

# Designing a universal stacking machine for PVC and vinyl plates or figures

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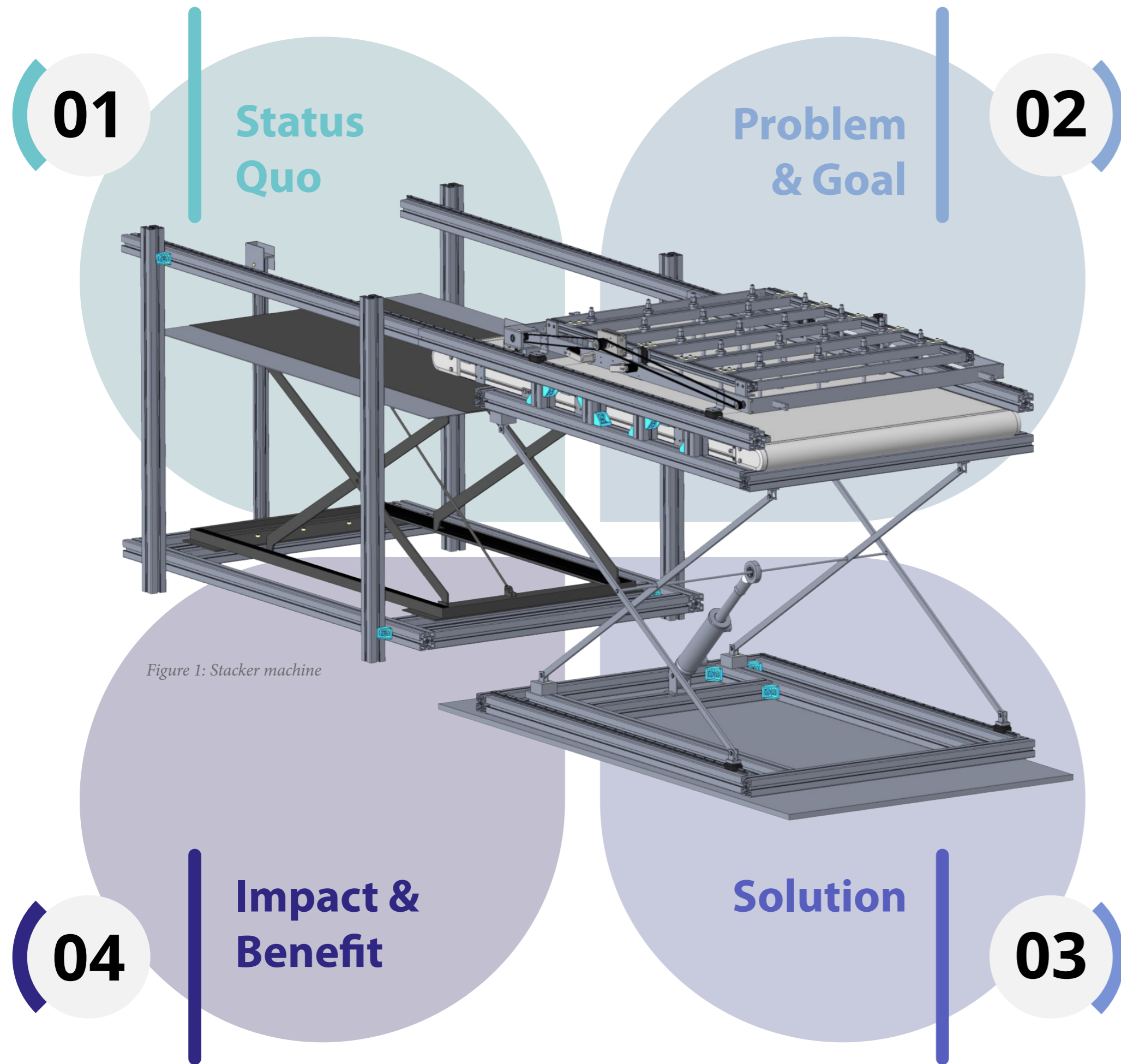


Figure 1: Stacker machine

**01** Tafco is a company specializing in producing signage pictograms. This signage includes various types of **pictograms**, such as safety signs, fire signs, etc. Some common pictograms are shown in *figure 2*. Tafco has machinery dedicated to manufacturing and cutting out these pictograms.

Their products, with clear and universally recognizable symbols, are crucial for **enhancing safety** and well-being in diverse environments, from industrial sites to offices and public spaces.



Figure 3: Summa cutter

**02** The challenge at Tafco is that all their cut products currently end up in one bin, leading to **inefficiency** and extensive **manual sorting work**. *Figure 3 and 4* clarify this. The company has set the goal of designing a stacker machine that must meet specific requirements:

**compatibility** with two other cutting machines, **adjustable height**.



Figure 4: iEcho cutter

**03** The designed stacker machine provides the solution to this problem. Equipped with a **suction cup matrix** *see figure 1*, it can be **adjusted** according to the PVC and vinyl sheets or shapes to be stacked.

Through linear movements, the matrix positions itself above a **scissor table lift**, as depicted in *figure 1*, where all items are stacked. Utilizing a sensor, the table can **lower its height** to enable stacking.

The machine's size is made to fit next to two other cutting machines, and its legs can adjust to match their heights.

**04** The stacker machine can offer various benefits for Tafco:

- » enhanced **efficiency** and productivity through **automated stacking**,
- » **improved organization** of cut products,
- » **flexibility** in the production process,
- » **enhanced safety** by minimizing manual handling.



Figure 2: Signage pictograms