



Practical Solutions, Perfectly Contained



Presenter: Arash Hassanian

Sustainability in Chemical Packaging

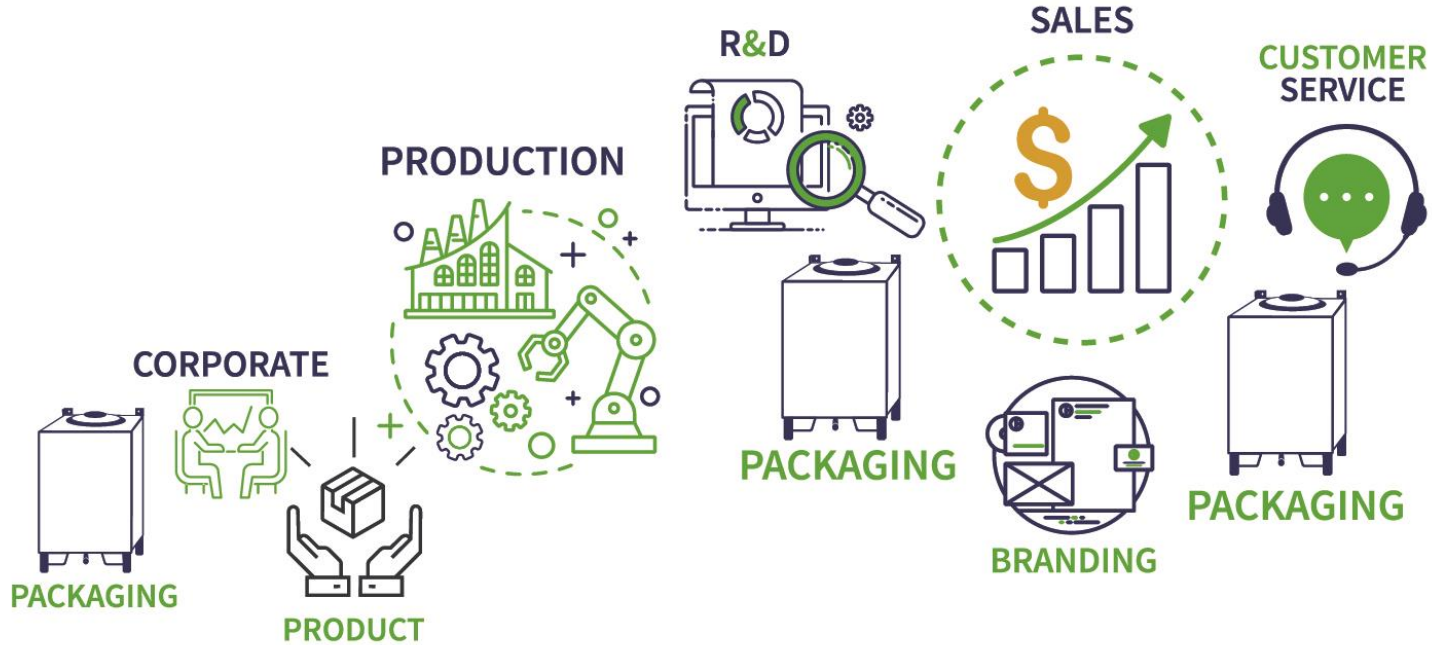
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Agenda

- What is a packaging strategy and why is it important?
- Why is Chemical Packaging Important for Sustainability?
- How to develop a packaging strategy
- Benefits of a good packaging strategy

What is a Chemical Packaging Strategy?

It is the enabler for safe and efficient operations between your core business and your customer's needs



Typical Questions Regarding Packaging Operations

If you relate to these questions, you will benefit from a good chemical packaging strategy

2

Where are our tanks?

1

Do we have enough tanks?

3

How many tanks do we need?

CHEMICAL PACKAGING



4

Do we need poly or stainless steel tanks?

9

What is our total cost?

8

Can I stack the tanks?

5

Why do we need more tanks?

7

Which size do we need?

6

Do I have to buy them or rent them?

Managing Chemical Packaging Costs

Selecting the right packaging could reduce your costs by over 50%

If all the demand for 3 million cubic meter chemicals were to be packed with only one product type, the cost of packing per liter will be equivalent to the following figures:

\$0.25 / Liter



15 MILLION
200 LITER DRUMS

\$0.19 / Liter



3 MILLION
1,000 LITER
ONE-WAYS

\$0.15 / Liter



167,000
1,000 LITER IBCs

\$0.09 / Liter



86,000
2,000 LITER IBCs

Why is Chemical Packaging Important for Sustainability?

Packaging were used to satisfy 1 million cubic meter of chemical demands per year in 3 years



128 billion
liter of water



36 billion
liter of water



13 billion
liter of water



9 billion
liter of water



395 Building 1

112 Building 1

40 Building 1

27 Building 1

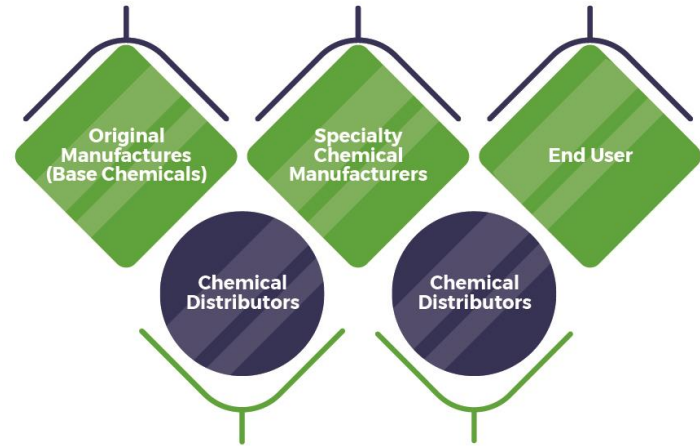
Key Considerations when Developing a Packaging Strategy

Your packaging strategy should fit your company's operation now and in the long term

- Customer satisfaction is priority - each customer situation is unique and there is no common (one-size-fits-all) solution
- Efficient packaging strategies are developed in partnership with all involved parties including raw material suppliers and customers
- The strategy must not cause disruption in operations during design or execution phases
- All possible combinations of strategy options and variables must be understood and evaluated
- A workable strategy will align to corporate goals and should provide benefits to all functions of the business including Health/Safety/Environmental/Quality, finance, operations, sales, sustainability and other related areas
- The strategy must include measurable key performance indicators (KPIs), a feedback for operational improvements
- The strategy must be capable of evolving with company growth

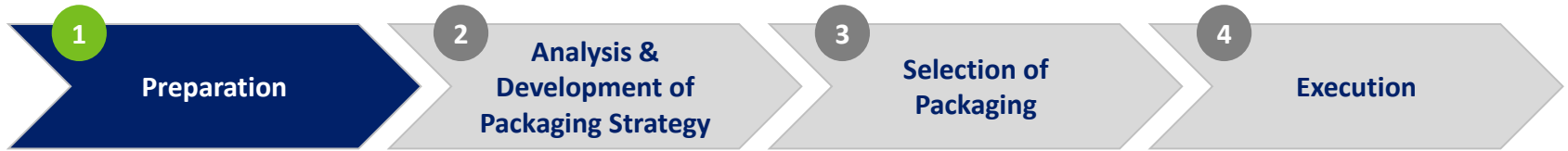
How to Design a Chemical Packaging Strategy?

A chemical packaging strategy is a four-phase process and implemented with current and future operations in mind



Chemical Packaging Strategy – Preparation

Key to promote the development of a suitable strategy and considers



- ➔ Project goals and scope definition. As an example, will the strategy consider the whole company or just a region, a group of customers and/or suppliers or specific chemicals?
- ➔ Scope and goals should also be aligned with your corporate goals
- ➔ The project is most effective with a multi-disciplined team (purchasing, supply chain, sales and engineering)
- ➔ Identify information that will be required such as quantities, type of packaging, plant of origin, plant of final destination, type of chemical, volumes, order date, and lead time, etc
- ➔ Start gathering/compiling information

Chemical Packaging Strategy – Analysis & Development

Involves transforming data into meaningful insights and operational scenarios



- ➔ This phase is key, not only to ensure data in use is appropriate, but to interpret and convert that data into meaningful insights useful for successful packaging strategy development
- ➔ Development of business process workflows is helpful to understanding strategy variables such as vendor/customer/packaging locations, chemical inflows/outflows, transportation, test requirements, storage locations and other relevant factors
- ➔ Select and monitor KPIs such as average distance for every shipment, average delivery time and average volumes
- ➔ Review and interpret the performance indicators in terms of your workflows
- ➔ Review the cost/benefit of technologies such as GPS, barcoding, RFID, level monitoring, inventory management, etc
- ➔ Explore solutions to reduce repackaging and logistical transloading

Chemical Packaging Strategy – Selection of Packaging

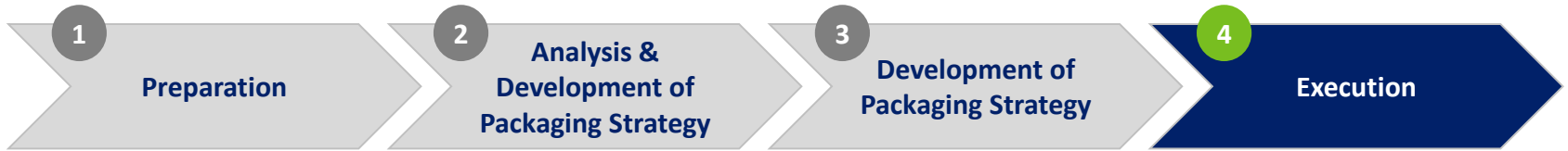
Is based on informed decisions throughout the process



- Safety must always be a first priority
- Ensure sustainability of the chosen packaging strategy, not only in terms of Corporate Social Responsibility (CSR) and cost, but for the sustainability to remain valid and be able to accommodate future company growth.
- Always be aware of chemical compatibility
- Develop rental vs. purchase calculators
- Build Request of Quotation scorecard

Chemical Packaging Strategy – Execution

Strategy without action is a waste of time



- ➔ The solution and the execution should be tailored to your operations and time requirements, aimed to deliver improved performance, operational efficiency and have a sustainable impact
- ➔ Special focus should be placed on:
 - ➔ Safe operations at all times
 - ➔ Avoiding disruption to operations
 - ➔ Team training
 - ➔ KPI establishment and monitoring

Benefits of an Effective Packaging Strategy

A great packaging strategy should fix your challenges, enable you to achieve growth plans and provide you with worry-free operations

- Minimize packaging challenges, reduce operational risks and meet growth expectations.
- Sustainable chemical packaging optimizes water usage and promotes social responsibility.
- Processes from raw material inflow to finish product delivery, are better controlled.
- KPI monitoring throughout the supply chain process provides informed decision-making information.
- Packaging strategies that address branding, marketing, transportation and operational needs result in cost optimization

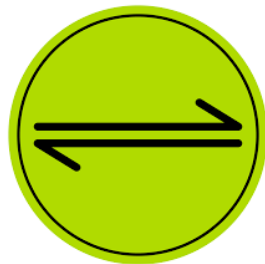
In Summary...

It is about finding the right solution that provides equilibrium for your organization

CORPORATE TARGETS & STRATEGY

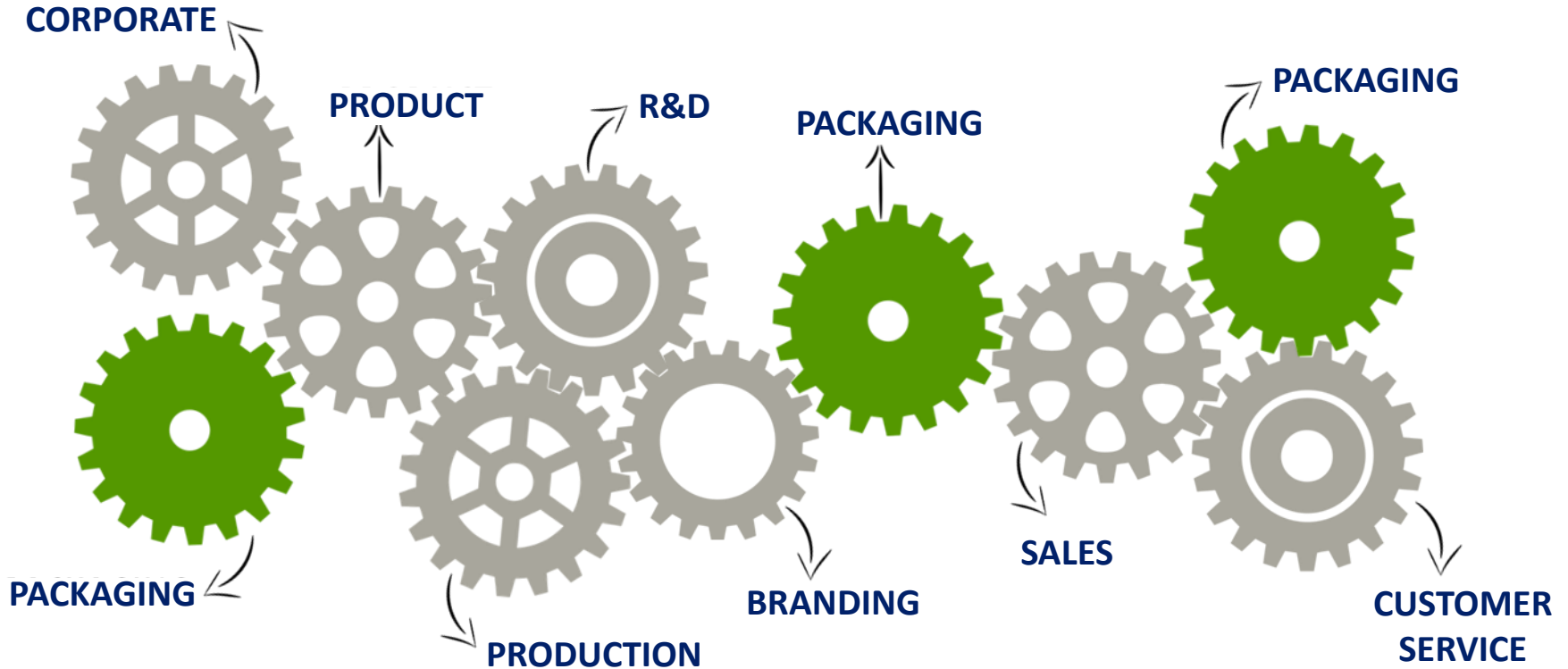


CHEMICAL PACKAGING STRATEGY



Safe, Efficient and Cost Effective Operation

It is a key operating factor, from receipt of raw materials, storage of product to shipment to customer



THANK YOU



2135 Hwy 6 South
Houston, TX 77077



EMAIL
Arash.Hassanian@hooverferguson.com



PHONE
[+1.281.870.8402](tel:+12818708402)



WEB
www.hooverferguson.com

