



# A Guide to Production Scale Up

# Production Scale Up

Developing a strategy for the production scale-up of a new product is a challenge for many Food and Drink manufacturers.

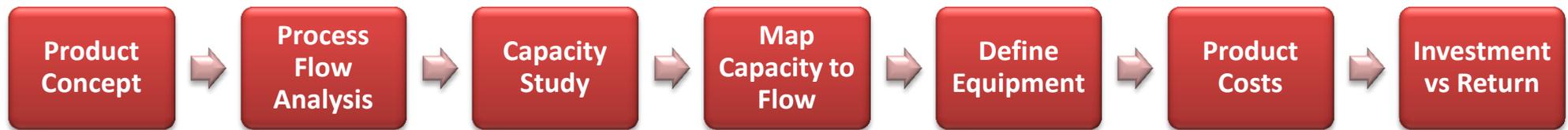
Interested work streams have different and conflicting perspectives depending on their current circumstances:

- Marketing don't want to be in a position where sales are constrained by capacity, but don't have robust Market data until the product is launched
- R&D need time to refine the product design and manufacturing process
- Production need time to build reliable, efficient and quality production capacity

Implementing the right tools and developing the most appropriate strategy for a specific scale up will allow a staged development process to manage risk, schedule and cost by providing clear, manageable tasks and outputs.

Protolan have developed a Guide to Production Scale up which will identify common concerns faced by Food and Drink manufacturers and identifies ways to deal with them in a systematic manner leading to success.

# Reference Guide for Production Scale Up



A step by step guide to addressing the challenges for production scale up.

# Product Concept



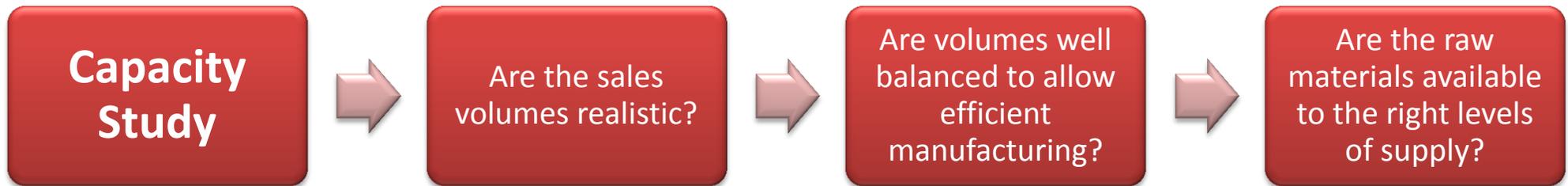
A product concept is a detailed description of an idea, which you describe from the perspective of your customer.

# Process Flow Analysis



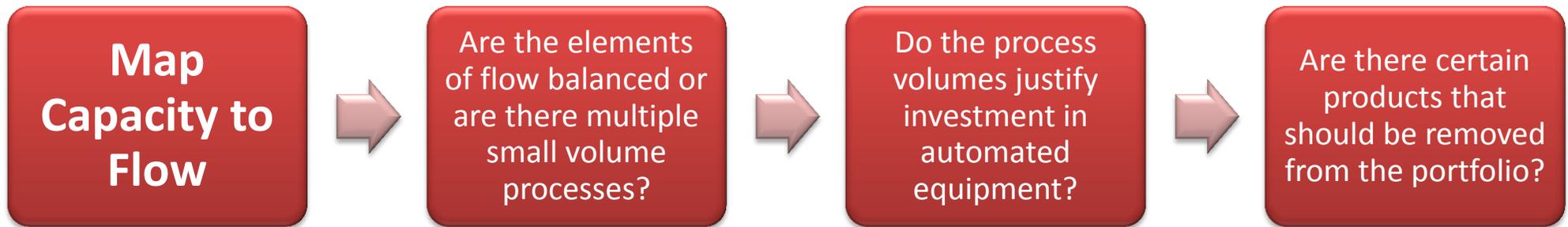
**Process Flow Analysis** is used to help fully understand the current or proposed condition of any manufacturing process facility. Process Flows can be used to identify all elements within a manufacturing facility from raw materials through to people and waste routes.

# Capacity Study



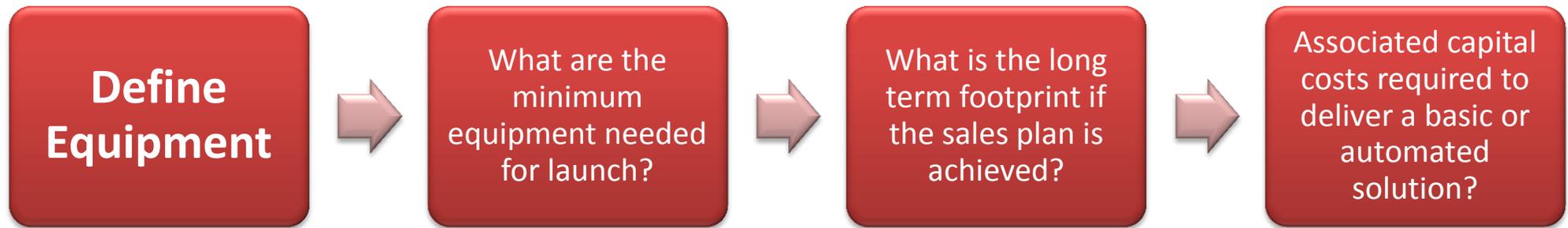
**Capacity planning** is the process of determining the production capacity required by food manufacturers to meet changing demands for products. Capacity Planning is essential to ensure efficient equipment and plant design..

# Map Capacity to Flow



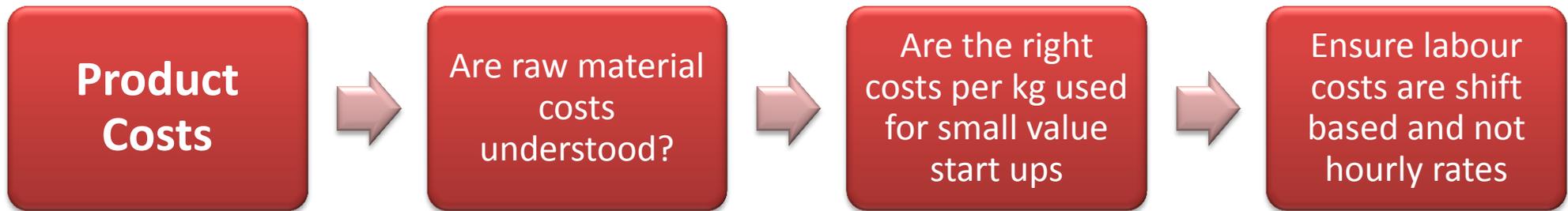
Mapping capacity is a technique to build a comprehensive knowledge of how capacity relates to each element of the process flow.

# Define Equipment



Approach equipment specification by understanding the most current technology, best practice and the right specification which will deliver against objectives.

# Product Costs



Product cost refers to the costs used to create a product. These costs include direct labor, direct materials, consumable production supplies and other factory overheads that build up the cost to manufacture.

# A Guide to Production Scale Up

## Product Concept

Does the proposed retail price of the product look realistic against benchmark?

Is there a clear strategic plan for market penetration?

Is there a market for the product

Where is the market? How will the market impact on shelf life and distribution?

What is the commercial objective? Sales, turnover, overheads return.

## Process Flow Analysis

Does the product fit into the rest of the product range?

Is the process flow complex with multiple steps and controls?

What is the category of the product (low risk vs high risk) and does this add complexity?

Do new products introduce new allergens and associated product controls.

## Capacity Study

Are the sales volumes realistic?

Are volumes well balanced to allow efficient manufacturing?

Are the raw materials available to the right levels of supply?

## Map Capacity to Flow

Are the elements of flow balanced or are there multiple small volume processes?

Do the process volumes justify investment in automated equipment?

Are there certain products that should be removed from the portfolio?

## Define Equipment

What are the minimum equipment needed for launch?

What is the long term footprint if the sales plan is achieved?

Associated capital costs required to deliver a basis or Rolls Royce solution?

## Product Costs

Are raw material costs understood?

Are the right costs per kg used for small value start ups

Ensure labour costs are shift based and not hourly rates

## Investment Vs Return

Does the product achieve the commercial plan identified?



# Who We Are?

Protolan work in partnership with Food and Drink producers delivering manufacturing excellence.

We provide core services designed to solve the day to day challenges encountered by our clients, across all sectors of food and drink industry.

The key benefit we provide is our expertise and knowledge. Our highly experienced team comprise innovative project managers and project engineers who have extensive understanding of all forms of process related projects.

We apply our knowledge to any link in the process chains or to the entire manufacturing process, providing strategic advice, complete project management and technical services.

**Got a project you want to discuss with us?  
We would love to hear from you.**





Protolan Ltd  
Lockington Hall  
Lockington  
Derby  
DE74 2RH

**Tel:** 01509 686360  
**email:** [theteam@protolan.com](mailto:theteam@protolan.com)

Reshaping Food Manufacturing

**[www.protolan.com](http://www.protolan.com)**