



# LECTURE 1.

Essence and principles of logistics

# Questions:



1. Definition and significance of logistics
2. Logistics activities and fields

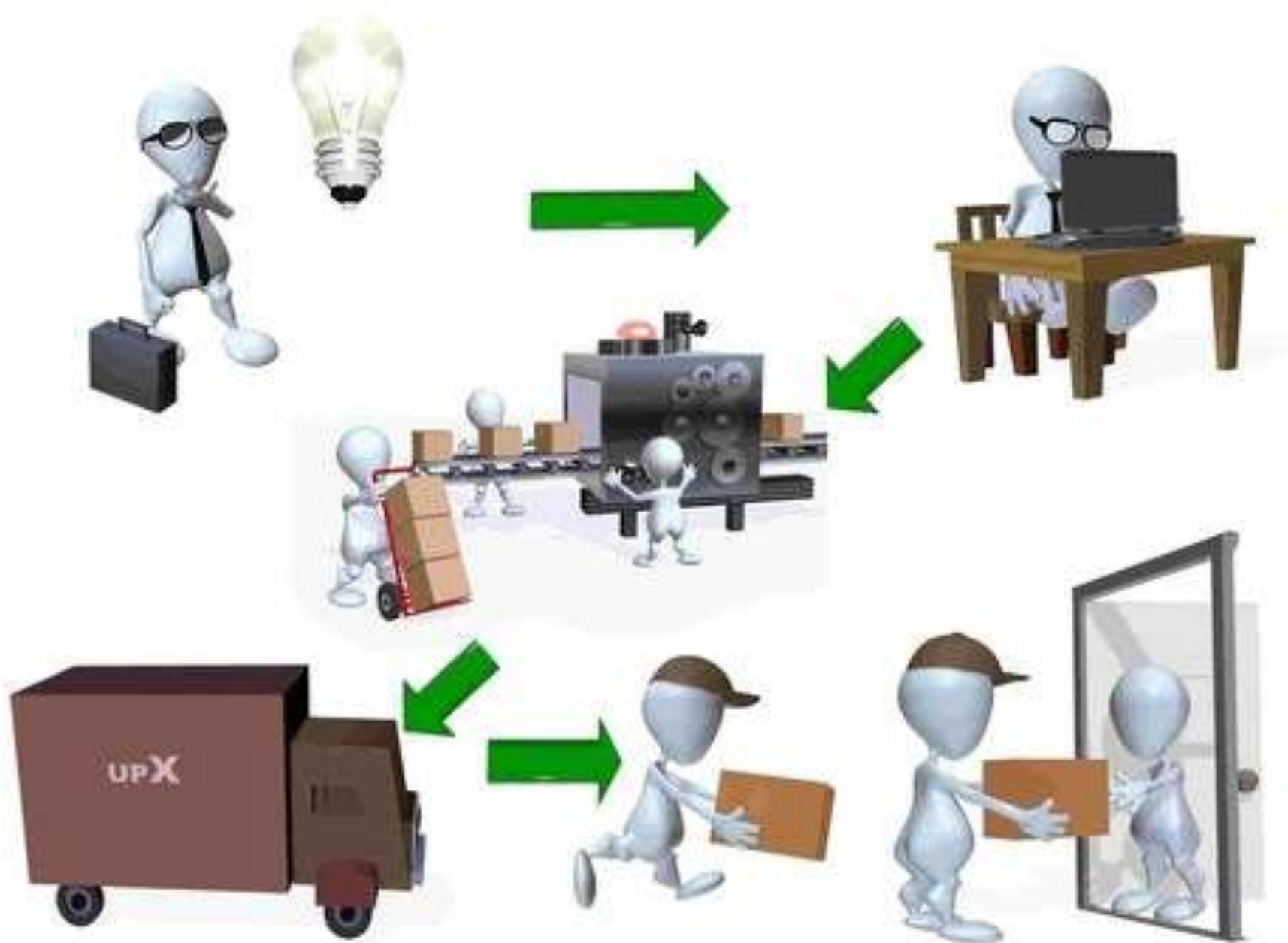
# 1. Definition and significance of logistics



In a world which increasingly relies on goods and services, where demand for goods increase every day work flows, goods and commodities need to be transported from their place of origin to their place of consumption or place of use.



**Logistics** is the process of planning, implementing and controlling procedures for the efficient and effective transportation and storage of goods including services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.

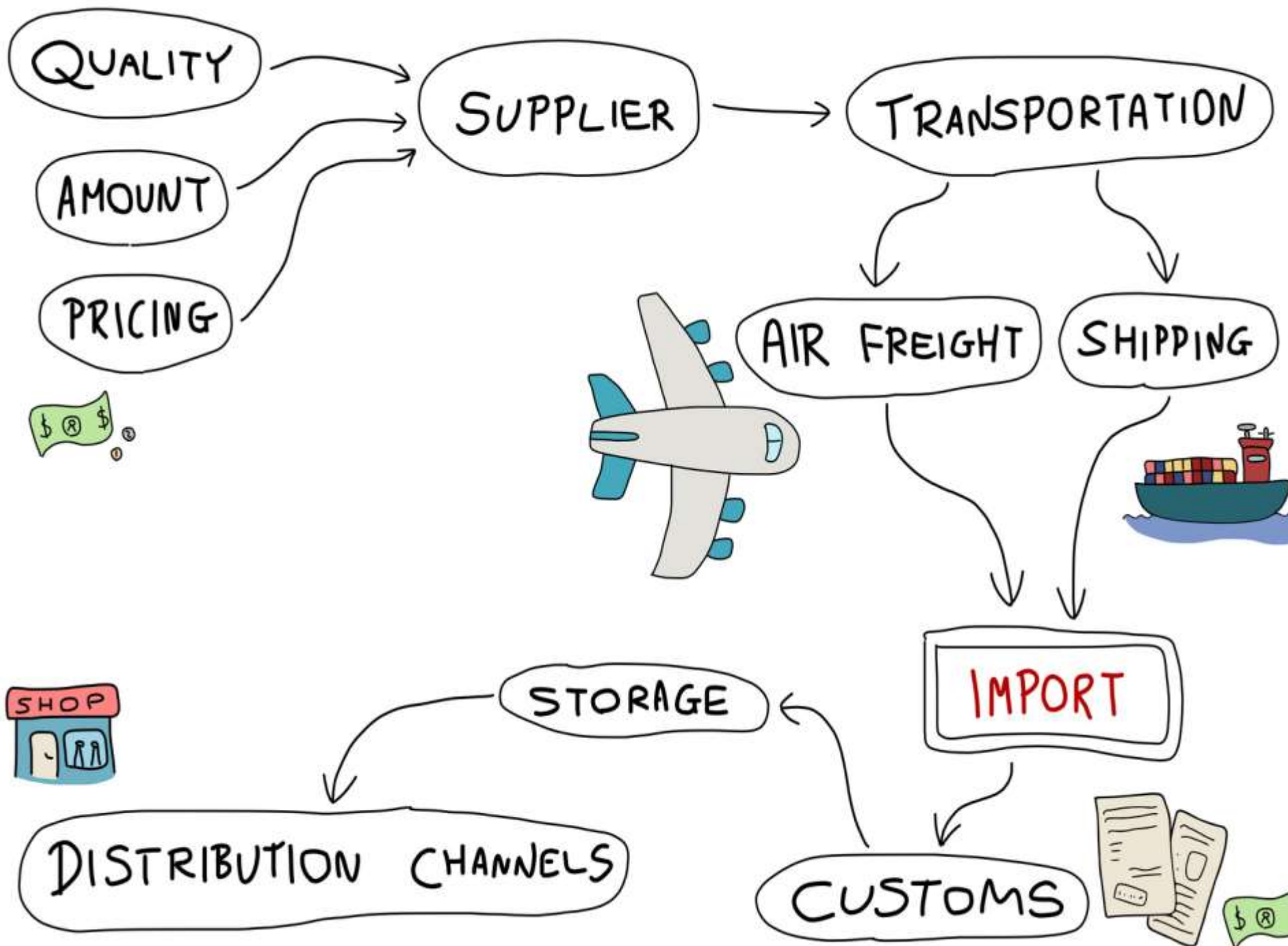


# Introduction

- **What is Logistics?**

- Planning, handling, and control of the storage of goods between the manufacturing point and the consumption point.
- cross-docking centers instead of stocks.
- The key issue is to deliver the goods in time by minimizing the stocks.
- The scheduling algorithm has to decide which goods are delivered to which customers.
- Centralized static scheduling vs. dynamic distributed scheduling



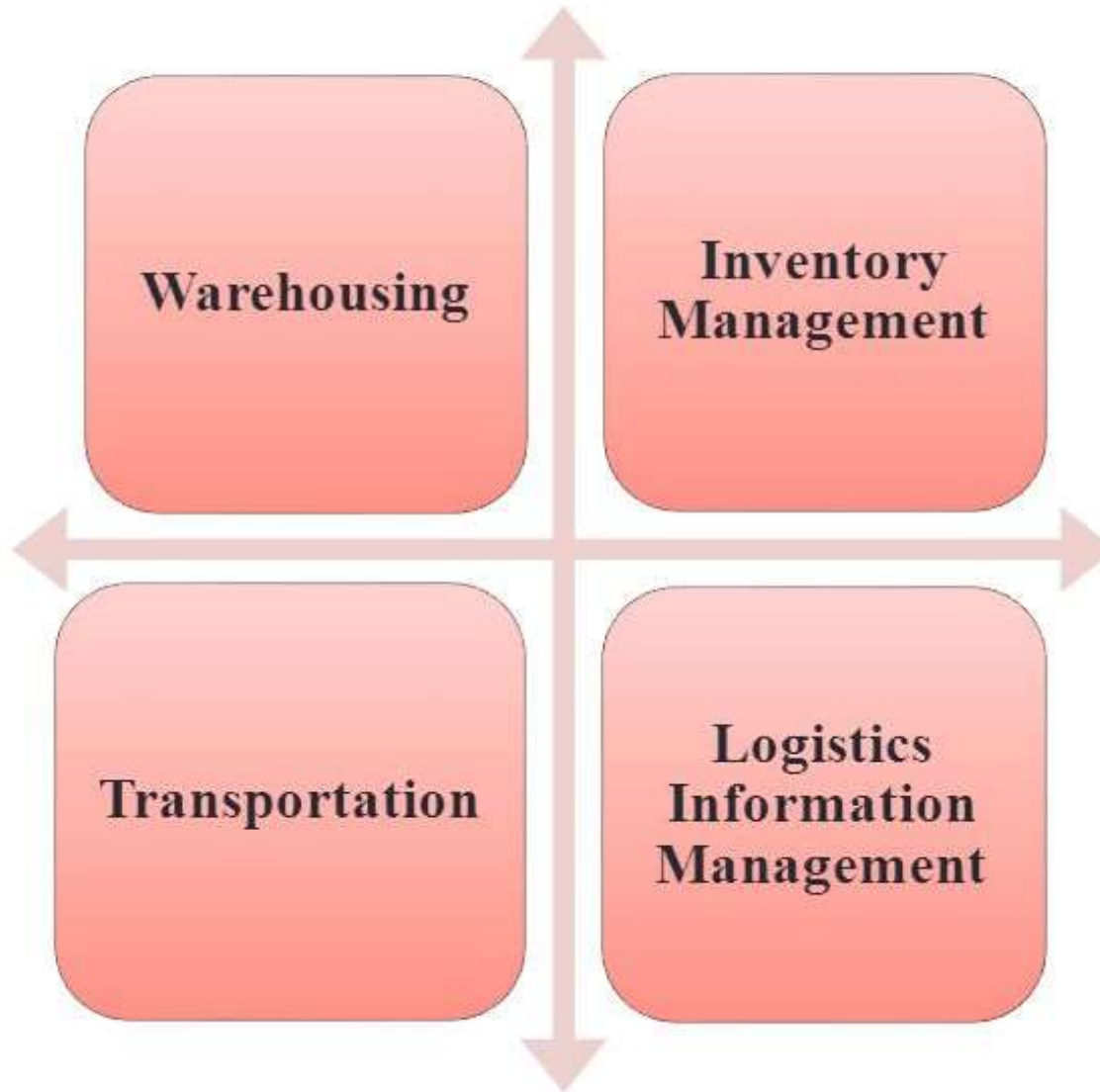




The purpose of logistics is to plan, organize, coordinate, and implement the bridging of the dimensions of time and space within a system. Logistics is thus one of the most important functions of the economy. This ranges from the procurement of raw materials to their processing and to the delivery of the goods to the end-user.



# Major Logistics Functions



## Costs

Minimize Costs of Attaining Logistics Objectives

## Order Processing

Received  
Processed  
Shipped

## Logistics

### Functions

## Warehousing

Storage  
Distribution  
Automated

## Transportation

Rail, Truck,  
Water, Pipeline,  
Air, Intermodal

## Inventory

When to order  
How much to order  
Just-in-time

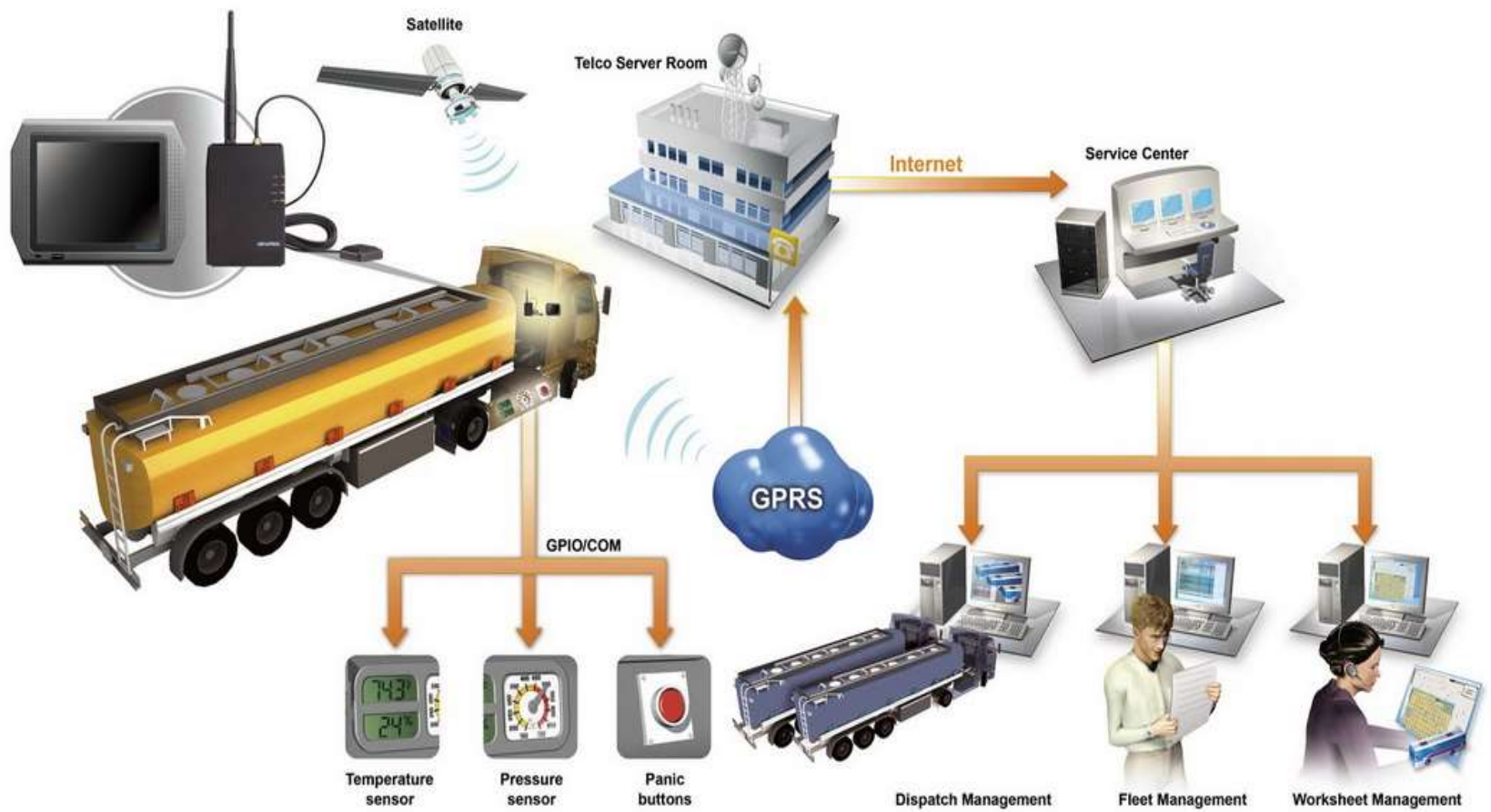
## **Objectives of Logistics**

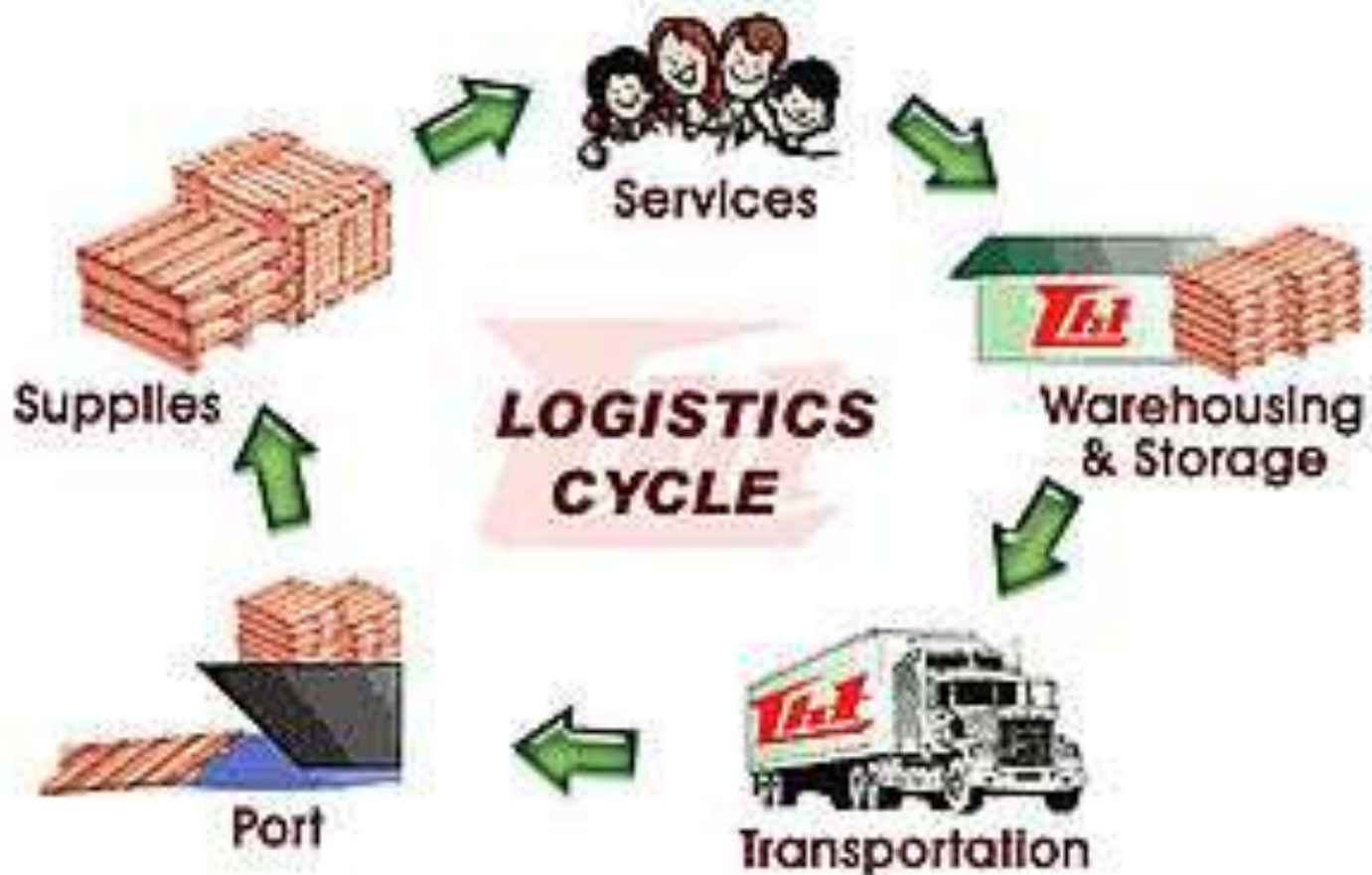
- Cost Minimisation
- Increasing the profit
- Customer satisfaction
- Generate Business
- Low cost Delivery
- Speedy delivery or quick response
- Right condition or reduce damage
- Provide best service
- Reliability
- Repeated Business
- Inventory Reduction



## Basic principles of logistics:

1. The principle of integrity
3. The principle of the system
4. The principle of hierarchy





# Logistics – Mission [A Bill of “Rights”]

- **Logistics embodies the effort to deliver:**
  - the right **product**
  - in the right **quantity**
  - in the right **condition**
  - to the right **place**
  - at the right **time**
  - for the right **customer**
  - at the right **cost**



## 2. Logistics activities and fields



- A basic distinction in the nature of logistics activities is between inbound and outbound logistics.
- **Inbound logistics** is one of the primary processes of logistics, concentrating on purchasing and arranging the inbound movement of materials, parts, and/or finished inventory from suppliers to manufacturing or assembly plants, warehouses, or retail stores.
- **Outbound logistics** is the process related to the storage and movement of the final product and the related information flows from the end of the production line to the end user.

Given the services performed by logisticians, the main fields of logistics can be broken down as follows:

Procurement logistics, Distribution logistics, After-sales logistics, Disposal logistics, Green logistics, Global logistics, Domestic logistics, Production Logistics, Construction Logistics

**Procurement logistics** consists of activities such as [market research](#), requirements planning, make-or-buy decisions, supplier management, ordering, and order controlling. The targets in procurement logistics might be contradictory: maximizing efficiency by concentrating on core competences, outsourcing while maintaining the autonomy of the company, or minimizing procurement costs while maximizing security within the supply process.

**Distribution logistics** has, as main tasks, the delivery of the finished products to the customer. It consists of order processing, warehousing, and transportation. Distribution logistics is necessary because the time, place, and quantity of production differs with the time, place, and quantity of consumption.

**Disposal logistics** has as its main function to reduce logistics cost(s) and enhance service(s) related to the disposal of waste produced during the operation of a business.

**Green Logistics** describes all attempts to measure and minimize the ecological impact of logistics activities. This includes all activities of the forward and reverse flows. This can be achieved through [intermodal freight transport](#), path optimization, vehicle saturation and [city logistics](#).

**RAM Logistics** (see also [Logistic engineering](#)) combines both **business logistics** and **military logistics** since it is concerned with highly complicated technological systems for which [Reliability](#), [Availability](#) and [Maintainability](#) are essential, ex: [weapon systems](#) and military supercomputers.

**Asset Control Logistics:** companies in the retail channels, both organized retailers and suppliers, often deploy assets required for the display, preservation, promotion of their products. Some examples are refrigerators, stands, display monitors, seasonal equipment, poster stands & frames.

**Emergency logistics** (or **Humanitarian Logistics**) is a term used by the logistics, supply chain, and manufacturing industries to denote specific time-critical modes of transport used to move goods or objects rapidly in the event of an emergency.<sup>[7]</sup> The reason for enlisting emergency logistics services could be a production delay or anticipated production delay, or an urgent need for specialized equipment to prevent events such as aircraft being grounded (also known as "[aircraft on ground](#)"—AOG), ships being delayed, or telecommunications failure. Humanitarian logistics involves governments, the military, [aid agencies](#), donors, [non-governmental organizations](#) and emergency logistics services are typically sourced from a specialist provider.

- **Construction Logistics** is known to mankind since ancient times. As the various human civilizations tried to build the best possible works of construction for living and protection. Now the construction logistics emerged as vital part of construction. In the past few years construction logistics has emerged as a different field of knowledge and study with in the subject of supply chain management and logistics.



Thank you for attention!