

# Process Improvement – Low Fat Peanut Butter

GEN TRIZ Case Study

# Trimming Example: Low Fat Peanut Butter – Background, Problem Solving

- **Initial situation**

- In order to produce Low Fat Peanut Butter it is necessary to substitute 40% of peanut butter (highly viscous liquid) with corn syrup and soy proteins (thin powders). It was a very challenging task that was performed in three steps using Auger Mixer, Disc Mills and Jet Mixer. The capital cost and production footprint were too high and production rate is too low.



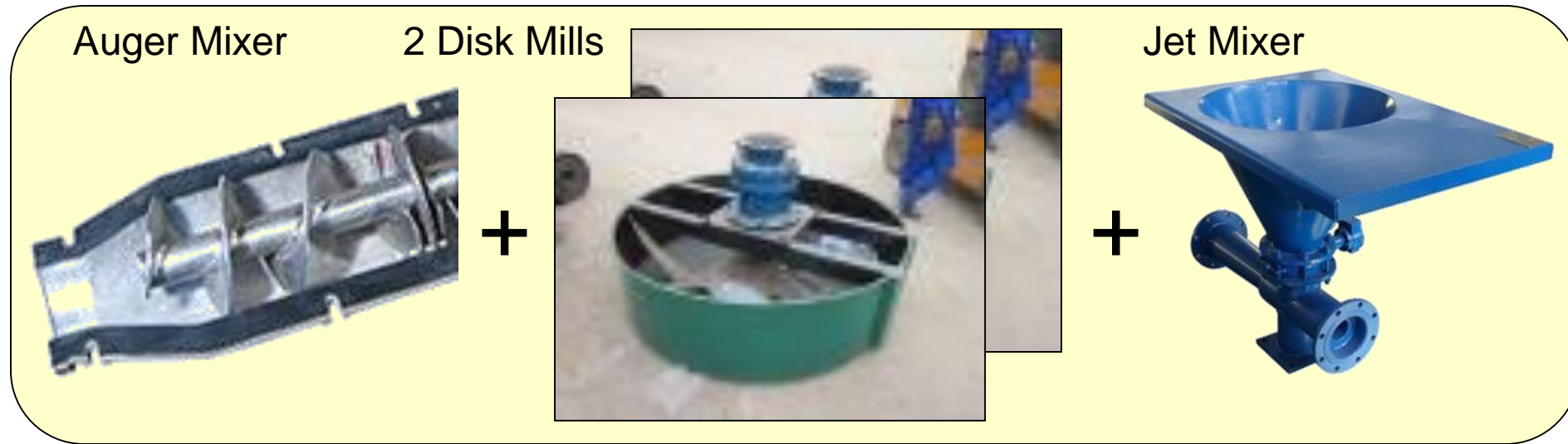
- **Trimming problem**

- How to make the auger mixer to perform functions of disk mills and jet mixer

- **GEN TRIZ problem solving tool applied – Function-Oriented Search**

- Function – to mix ingredients (peanut butter, corn syrup and soy proteins).
- Generalized function - to move powder particles relative to viscose liquid.
- Leading industrial area – concrete production.
- Identified enabling technology - pseudo-liquation by means of vibration

# Trimming Example: Low Fat Peanut Butter – Solution, Business Impact

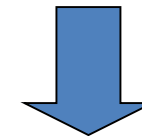


▪ **Solution**

- Resonance Vibrating Auger Mixer with the frequency of vibration equal to own frequency of toner particles

▪ **Business impact**

- Three pieces of equipment were substituted with one
- Productivity increase - 2.5 times.
- Footprint reduction - more than 3 times.
- Capital cost reduction - 35%.



Resonance Vibrating Auger Mixer