>1 346 000</td>
<td>1 823 000</td>
</tr>
<tr>
<td>Downloads from inst. archive (DiVA)</td>
<td>906 000</td>
<td>1 495 000</td>
</tr>
<tr>
<td>Downloads from other databases</td>
<td>285 000</td>
<td>2 356 000</td>
</tr>
<tr>
<td>Total downloads</td>
<td>4 515 000</td>
<td>9 192 000</td>
</tr>
</tbody>
</table>

The figures for 2016 are not directly comparable with the figures for 2015 since the merger with the three university college libraries in 2016 have affected these values.
Loans and downloads 2015 and 2016

As expected after the merge in 2016, the numbers show an increase in loans and downloads.
Literature and payroll make up 74% of the total budget.
In order to get better insight into other purchases, e-journals have been pulled out of the table.

The table shows the use of funds for literature for p-journals, e-books and p-books.

Purchases of e-books have increased by 945% from 2011 to 2016.

The exchange rate in 2015 was not beneficial for Norway and therefore there were fewer purchases.