

Bodø Supersonic - The Return of Small Hills

The shape of sound  
A newly shaped place from the bodily memory of the land  
Shaping engagement over time

Camille Norment Studio May 2025



*Summer is here! The days are long and the waves of Bodø Supersonic are alive with flora, fauna, and social activities. Anne Grete knew there used to be small hills in Bodø, and she is very happy they have returned! Now she sits within the shallow slopes hanging out with her friends. They are enjoying the embrace of summer, protected from the wind by the sculpted terrain, as they exchange plans for customizing their winter fun in the same spot...*



*Within the blink of an eye it is winter - and snow! Anna Grete and her friends maneuvered the modular activity units to actualize their winter plans into winter fun. This was their favorite spot for enjoying sporty board tricks, and they didn't have to leave their home town. The soft rolling slopes had transformed Bodø into a city of waves to the joy of all ages, and the attraction of visitors from near and far...*

## **WHAT is the concept of Bodø Supersonic?**

Bodø Supersonic is an participatory “Earthwork” artwork created for social activities, nature, and play. Its terraformed hills are inspired by the shape of sonic waveforms, and create series of hills out of the otherwise flat terrain. The forms themselves are sculpted reflections upon the waveforms created by the “sonic boom” or “supersonic” waveform pattern, and upon the resonant reflections or “echoes” that occur when sound meets other bodies of land and architecture.

Bodø Supersonic is a modular Earthwork. It’s locus - metaphorically the supersonic sound source- is located on the old airport runway, and the smaller iterations, or “echoes” of the sloped forms are distributed within the new city development area in relation to landscape and architecture.

With a keen focus on creating a striking visual attraction from the ground as well as from the air, Bodø Supersonic is equally focused on social functionality and nature orienting. During both the summer and winter months, the gentle slopes of Bodø Supersonic are locations for social activities, leisure, and play. The elements located on site are created specifically to facilitate varied and transformative use over the seasons. Elements created for social function such as benches and tables, become movable elements for winter sports play such as “pipes” and “rails”. The location and shape of the terraforms themselves also create windshields and natural coves for flora and fauna.

Bodø Supersonic emphasizes Bodø as a multidirectional city. Sound is inherently multidirectional, and thinking “through sound” opens perspectives towards multidirectional thinking. Bodø is a city whose geographical location has been particularly important with respect to notions of North, South, as well as East and West. Also important is its relation to industry- particularly that of aviation, and its rich multicultural and natural heritage. Bodø Supersonic is driven by a holistic perspective that embraces its simultaneity. It offers an artwork that is an experience- multifunctional, transformative, sustainable, and most importantly, for all, at all times.

## **HOW does Bodø Supersonic activate the land-city scape?**

Bodø Supersonic can also be understood as a collaborative, process artwork with multiple partners including the city, local communities, land experience architects, winter activity enthusiasts and more. As such, this participatory artwork activates engagement before, during, and after its creations.

The terraforming creates dynamism in the cityscape and also serves to re-direct and soften wind paths. Bodø Supersonic proposes a collaborative development together with landscaping efforts to negotiate wind currents.

Working closely with Bodø municipality and its developers, the physical sculpting of the terraformed wave slopes occurs in parallel to the new city site's development. Sustainability emphasis is placed on re-locating locally extracted stone and soil from one location such as the site of new construction, and re-locating it locally to form the sculptural waveforms, rather than bringing in materials from greater distances.

The modular nature of Bodø Supersonic's wave terraform clusters enables a variable scale that is molded for specific locations in relation to the cityscape, ranging from the expanse of the former airport runway, to large areas reserved for nature, and even small, city parks, targeting a wide range of fun-loving users. Functioning much like the malleability of sound, the terraforming can be phased in, and out and transformed in relation to the new city development.

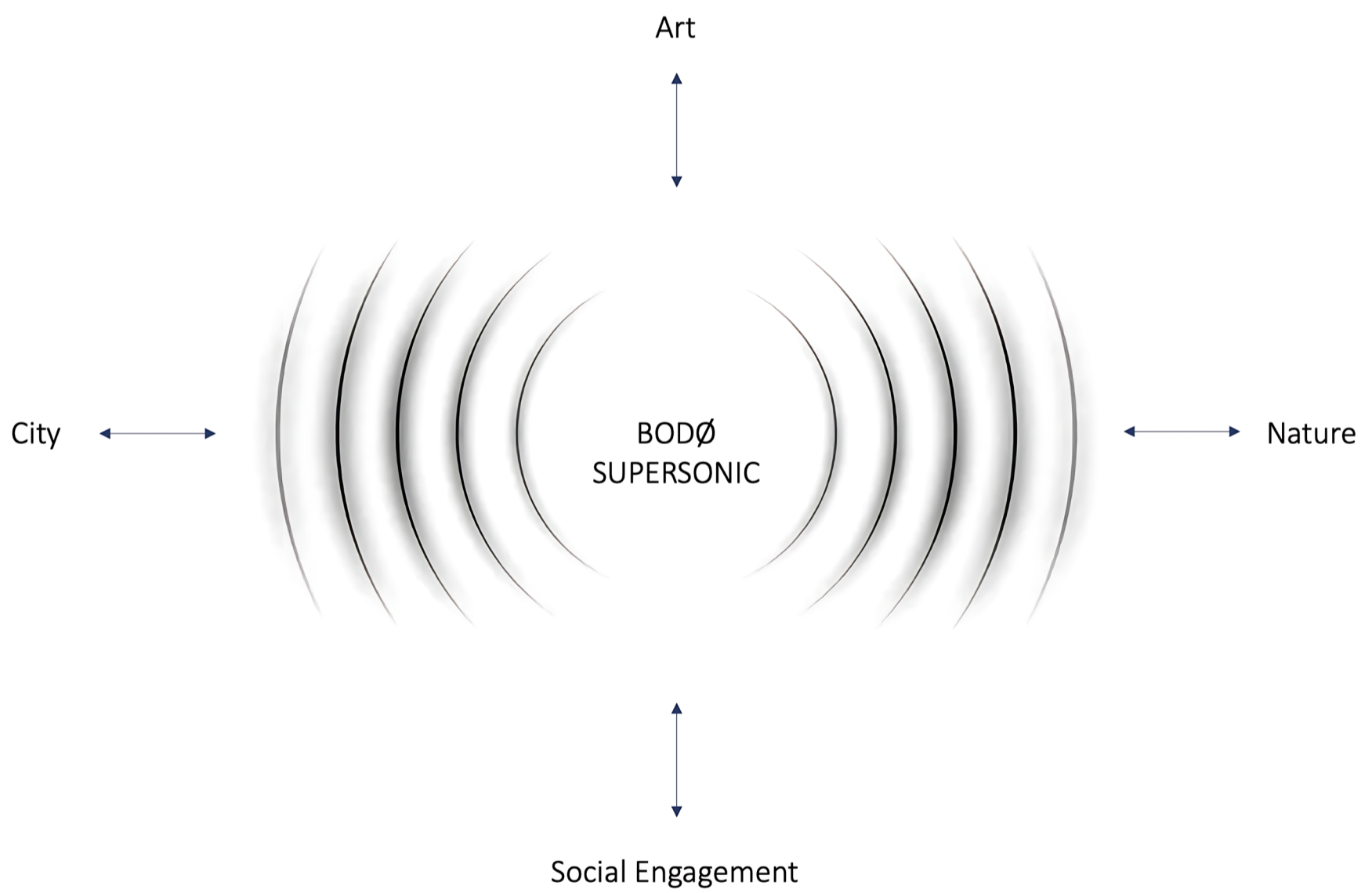
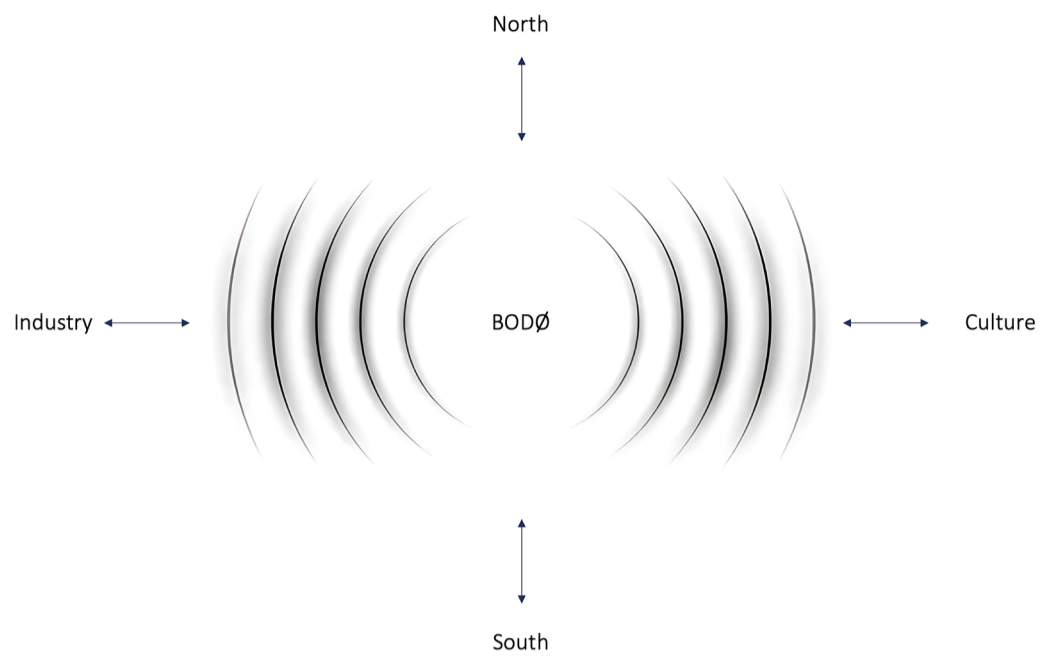
Bodø Supersonic's multi- seasonal, multipurpose features are detailed in collaboration with slope-enthusiasts such as snowboarders, tobogan lovers, skateboarders, etc. from local communities and supported by winter park architects to ensure use driven design from a wide range of multi-seasonal users.

Active use is key to the Bodø Supersonic experience, and its creative and flexible design encourages creative re-purposing by its users.

Bodø's aviation history lends a direct connection to the sonic boom. Through terraforming in the likeness of distorted waveforms, this phenomena also opens a creative door to another kind of engagement- learning and understanding the physics of waves. The practical relationship between slope design and mathematics extends the relationship between science and fun.

Similarly, the flight patterns of birds can be used as a collaborative learning companion. Physics and science become not only practical but also fun and very cool.

Bodø Supersonic creates a city patterned by small hills out of a flat landscape. Bodø was once characterized with small hills- *kollene*, and Bodø Supersonic activates the body memory of land into participatory landscape sculpture.



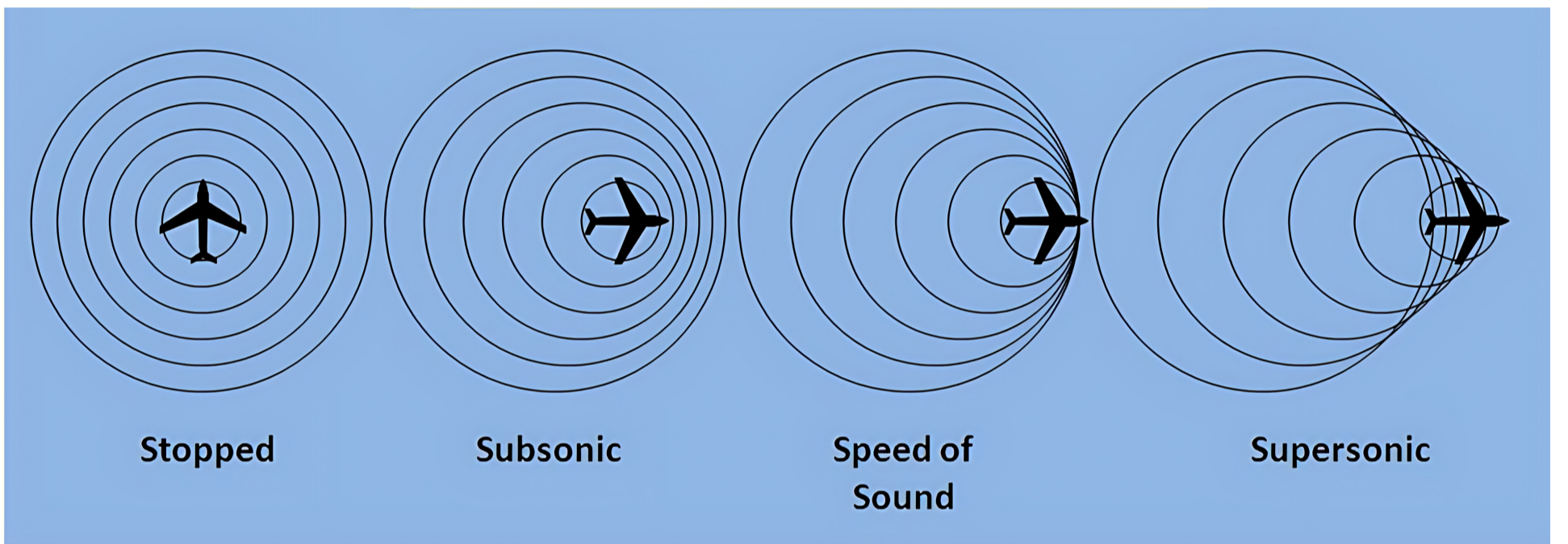
## **THROUGH SOUND - FORM, FUNCTION AND FUN**

Rather than placing focus on the creation of an autonomous artwork, Bodø Supersonic focuses on a collective of place, experience, and engagement. It is an artwork that exists as an integrated and active relationship between the city scape, nature, art and social engagement.

The initial conceptual framework is inspired by the omnidirectionality of sound. Thinking “through sound” positions thoughts in multiple directions at once revealing and emphasizing simultaneity rather than singularity and linearity.

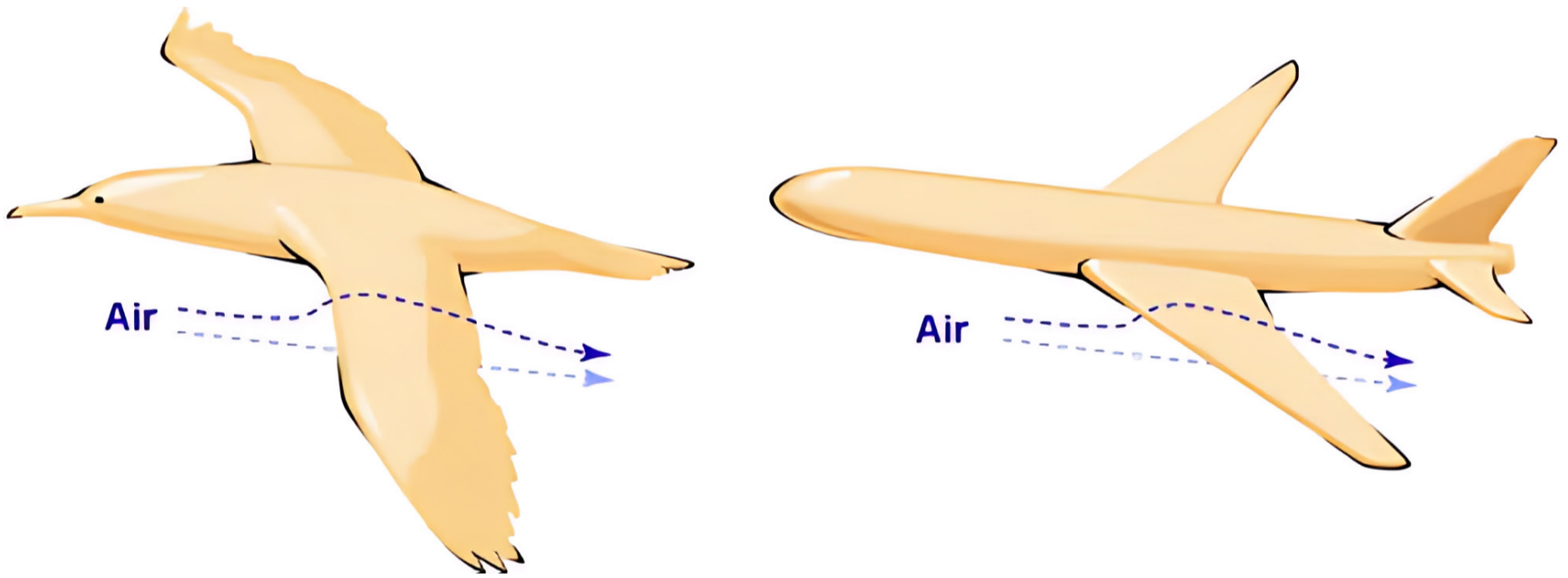
Using this way of thinking shifts perspectives from potentially oppositional viewpoints, to a co-existence that is potentially collaborative and all-inclusive. Bodø Supersonic is inspired by this, and situated within a multidirectional, holistic framework.

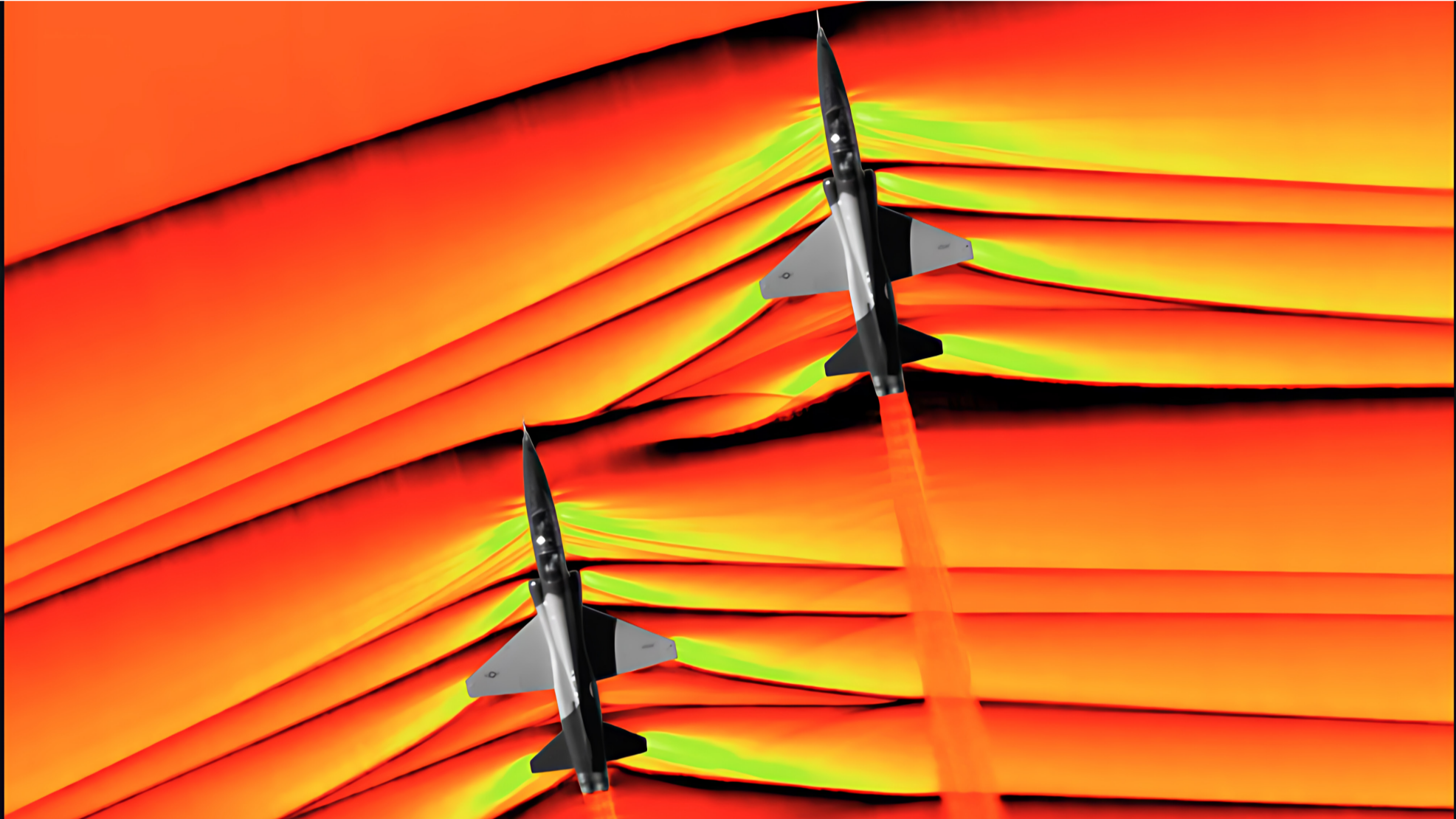
As a city, Bodø is already a multidirectional city. Its geographic relevance as a pivot point between the North and South, as well as influences of East and West, is accompanied by active legacies of cultural co-existence and industry. At times, these positions have been deemed somewhat oppositional. Bodø Supersonic seeks to adopt a perspective in which these existing realities collectively influence the creating of spaces for nature, people, and play that are inspired by legacies while morphing new dynamic futures. This dynamism is beautifully represented through the transformation of flat terrain into sloping waveforms that seem to move throughout the city like sound itself.



The formal design of Bodø Supersonic takes its shape from the distortion of waveforms as flight reaches the speed of sound. Visually, the sonic boom creates a space distortion that resembles a large spread of bird feathers. Bodø Supersonic is equally influenced by the slopes formed by the movement of air over and under bird wings.

From the air, when supersonic flight is captured by advanced photographic technology, the speed-distorted waveforms visually give a great sense of movement. Similarly, a bird's-eye view of the locus of Bodø Supersonic reveals the transformed area of the old runway appears as a series of intersecting supersonic waveforms sculpted as hills.

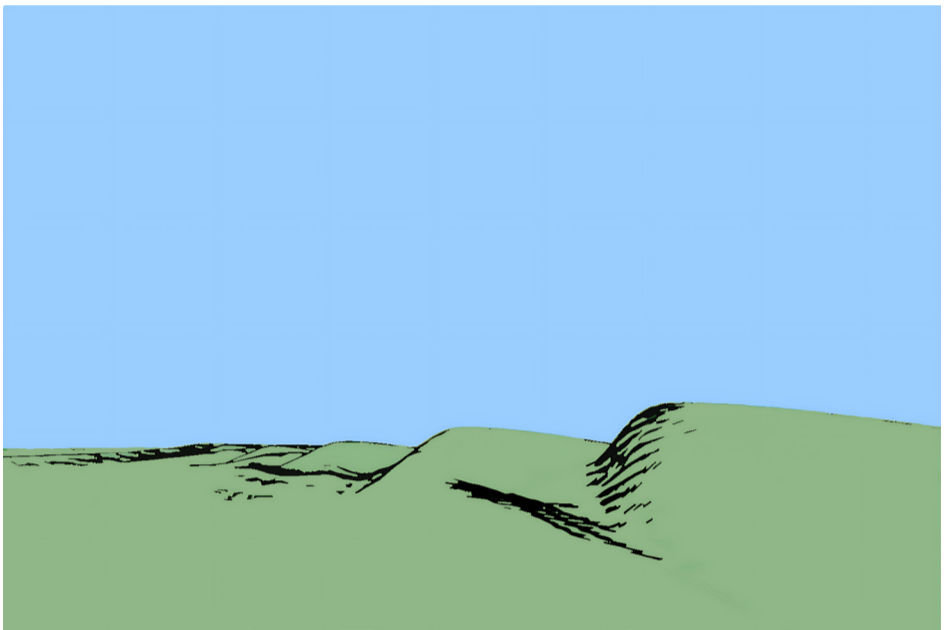


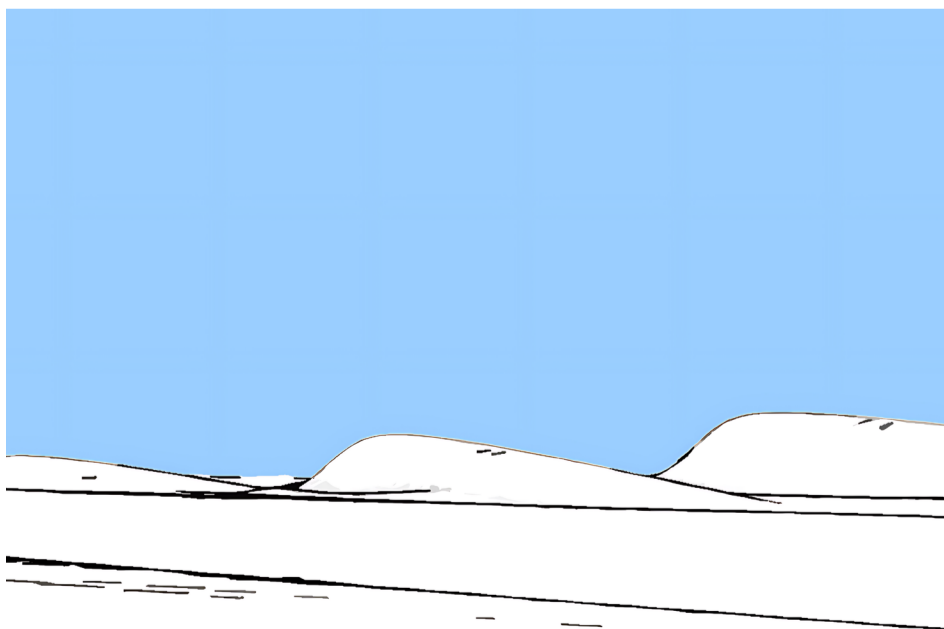
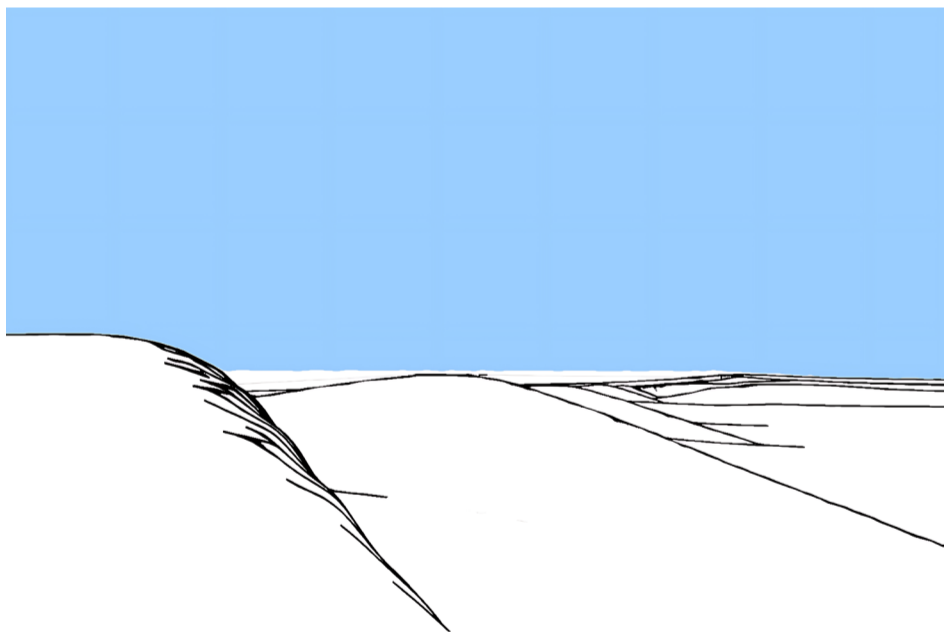
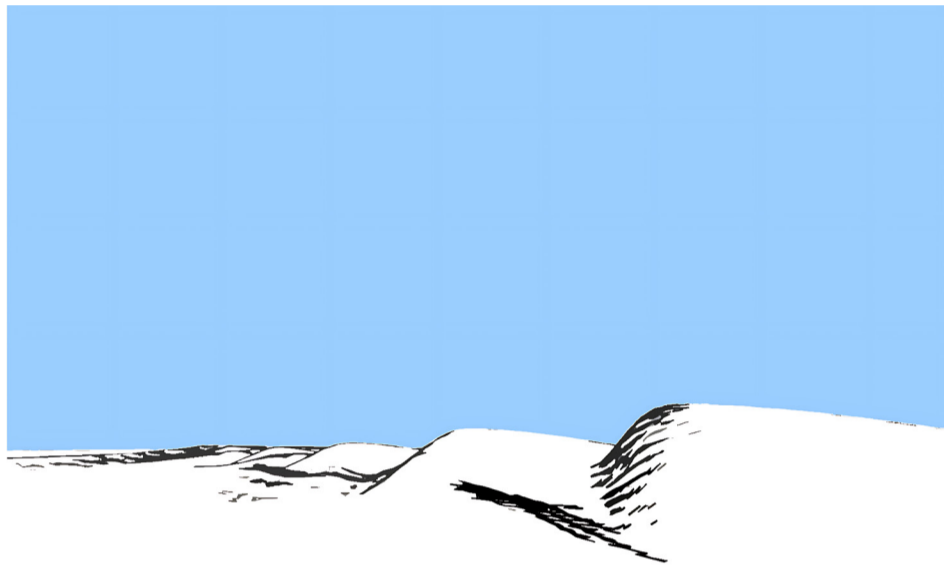
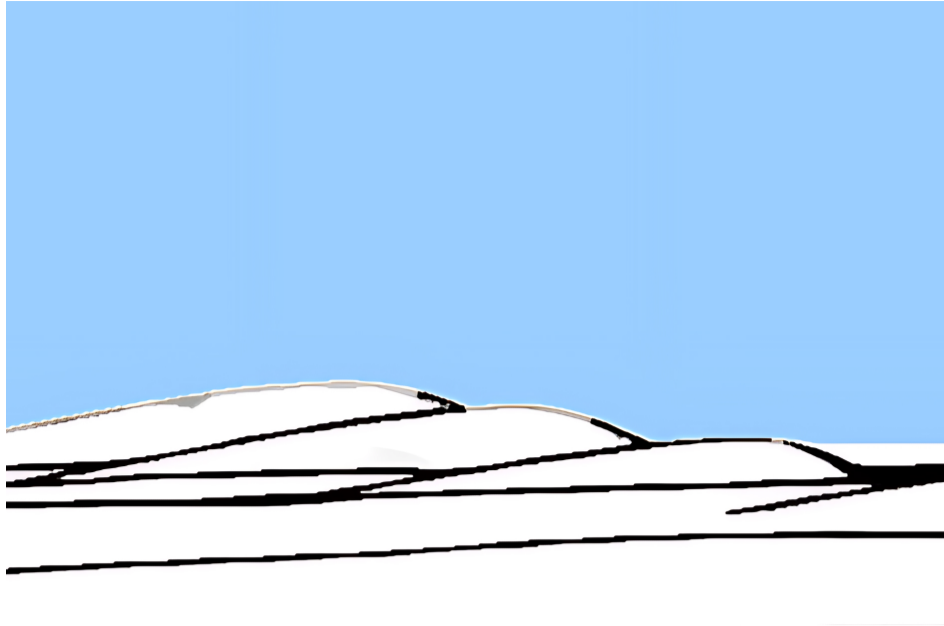


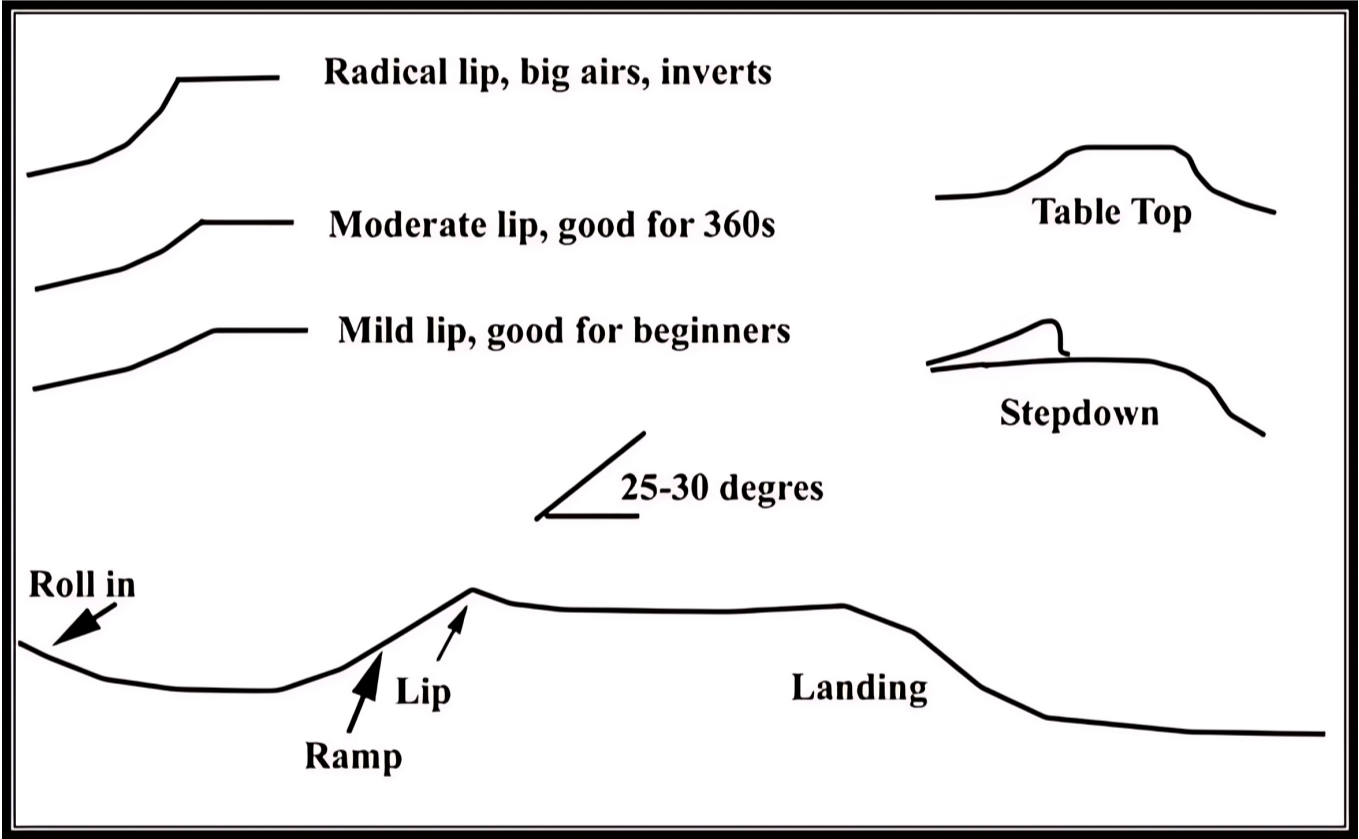




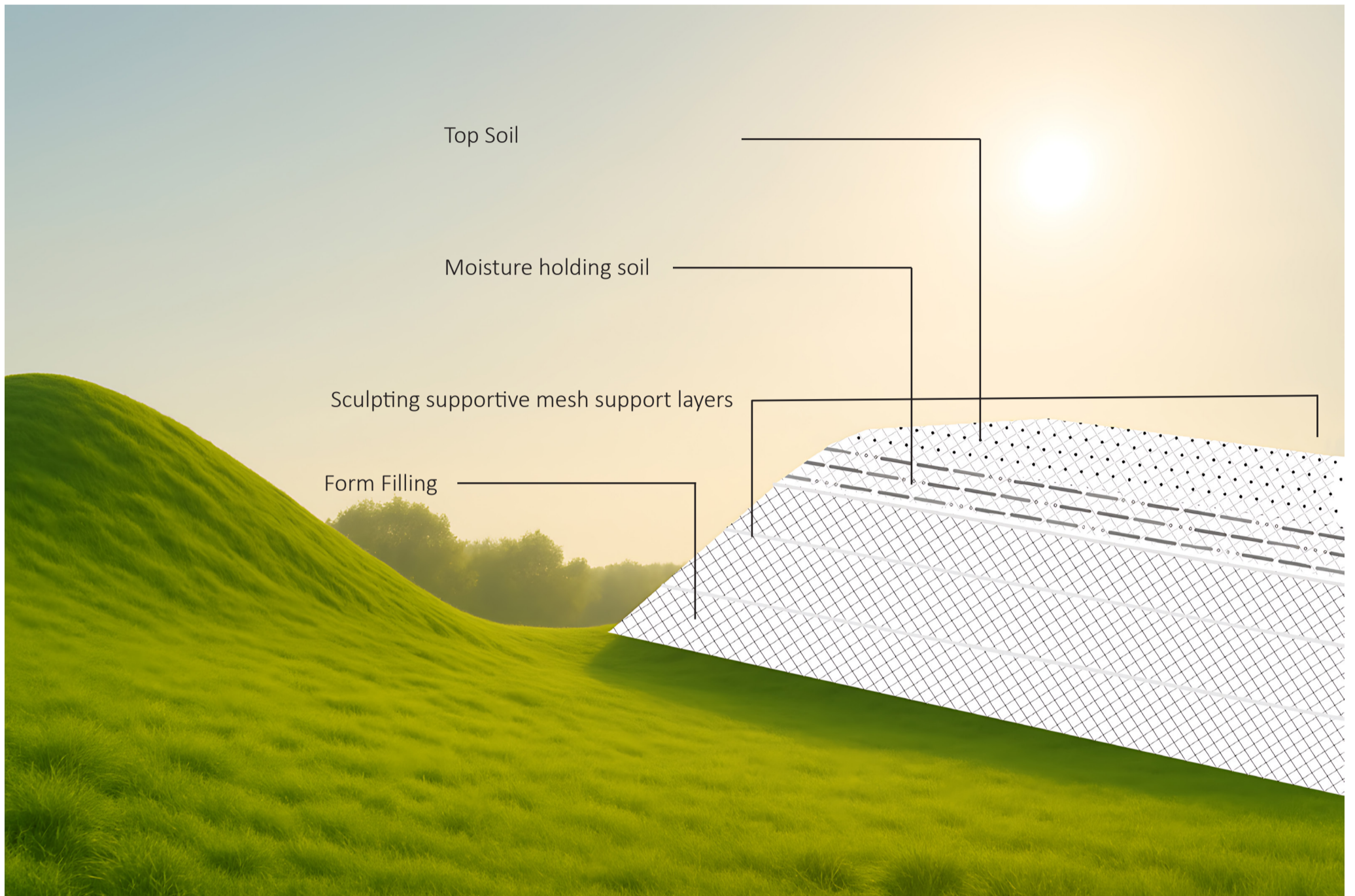








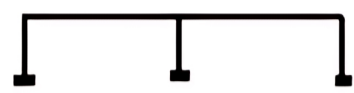
Existing forms for sport jumps are easily mapped onto the supersonic waveform clusters.



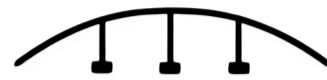
The terraforming of Bodø Supersonic involves three principle layers: Top soil for nurturing plants; a moisture holding layer to prevent the top soil from drying out; and a form filling layer which builds the shape. The steeper side of the waveforms are supported by a mesh structure.

Bodø Supersonic is a modular Earthwork with the possibility of a wide range of size implementations. The waveforms are approached in two directions:

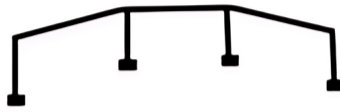
- 1) It's locus - metaphorically the supersonic sound source- is located on the old airport runway, and has a wider expanse.  
 The series of "Supersonic" terraformed waveforms will be placed on a former runway as a continuous series of waveforms.  
 Maximum height 5m  
 Maximum width approximately 50 meters  
 Angles approximately 25 degree slope, and maximum 75 degrees rise
- 2) The smaller iterations, or "echoes" of the sloped forms are distributed within the new city development area in relation to landscape and architecture.  
 Modular terraformed waves are created as individual hills that will be alone or in small series of 2 or three for placement within city parks and other smaller locations.  
 Maximum height 5m  
 Maximum width approximately 15 meters  
 Angles dimensions are determined in relation to each site



**Flat Rail**



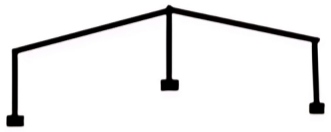
**Rainbow Rail**



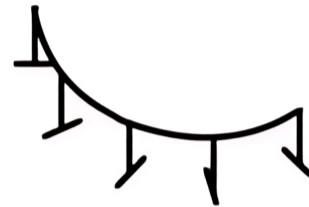
**Battleship Rail**



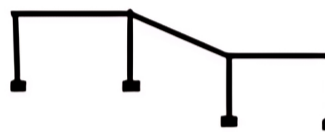
**Flat Down Rail**



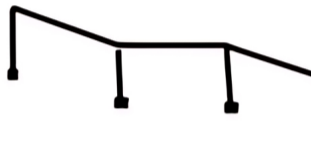
**A-Frame Rail**



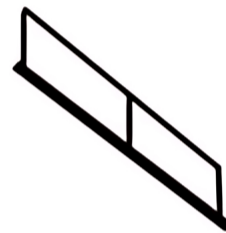
**C-Rail**



**Flat Down Flat Rail**



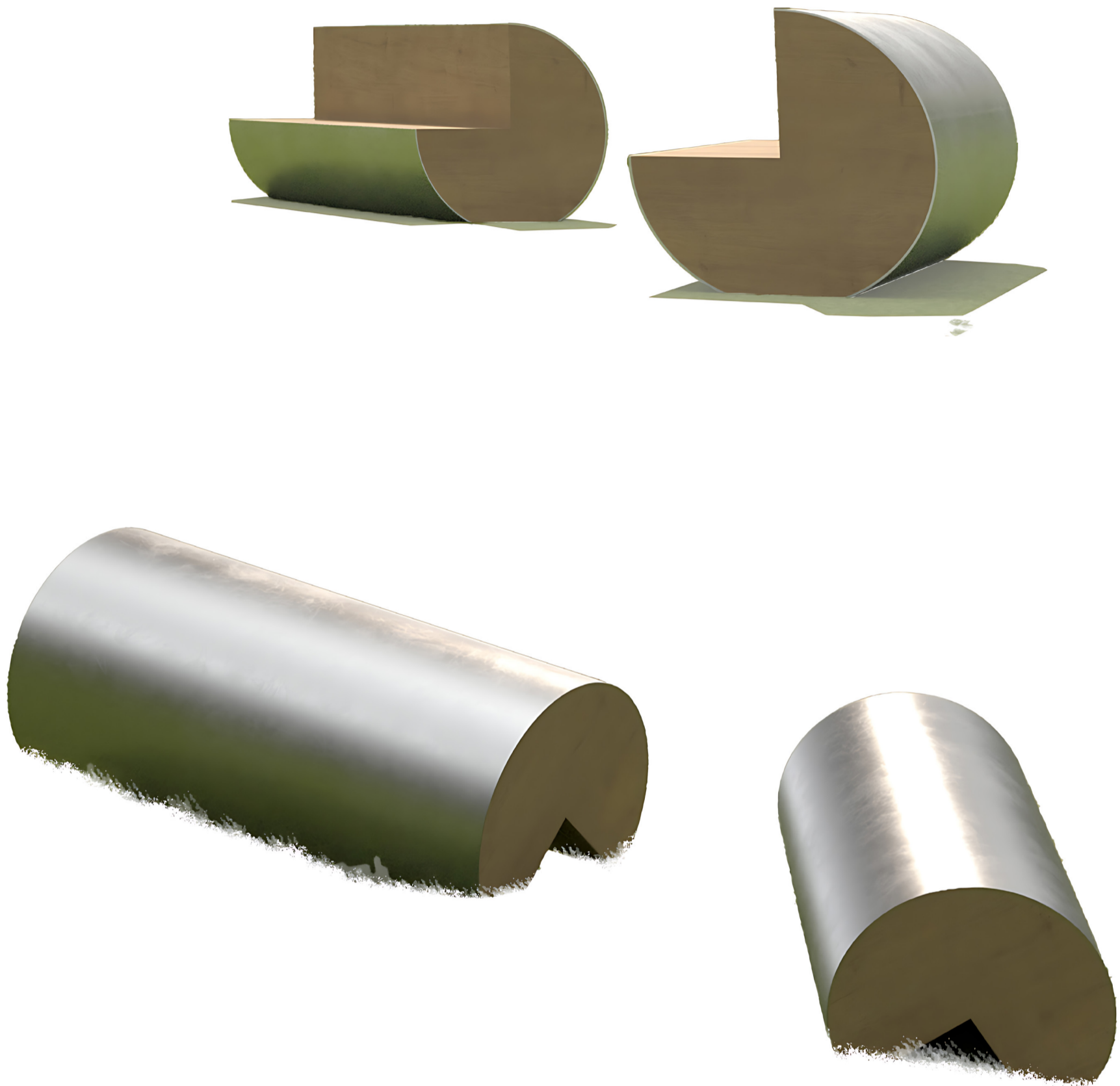
**Down Flat Down Rail**



**Urban Rail**

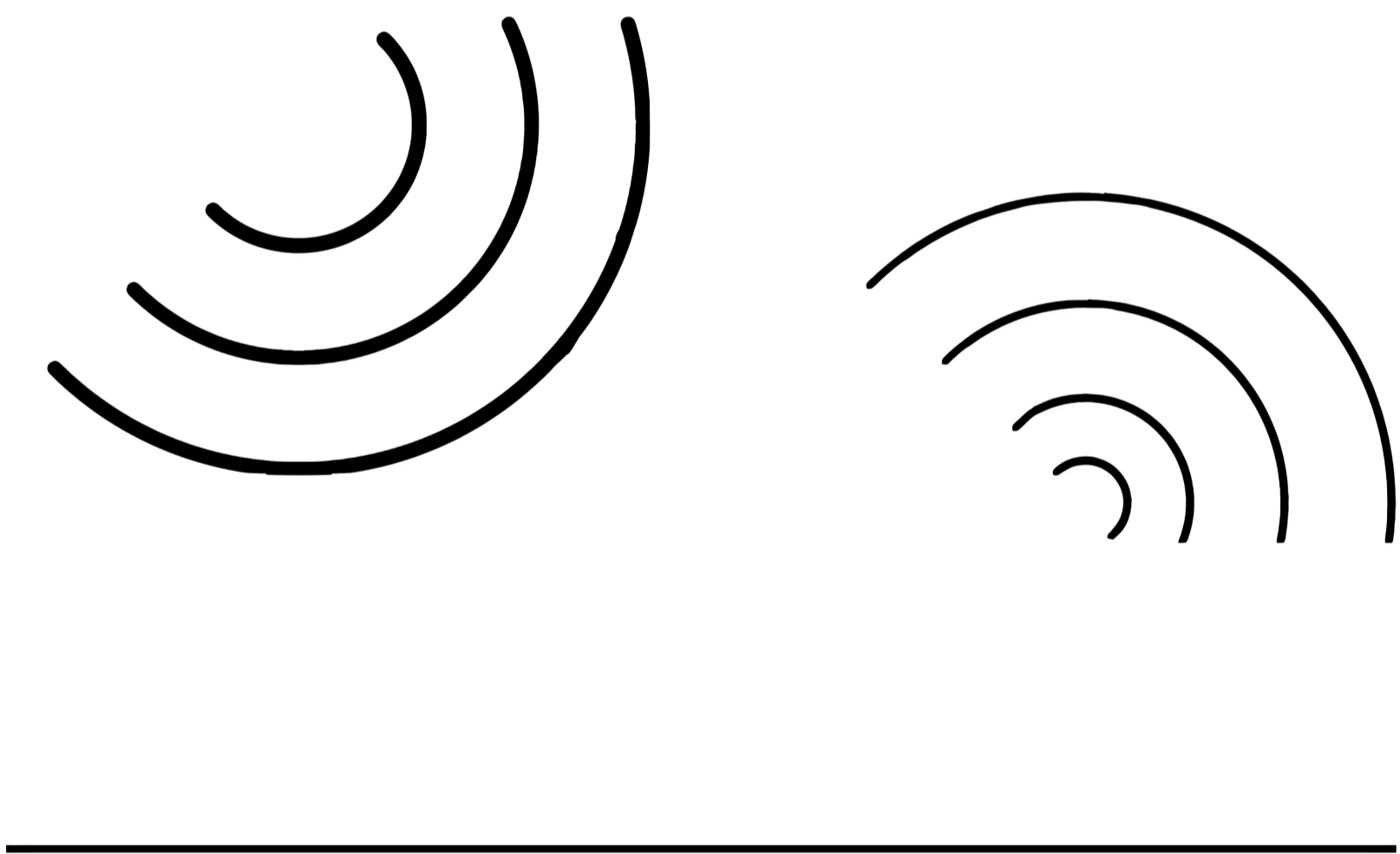
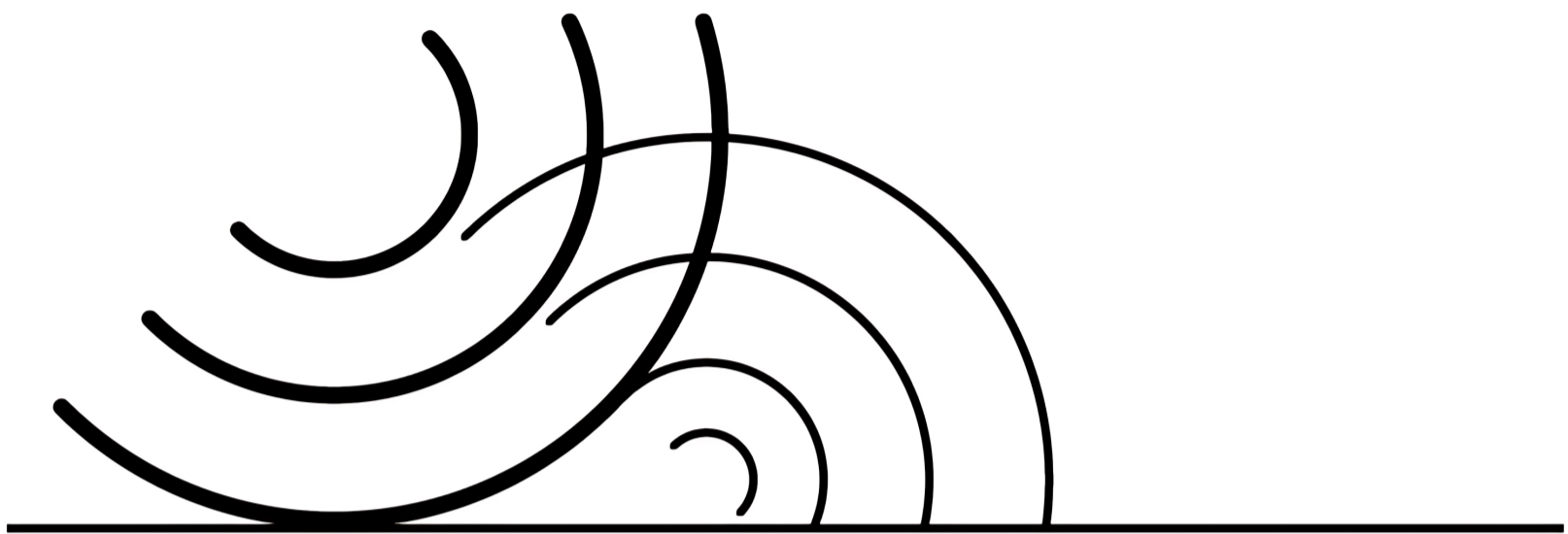


“Bench Heaven” by Benchpress at Oslo Winterpark, for example, features benches and table tops as rails.



Bodø Supersonic benches are constructed from light weight metal tubing and wood for the seating area and sides. The formal visual reference to a log, and the duality of metal and wood references both a look of nature and industry.

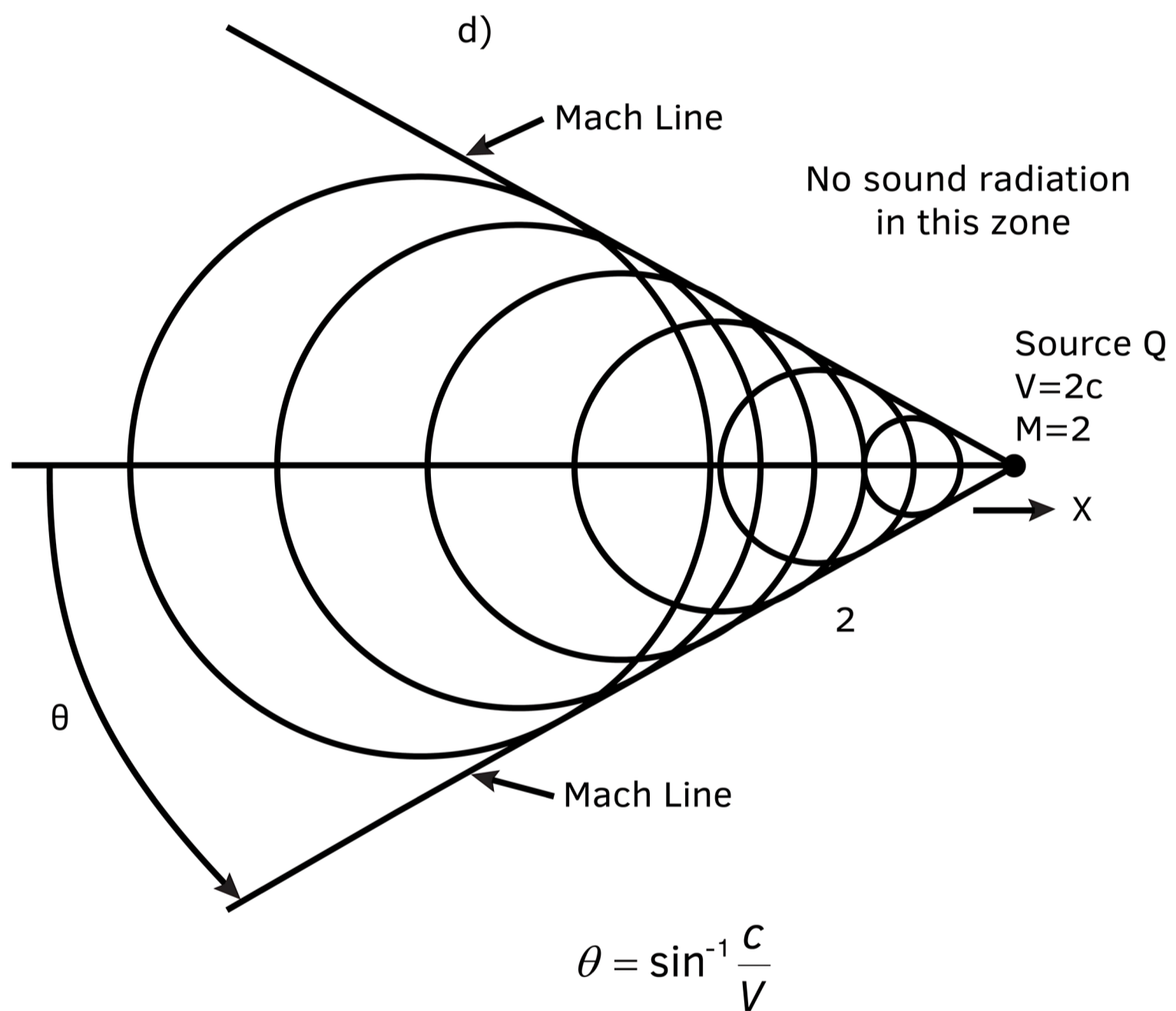
These units are approximately 80cm in diameter and 180cm long. In the summer they form arrangeable seating and play elements. In winter, they can be place, round side up, to become features for winter sports.



Sound reflects off hard surfaces and continues to move in a different direction with less strength- lower waveform height.



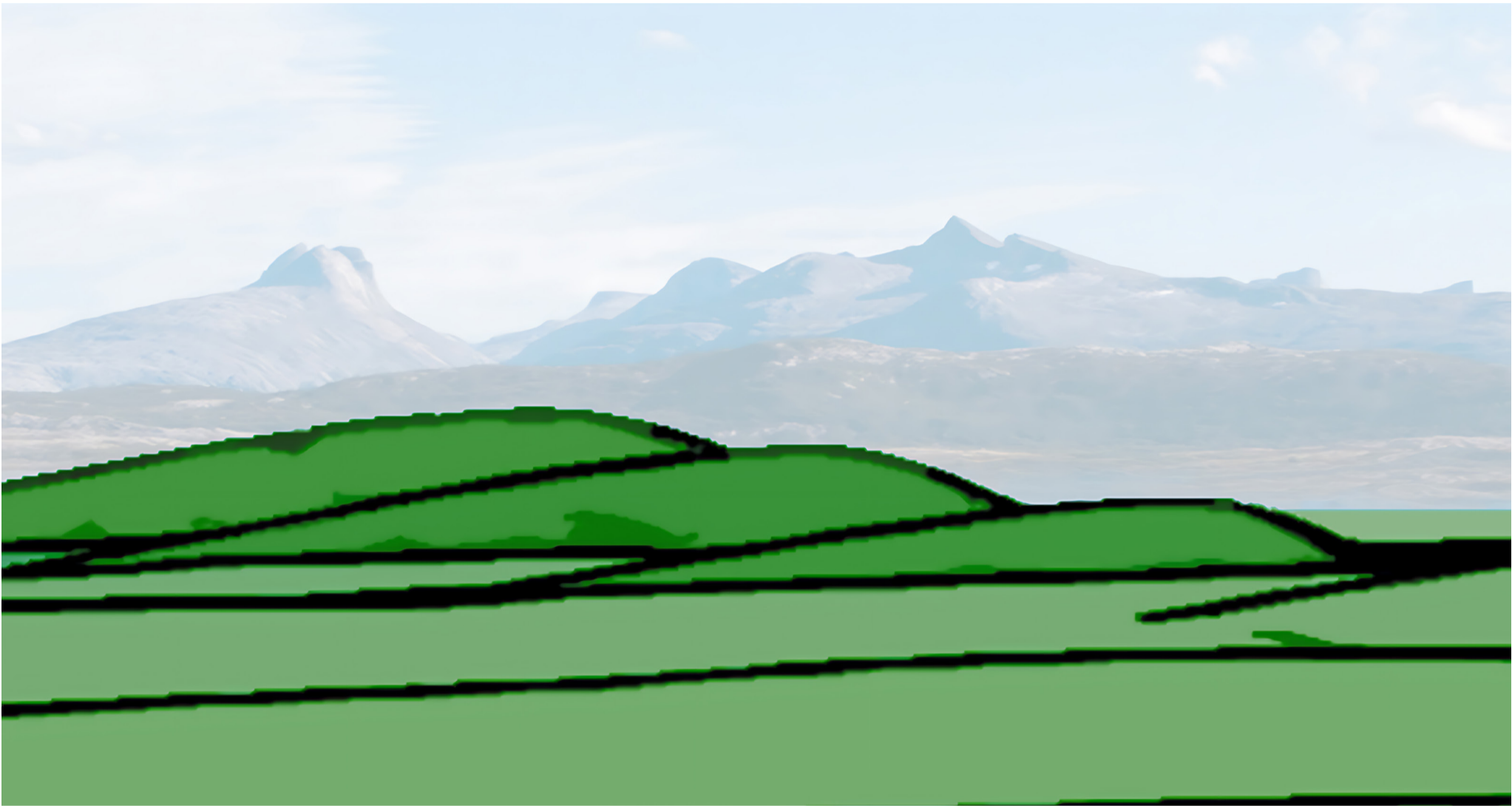
“Echoing” throughout the city in smaller iterations, within the city parks for example, the pattern of sound reflection is used as a sculptural metaphor for terraforming in relation to city architectural and natural elements.



Learning can be viewed as a special kind of social engagement. Bodø Supersonic is also structured in a way that will allow the artwork to be brought into the classroom in the discussion of both art, and of science. Bodø Supersonic is a tactile illustration of sound art, the acoustics of the sonic boom, physics, and geometry.

# Snowboarding **IS MATH**





### **WHY is Bodø Supersonic so relevant to Bodø as an artwork and as an urban development vision?**

Bodø Supersonic is closely knit with the city district – its history, its landscape and most certainly with its soundscape. Sound was previously a principal driver for urban planning, largely motivated by the acoustic environment created by the F16. Once illegal to build housing in short distance from the airport and city center, today urban planning can once again focus on the center- as well as the small hills! Physically changing viewing perspectives allows for changes in life's perspectives, and changes in the identity of the city. This multidirectional, holistic vision simultaneously looks backwards upon Bodø's history while building new futures through forward thinking processes.

Sound has shaped the history of Bodø and its urban development.

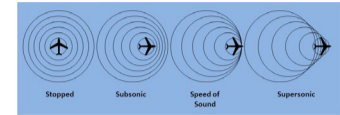
Bodø Supersonic emerges from the bodily memory of its terrain- the lost small hills.

Shaping engagement over time and place, Bodø Supersonic is a holistic artwork that sculpts nature, social engagement, and play.

Bodø Supersonic sculpts new futures through sound.



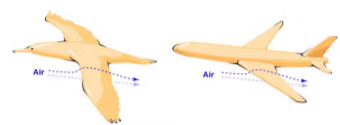
BBC  
<https://www.bbc.com/news/articles/crkd5410xgo>



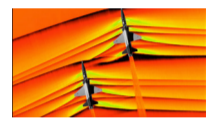
Learning To Fly  
<https://hronrad.wordpress.com/wp-content/uploads/2012/04/supersonic.jpg?w=876&h=350>



National Geographic  
<https://www.nationalgeographic.com/science/article/sonic-boom-cause-shock-wave-physics>



Ask a Biologist  
<https://askabiologist.asu.edu/how-do-birds-fly>

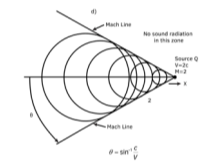


Nasa  
<https://www.nasa.gov/centers-and-facilities/armstrong/nasa-captures-first-air-to-air-images-of-supersonic-shockwave-interaction-in-flight/>

Methodmag- Benchpress, Bench Heaven 2018  
<https://www.methodmag.com/videos/benchpress-s-bench-heaven-2018-the-video.html>



The Acoustics of Sonic Booms  
<https://lawrenceyle.com/2016/09/14/the-acoustics-of-sonic-booms/>



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<https://www.facebook.com/photo.php?fbid=1045175347655524&id=100064892041938&set=a.472006424972422>







