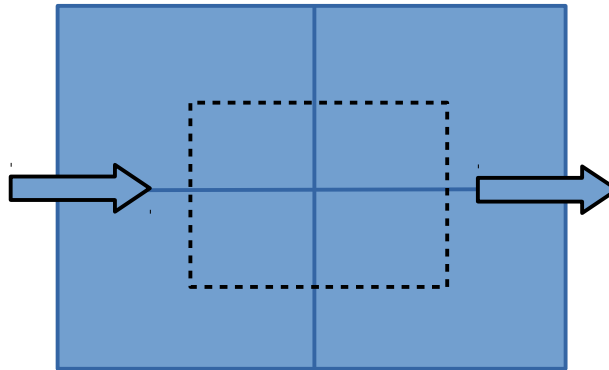


Self-Producing Box Design

by Sven Nilsen, 2021

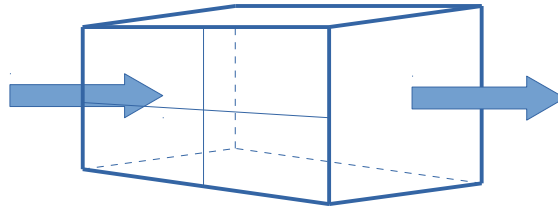
In this paper I introduce a simple open-ended box-design that consists of 16 identical parts, where each part fits inside the box. This simple example is meant to give intuition about self-producing designs.

The basic idea is that a rectangle consisting of 4 parts covering a single part:



Imagine that the box is a factory, open at the ends, where the part being factorized is moving through.

By extending this idea to 3D, there are 16 parts that makes up one unit of the factory, 4 for each side, which together creates a boundary around the factorized part, a controlled environment for production.



This open-ended box design could be oriented horizontally or vertically.

In the vertical case, one could exploit the potential energy to simplify the circuitry of factory design.

This design also allows chaining multiple open-ended boxes together, creating a production pipeline. Each factory unit could perform a specialized task. This also means that the factory as whole must be able to produce specialized factory units, in order to create a copy of itself.