

A new challenge every day.™

# Team design - Assignment



**Engineering challenge:**

**Technology development**

- Develop and build a functional prototype of bottle feeding machine
- Maximize Reliability, Quality and speed
- Minimize development cost

## Quick & Right – an engineering challenge!

A key challenge in FMCG (Fast-Moving Consumer Goods) industry nowadays is to find innovative technical solutions for flexible manufacturing to meet the volatile customer demands of both retail and e-commerce markets, while keeping the maximum speed of production.

P&G has identified small independent teams to lead a specific technology development from the idea generation all the way to the prototype building phase.

Due to stretch timings in FMCG industry, the prototypes need to be presented to the board of directors by the end of the day for immediate scale-up execution.

## Problem Statement

**The team is expected to develop and build a functional prototype of the Bottle Feeding machine.**

The aim of this unit operation is to organize empty bottles from a pallet or hopper onto a conveyor and move the bottles downstream to the production line for further processing. The machines need to be completely blind to the bottle shape to enable fast reactions to the market preferences.

The technology choice for both bottle feeding and conveying is totally up to the development engineers. The team will conduct a proof-of-concept test by unscrambling 2 different bottles to the height of 60 cm and conveying those 50cm away from the feeding machine. Operators are not supposed to touch the bottles at any point after the bottles are in the hopper. Bottles can be taken away only at the end of the conveyor.

### Criteria:

- **Reliability** of transformations (unscrambling, conveying), i.e. no falling bottles, equipment not damaged during the run etc.
- **Quality** of operation, i.e. no damaged bottles
- **Level of human involvement** of the proposed solution
- **Speed** of operations
- **Cost** of development

**Daily.**  
**Globally.**  
**Personally.**  
**Professionally.**

