

# CONTEXT

Gällivare Municipality is situated 100 km North of the Arctic Circle in Norrbotten County. It includes the former towns of Gällivare, Malmberget and Koskullskulle. Together they have a population of roughly 16,000 people.

Over the past 40 years, Gällivare has been undergoing significant changes. LKAB, the iron ore mining company in the area, has been expanding its activities. The iron ore bodies that they would like to mine underly portions of Malmberget. However, in order to do so safely, the inhabited areas above the ore bodies must be vacated as well as those located within a certain distance of the activities. As a result people and businesses in the mine expansion zone have either relocated to other parts of the municipality and others have simply left the region.

While the issue of moving is an important one, we have identified several others that are affecting the municipality. Based on our analysis, those of most significance are:

- Malmberget is shrinking
- A lack of a clearly defined vision for the future of the community
- The housing situation is varying dramatically
- Public apathy and a feeling among the public that they have little influence over the current situation
- A need for a greater sense of place, especially in public spaces in the center of Gällivare
- A narrow range of experiences and employment industries
- A need to develop entrepreneurship, collaboration and innovation

All of these seem to be culminating in the continued long-term vulnerability of the municipality.

Despite these challenges, Gällivare municipality is rich in resources. Among these is Dundret, which we consider to hold the potential to draw development away from a sole focus on the mine. It will become the new sun in a system of ideas that utilizes resources in nature, society and industry. The vision that we present here is one that proposes the use of multiple injections or initiatives. Carried out in conjunction with one another, these actions are designed to build on synergies to regenerate Gällivare municipality. These actions must be initiated by the local community through partnerships between people, institutions, government and industry.

We propose a series of actions that are practical and value-creating as well as inspiring and motivating.

- Create an exciting entrance to the city by moving the railway station to the river and connecting it to Dundret with a cable car.
- Expanding Gällivare outside of the mining interest zone to decrease vulnerability and future change while building on existing infrastructure.
- Diversify employment options and foster innovative industries.
- Embrace the Sami culture as both an identity and a business opportunity.
- Establish an electric snowmobile test center.
- Enhance the year-round festival schedule including, outdoor landscape, snowmobile festivals and competitions
- Recognize and utilize value of underused and discarded resources such as heritage buildings, waste rock and transferable skills and technology from the mine.



## Once upon a time in the future...

... there was a town called Malmberget that grew out of a mine. Thanks to the wealth from the mine and the beauty of the natural surroundings, the town became prosperous. The mine gives, it also takes. A century of vitality was followed by slow decline as the "pit" consumed homes, schools, shops and restaurants and people moved to neighbouring cities. The townspeople found themselves at a crossroads.

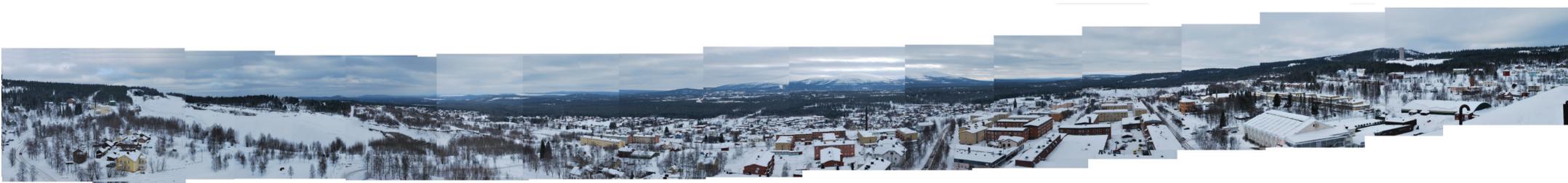
### ...they did nothing

The townspeople had depended on the mining company for so long, but the town was no longer the mine's first priority. It was also clear that the municipality lacked initiative. People lost hope. An "every man for himself" mentality followed. Local businesses competed for the remaining customers. Gradually, the most entrepreneurial people moved their businesses to other places. Owing to a recession and the loss of skilled workers, the mining company shut down operations. The last of the shops, services and airport also closed. Left was a ghost town and the remains of the nature.

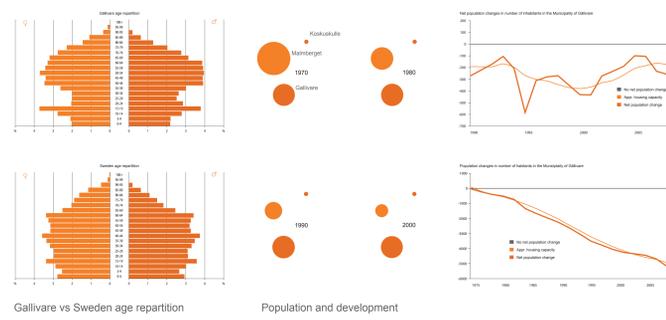
If only the people had started to do things together.

### ...they did something together

The townspeople had depended on the mining company for so long, but in 2009 things changed. Realizing that they couldn't expect the mining company, the government or someone else to save them, they started working together. They saw that the landscape and people were about more than just a mine. Together they created a region of creativity, culture and diversity. This project is the story of what they did.

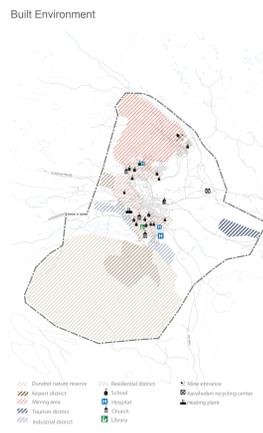
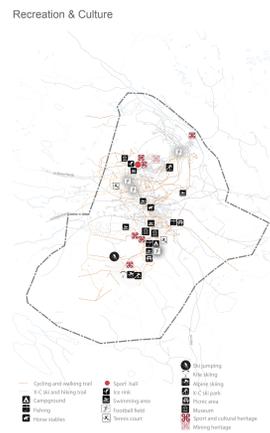
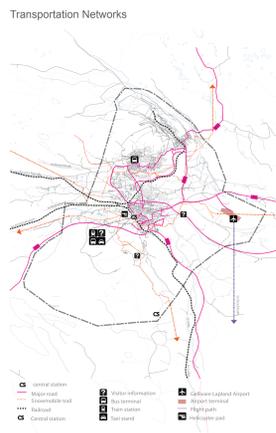
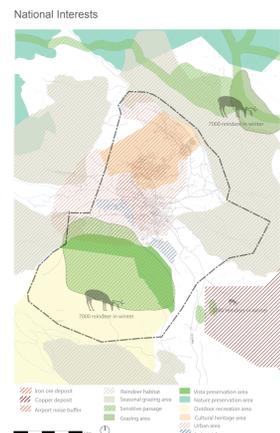


# ANALYSIS



Gällivare vs Sweden age repartition

Population and development



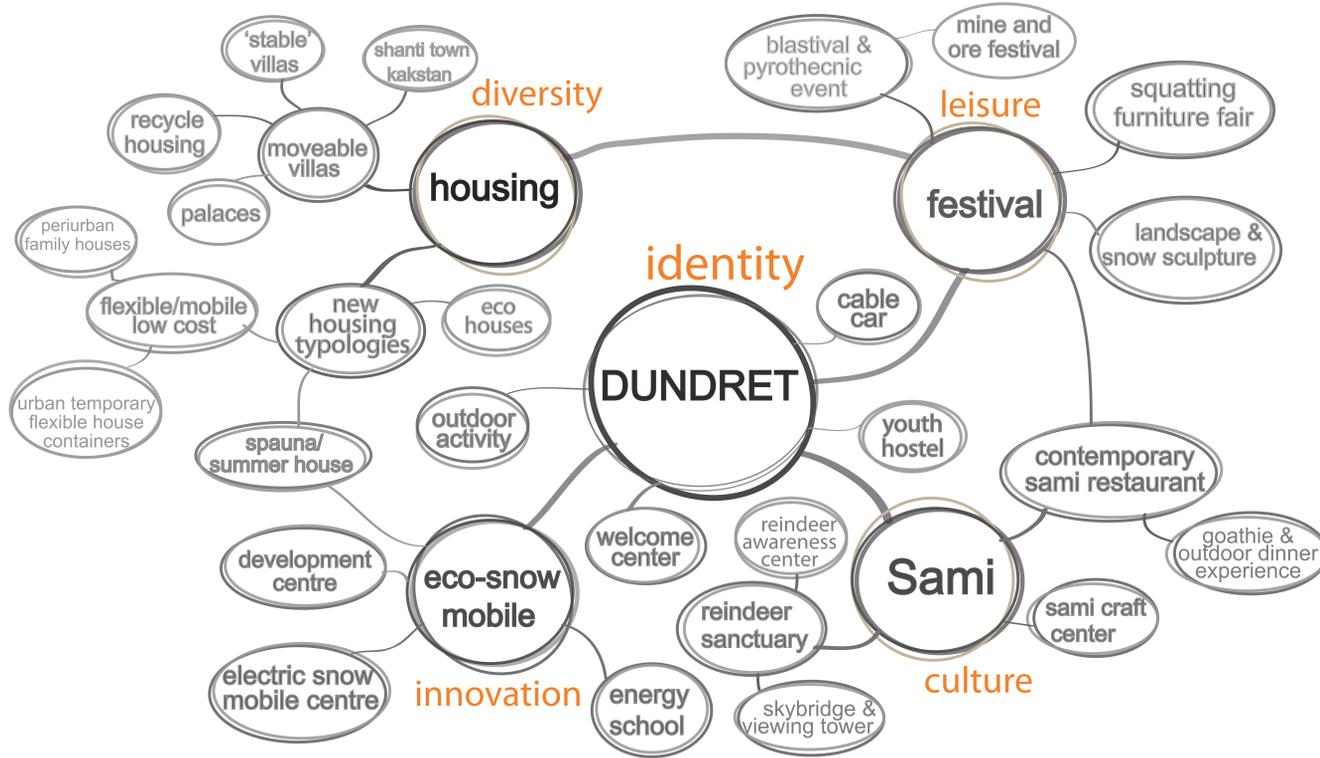
## Stakeholders

- Citizens**
  - Malmberget
  - Gällivare
  - Koskullskulle
  - Permanent residents
  - Non-permanent residents
  - workers, refugees
  - Potential newcomers
  - Tourists
- Municipality**
  - Politicians
  - Planners
  - Public service employees
  - Health care
  - Schools
  - Public Infrastructure
- Mining Industry**
  - LKAB
  - FAB
  - management
  - public owner
  - AITIK
  - management
  - private owner
- Saami**
  - Reindeer herders
  - Tourism industry
- Local business**
- Sweden**

## Resources

- Gällivare municipality has a number of unique resources.
- Both mines generate large volumes of waste rock.
- Specialized mine related technologies include concrete manufacturing and a variety of heavy machinery.
- Gällivare is well connected by rail which transports people and ore to the East Coast of Sweden and northwest to Norway. Passenger rail also connects to the South.
- Dundret is but one of the surrounding wilderness and recreation areas in the direct vicinity of the municipality.
- A disused underground war hospital descends seven stories into Dundret and has entrances at the top and bottom of the developed area on the mountain.
- The LKAB mining museum is a cultural centre that will need to move at sometime.
- There exist several kilometers of sealed off mine tunnels with stable temperatures in the LKAB mine.
- The cold and snow are ideal for a variety of outdoor activities in winter.
- Two separate Saami reindeer herds overwinter in the area while another grazes in nearby forests year-round.
- Jokkmokk hosts the Saami heritage museum, Kiruna the Saami parliament and Gällivare is planning to be the Saami craft centre.
- Snowmobiling is a popular winter activity and snowmobile trails link the municipality to the rest of the region all the way down to the coast.
- There are many underused buildings as well as buildings of architectural interest in Malmberget.
- People in Gällivare are one of the greatest resources in the area as they hold a great deal of expertise and tacit knowledge.

# DUNDRET SYSTEM



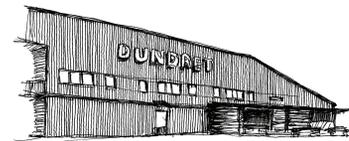
## Dundret calling!

It is not just Malmberget that falls in the mining interest area, but parts of Gällivare as well. The development is therefore focused southeast toward Repisvaara. The area has beautiful slopes and a southwest exposure. This extension of the town builds on existing infrastructures related to heating, water, roads and electricity.

It is not only new development that shifts toward the southeast. The town center also creeps in this direction toward the river. The transformed center includes a prominent entrance to the town. The train station is now the center piece of this gateway and is connected to Dundret by cable car. It too is located to the southeast of its previous location on what was previously the site of a slaughterhouse.

The new center bridges the two sides of the river while creating a "place" character, rather than the current "flow" character.

# DUNDRET DEVELOPMENT



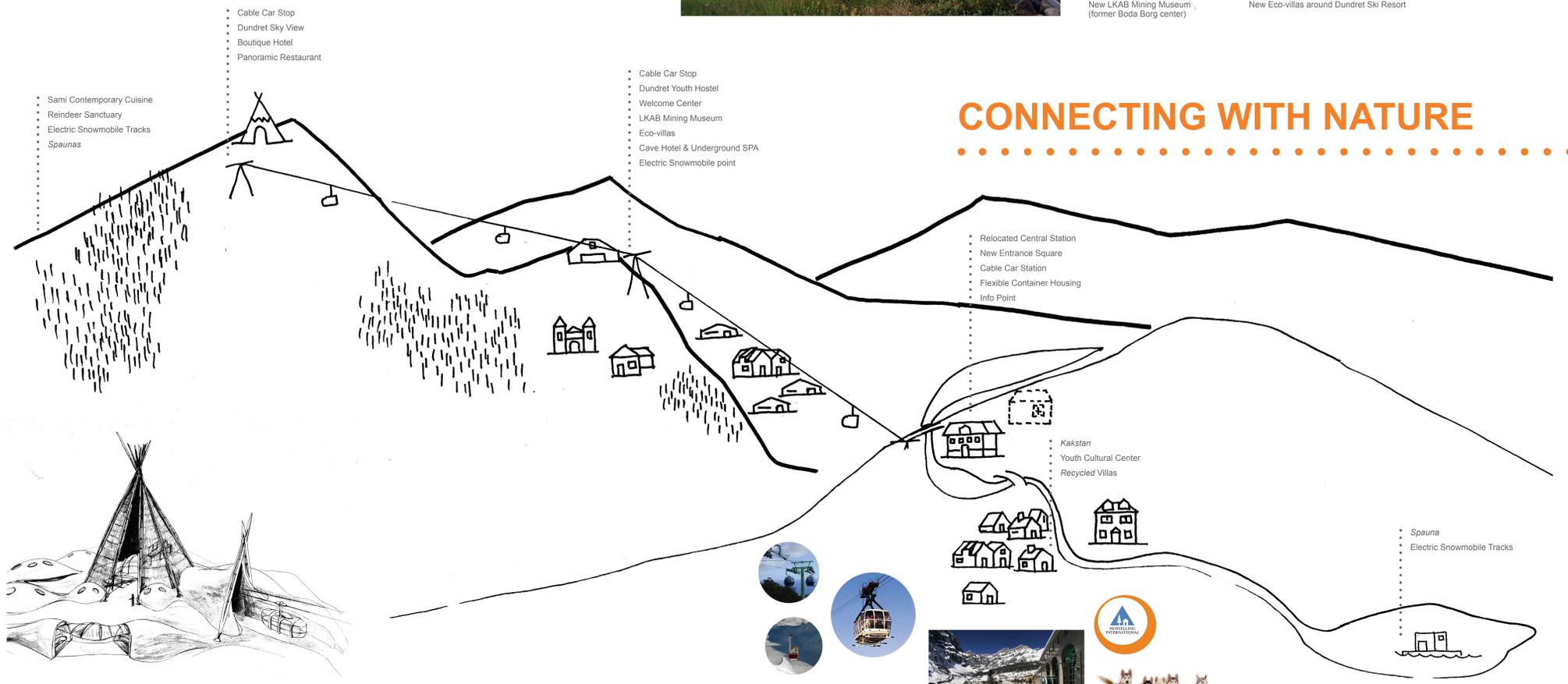
Dundret Hotel converted into Youth Hostel



New LKAB Mining Museum (former Boda Borg center)



New Eco-villas around Dundret Ski Resort



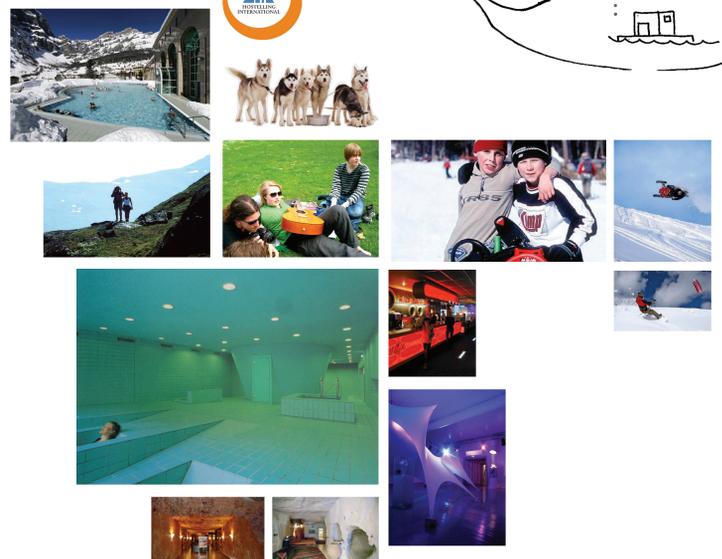
## CONNECTING WITH NATURE

## GENERATING AN IDENTITY

**FREYA (39) norwegian tourist**  
**EMIL (7) future astronaut**

Last weekend, Freya brought her son, Emil, to visit the space museum in Kiruna. With Gällivare being only one stop down the line, she decided to make the extra trip and show her son the mining museum and the "pit" with its landart garden.

As the train pulled into the station, Freya was amazed at how things had changed. A large glass structure in the shape of a goathie beckoned to them from the top of Dundret. As they approached the station, a cable car came into view. Emil begged to ride it. He grew very excited when Freya told him that they were going to take the cable car to their hotel and the mining museum. On top of the mountain, they explored the underground mining museum and gazed across northern Sweden.



# PROGRESSIVE HOUSING

## House Recycling Center and House Remix

When moving the whole house is impossible, the structure may be taken apart to keep usable components. Salvaged parts are stored at the House Recycling Centre. Builders can use these fixtures to build new houses, individually designed by the owners, with unique shapes, structure and plans. An area of some 50 such houses could well become a landmark itself.

## Eco-housing & Mobile Container

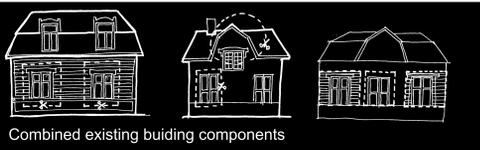
Alternative housing typologies respond to the needs of a changing society as well as nature. House types include low cost container houses which are mobile as well as eco houses built in a low or no environmental impact these can be placed in the wilderness and allow for recreation in a unique solitude. One example is the "spauna", a combination of a spa and a traditional sauna.

### EXISTING HOUSES

#### Moveable Villas



#### Unstable Villas = Recycling



KAKSTAN shanty town finds a new place by the river



House Recycling Center

**CARINA (24) mine worker**  
**PETER (27) student in sustainable tourism at Folkhogskola**

Carina and Peter both grew up in the Malmberget and spent their childhoods running around the abandoned mansions of Hermelin. The old houses are gone now, however before being knocked down, many of the old fixtures and beautiful wood work was salvaged and is currently stored in the House Recycling Center.

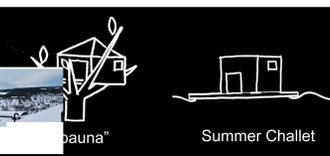
Carina and Peter's house too will soon be taken by the mine, but they are prepared for it. The past two years they have been working with an architect to design a Remix House that incorporates some of the historic building fragments. They will cooperate with their future neighbours in Repisvaara. In the meantime they will continue using the land as a campsite.



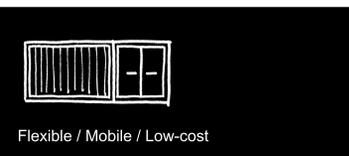
## DIVERSIFYING EXPERIENCES

### NEW HOUSING TYPOLOGIES

#### Eco Houses



#### Container Houses



Periurban Family housing container



Urban temporary flexible container



Recycled Housing Community Living

**OLGA (78) retiree**

Olga fondly remembers her life in Malmberget and she was happy to make her life here. She put great effort into making her house in Elvhemsomradet a home and into practicing her favourite hobby, gardening. For some years, she has known that the mine will soon take her garden away from her and now it is time to move.

Her house has been assessed for structural integrity and she will be able to move it to the mixed neighbourhood of Repisvaara, on the side closest to the hospital. She would prefer to keep her whole home and not move at all, she knows she is lucky because many people cannot keep their homes at all. This is the case of her friends, Sven and Margareta. Luckily they will build a new house next to hers. She is looking forward to be able to visit for coffee every day and she has already started planning her new vegetable garden.



## TRANSFORMING THE COMMUNITY

# SAMI CULTURE

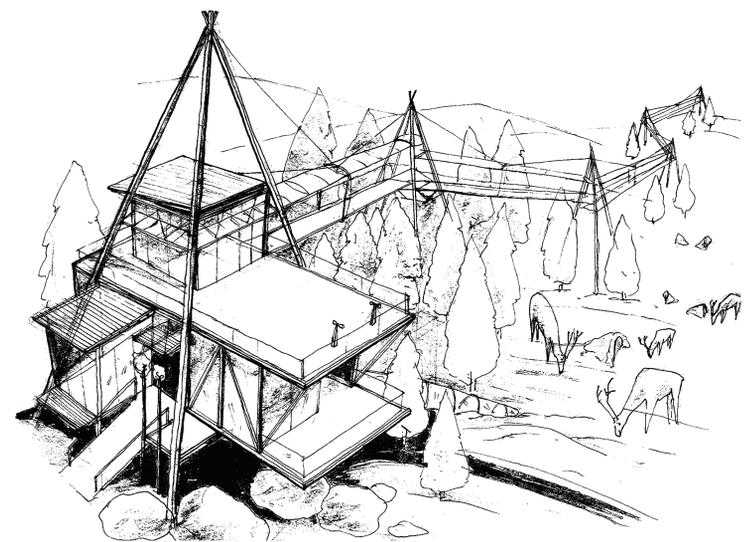
## REACTIVATING HISTORY



Sami crafts and nomadic housing



Smokehole (oilpaste) by Ulrika Tapio



### Sami Craft Center & Reindeer Sanctuary

With support from AVKI, the Development Center of Sami Industry in Gällivare, local Sami business people run two programs to promote awareness of Sami culture and encourage local Sami entrepreneurship: the reindeer sanctuary and Sami craft center. In the sanctuary, visitors can view reindeer in their natural habitat without disturbing them. The Sami craft center is intended to showcase and sell traditional and contemporary Sami art and craft.



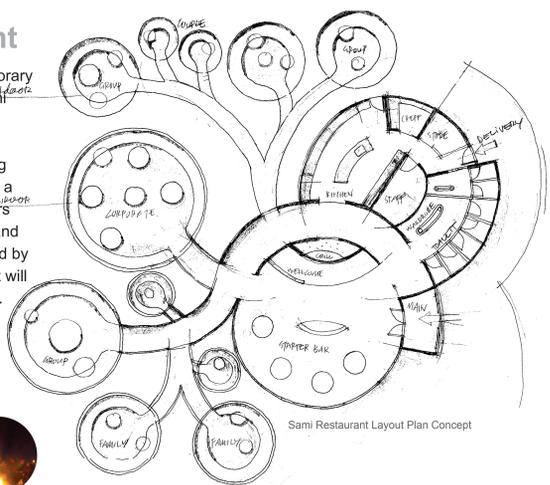
Autumn by Lars Pirak



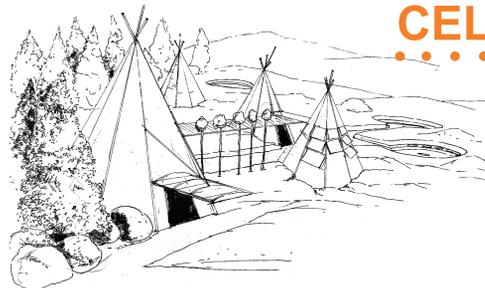
### Sami Restaurant

The restaurant makes contemporary dishes based on traditional Sami food and ingredients.

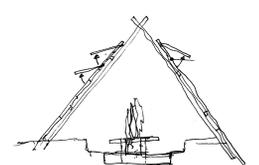
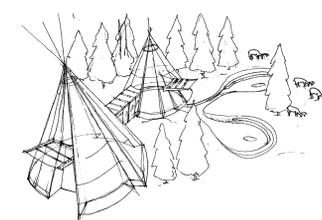
The building design consists of several glass goathies in varying sizes that are all connected. On a play on the seasons, the interiors of the goathies will feature fire and ice in the summer to be replaced by grass in the winter. The concept will be franchised in other countries.



Sami Restaurant Layout Plan Concept



## CELEBRATING CULTURE



Solar Power Roof System

## FESTIVALS & EVENTS



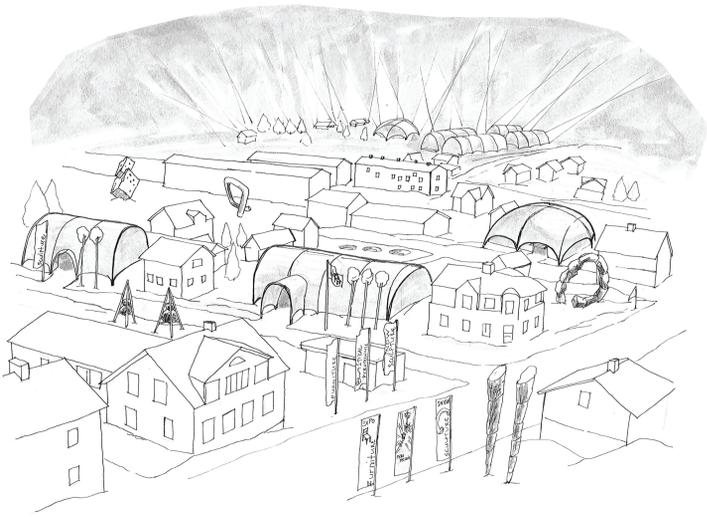
### Waste Rock Landscape Art Center

Every year a new collection of landscape art is made from waste rock, other materials and concrete. Artists use excavators, trucks and rapid drying concrete spraying machines from the mine to construct their works.

The collection is displayed on the rim of the "pit" until the following year when a new collection is made and the previous works are pushed into the hole.

Liljevalchs konsthall

inspiration: Liljevalchs konsthall (Stockholm works with art that is seen and attracts attention. The art that people encounter in art spaces, in their neighbourhood and throughout the city.)



### LAURA (26) ArtSquat intern

When Laura heard about the year-long internships at ArtSquat, she knew she had to apply to participate. As part of the ArtSquat team she is busy setting up an exhibit showcasing the work of a Sami conceptual artist. The exhibit will be held for a short time in the old LKAB offices in Hermelin. She jokes she has only slept 20 hours in the past week, but she knows it is all worth it: the show marks the start of the long-term Sami cultural centre project. This is also the last time the old building will be used before it is dismantled for reuse.

After the opening on the weekend she is looking forward to hiking up Dundret with one of her team members. Monday is the start of the midnight sun and she can think of no better place to welcome it than from the wild side of thunder mountain.

### Squatting Furniture Fair

There is a lot of vacated houses and lots and in Malmberget. Some of these will have to go soon, some will stay later.

To rid the area of a sense of decay and utilize the resource a "squatting fair ground" is developed. Semi-permanent connections between the house and temporary halls of varying size is forming a ever evolving exhibition space.

A unique quality is the ability to allow exhibitions in real houses and apartments. An example can be a furniture fair where all furniture is shown in vacated houses and apartments.



## BUILDING PARTNERSHIPS

## ELECTRICAL SNOWMOBILE

### Electric Snowmobile R&D

#### Phase I: EXPLORATION

Purchase sample of existing snowmobiles, if there are such, and perform tests.

Organize competitions among students, mechanically-oriented youth and others to convert petrol-powered snowmobiles to electric.

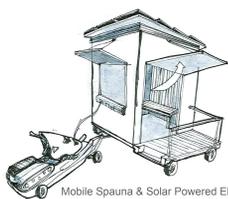
#### Phase II: EXPERIMENTATION

Bring in other groups; event firms, various snowmobile customers to discover criteria and inventions.

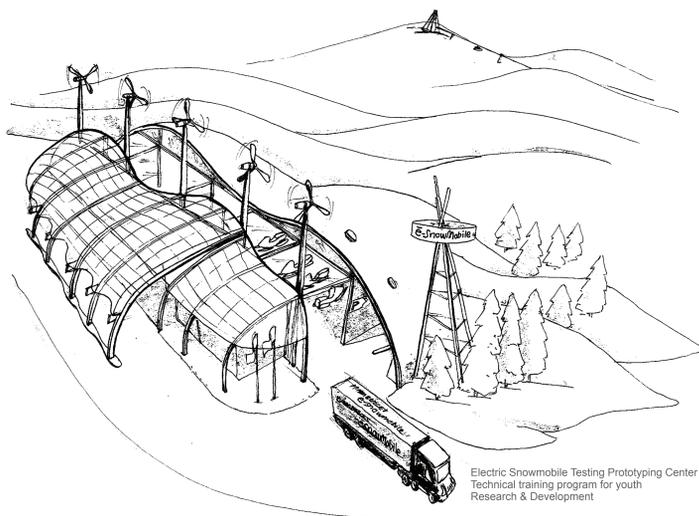
Develop prototypes for different target groups. Engage local event firms in testing

#### Phase III: FORMATION

Formation of company; strategies for marketing, sales, manufacturing, distribution and services for new e-snowmobiles.



Mobile Spauna & Solar Powered Electric Snowmobile



Electric Snowmobile Testing Prototyping Center  
Technical training program for youth  
Research & Development



### AXEL (25) electric snowmobile mechanic

When Axel was a student without much direction. He had no interest in school or the mine. All he wanted to do was ride his snowmobile. Around the same time a local social worker and entrepreneur established the E-snowmobile Prototyping and Testing Center as a way to provide mechanical training to young, at-risk people. The program was developed through a partnership between the Gällivare energy school, LKAB, AITIK, Sole Adventure and the University of Luleå as a way to further innovation in electric snowmobile technologies. Axel was one of the first participants.

At the start, Axel and others in Gällivare were nervous about the specialists who came to the municipality to help establish the center, but slowly more and more local people started to become involved in the center's activities. The most popular is the International E-snowmobile competition which happens every year. Last year his team entered and came second place.



## INSPIRING ENTREPRENEURSHIP & INNOVATION

We hope that the new Dundret Solar System is an inspiring vision, one that can spark action.

The question is who will make this happen? During our time here we have learned something: no one can do this for except the people who live and work here. Not an InterDesign, LKAB, the municipality, or the government. Only those who live and work here can do this. However, the actions of the community may be strengthened by partnerships.

How can a vision like this be turned into reality?

The key is to create positive spirals of development. Take many rapid steps, in parallel rather than a big bang. Projects of all sizes as we have proposed are useful in their own right and form synergies where 1+1=3. This also creates rapid learning, allowing the community to build networks inside Gällivare and out.

Partnership, collaboration, and entrepreneurship are needed and are best developed in real projects.

Together a community can shape its future.

Gällivare says, "Visst kan vi det!"

### CityMove Interdesign 2009

- Lars Albinsson [SWE]
- Olive Bailey [CAN]
- Mónica Carriço [PT]
- Linus Godet [SWE]
- Mohd Shaleh Mujir [MY]
- Aleksandar Petrov [MKD]
- Ann-Christin Wikstrom [SWE]