



# Definition of Information Systems

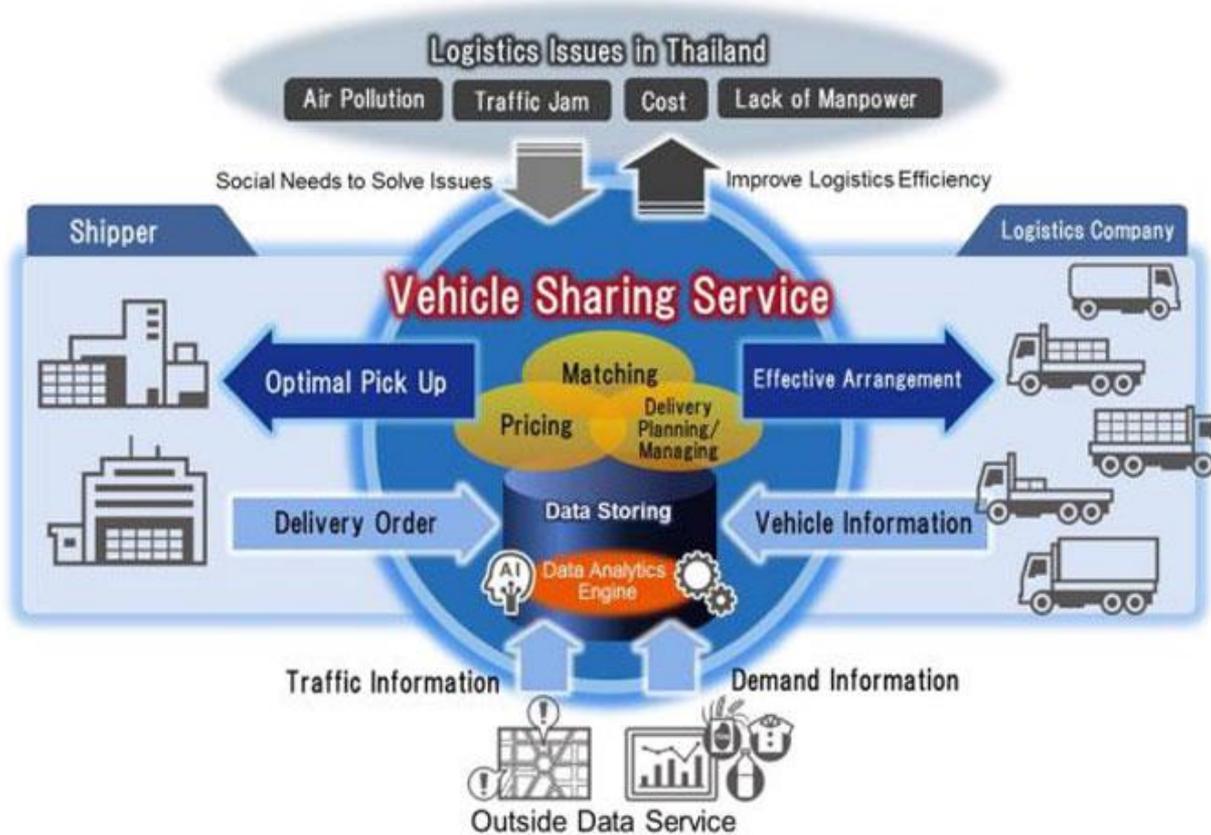
- ❖ An information system can be defined as set of coordinated network of components which act together towards producing, distributing and/or processing information
- ❖ An information factor of computer based information system is precision, which may not apply to other types of systems



# Definition of Logistics Information System

- An interacting structure of people, equipment, and procedures that together make relevant information available to the logistics manager for the purposes of planning, implementation, and control.<sup>23</sup>
- Examine Figure 12-9 on the next slide.

# Logistics Information Technology System



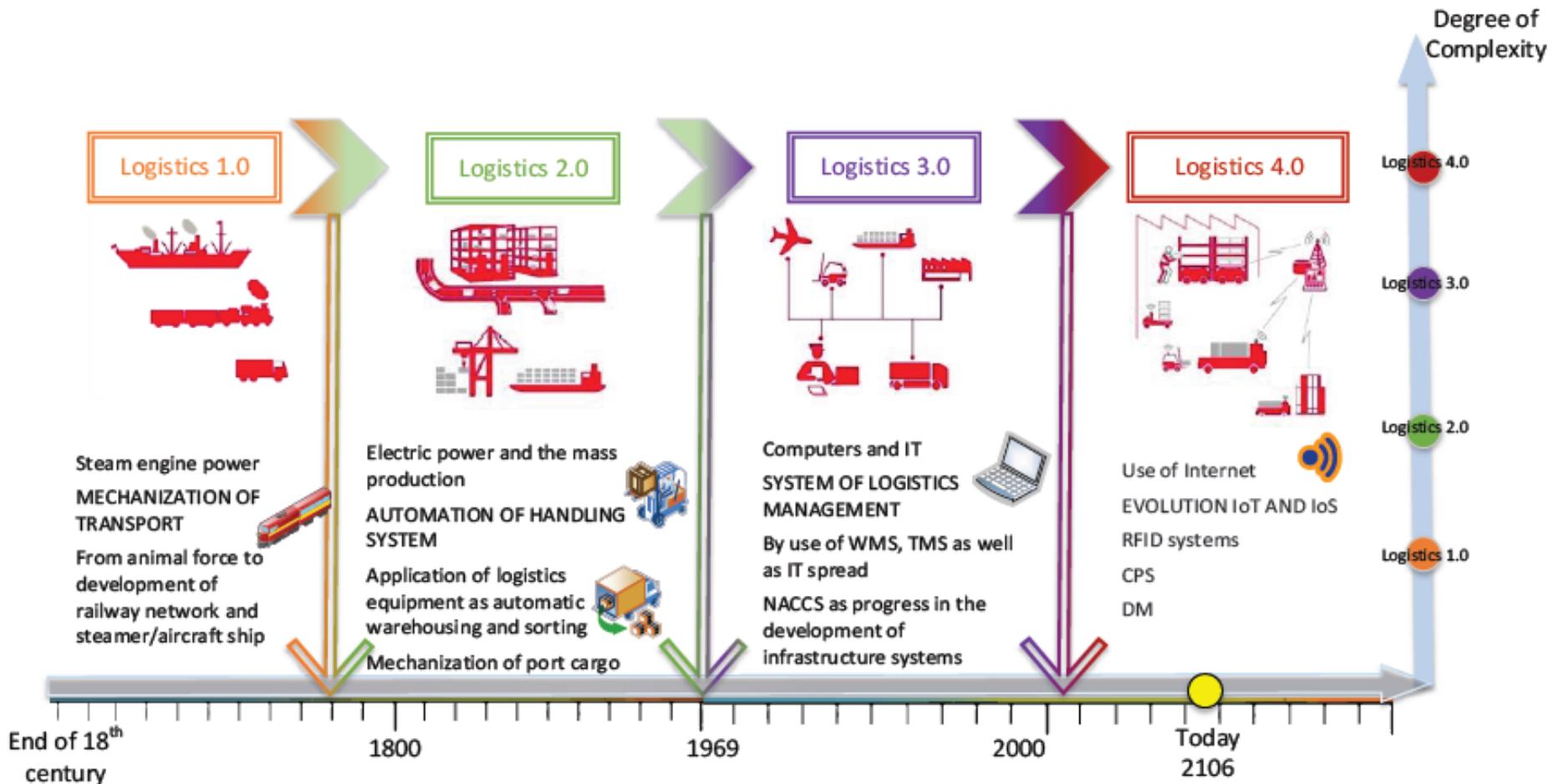
Concept image of Hitachi's vehicle sharing service

# Components of an information system

- 1. Hardware
- 2. Software
- 3. Database
- 4. Standard Procedure
- 5. Peopleware

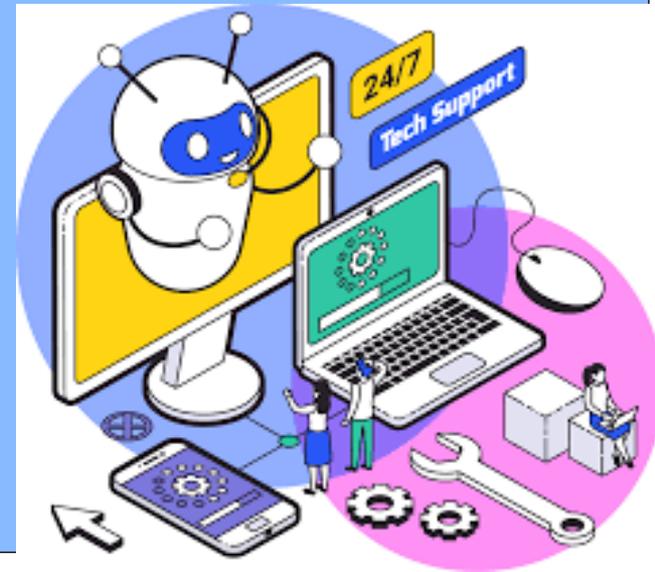


# Evolution of Logistics



# Development of information technology systems in the organization

- 1. Preliminary Investigation
- 2. Determination of System Requirement
- 3. Design of System
- 4. Development of Software
- 5. System Testing
- 6. Implement and Evaluation



# Examples of how information technology systems are used for logistics and supply chain management

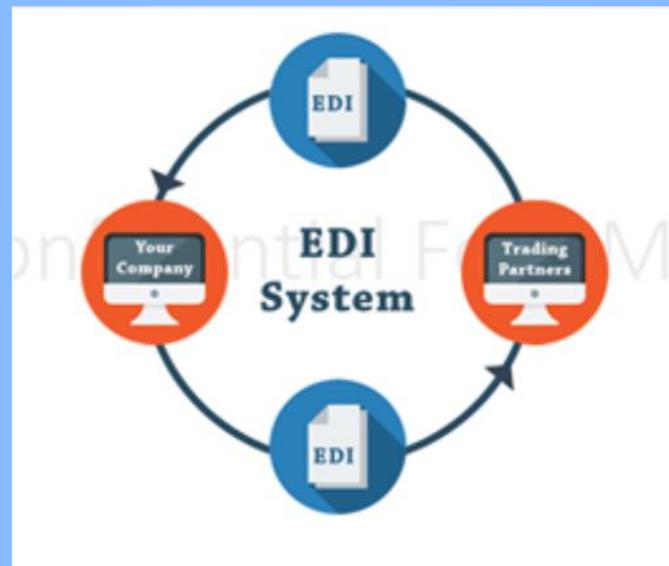


# EDI

EDI, short for Electronic Data Interchange, is a platform to exchange business documents between computers or business documents (such as purchase orders, price accounts, invoices, etc.) between trading partners in an international standard format from one computer to another.



EDI systems have become more active today because of the COVID-19 pandemic. Many businesses, with a policy to save budget, find EDI systems suitable for today's businesses because they are affordable, can connect to that database, quick and easy to use, allowing for fewer errors. The EDI system is cloud-based, saving IT resources and providing instant access to information and greater security.

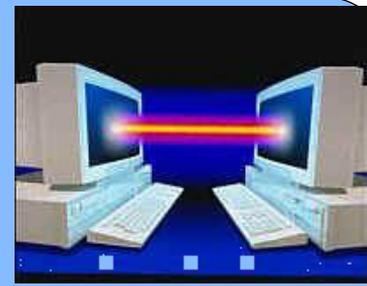


# EDI Applications

EDI system for every EDI system will help manage documents faster and more accurately, such as commercial businesses that require regular orders. Manufacturing businesses that want to purchase raw materials or international businesses, etc. EDI systems can help manage and control electronic transactions such as purchase orders, invoices, order confirmations, shipping notifications.



# EDI System Operation



1. Prepare data in UN/EDIFACT format using translation software
2. Send data to EDI service centers over public networks using modems.
3. Store the information in the recipient's mailbox when the information reaches the service center.
4. The recipient contacted the service center via Modem to receive EDI information in the mailbox.
5. The recipient converts the data back using translation software to the desired format.

# What types of documents can be replaced by EDI?



Purchasing documents such as Purchase Order, Invoice, Quotation, Price/Sales Catalogue, etc.



Financial documents such as payment orders, remittance advice, etc.



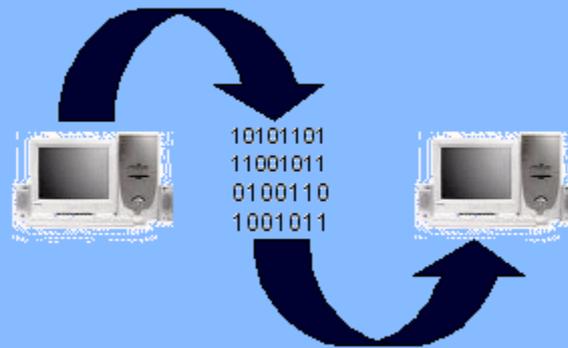
Transportation documents such as Bill of Lading, Booking, Bayplan, Delivery Order, etc.



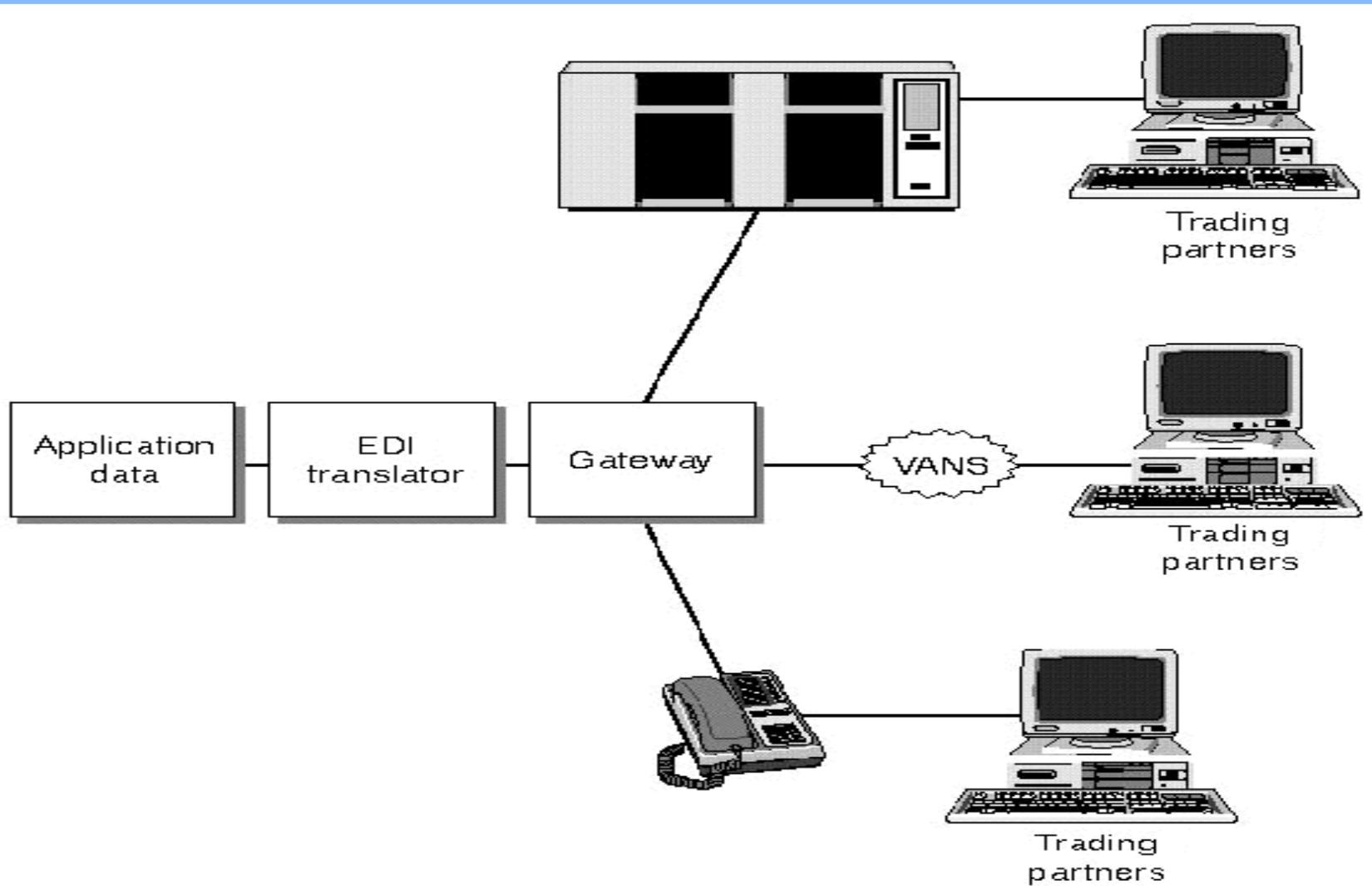
International trade documents such as Customs Declaration and Manifest

# Differences between EDI and E-mail

E-mail is a non-compulsory form of text transmission, unlike EDI, which requires a certain format under international standards. No need for someone to re-record the data.

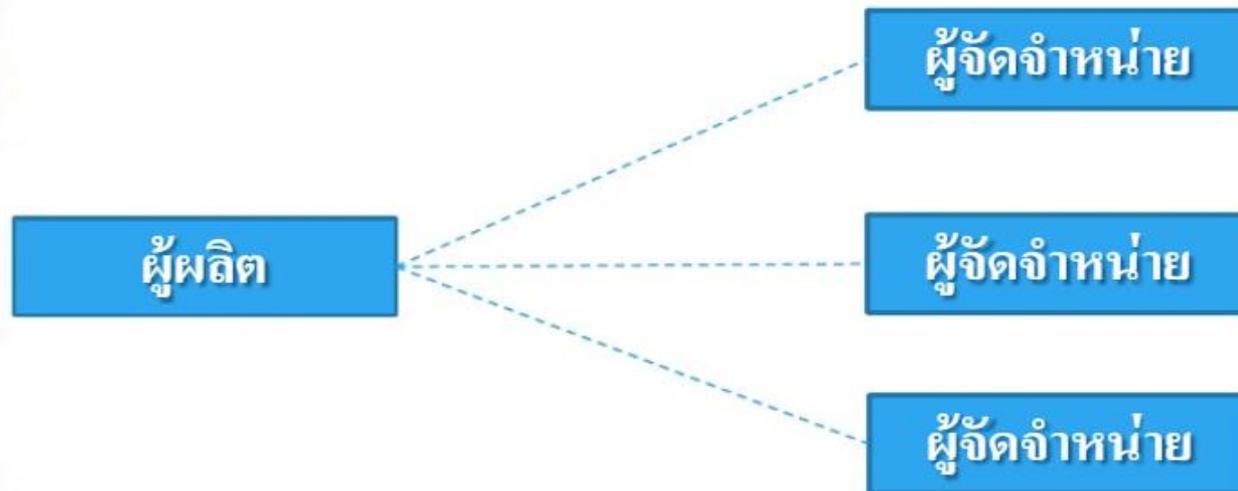


# Synchronizing supply chain operators via EDI

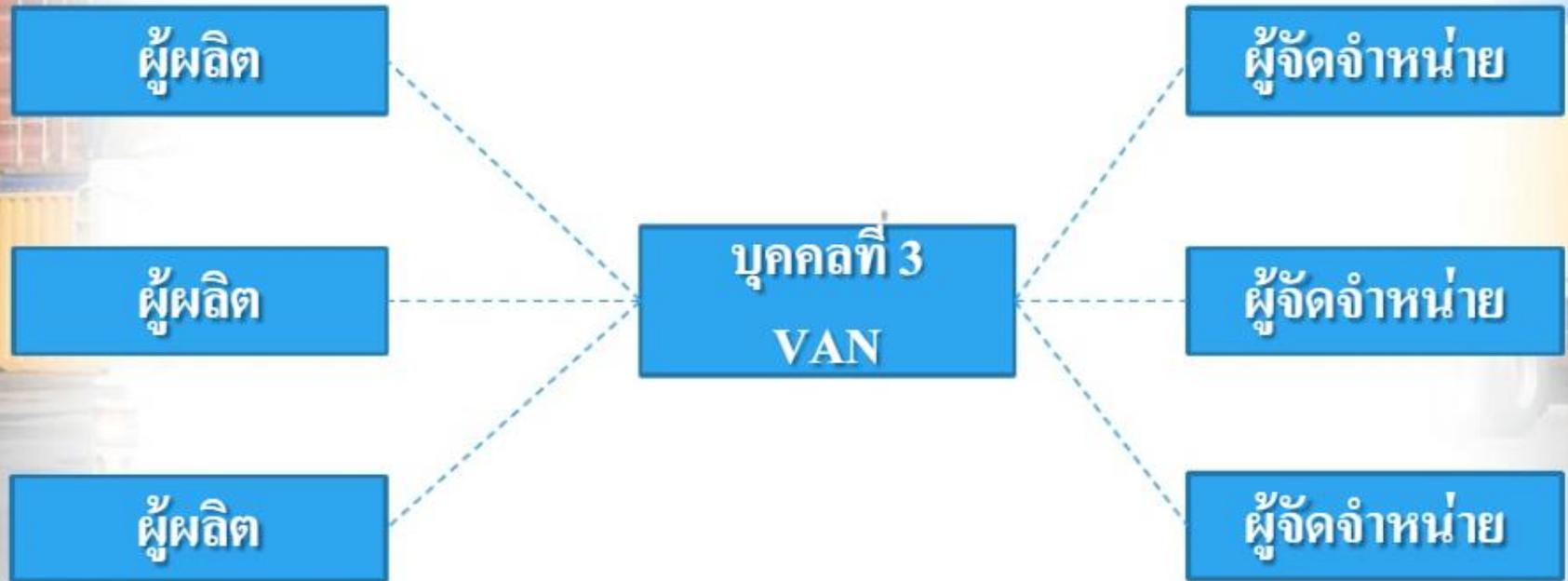


# Types of EDI

ระบบเจ้าของคนเดียว  
(ONE-TO-MANY)



# ระบบโครงข่ายมูลค่าเพิ่ม (MANAY-TO-MANY)



# Problems and Obstacles of Current EDI Use

The adoption of EDI in business operations today, although it is very beneficial for organizations, there are still problems and obstacles that prevent the use of EDI in Thailand from being as widespread as it should be as follows:

1. Top management does not pay attention and does not have a clear commitment.
2. Most organizations lack people who have knowledge and understanding of EDI.
3. It takes time to adjust the work system and internal management procedures.
4. Lack of IT specialists to implement EDI in line with existing computer systems
5. Laws and regulations of government agencies that are unfavorable for the use of EDI

# Enterprise Resource Planning : ERP

## ERP

[*'ē 'är 'pē*]

A process used by companies to manage and integrate the important parts of their businesses, often via software to connect planning, purchasing inventory, sales, marketing, finance, human resources, and more.

 Investopedia



# THE HISTORY OF ERP SYSTEMS



**1970's**  
Material  
Requirements  
Planning (MRP)



**1990's**  
Enterprise Re-  
source  
Planning (ERP)



**1960's**  
Inventory  
Control  
Packages

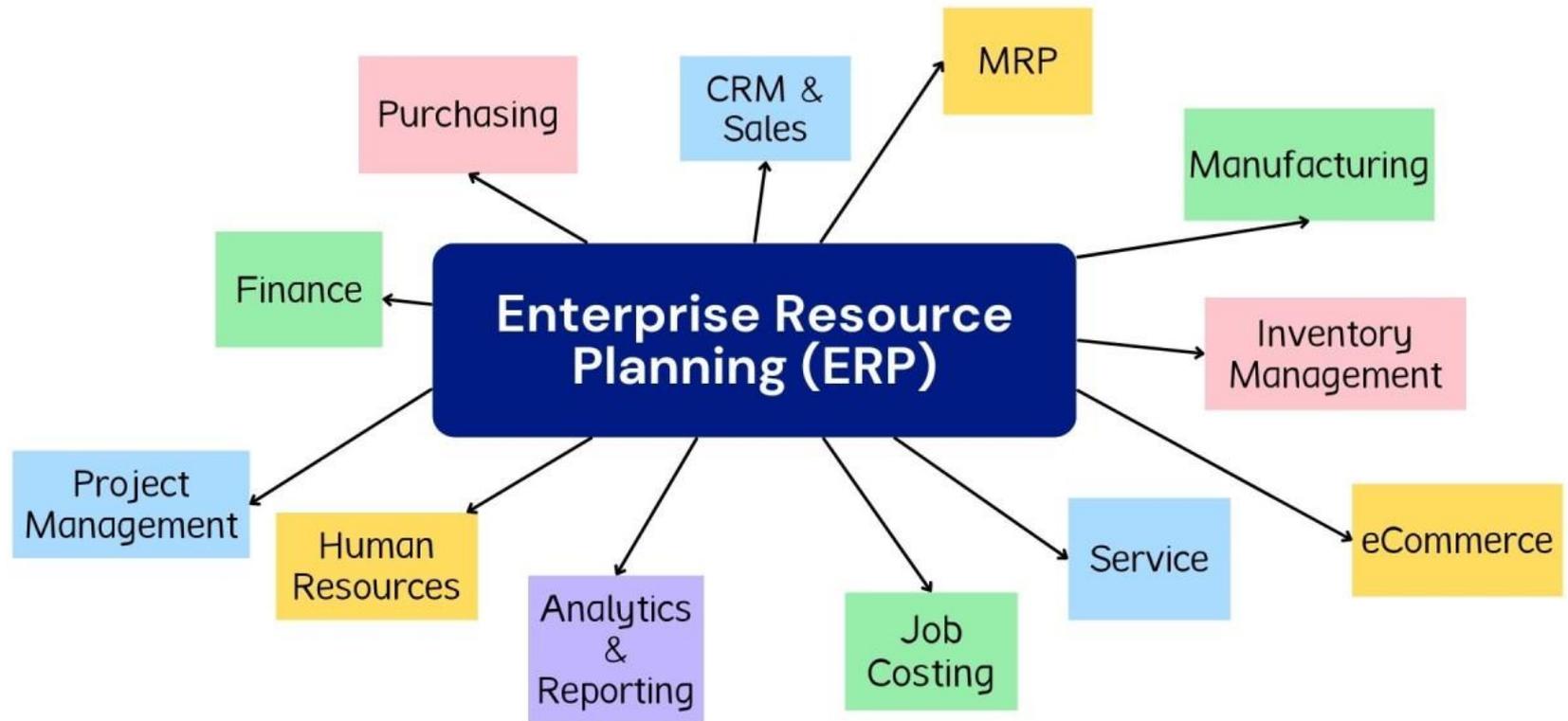


**1980's**  
Manufacturing



**2000's**  
Extended ERP

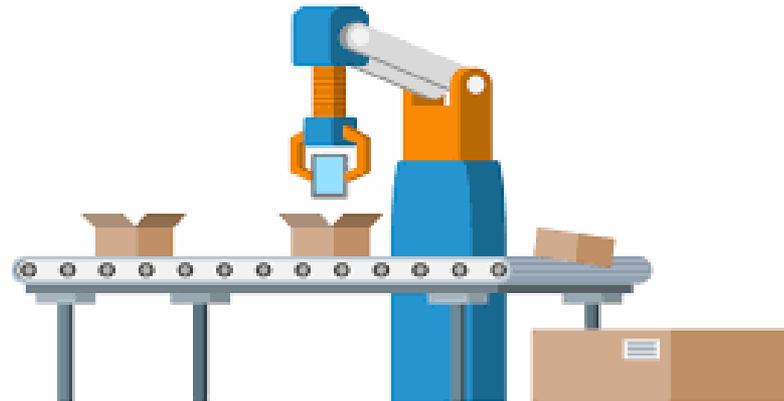
# Importance of Enterprise Resource Planning (ERP)

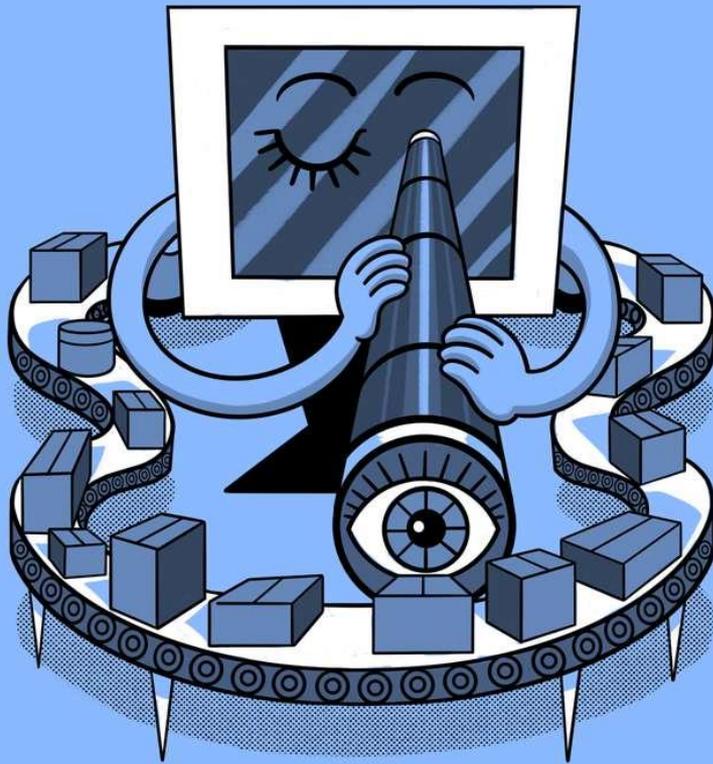


# Material Requirements Planning : MRP

การวางแผนความต้องการวัสดุ (MRP) ตารางการผลิตหลัก

Item: Ladder-back chair		Order Policy: 150 units Lead Time: 1 week							
Quantity on Hand: 55	April				May				
	1	2	3	4	5	6	7	8	
Forecast	30	30	30	30	35	35	35	35	
Customer orders booked	38	27	24	8	0	0	0	0	
Projected on-hand inventory	17	137	107	77	42	7	122	87	
MPS quantity	0	150	0	0	0	0	150	0	
MPS start	150	0	0	0	0	150	0	0	





# Material Requirements Planning (MRP)

*[mə-'tir-ē-əl ri-'kwī(-ə)r-mənts 'pla-niŋ]*

An approach to inventory management in which a company uses computers to predict the timing and quantity of materials needed to complete a production process.

# MRP step and process

## MRP Steps and Processes



1

Identifying requirements to meet demand



2

Checking inventory and allocating resources



3

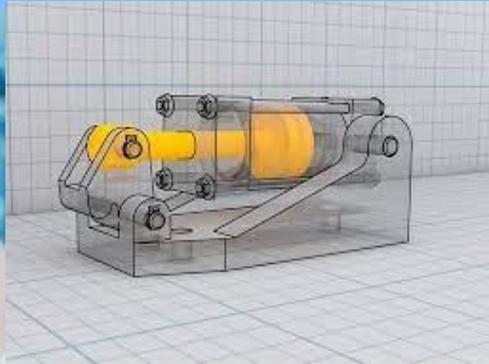
Scheduling production



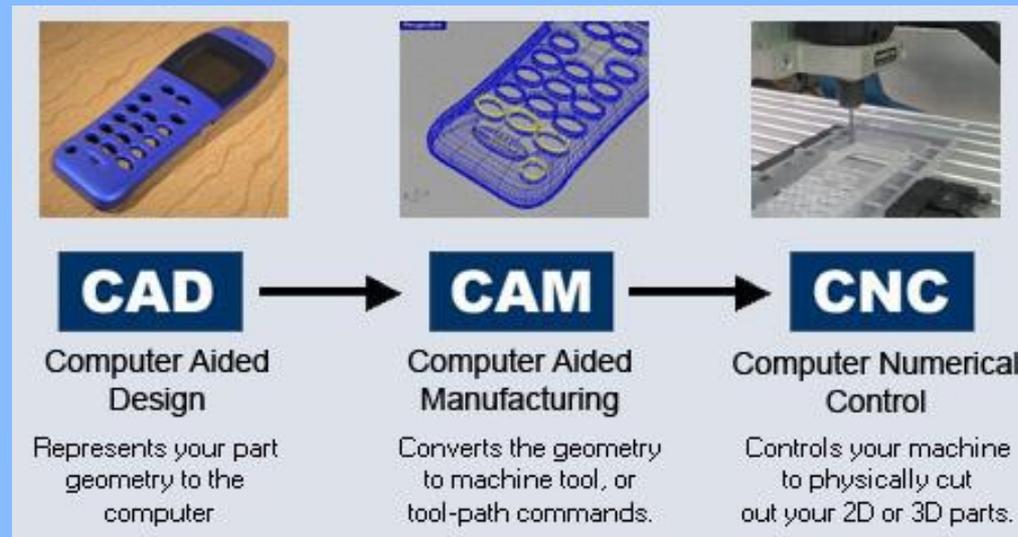
4

Identifying issues and making recommendations

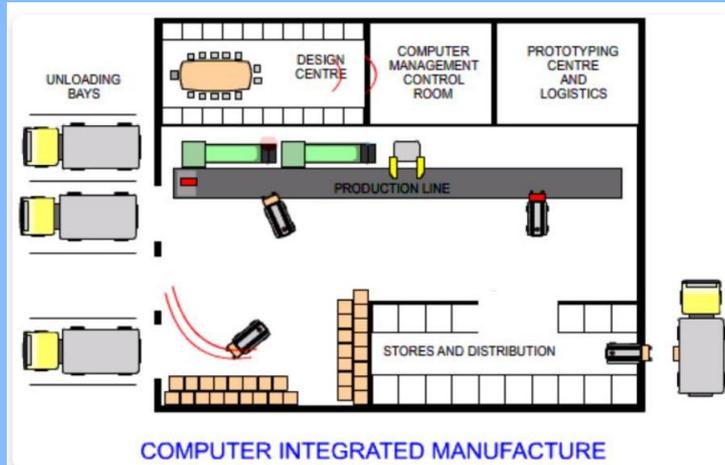
# Computer Aided Design : CAD



# Computer Aided Manufacturing : CAM

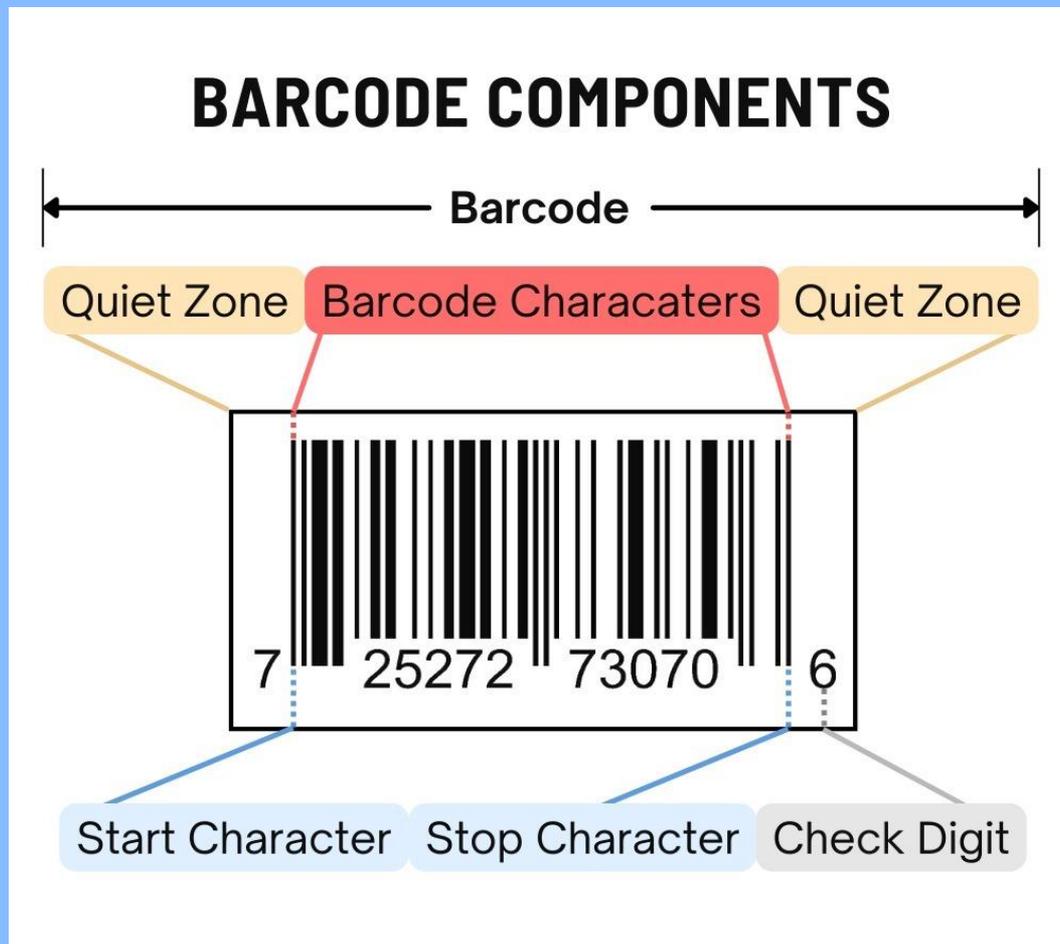


# Computer Integrated Manufacturing : CIM



# Electronic management system used in activities

- 1. Barcode



# Barcode



LINE 53



D96 M22471 941  
\$59.99

4200SYS07



0 00 74865 03130 1



0 44615 20092 9  
APPLE



0 441501 75025 4  
1/2 PK WHOLE GREEN CHILES  
Net Wt. 2 Lbs. 8 oz.  
#87278

Property of Chromatech Corp.



0001

2 OZ FLUTED RAMEKIN

**0844-02**

48 EACH  
WHITE



ETG ID: RCU-41  
FCC ID: QNL-RCU-41

This device complies with Part 15 of the FCC rules. Operation is subject to the following 2 conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



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NO CFC'S



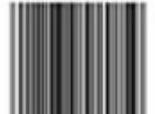
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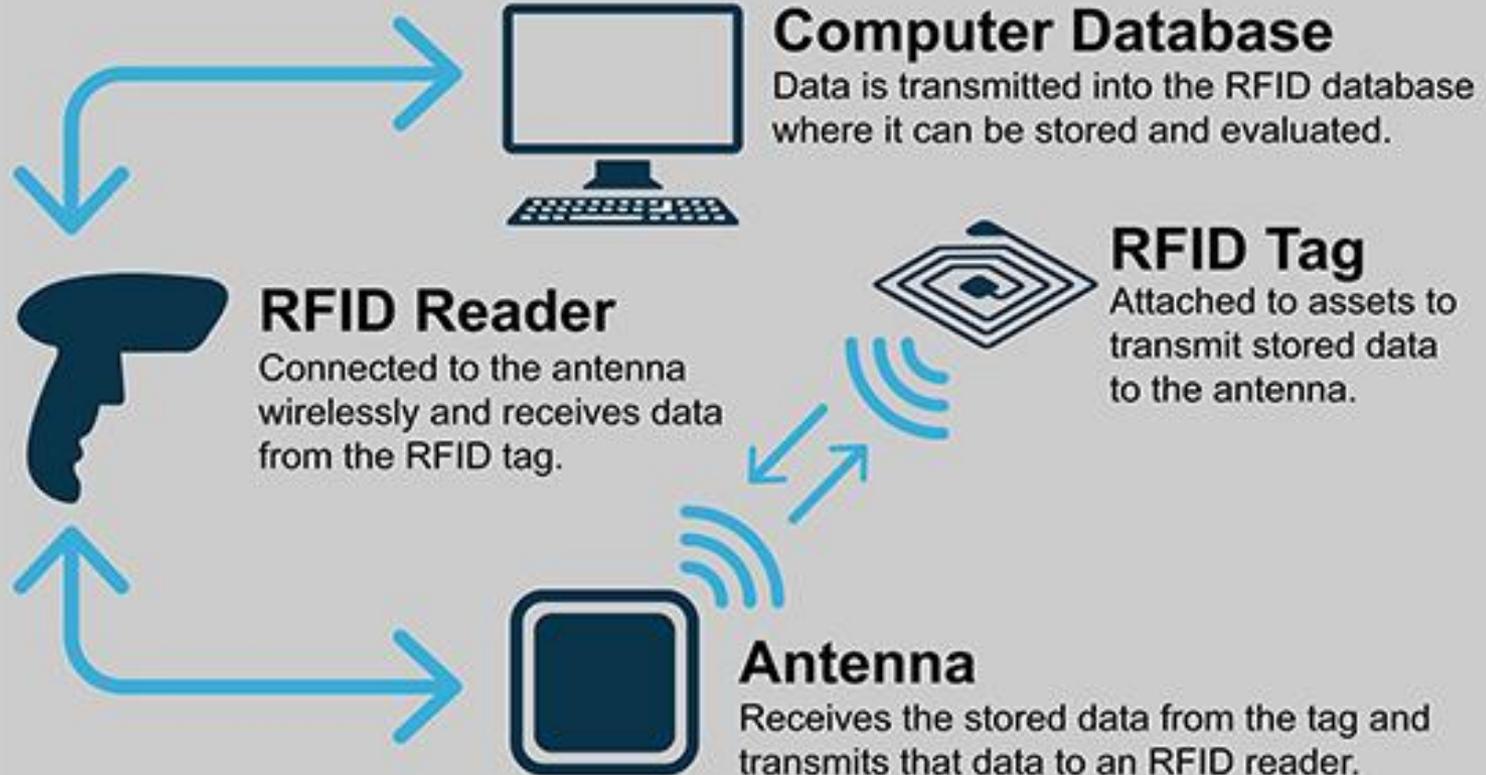
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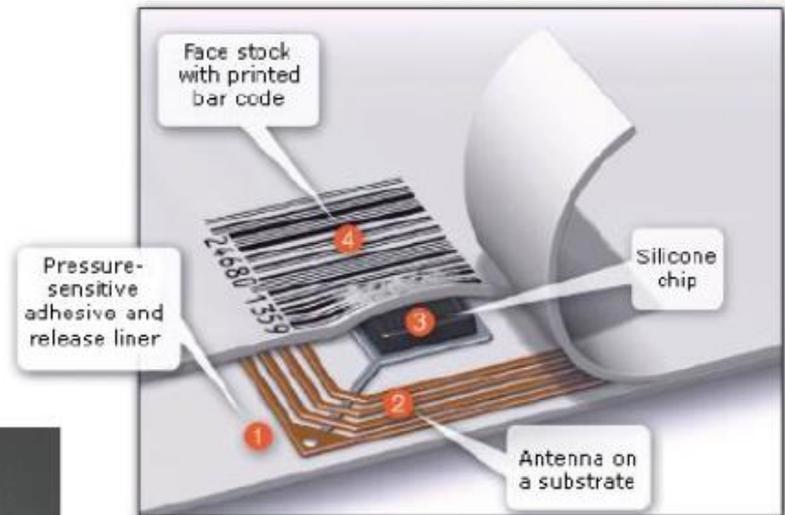
## 2. RFID

### Basic RFID System



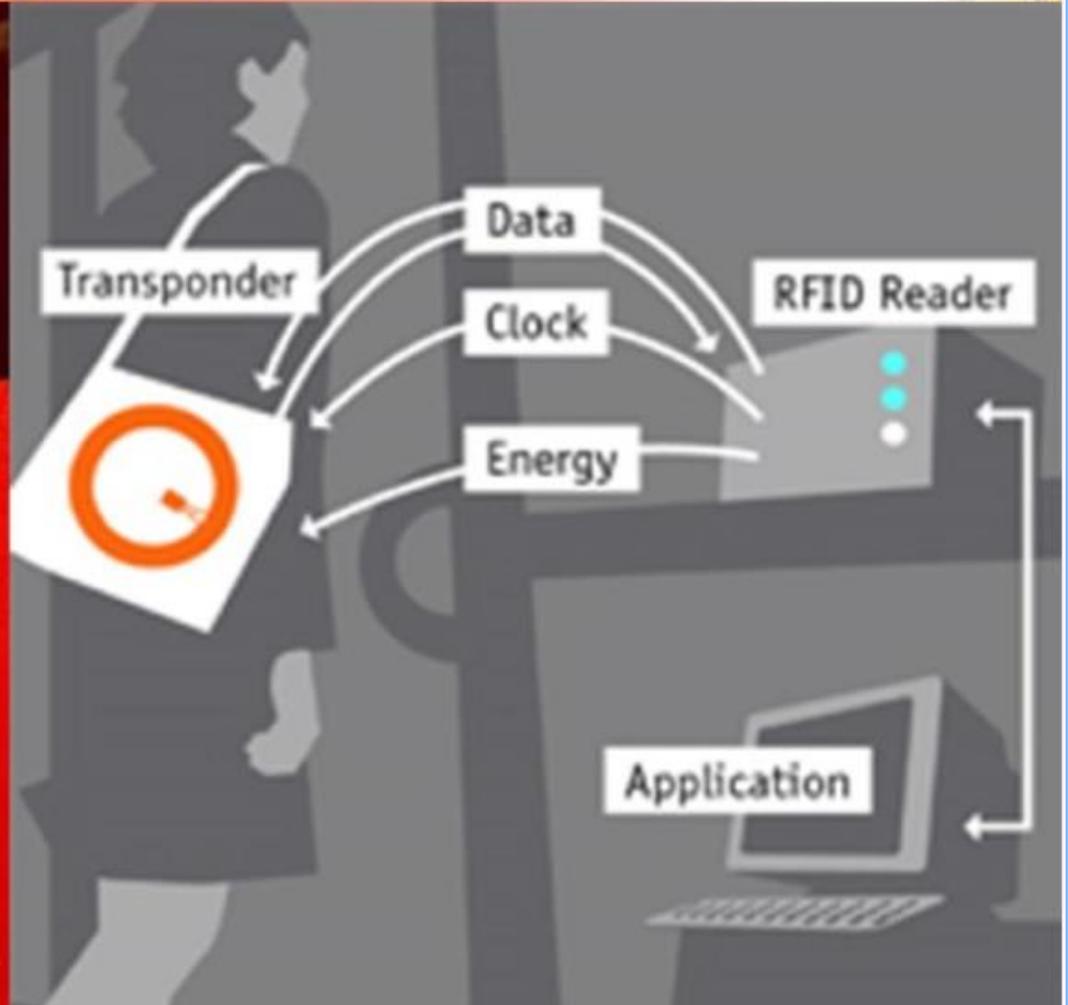
# RFID :

## Radio Frequency Identification

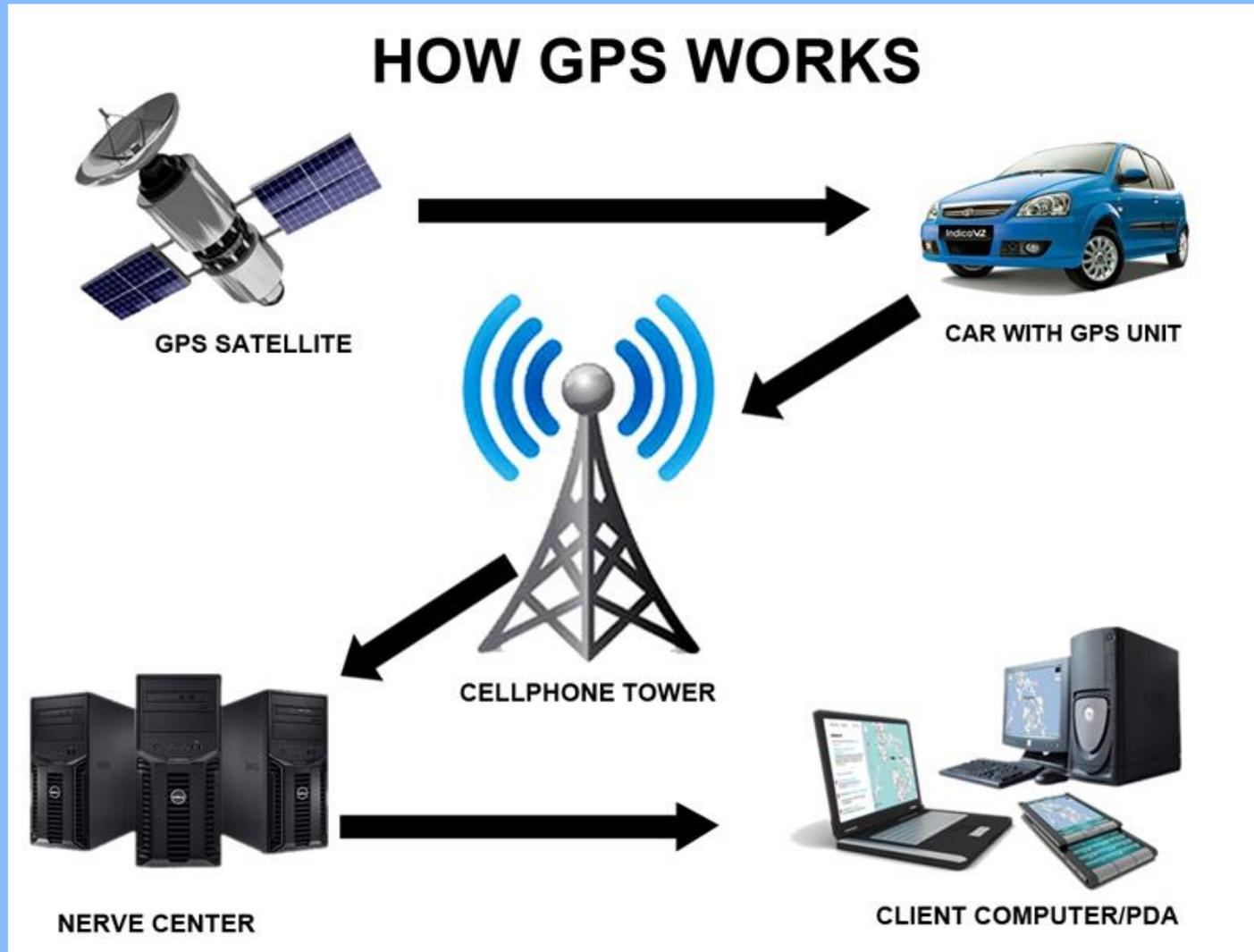


# RFID :

## Radio Frequency Identification



# 3. GPS: Global Positioning System



# GPS: Global Positioning System

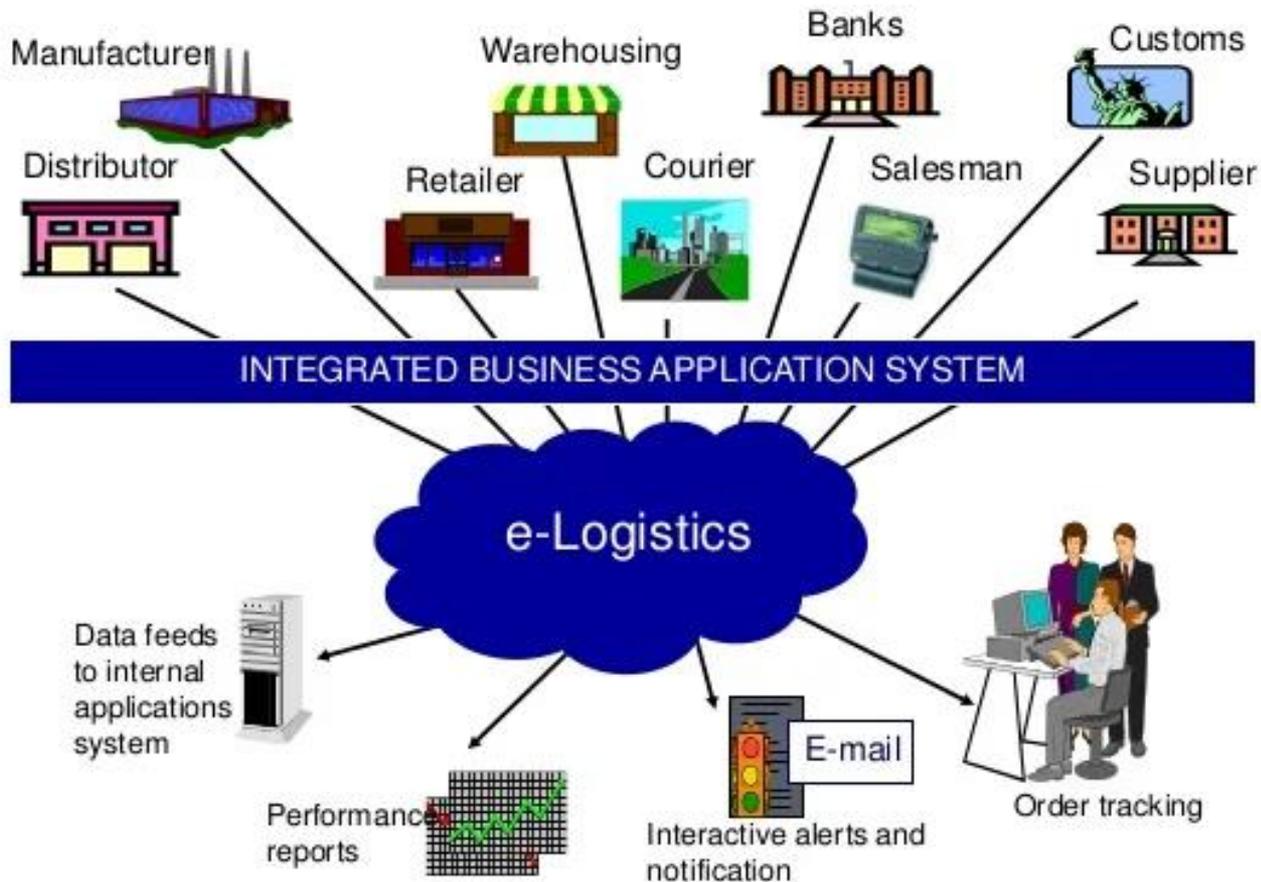


**GPS  
TECHNOLOGY**



# E-Logistics Management

COMMUNICATION + INFORMATION INTEGRATION



# End & Questions



## End-of-chapter questions

- 1. What is a management information system and what are its benefits?
- 2. What should a good information feature look like?
- 3. What is a logistics information technology system and what should a good logistics information technology system look like?
- 4. What are the electronic management systems currently in use? Explain and give examples.
- 5. What is EDI system? How does it benefit logistics and supply chain?