



European 15 Norway – Productive Cities 2

European 15 – “Productive Cities 2” addresses the issues of resources, mobility and equity, both in spatial and social terms.

In this session of European, we take the competition to Norwegian towns in rural areas and look at the effects of centralisation. In this regard, European 15 offers challenges at both territorial and local scales: Can young architects find solutions that contribute to a productive balance between urban and rural areas?

There are three Norwegian sites in European 15 which, each in their different ways, raise complex issues about the interaction between the rural and the urban, the local and the global. While the Norwegian sites are scattered throughout the whole country, they share some similarities. Each town inhabits a unique position in a network of relationships within collective knowledge, industries and ecosystems.

Rivers and waterways are central landscape elements in all of this year’s project areas. **Guovdageaidnu** (Kautokeino) originated as a trading place in a bowl in the terrain, and the river was important both as infrastructure and livelihood. **Raufoss** would not have the leading industry it has today without the river which made it possible to produce electricity to operate the emergent factories. **Rødberg** is a significant supplier of hydropower to the common European market.

Networks constitute a very important issue in European 15, as urban settlements have their unique advantages and challenges in this regard. In Rødberg, the architects are encouraged to investigate what the Kongsberg region’s expertise in driverless buses could imply for the development of Rødberg and its territory. Guovdageaidnu still harbours a nomadic culture linked to reindeer husbandry, while renewed with snowmobiles and drones; Guovdageaidnu is now fighting to reopen the airstrip to improve connections with other towns in Norway and Sápmi. In Raufoss, participants may investigate how new connections between the industry park and town can help create a vibrant urban ecosystem combining the high-tech with the people-oriented, while exploring the river as a connective element.

As architects, you should enter the competition with an open mind for resources available on the sites. By creating new links between existing on-site resource elements, something new may be formed. For Guovdageaidnu, it is essential that the architects recognise that reindeer husbandry, which employs over 370 man-years, is closely linked to vulnerable nature that is strongly under pressure from other forces. In Rødberg, the competition participants may propose concepts that strengthen the primary industries throughout the area of Numedal. Raufoss represents manufacturing excellence with a hyper-modern, but gated, industrial park, producing space rockets in a town in the middle of a fixed agricultural territory.

Raufoss is the only site this year anticipating population growth in the near future, making it necessary to build a denser town to accommodate greater numbers without

expanding outwards onto arable land. The densification effort starts in the core of Raufoss, on the project site; the municipality expects to be presented with ideas for vibrant social public spaces as a starting point for this scheme. As of now, the high-tech milieu of the manufacturing industry is not mirrored in the town centre of Raufoss, which lacks activity, public amenities and places for people to socialise.

Rødberg is on the brink of becoming an outpost in the mountainous regions of southern Norway. Still, the inhabitants have everything, in their own way: The farming community is vital, the quality of the natural surroundings attract a flux of thousands of second home dwellers, and the digital knowledge networks in the Kongsberg region result in concepts such as ‘the green corridor’ which runs through Numedal. What’s lacking is ideas for how to activate the town centre. This comes down to introducing attractive programmes, well-functioning public spaces and an improved flow of movement, both within the town itself and in the wider context.

Guovdageaidnu is ‘the heart of Sápmi’, home to the indigenous Sámi people. Guovdageaidnu is important to the world as a stronghold of Sámi language and culture; the inhabitants fight to reorganise and enhance the role of the place as a linguistic bastion. The town is a melting pot for global competence in education, reindeer herding and creative industries. The Siida is a Sámi concept for organising both social and productive activities. While the concept itself is ancient, it may be reimagined for European 15. Situated near the Arctic, Guovdageaidnu is also a place where climate change is clearly noticeable. For European 15, we have commissioned ‘Voices of Guovdageaidnu,’ a reader made by the community itself, to provide a better understanding of the place and culture.

For the Norwegian sites, the backdrop of the competition is the ongoing restructuring of municipalities and counties, and how the urban areas participating in the competition can position themselves for the future. How can urban settlements become, and remain, attractive meeting places and locations for innovative industries? How can rural towns step up in order to keep their valued inhabitants around, rather than losing them to the pull of bigger cities? Keeping an eye on the themes of resources, mobility and social capital, the competitors need to work within the context of each site to examine new forms of mobility and connectivity, while keeping in mind how designing public space can contribute to value creation both socially and economically.

All the municipalities of European 15 have an element of necessity as a driver for hosting the competition. Demographic changes, new demands for education and expertise and the struggle for natural resources are all challenges which the municipalities have to face in a shrewd manner.

We are delighted that you have chosen to participate in European 15 with one of the Norwegian sites as your case. We look forward to a multitude of contributions and wish you the best of luck in the competition!

Site Brief – European 15 – Raufoss (Norway)

Site representative
The municipality of Vestre Toten
Actors involved
The Oppland County, Raufoss Industrial Park, <i>Coop Raufoss kjøpesenter AS</i> (AMFI), <i>Raufoss utvikling AS</i> (Raufoss development), and the Library.

Team representatives
Architect, urban planner, landscaper
Expected skills with regards to the site's issues and characteristics
Interdisciplinary team constellations are encouraged

Communication
Anonymous publication – online and in an exhibition – after the 1st jury round

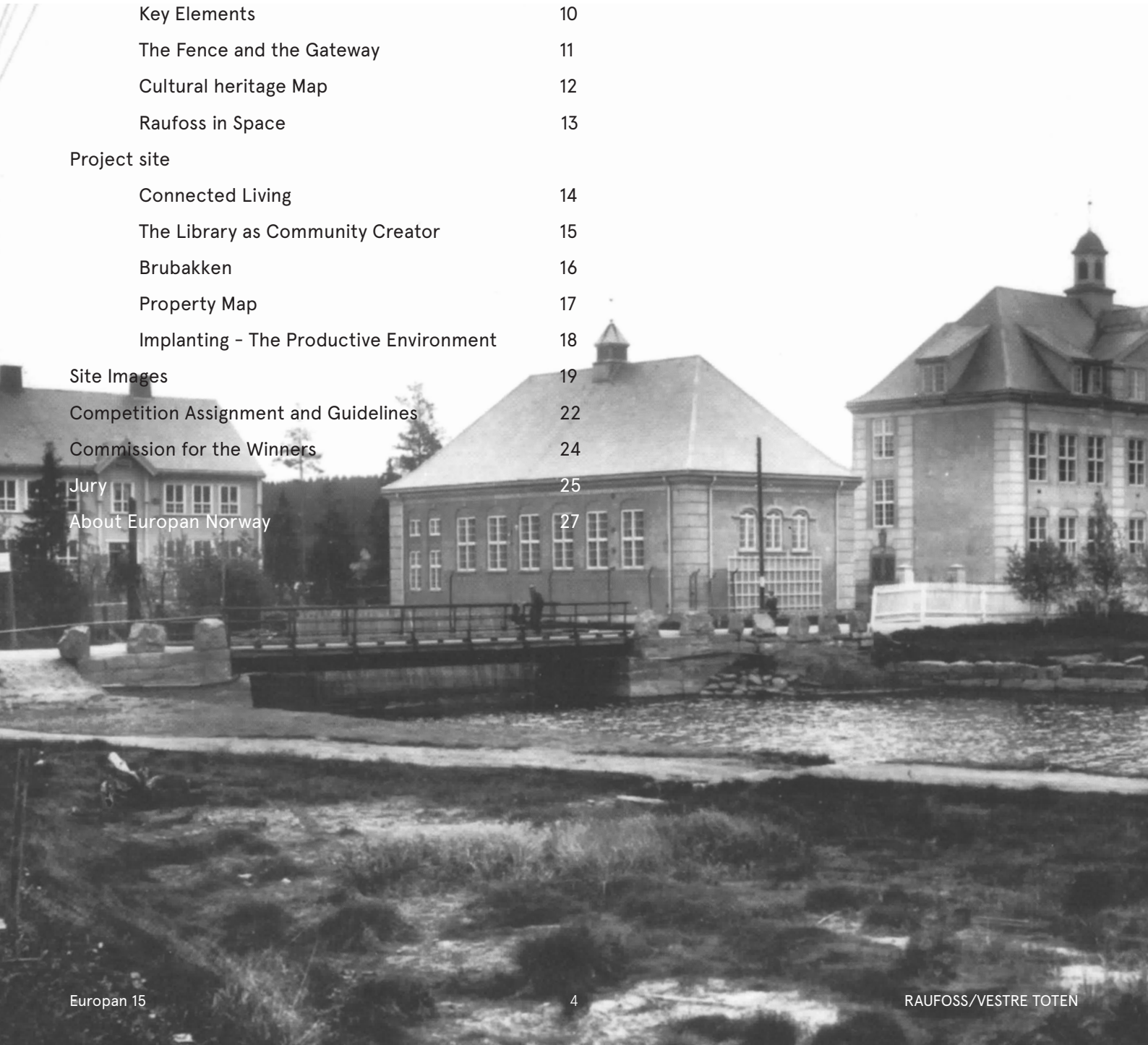
Jury – 1st evaluation
With the participation of the site representatives
Jury – prize selection
Ranked Selection: With Winner (12,000 euros), Runner-up (6,000 euros) and Special Mention (no reward)

Post-competition intermediate procedure
<ul style="list-style-type: none">- National workshop following the prize ceremony in Oslo with the site representatives, rewarded teams (winner, runner-up and special mentions).- Workshop on site with client, site representative and winning team (possibly also with other rewarded teams).

Mission given to the selected team(s) for the implementation
The municipality of Vestre Toten intends to commission the winning team with a feasibility study in order to further develop their project towards a detailed zoning plan, under the direction of the municipality. Urban space and social infrastructure, especially on municipal property and plots, is highly prioritised by the municipality and may lead to a preliminary project if considered feasible.

Table of Contents

European 15 Norway – Productive Cities 2	2
Site Brief – Raufoss	3
Table Of Contents	4
Introduction	5
Regional context	
The Competition Site – a Productive Milieu	6
Into the Secret Zone	7
The River	8
Study area	
Site Definition	9
Key Elements	10
The Fence and the Gateway	11
Cultural heritage Map	12
Raufoss in Space	13
Project site	
Connected Living	14
The Library as Community Creator	15
Brubakken	16
Property Map	17
Implanting – The Productive Environment	18
Site Images	19
Competition Assignment and Guidelines	22
Commission for the Winners	24
Jury	25
About European Norway	27



An aerial photograph showing a mix of residential buildings, parking lots filled with cars, and a large industrial facility with a grey roof. A road with a crosswalk runs through the scene, separating a wooded area with autumn-colored trees from the built-up area.

Introduction

Photo by Alexander Ranum Nilsen

From matchsticks to rockets

Raufoss is a young town of 7.000 inhabitants, located 120 km north of Oslo, established in close connection to industrial activity which started off with matchstick production. The combination of a productive river and the strategic location made Raufoss an ideal place to locate Norway's state ammunition factory. The matchstick production and the ammunition factory sparked an industrial adventure in the region, as well as nationally.

Today, Raufoss is home to cutting edge industry providing for space rocket development and other world-class technologies. The Raufoss Industrial Park, recently acquired by local owners, spans an area of 2.864 decares, of which 1.848 daa are located in the municipality of Vestre Toten. 50 businesses are located in this large industrial park, but the hypermodern activity takes place behind a security fence in the very middle of Raufoss town centre. While exciting innovations evolve inside the fence, this activity is not reflected in the town centre; the fence itself constitutes a clear and exclusionary border between the two.

Ignite synergies

One of the main topics of the competition is therefore the relationship between the flourishing industry and the town centre: how could Raufoss gain more from the prolific energy of the industrial park and the collective knowledge of the employees and inhabitants, while better integrating the area into the town centre?

The municipality of Vestre Toten invites European to explore and reveal the embedded potential in Raufoss and propose innovative solutions for the town centre. The proximity between the industrial park and the town centre provides an extraordinary possibility for development.

The competitors are encouraged to focus on proposals integrating the industry and the town in a productive relationship through the introduction of new public programmes, new connections and urban public spaces.

All European competitors, welcome to Raufoss!

The Competition Site – a Productive Milieu



The high-tech environment inside the industrial park. Photo by Raufoss Industripark

Cradles of innovation

The competition site is centrally located in Raufoss and could become a pivotal point for innovative densification of the town centre, starting where the industrial adventure set off. The site encompasses several localities: the former school and gymnasium; the parking garage of the mall; the curved northern parking lot; several buildings currently behind the security fence, and the area between the industrial park and the shopping mall. Reinvented and invigorated, these areas may contribute to a productive urban centre with improved connections.

Traditionally, Raufoss has had a strong working class. The union of metal workers remains a force to be reckoned with. Manual labour and practical knowledge are key to the development of advanced manufacturing in the industrial park. In 2018, the SINTEF division within Raufoss Industrial Park was designated as a «Catapult Centre» for Manufacturing Technology (MTNC). The centre will assist small and medium-sized businesses in developing ideas from the concept stage to market launch and expansion in the manufacturing business.

Furthermore, new talents emerge from the roots of Raufoss community, its cultural scene including a progressive library with a makerspace. Generating knowledge through practical experience is a core value for the library, one of four libraries taking part in the project «Biblioteket som samskaper» – «The Library as co-creator». The library aims to become a 24/7 venue for interaction between inhabitants, another topic to explore in the competition.

Evolving urbanity

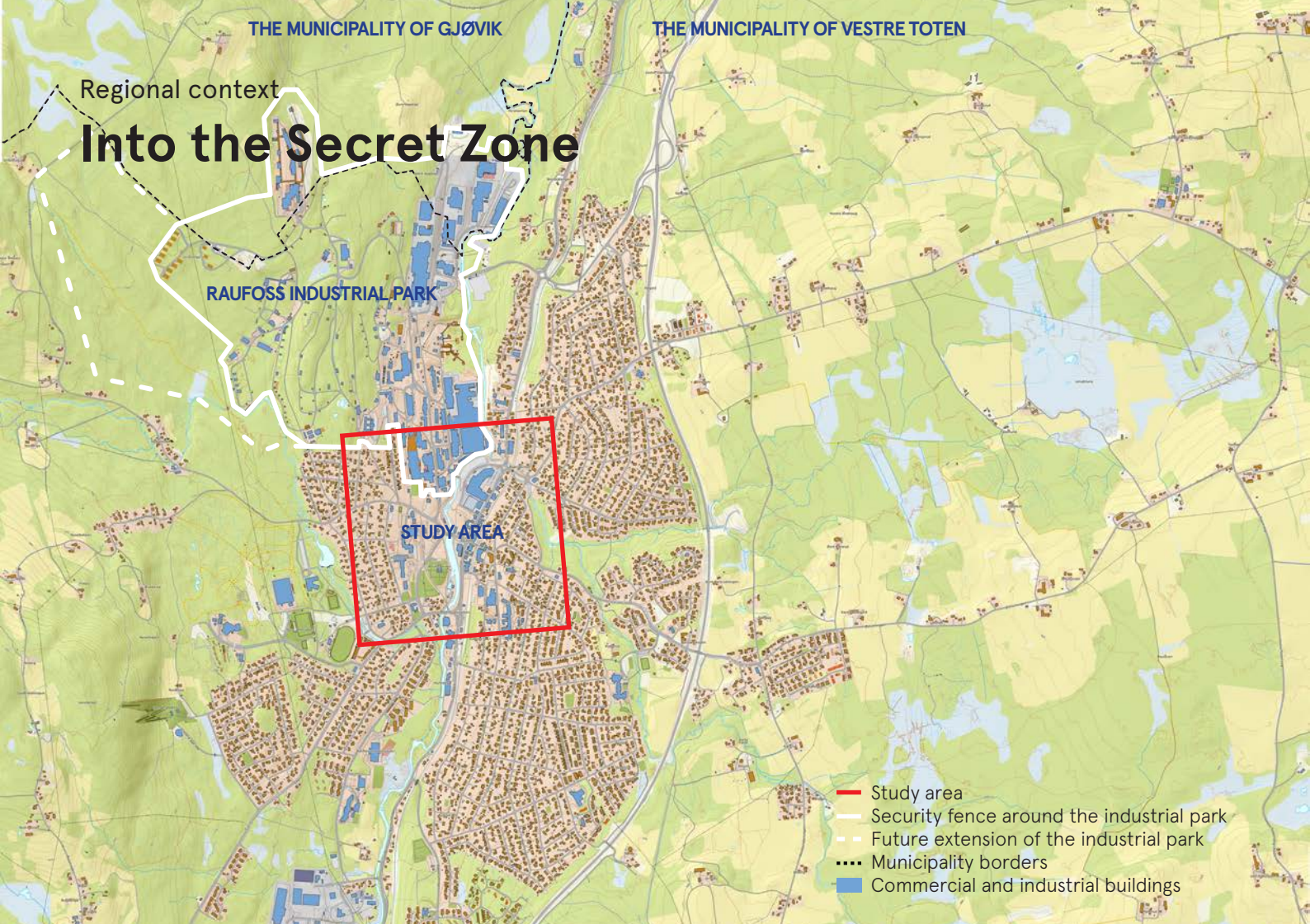
Raufoss is not a densely populated town, as most people live in detached suburban houses. Densification is called for to accommodate urban development while avoiding expansion on arable land: while emphasis on protecting the agricultural landscape is strong, food production and self-reliance in Norway is declining.

Raufoss has adopted the regional strategy «Connected Living», which aims to prepare local communities for demographic changes such as an aging population. A core theme is building a community with housing and public functions where private and common spaces assist and empower individuals over a lifespan.

There is a lack of social meeting places in downtown Raufoss, both commercial and non-commercial. Visitors and part-time workers in the industrial park tend to seek out neighbouring municipality Gjøvik for restaurant visits and hotels. New activities and spaces for social gatherings could elevate Raufoss as an attractive place to stay. Four distinct seasons already provide variation for outdoor activities. In winter, snow plows leave snow banks and mounds by the roadside, creating temporary topographies within the urban space. The climatic conditions could be taken advantage of to generate low-key activities such as playing in the snow, sledding or ice skating.

Regional context

Into the Secret Zone



Territorial map of Raufoss in the agricultural landscape

Small town – global reach

Raufoss is a small town with global connections, located in the midst of a rich agricultural landscape that provides for the larger region. The town of Raufoss, surrounded by farmland and forests, harbours a secret zone: one of Norway's most high-tech industrial parks, hidden behind a security fence.

From robot arms to sounding rockets, Raufoss is an interdisciplinary hub of competence within automated production, robotics and material technology, playing a key role for the nation on its way towards a sustainable future. In tune with the political ambition of greener, smarter and more innovative industries, companies within the hub are immensely eager to incorporate new technology and to share competence and know-how. In 2018, the first European hybrid rocket designed to lift scientific instruments into the upper atmospheric layers was launched into space. The hybrid motor of this sounding rocket was tested and designed in Raufoss.

The high productivity growth can be attributed to the use of knowledge to create complex manufacturing tools, combined with deft roboticised production and smart use of innovative materials. The knowledge base of the industrial hub has been formalised as SINTEF Raufoss Manufacturing (SRM), a unit for research and development. However, these activities are not necessarily apparent within the town centre of Raufoss.

«Behind the fence» scenes

60.000 people visit Raufoss Industrial Park annually. Nestled behind the security fence, the park creates a

physical and social division within the urban landscape. Through the recently established Catapult Centre, the border between inside and outside will become more permeable as building no. 5 will open to the public. The buildings no. 3, 4 and 313, currently within the security fence, may also have an integrative function. The competition site plays a key role in linking these buildings to the public scene in Raufoss, channelling the flux of visitors into the local community. How can the synergies pulsating within the industrial park be reflected in Raufoss as a multi-productive urban network?

Key Figures Raufoss Industrial Park

Buildings:

- Ca 350 buildings
- Ca 230.000 m² of floor space

Transport and access:

- Ca 10.000 full heavy goods vehicles to and from the park every year
- There are two main entrance gates into the industrial park: one in the south by building no. 3 and 313, and one in the north. Building no. 5 constitutes a third entrance into the industrial park.

Technical information:

- Total energy use about 200 GWh per year, corresponding to 10.000 households
- Separate distribution of drinking water and access to separate source of industrial water/process water
- Central pneumatic network
- Separate district/central heating plant (50 GWh)
- Separate purification plant

The River

Hunnselva

Hunnselva, the river passing through Raufoss, is a golden thread meandering through the town's history. The competition site itself is located by the waterfall Raufossen, after which the town is named. Historically, the energy of this waterfall was transformed into electricity; there is still a small dam here today. Near this waterfall, the first industrial production started in the second half of the 19th century. A local farmer set up a forge producing nails and other items by water-powered hammers. By the 1880s, as many as 80 people were employed in the manufacturing industry.

In the early 1890s, the Norwegian government decided to establish facilities for production of small arms munitions at Raufoss. These facilities are the origin of building no. 5 within the site. The munitions industry was essential for the increasingly urban development of Raufoss in the early part of the 20th century. An expanding industrial complex «within the fence» was mirrored in a growing city with housing, schools, shops, offices, and a railway station, all «outside the fence».

While the river is too small to play any part in the electrical power production for the current industrial complex, it remains an important factor for the industry. Huge amounts of water used for cooling is led by pipelines from Raufossen into the industrial area. Apart from this, the river is mainly significant as an environmental habitat and a green corridor within the town centre. Neglected in recent years, the area has gradually devolved into a «backyard» between the industrial park and the shopping mall.

Raufoss Industrial Park has come a long way in conceiving of new functions for building no. 5, thus opening the riverside part of the park for visitors and the general public. As part of this process, nearby buildings no. 3, 4 and 313 are also open for suggested new purposes and functions. The main access for building no. 5 today is either from within the security fence or across the river on a makeshift bridge. As part of the process regarding building no. 5, new solutions for public access across the river have been discussed.



The river Hunnselva west of the Brubakken site

Brubakken, close to the river, is also set to become a more vibrant urban area. The owners want to develop the plots further, starting with short-term activities such as a pop-up bar while planning for public space and housing developments in the long run. These developments will take place within the framework of Connected Living, in dialogue with the municipality.

One of the ambitions of this competition is to reintroduce the river into the urban scene. The competitors are encouraged to rethink the role of the river and orient the town towards it from both sides. How could this prospect add to the productivity and quality of life in Raufoss?



Brubakken. Photo by Per Melbye

New public access

To regenerate the area, the municipality has started a process of improving public access to the riverbanks. The public paths along the eastern side of the river are being redeveloped with new surfaces, lighting, and benches. Power outlets in certain spots will facilitate small concerts and other events. Universal design, snow removal and lighting to increase safety are elements that facilitate year-round accessibility.



The river Hunnselva and building no. 5 to the left

Study area

Site Definition



RAUFOSS INDUSTRIAL PARK

Security fence

the northern parking lot

Building no. 5

«AMFI» shopping mall

the municipally owned plot

Brubakken

Cultural centre and library

Town hall

The river «Hunnselva»

The main street «Storgata»

Railway

Railway station

STUDY AREA

PROJECT SITE

Key Elements

The shopping mall

The two-storey mall AMFI Raufoss kjøpesenter, built in 2006 and later extended to the south, covers approximately 10 daa of the site. The mall contains around 13.000 m² of shops, cafes, and office space. With an estimated 1.000.000 visitors each year, the mall has a turnover of ca NOK 350 million. (2017).

The mall is surrounded by parking space. As part of the 2013 extension, a parking area of roughly 3 daa was covered with a second floor of parking, which the mall shares with the industrial park. Some of the parking areas are occupied by the industrial park between 8 AM and 4 PM.

The parking garage south of the mall consists of concrete structures, dimensioned to allow the addition of further levels. Introducing new additions and functions in the context of future urban densification is a possibility that can be explored on a speculative level in the competition. Reimagining the northern parking lot is also possible.



Storgata

The Main Street – Storgata

Storgata, the main street, was also Raufoss' principal shopping area before the shopping mall was established. In the southern part of the street, there have been relatively frequent changes of business. Municipal planning is underway to upgrade Storgata as part of a regional plan for landuse and transportation. Hence, the main street as such is not an object for this competition. However, the street is linked to the competition site through several small connections which may ideally be reinforced within the proposals submitted for the competition. The municipality wants an overall approach to the area which resolves the role of the shopping mall within the town of Raufoss.

Town hall and cultural centre

While not being part of the project site, Vestre Toten town hall and the cultural centre «Fyrverkeriet», enjoy good pedestrian connections to Brubakken and the main street, both localities central to the competition. Parts of the building mass in this area is to be demolished in favour of housing and possibly



The culture centre Fyrverkeriet, also housing the Library

other purposes. The cultural centre and its environs is at the nexus of activities such as sports, arts and culture classes. The town hall and cultural centre mutually profit from their proximity. The library is also located here, in the cultural centre, but urgently needs more room to accommodate a new makerspace and fulfil its ambition of being a co-creating and inclusive community builder.

The union

With Raufoss being an industrial town, the union of metal workers plays a key role. The building which houses the union is the former director's mansion of the ammunition factory tied to Raufoss Industrial Park. The mansion «Haugen», on a hill overlooking Raufoss, retains an important symbolic value and is part of the dynamic of the town centre. It is also the destination of a local International Workers' Day parade through Raufoss for the annual May 1 celebration.

Structural elements

Raufoss is oriented along three linear structures: the railway, the county road and the river Hunnselva. The railway and the county road are strong barriers, and parts of the river are secluded from the town centre. The industrial park and the commercial town centre are both turning their backs to Hunnselva, causing the river area to appear as a backyard of sorts.



The building «Haugen» housing the union

The Fence and the Gateway



Southern gate to the industrial park. Photo by Anders J. Steensen

Are you in or are you out?

Is Raufoss situated outside the security zone – or is the security zone situated outside the town? The fence forming a border between the industrial park and the town centre of Raufoss is no longer an absolute line, as the management of the park is planning for differentiated security levels. A new borderland emerges between the industrial park and the town centre. Can this borderland become a laboratory for change and a dynamic hub for the Connected City?

Both the industry's expertise in innovation and the Catapult Centre's role as an innovation facilitator are fundamental to the productive city of Raufoss. The public library is proactive and inclusive of all inhabitants and is functioning as a bridge to the world of expertise. The library also aims to become a 24/7 library with an extended role as a community maker, placed at a central location in the town centre.

Breaking barriers

Building no. 5 is located at the outer edge of the park, in the middle of Raufoss centre. Its facade constitutes a section of the physical security fence. The river separates building no. 5 from the rest of the town centre. The shopping centre, AMFI, houses commercial meeting places and a public programme – «City Lab», where the municipality engages the public in urban planning. Still, the shopping centre is tenuously connected to the urban situation. Improved connections between building no. 5 and the shopping centre can change both their roles in the city, and the competition site plays a central role here. The shopping centre can be

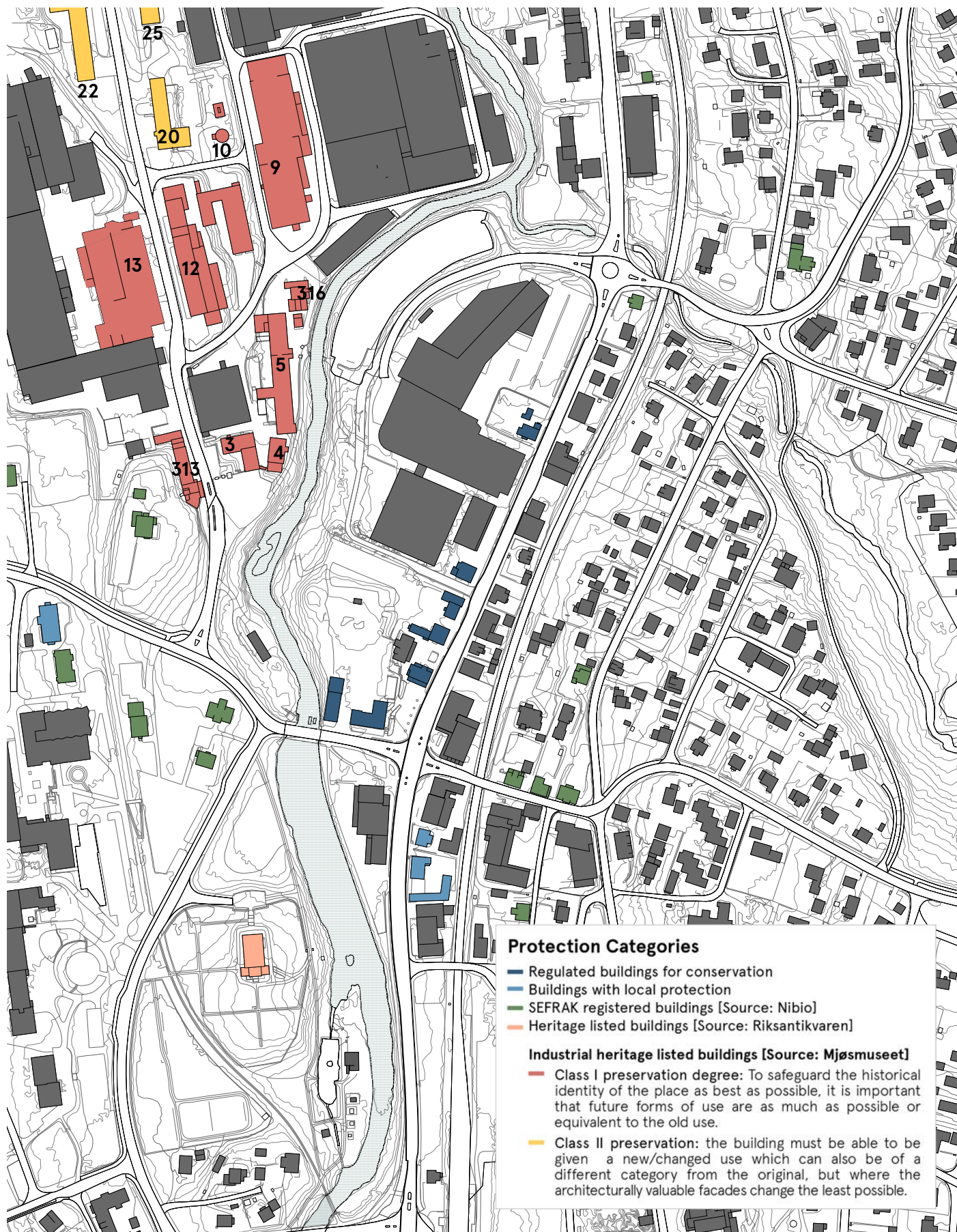
reimagined as part of a new productive geography. It is also possible to reconsider the location of City Lab as part of the competition proposals.

In addition to connecting building no. 5 further to the town centre, competitors are free to envision programmes for buildings no. 3, 4 and 313. Building no. 3 (1899) was originally used as a cartridge factory and is today an office space, while building no. 4 (1899) was originally used as an iron forge and workshop, and is today used for production. Building no. 313 was built by the German occupation forces during WW2 as a fire station and a main guard for the industrial park. It is still in use for this purpose. The buildings are listed as cultural heritage.



The security fence by building no.5

Cultural heritage



Cultural heritage map

Raufoss in Space

Rocket science

Through its innovative history, the industry of Raufoss has gained international reputation for supplying diversified and advanced mechanical products. The companies of the industrial cluster at Raufoss have a total turnover of roughly NOK 9 billion, of which exports comprise some 90 %.

The cluster's core activity is manufacturing products in lightweight materials by automated production. As an international work environment with some 3.000 employees, the industrial park represents an opportunity for innovation and for reaping the cluster effect of gathering global expertise in fields such as rocket technology.

Proposals challenging the border between the town and the industrial park are encouraged. The knowledge and startup initiatives present as creative forces within the industrial park should also be manifested in the development of Raufoss town centre as an urban space stimulating innovation.

There are 6 work shifts per 24 h in the industrial park. How can this flux of people, passing through the town centre of Raufoss at different hours of the day and night, be provided with attractive public programmes in the town centre that give them a reason to stop there and socialise?

Doorway to the virtual world

Building no. 5 has been assigned a role in connecting the industrial park and the publicly accessible urban space downtown. The north and south entrances of the industrial park, meant for vehicles, are kept under guard. By way of the Catapult Centre established in building no. 5, the park may now be provided with a third entrance by way of the centre, enabling access for the general public. The research environment, situated halfway between the park and town, may in turn contribute to developing a new hub in the town centre. The building will be shared between SINTEF and the Catapult Centre, the secondary school and a museum.

The secondary school branch now being connected to the Catapult Centre represents a new learning environment in Raufoss. The Catapult Centre has created a virtual manufacturing space where schools and companies may envision, create and test new products and solutions. This is a crucial addition to Raufoss as a high-tech innovation hub.

A key part of the competition will be to imagine measures reinforcing the connections between building no. 5 and the town centre as a whole. The current solution, a makeshift wooden bridge for employees of the industrial park, hardly signals any form of activity within the building. During a recent workshop, one of the ideas being put forward was to visualise proposals for one or more 3D printed bridges across the river: as a possible collaborative project between the industrial park, the secondary school and the municipality.



Connected Living



Photo by Anne Merethe Andresen, VTK

Urban housing

Through the concept of Connected Living, the greater region aims to promote public health by creating housing environments and local communities with well-developed infrastructure and a variety of housing typologies. The region has established a planning board representing businesses, research institutions and public administration. Generationally mixed neighbourhoods with flourishing meeting places, combined with telecare technology, could allow elderly inhabitants to live independently at home and remain active citizens for a longer time. This necessitates universally designed housing and easy access to community functions, shared facilities, shops, public transport and leisure activities. Accessible public spaces are crucial and must be universally designed to accommodate everyone regardless of age or ability. Models of sharing economy are envisioned as helpful in this context.

Projects under the auspices of Connected Living should have a technological element, providing buildings adapted to a range of different needs and sufficient infrastructure to support independent living. Meeting places within and between buildings encourage a modernised sense of the cluster farm, drawing on historical forms of communal living with a shared space between houses.

Meeting places

The cluster farm is historically associated with rural settlements and the old farming culture. A modern interpretation of this mode of living is equally relevant to urban areas. While retaining separate entrances,

the path of entry passes through a shared space, creating a low-key meeting place for those who live near each other. Such solutions may be devised for a range of housing typologies, be it tower blocks, smaller apartment blocks, or detached houses. It is also relevant for improving existing buildings as well as being integrated in new developments.

How can the concept of multi-functionality guide Raufoss' development of a dynamic town centre, providing Raufoss with mixed-use possibilities for buildings that serve as an instrument for social meetings and connectedness?

Key elements of Connected Living

Housing environments adhering to the model of Connected Living should rely on these factors:

1. strong communities in modern living environments with a generational mix;
2. housing environments of good neighbours, with a communal spirit providing the benefit of social interaction, quality of life and improved public health;
3. spaces within and between houses which encourage recreation and interaction;
4. planning solutions and infrastructure adapted to all generations and different levels of ability, providing access to communal rooms and facilities, guest rooms and telecare technology while encouraging a greater proportion of shared space;
5. neighbour relations based on volunteering, public services, mutual aid and sharing economy.

The Library as Community Creator

Active library

The public libraries are institutions whose purpose is to support democracy by welcoming everyone to learn and share knowledge. Through 150 years, the libraries have been part of the foundations of democracy. This has mandated adapting to society while retaining core values, which is also the case with Raufoss library. The library contributes to solving practical and social tasks in the local community. It is the one centrally located meeting place which is free of charge and open around the clock.

The library aims to become an active participant in solving the challenges of local community. Through co-creating processes, the municipality joins forces with inhabitants, businesses, organisations and unions to develop new solutions for a viable local community and the best possible life for every citizen. The library is instrumental in this effort, emphasising that services and solutions need to be developed in partnership with citizens and local communities.

Through the project «The Library as co-creator», the participating libraries and local stakeholders aim to develop a new service or solution creating value for the community. While remaining close to and communicating with the citizens, the library explores how to solve its tasks in collaboration with the municipality as a whole. As the process is anchored in the county administration and supported by the National Library of Norway, the co-creation effort is defined, planned and set in motion as a shared venture.

24/7

The library of Raufoss aims at expanded opening hours with self-service. While no staff will be present during the self-service opening hours, all other functions of the library will remain. Library users will be able to



Today's makerspace in the library

borrow or return material, collect previously reserved material, use a computer, print and copy documents, read papers, buy coffee or use the reading room.

Furthermore, the library aims to involve youth and trigger interest without demanding results. The library is a place for facilitating, creating, distributing and sharing. The makerspace within the library is a workshop where knowledge is generated from practical, hands-on experience.

To involve users and partners, the library has made a design probe inviting participants to share their personal experience with the place as such and the library in particular. Among the questions asked is what the participants find important, what they consider the pros and cons of Raufoss, and which role the library may play in improving the place.

The library is currently investigating where and how to expand the activity of the makerspace. In addition to this, the library needs space where they can work more consistently and in coherence with the aim of being a community maker. The competitors are invited to propose a strategy for the library that solves the immediate need for larger premises, while reinforcing the library as an inclusive arena. In the long run, the library could be imagined as a key actor in the town centre, based on the principles of Connected Living. The municipality finds it beneficial to locate the library, as a public programme, in the town centre. However, this is not a requirement in the competition. The competitors are encouraged to supply a solid rationale for the location of a new library.



Photo by Raufoss Industripark

Brubakken



The Brubakken site. Photo by Per Melbye.

Point of departure

The Brubakken property is situated by the southernmost bridge within the project site. Originally a homesteader's place, it was later acquired by the company owning the matchstick factory. Both Brubakken and the factory were sold to the state in the mid-1890s. One of the buildings at Brubakken, formerly a bakery, was demolished and replaced by a school. The school building was later supplemented with a gymnasium in the same architectural style. When the need arose for expanding, a new school building was erected on the plot right north of Brubakken. This school building was demolished in 2008, the empty plot now constituting the departure point of European 15 for Raufoss.

Brubakken is part of the collective consciousness of Raufoss community. Both the former school and gymnasium are used for a variety of purposes. Several clubs, societies and organisations have been based here, the buildings retaining an important position. Today, the Brubakken site is privately owned. The limited company Raufoss utvikling AS plans to convert the former school building into housing as well as developing new housing on the Brubakken plots. A restaurant is being considered in the old gymnasium.

The municipality owns a plot adjoining the Brubakken site in the north, which provides a beneficial position for revitalising the town centre. Proposals outlining long-term measures are welcomed, as are proposals which may be effectuated in a shorter time frame. The proposals should illuminate how the old and new buildings can be integrated in an urban town centre based on Connected Living. The privately owned

Brubakken plot and the bordering municipal plot should be attuned to each other and considered as a whole. This calls for proposals encompassing both private and municipal land.

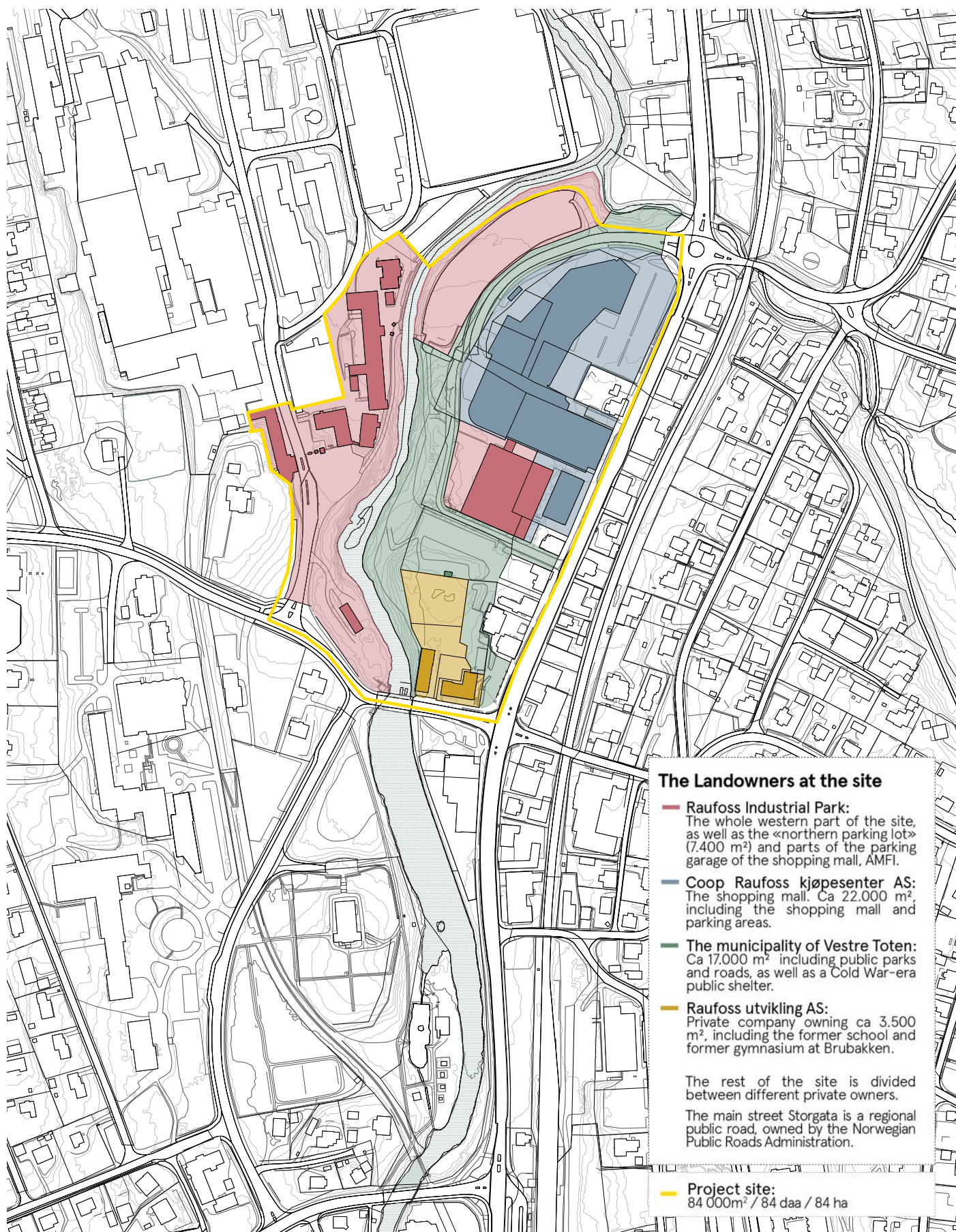
The ground floor of new and existing buildings alike should contain public programmes, such as a cafe and versatile multi-purpose spaces for meetings and activities. Above the ground floor, proposals that investigate a combination of housing and accommodation in a flexible set-up is encouraged. Developing small and medium-sized flats to rent or buy would provide a wider variety of private and municipal housing typologies in the town centre. To create urban space, underground parking can free up street-level areas.

Regarding new or reimagined buildings, long facades should display variations in expression, materiality and heights. Where buildings contain public programmes, the public entrance should be oriented towards a public road or a square. The maximum permitted cornice height is 15 metres above the average levelled terrain. Greater heights may be permitted for limited parts of buildings, technical installations, etc.

Topography

The former school and the gymnasium both lie in the southern part of the plot, close to the river. Brubakken occupies the highest of three levels in the terraced competition site, whereas the space between the mall and building no. 5 is slightly lower. The northern parking lot is situated on the lowest level. Employees of the mall and the industrial park share this parking lot, which has been highlighted as a possible location for a hotel.

Property Map



Map of landowners

Implanting – The Productive Environment

The city as a laboratory

The idea of a productive environment should be introduced into the concept of Connected Living. The whole of Raufoss is a potential test lab and arena for learning. Raufoss has the privilege of a large scale industry focusing on innovation and development, providing a number of jobs for a wide range of skill sets: both general industrial jobs and jobs in research and development. The industry collaborates with the University of Science and Technology (NTNU), which has a satellite campus in neighbouring Gjøvik and some activities decentralised to Raufoss.

The industrial park contributes to the employment of workers with vocational education and high-tech research and development backgrounds. The TAF programme, Technical General Education, combines theoretical education in secondary school with practical, salaried training within the industry. Enrolled for four years, pupils achieve dual qualification: a certificate and a special admission, majoring in mathematics and physics. The proportion of practical training increases during the last school year before graduating.

The TAF programme has the potential to draw pupils from the wider region, but there is a lack of suitable housing facilities to accommodate them. Mixing age

groups in affordable housing and intergenerational public programmes could provide mutual benefits for young and old in terms of learning, well-being and socialising, while resulting in a more active urban environment in the town centre.

Mini-factories and new production technologies

The Catapult Centre in Raufoss will develop and demonstrate innovative production processes enabling technologies in mini-factories, cooperating with the industry as well as research and educational institutions. The centre aspires to be a driving force in stimulating the Norwegian industry to become ever more green, smart, innovative and productive.

The first mini-factory will focus on additive manufacturing, commonly called 3D printing, which is a process where objects are built layer by layer from a three-dimensional model. In total, the Catapult Centre will consist of four to six advanced, modular and flexible mini-factories.

How can the hypermodern systems within the industrial park influence the development of a multi-functional city and innovate urban living in Raufoss? In which ways may the concept of Connected Living be interweaved with the the notion of a Connected City?



Photo by Raufoss Industripark

Site Images



Building no. 12 and 13 inside the industrial park



The river Hunnselva and building no. 5



Building no. 313



Building no. 3



The shoppingmall AMFI and building no. 5



The shopping mall AMFI and the main street Storgata

Site Images



The main street Storgata



The Railway Station



The river Hunnselva



The parking garage to the left and Brubakken in the back



The northern parking lot



View towards Brubakken, with the church in the back

Project site

Aerial



Competition Assignment and Guidelines

Vestre Toten municipality is calling for proposals on how to develop the site Brubakken and adjacent areas into a vibrant town centre, establishing Raufoss as a good place to work, live and enjoy everyday life. The proposal should include an overall plan for the project site, with a conceptual layout to guide future urban growth and development of the centre of Raufoss.

STUDY AREA

The study area provides an understanding of the urban context of Raufoss, and should inform the proposals made for the project site. It is possible to propose transformations, physical projects or new programmes in the study area, given that these are well grounded and considered crucial to what is proposed on the project site. However, competitors are asked to focus mainly on the project site.

PROJECT SITE

The project site plays a key role in achieving a more vivid and better connected urban core in Raufoss. The overall assignment is to redesign the site, particularly focusing on public functions and public space, as well as connections between the industrial park and the town centre.

Overall plan

The main task of the competition is to design an overall plan for the project site as a whole, with the broader context of the study area in mind. The plan should include a strategy to strengthen connectivity and enrich the urban milieu, spanning from immediate actions to more long-term investments – a development in phases. The proposed interventions should take into consideration the existing resources and the different players within the area.

The overall plan and strategy should address the consequences and implications of gradually moving the security fence around the industrial park. In the short run, building no. 3, 4, 5 and 313 can be fully included as part of the town centre and the public sphere. The competitors can also suggest how a further integration could take place in the long run. However, the long-term proposals should not include elements which become a prerequisite for the short-term transformation. The proposals should be specific about how integrating attractive high competence businesses into the urban fabric can activate the town centre on both sides of the river. The future development should aim at challenging the barrier between the industrial park and the town centre, creating synergies between the two.

Connectivity and Small Interventions

Building no. 5, in the earliest part of the industrial park, is a central connector between the industrial park and the town centre. The programming of this building has been established prior to the competition launch. One of the tenants is the secondary school, whose TAF (Technical General Education) class will be trained in the virtual factory within the industrial park. Through a sequence of training initiatives in manufacturing skills – from the library and the makerspace, the secondary school and the Catapult Centre – Raufoss has a productive programme which should be related further to the concept of Connected Living.

In accordance with the core value of practical knowledge and community building, the municipality wants suggestions on how the local competence in manufacturing skills, assisted by automated production techniques, 3D printing, robotics, and CNC, can make an imprint on Raufoss which increases the attractiveness of the town centre. The municipality, the secondary school and Raufoss Industrial Park share the vision of using the town centre of Raufoss as a test bed for innovative manufacturing. Competitors should explore how this advantageous position can be used to improve integration between the industrial park, the river Hunnselva and the town centre. This might be devised in different manners, such as a bridge, a crossing, a series of bridges, temporary urban structures or small interventions.

New Use and Urban Space

Buildings no. 3, 4 and 313 are currently located within the industrial park, behind the security fence. The industrial park is willing to discuss moving the security fence in order to include these buildings in the urban fabric. The competitors may propose new uses and functions for the buildings, as well as new entrances and outdoor spaces that better integrate these structures as part of the town centre.

Urban space and short-term urban interventions have a high priority for Vestre Toten municipality, especially in connection with future housing at the Brubakken site and the bordering plot owned by the municipality that is currently used for parking. The competitors may propose urban spaces where people can meet and gather all year for activities and social interaction.

Public amenities

How can new elements be introduced that activate the town centre 24/7 and through all seasons, with a dynamic that embodies the productive energy in the industrial park and brings new life to the somewhat forgotten town centre? How can new programmes, spaces or connections provide for much-needed meeting places that attract people of all ages?

The municipality has an excellent library with a progressive programme, popular with the general public and successful in attracting youth. The library has an immediate need for larger premises, especially for the makerspace. In the future, it is possible to see the library as a key actor in the town centre, complementary to the principles of Connected Living. The municipality is interested in proposals that investigate possibilities for a new type of library – a public programme and a multi-purpose space that can be integrated into mixed-use buildings in the town centre, emphasising the role of the library in community building. Hybrids of housing and public functions that encourage new forms of sharing and provide a range of amenities for all user groups could enrich the urban scene in Raufoss.

Housing and accommodation

How can Raufoss develop into a multi-functional city where mixed-use buildings provide attractive environments for working, living and socialising? The competition entries should provide answers to how

the project site can be densified according to the principles of Connected Living, as outlined above. Diverse housing for families, couples and singles across generations should be explored, as well as the notion of affordability, owning versus renting, and variation in unit sizes. Successfully integrating variegated housing into a common public space with flexible use and graded levels of privacy, is a crucial part of the task.

While Raufoss Industrial Park ensures an impressive amount of annual visitors, accommodation facilities in Raufoss remain poor. Vestre Toten municipality invites the competitors to propose various types of accommodation for visitors and part-time commuters to the industrial park. The municipality encourages solutions with a flexible combination of units to provide for short-term, seasonal and long-term accommodation. Hotel accommodation with an inclusive character that can be combined with other facilities is a possibility to explore further. The proposals should also consider the accommodation needs of pupils from neighbouring municipalities, attending secondary school and the TAF programme in Raufoss. Proposals may include, although not be limited to, concepts such as boarding school-type dorms or small flats, possibly being made available for renting to the general public during school holidays, including solutions for shared functions such as a cafeteria.

List of assignments and proposed new programmes for the consideration of the competitors:

Overall plan:

The competitors should create an overall plan for the entire project site that includes a strategic plan for development in phases.

Outdoor public space:

A strategy of actions for new urban space and social infrastructure divided into phases, especially connected to the Brubakken site and building no. 5, has a high priority in the municipality.

Bridge over the river:

The competitors may propose a structure to connect the industrial area to the town centre, and vice versa; a gateway for people to cross the river.

New use:

Public entry to the buildings no. 3, 4 and 313 in the industrial park: transforming the buildings from insular factories and laboratories into more open facilities allowing public use. The contestants are free to propose new programmes for these buildings.

For the Catapult Centre in building no. 5, the entrance from the town centre should be given more visibility, signalling that the building is now open to the public. Proposals are welcomed to provide the centre with facilities for guests and users of the building: seminar rooms, shared open working spaces, offices, open lounge areas and restrooms. These facilities could be looked at in relation to possible new use of buildings no. 3, 4 and 313, or as a new extension.

New buildings and houses:

The competitors can propose a location and concept design for urban apartment buildings within the Brubakken site and the adjacent parking lot. The housing should be designed in accordance with the concept of Connected Living, with public or common facilities on the ground floor. Proposals within the entire project site for mixed-use buildings for working and living, bringing life to a productive urban context, can be investigated in the overall plan. This can include new building masses on the northern parking lot and extensions on top of the parking garage, and investigating flexible accommodation possibilities.

Commission for the Winners



The river Hunnselva during celebration of the National day, 17th of May (2017). Photo by Anne Merethe Andresen

Raufoss is a town with a strong potential for new projects in both the short and long term. Commission for winning proposals will be a feasibility study or a further development of the winning proposal, laying the ground for a new zoning plan under the direction of Vestre Toten municipality.

Urban space and social infrastructure, especially on municipal property and plots, is highly prioritised by the municipality. Proposals may lead to a preliminary project if considered feasible. This could include new paths, a new bridge over the river, new public squares or areas for public use on street level.

The private owner of the Brubakken site intends to develop housing. Possible commissions in this regard will depend on whether the proposal is able to engage the property owner.

The competitors are free to envision possible future programmes and volumes for the parking garage and the northern parking lot. Development of these areas has to be imagined in the long-term perspective and depends on the interest of investors.

The Jury



Roar Svenning (NO)
Developer and founder, Bygda 2.0

In 2000, Roar Svenning took over the family farm at Stokkøya, a traditional coastal farm on an island on the coast of Mid-Norway. The land gives access to nature's edible green and marine resources and includes a spectacularly placed beach. Due to depopulation and other challenges in rural areas, Svenning decided to make life on the island his total focus for five years. Today, the family-run enterprises Bygda 2.0 ('Rural 2.0') and Stokkøya Sjøsenter & Beach Bar, a resort, manifest this endeavour. The aim has been to develop a densified, modern living and working environment to stimulate sustainable social structures and modern living. Svenning is a developer focusing on holistic planning. He works with modern architecture as a tool to increase social qualities, local attractiveness and competitive advantage. He is also an inspirational speaker, a participant in debates and a development consultant for both rural and urban situations.

Lisbeth Iversen (NO)
Public sector Phd candidate at AHO, Institute of Urbanism and Landscape

Lisbeth Iversen is an interior designer and architect. She has been in the City Government of Bergen municipality, Norway, from 2003-2013. From 2003-2007, she was Commissioner of Urban Development, Climate and Environment, and from 2011-2013 she was Commissioner of Social services, Housing and Area Initiatives. Iversen was politically responsible for the planning, implementation, financing and construction of Bergen Light Rail. She has also led extensive urban development, park and urban projects and housing programmes in the municipality. From August 2013 she has been the chair of the pilot project 'With a heart for Arendal' (Med Hjerte For Arendal) and has been the project manager for 'Living Venues Arendal' (Levende lokaler Arendal). She is on the board of Norsk Sentrumsutvikling and is a member of Place Making Leadership Council, PPS. Iversen is now also a Public sector Phd candidate at Oslo School of Architecture and Design (AHO), Institute of Urbanism and Landscape.



Caroline Dahl (SE)
Architect and urban designer, PhD fellow at SLU Alnarp

Caroline Dahl has worked with urban planning and design for various public and private entities, currently through her research-oriented design practice smog studio. She earned a Master of Spatial Planning at the Blekinge Institute of Technology, Karlskrona, Sweden, and a Master of Architecture at SCI-Arc, Los Angeles, USA. Caroline is head of the think tank Movium at the Swedish University of Agricultural Sciences (SLU) where she also serves on the editorial board of the Swedish professional magazine Tidskriften STAD. She is a PhD candidate in landscape architecture on the subject of urban transformation processes, and Board Member of RIEA.ch, The Research Institute for Experimental Architecture. She frequently serves on juries of various awards, among them Chair of the Scania Architectural Award and Co-Chair of the Swedish Architectural Association's Award for best masterplan.

Johanne Borthne (NO)
Architect MNAL, Partner at Powerhouse Company AS

Johanne Borthne joined Powerhouse Company as a partner in 2017 and is responsible for the Norwegian branch of the practice. Between 2010 and 2017, Johanne was a founding partner of Superunion Architects in Oslo. The office won several international competitions for major schemes in Norway. In 2014, Wallpaper magazine named Superunion Architects among the top 20 of the world's best young architecture practices in its directory. The founding partners received one of the most prestigious cultural recognitions in Norway, the Anders Jahre's Cultural Prize for Young Artists, in 2014. Borthne has been included on several architectural juries and has given lectures all over the world. In 2014 she participated in the Sino-Norwegian Architecture Forum at Xi'an, China, in the TEDxOslo in 2013 and at the 2012 Day of Architecture: Norwegian Sustainability.





Gisle Løkken (NO)
President, National Association of Norwegian Architects

Gisle Løkken is an architect, founding partner and manager of 70°N arkitektur, Tromsø. Through architecture practice, teaching and writing he has developed an experimental approach to architecture, urban development and planning, both locally and in a broader context of Scandinavia and the Arctic. He is a demanded teacher, lecturer, assessor and jury member in competitions and prize committees, nationally and internationally. His work has been exhibited, published and awarded. He has been a member of the European Scientific Committee and is currently the president of the National Association of Norwegian Architects.

Robert Mull (UK)
Head of School of Architecture and Design, University of Brighton

Prof Robert Mull was born in Cambridge in 1960. He was educated at the Bartlett and the Architectural Association. An architect, educator and activist, Mull was until 2015 Director of Architecture and Dean of the Sir John Cass School of Art, Architecture and Design (affectionately dubbed the Aldgate Bauhaus) in London. He has taught widely in the UK and internationally and held visiting professorships in Vienna and Innsbruck. He was a founder member of the architecture collective NATO and in 2013 he co-founded a new school of architecture in Moscow. Today, he is a Professor of Architecture and Design at the University of Brighton, Visiting Professor at Umeå University and Director of Innovation at Publica, the London-based urban design practice.



Maria Hellström Reimer (SE)
Professor in design theory, Malmö University, School of Arts and Communication

Maria Hellström Reimer is trained as an artist and with a PhD and Readership in landscape architecture. Her research is interdisciplinary concerning the aesthetics and politics of art and design broadly speaking, including questions of criticality, methodological experimentation and social mobilisation. Recent writings include articles such as "Cut, Make and Trim: Fast Fashion Urbanism in the Residues of Rana Plaza" (in Frichot, Gabrielsson, Metzger, eds., *Deleuze and the City*. Edinburgh: Edinburgh University Press, 2016); and "Playing the Green Card: The Commodifying Fiction of a Derivative Jardin-Forêt" (in *Architecture and Culture*, Vol 5, No 2 2017, special issue "Solids and Flows: Architecture and Capitalism").

Miia Mäkinen (FI) – Substitute Member
Architect SAFA-Partner at LUO arkitehdit Oy, Doctoral student at the University of Oulu

Miia Mäkinen (M.Sc.Arch) is one of the four partners of LUO architects Ltd - which is young and growing architect office in Oulu, Finland. LUO architects expertise lies in the fields of urban northern housing and city planning, and nature-based tourism architecture. Mäkinen is also a doctoral student at the University of Oulu, where she does research concerning spatial experience in the context of nature-based tourism in the Arctic. Mäkinen has been teaching at The Oulu School of Architecture, University of Oulu in courses on contemporary architecture and advanced architectural design. Mäkinen with her partners entered European 13 with the project "New Kids on the Blocks" for the City of Jyväskylä, for which they were awarded the runner-up price.



Matilda Schuman (SE) – Substitute Member
Architect SAR/MSA at Wingårdh arkitekter AB, founder of Schuman Berg Arkitektkontor

Matilda Schuman earned her Master's Degree in 2016 at the Royal Technical University in Stockholm. Schuman has worked for Dorte Mandrup Architects in Copenhagen, Semrén Månsson and the Swedish Association of Architects in Stockholm. In 2014 she travelled on a scholarship to Seattle and did a year of exchange studies at the University of Washington. In 2017 she won European 14 in Narvik, Norway, together with Martin Berg. After winning, they founded Schuman Berg Arkitektkontor and have since then been working with the client in Narvik to adapt and develop the project. Along with founding Schuman Berg Arkitektkontor, Matilda has been working at Wingårdhs Arkitektkontor in Stockholm since 2016.

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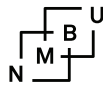


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