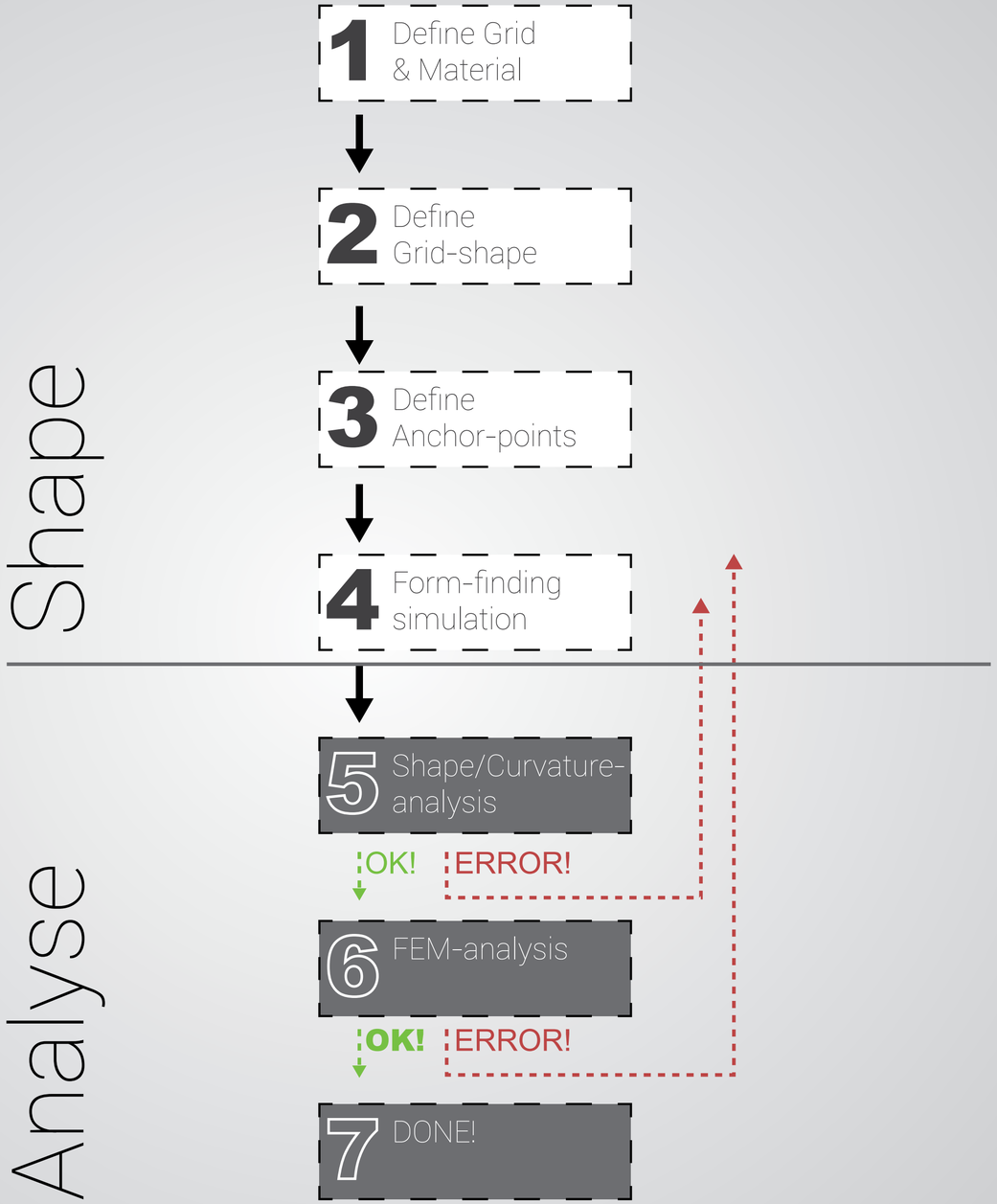
Digital prosedyre

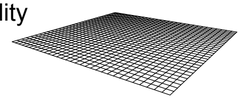
Følgjande diagram viser korleis den digitale prosedyra er bygd opp. Filmen syner dette i praksis. På utstillinga vil det vere mogleg å prøve prosedyra.


Shape
Analyse
1 Define Grid & Material
2 Define Grid-shape
3 Define Anchor-points
4 Form-finding simulation
5 Shape/Curvature-analysis
OK!
ERROR!
6 FEM-analysis
OK!
ERROR!
7 DONE!

1 Define Grid & Material

Choose a diagonal or orthogonal grid. Also choose the grid-size.

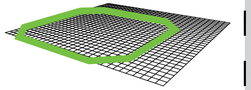
Cross -section and material-quality are also to be choosed, but can easily be changed later.



2 Define grid-shape

Draw a closed curve that defines the grid-shape.

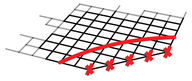
Keep it simple! It is wise to choose either 45° or 90° corners



3 Define foundations

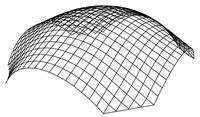
The principle is to choose wich points are to be foundations. These are then connected to a curve that the points should be attached to. This is the foundation.

The software has four foundations, but can easily be expanded



4 Form-finding

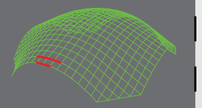
The shape is generated based on foundations and forces.
Gravity: The gravity is set up-side down.
Bending-force: Like a beam, the lines tries to resist bending.
Spring: Each segment is defined as a strong spring.



5 Shape/curvature analysis

Analysis is next when shape is generated. First aestetically and functional. Graphical displays shows if some of the parts will break or some area is to0 flat.

If the shape is not approved, point 1,2 or 3 has to be adjusted.



6 FEM-analysis

A software called Karamba makes it possible to do FEM-analasys. This enables the user to add snow- and other loads on the structure. Results as deplacement and forces in the anchor-point can determine if the shape is buildable.
If the shape is not approved, point 1,2 or 3 has to be adjusted.