Dynamiska Staden
Re-installing Luleå as a city of CHANGE

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Dynamiska Staden: 
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Introduction

The project takes a critical look at the existing situation in Luleå, with respect to space usage and lifestyles of the citizens. The plans envisioned by the municipality are also questioned from the perspective of creating a sustainable Luleå in future, that relates and responds to a unique geographical location.

Initial Studies

From the quantitative analysis of climate, transportation infrastructure and demographics of Luleå, it became clear that the city as it exists today is different from the vision of the municipality. The knowledge city vision, which cannot be supported by the proportion of citizens with university education in Luleå today, is just one example of many.

The qualitative analysis (soft mapping) made it clear that Luleå is a city characterised by drastic change in many ways. The interviews and impressions from the site also made apparent the need for creating a new identity for Luleå as a diverse, attractive and sustainable polar city.

Climate Sensitive Urban Design: 
Clothes for the Polar City

The changes that Luleå undergoes are both predictable and unpredictable. The predictable ones are those caused by the climate. Changes in the image of the city, due to increasing dominance of the university and strengthening of the Barents region identity are not as easy to foresee. The project aims to transform Luleå by taking advantage of the predictable changes.

This transformation will be achieved through climate sensitive urban design. By proposing "clothes" for the winter city, year-round usage of public spaces will be possible. The proposed interventions will be flexible in order to be added, modified and removed as necessary, much like clothing.

"Det finns inget dåligt väder bara dåliga kläder."
Key Concepts of the Project

Where did all that land come from?

Let’s go green

WINTER FASHION PREVIEW

LULEÅ DYNAMIC CITY

RE-THINKING THE MULTIACTIVITY CITY

Reinstalling Luleå as a city of change

Places are closer than you think

STUDIO LULEÅ CONTEMPORARY TRENDS II SPRING 2011 UPD PROGRAM KTH- ROYAL INSTITUTE OF TECHNOLOGY STOCKHOLM

10 CLOTHES FOR THE POLAR CITY
Research: Climate Sensitive Design for the Polar City

Natural light scarcity
- Needs to be guaranteed with transparent structures

Experiencing Darkness
- Moonlight, stars and northern lights need unlit areas

Cold snowy season is main problem
- Average low -16°C in Jan and Feb

Coasts are windy
- Winds speeds on average are double that inland

Snow can be insulator and building material

Forests as windbreaks
- Layered facades, fences and buffer plantings as well

Porous walls protect from wind
- 50 - 60% openings ideal

Building configurations can help reduce wind

Arcades as protection
- From rain, slipperiness, solar radiation

Pleasant Summer
- Structures may not be needed at all

Proposal: CLOTHES for winter in Luleå

1. Transparent shelters
   - Provide cold proof access to natural light
   - Make non-motorised transportation more comfortable

2. Combined seating and storage
   - Enable people to spend time outside - warmer public spaces

3. Insulation
   - Generate recreational activities & insulate other spaces

4. Protected Walkways
   - Keep surface ice and snow free for bikers and pedestrians

5. Coloured Lighting
   - Create warm outdoor spaces, improve street life and interaction
   - Make public spaces inviting

6. Fire Places
   - Protect from cold winds in winter

7. Accumulation of Snow
   - Protect from cold winds in winter

8. New Integrated Transport Network
   - Facilitates efficient mobility all year round

9. Increased electric car parking
   - Increase public space accessibility even in winter

10. Temporary Structures
Proposal: Citywide Changes

1) A new integrated transport system will replace the bus network. This system will provide users with a variety of shared summer and winter, mass and personal transit options. The combination of this system with storage and rest facilities will encourage use of public transportation even in winter.

2) The new network which reaches the shores edges enables activities on and near the water. These activities will be dispersed throughout the city in summer on floating platforms. In winter, they will coalesce near the edges for wind protection and accessibility.
City Centre - 3 Sites for detailed interventions

Site 1
Residents + Students + Tourists

Returning the potentials of the city center to the sea-front and surrounding in the winter to have more livable attractive sustainable life there. Preparing dynamic coast-line, for different climate and activating by unique programs giving identity to Luleå.

Site 2
Residents + Students

Turning industry character into the urban fabric by working with industrial materials and typomorphologies and making people more aware of the history and industrial life and also reorganize the harbor to be active in.

Site 3
Neighborhood residents

Using the character of nature and its potential for different activities both in summer and winter to have a more active and dynamic neighborhood.

Natural Image
- Ice Fishing Shacks
- Ice Sailing
- Chair Sleds
- Cycling

Industrial Image
- Restaurant and pubs (Boats)
- PIER

Harbor activities
- Closed Stations
- Public Toilets
The existing theatre, culture house and bath house are connected by a promenade, which extends onto the open water to form the new cultural loop. New water, land and ice based cultural and recreational programs will support existing activities.
Experiencing the Cultural Loop

The architectural language of the cultural loop is inspired from ice bergs floating in the arctic waters. This is done to create a readily identifiable image of Luleå. A new pier - a street flanked by water on either side is the central feature of this proposal. The structures made from recycled boat and ship hulls will be semi open and provide simple shelter in the summer months. In winter, the same structures will be closed up completely and act as regular buildings that protect from cold winds. The cultural loop will thus be active all year round, changing constantly with respect to both physical structure and activities contained.
The existing boat marina in the southern harbour caters only to boat owners. The entire stretch is unused in winter. The proposed marina will be a more inclusive place, containing activities that attract more than just those using the boats. The configuration is also changed in order to create larger areas of calm waters for recreational use.
Experiencing the Public Marina

The proposal uses the components of a marina for more than just the conventional functions. The wave breaking pier now becomes a public street allowing users to take walks almost on the water. The boat storage structures support recreational functions on the roofs in summer and winter. They serve to protect the coast from wind as well. The protected water, ice and land areas can thus support new activities. Floating platforms nearby; with party spaces, concert areas, open air stages etc; can get attached to the pier in winter to create a temporary street on the ice.
A new neighborhood scheme that can be replicated in all the water/land interfaces in Luleå is proposed. Floating houses suitable for individuals, similar in size to the small forest cabins in the region, are combined with common facilities on the shore for both boathouse and apartment dwellers.
Experiencing the Neighbourhood + Park

The floating houses are well suited to the climate in Luleå, as they can constantly turn and move to capture the meagre amounts of available sunlight. They also provide users the flexibility of living almost anywhere they wish, as Luleå has a large part of surface covered by water. In winter, these houses congregate to protect each other from wind, and like in previous proposals for other sites, help protect coasts from cold winds. The common areas on the shore becomes active places where residents of these new houses interact with the existing population, in picnic spots, children's play areas and community gardens.
The three interventions frame the existing Luleå city centre, and are expected to act as starting points for transforming the city. The “clothes” which have been first proposed for these sites will gradually be adopted across the city centre, reaching all the edges later, and ultimately the whole of Luleå, to make it a dynamic, diverse, attractive and sustainable Polar City.