



# dms

dynamic mold system

**dynamic mold system is a reusable formwork-system enabling to build freeform structures out of concrete.**

It is adaptive and reusable for in-situ concrete structures. The dynamic mold system can be used several times and repeatedly brought into different shapes which significantly cuts cost for freeform structures and shell structures out of concrete.

# dms



inspired by nature

## mission

concrete causes up to 8% of global CO2 emissions

our mission is to reduce the use of concrete in architecture by implementing the formwork dms which enables cost efficient production of shell structures. shell structures save up to 75% of concrete!

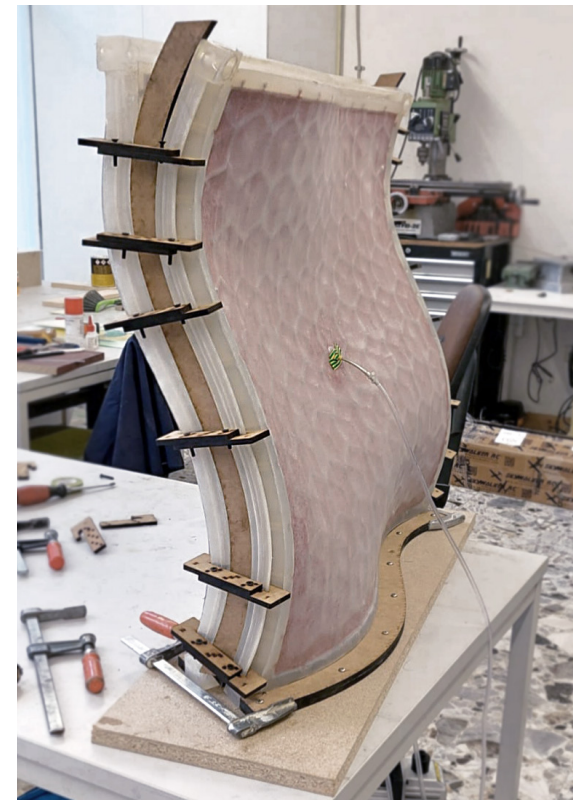


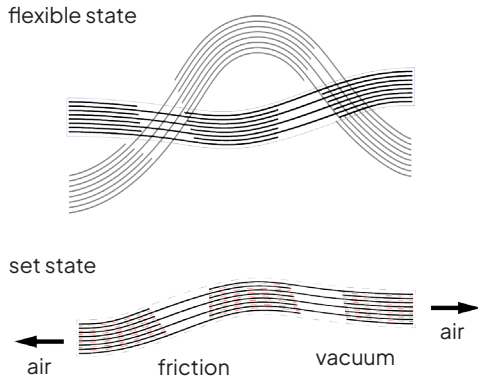
**flat slab** → **-75%** → **spheric**

- optimized freeform structures reduce the use of concrete up to 75%
- zero waste: reusable panels reduce waste on construction sites
- formed on-site: reduces transport emissions

# dms

- adaptive
- reusable
- stackable
- fast
- shaping on site
- digital interface
- inexpensive
- zero waste



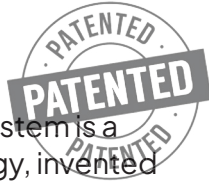


### principle

layers within the interior of the panels are space-vacuumed which generates large friction between the layers, hence solidifying the mold. this process can easily be reversed by letting air back into the panel

### patented

the dynamic mold system is a protected technology, invented by Physicist Ivan Tochev and Architect Professor Rames Najjar.



### substructure

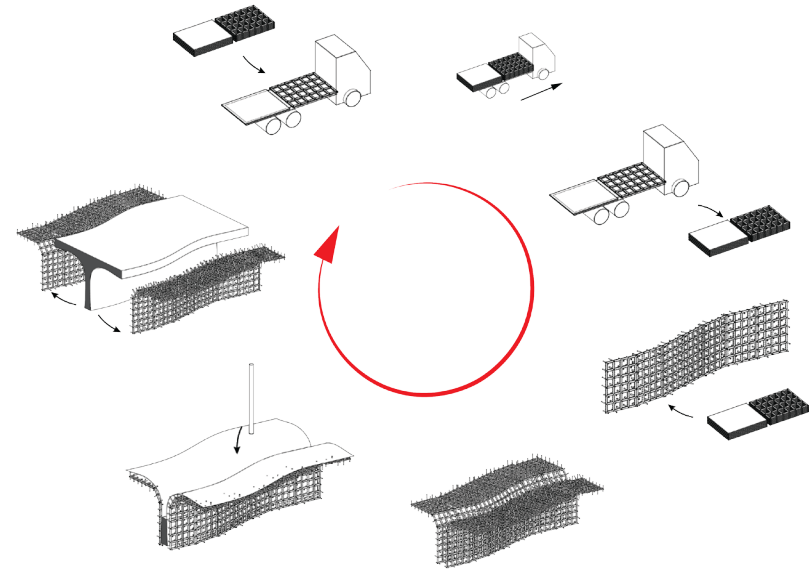
brings the panel into the desired shape, absorbs and transfers the loads of the concrete pressure

### digitalized

The free-form structures planned by the architect or engineer are digitally transferred to suitable execution plans, which determine the curvature and division of the formwork panels. Several factors, such as expansion of the material is considered in the setup of the panels.

### software

regulates the interface between planning the free form and its transfer to the panels through substructure rods

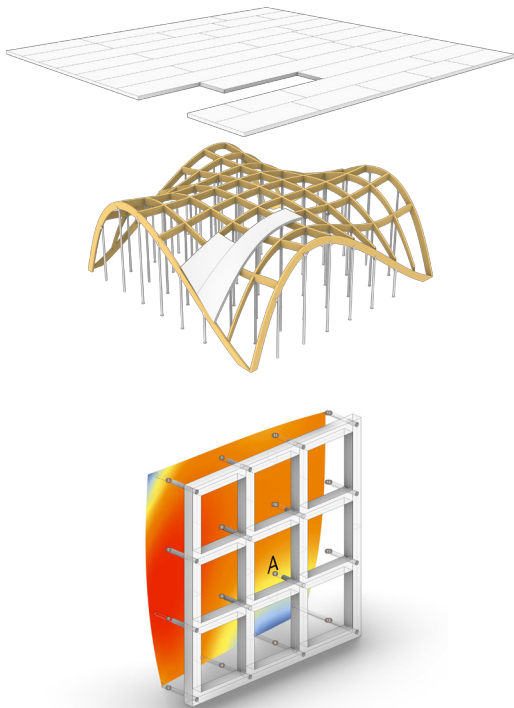


1. panels are stacked and transported to the construction site
2. once there, they are modelled to the desired form
3. concrete is casted
4. after the concrete is solid the panels are dismantled
5. and reused again

- highly competitive
- cost advantageous

dms is highly cost advantageous, thanks to its easily handled reversible formwork which is reusable.

The decisive factor for the success of dms is the reusability of the system. Its high production costs are even profitable with simple 3D formwork shapes, if used a few times. With more complex formwork / higher-priced special formwork, the system is quickly profitable. According to the available calculations, an optimized system can also compete with simply curved (barrel vaults, etc.) formwork systems.





**dms**

Physicist Ivan Tochev  
Prof. Architekt Rames Najjar

**contact us**

Najjar & Tochev Innovation  
Seidlgasse 41 / 5 . A-1030 Wien

+43 650 5953408  
office@dynamicmoldsystem.com

[www.dynamicmoldsystem.com](http://www.dynamicmoldsystem.com)