

# PAST, CURRENT AND FUTURE TREND IN ENTERPRISE INFORMATION SYSTEM

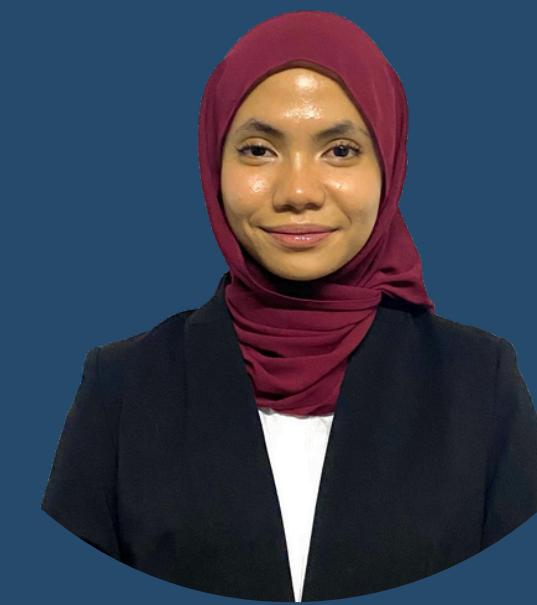
*Group 10*

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SECP3744-01 ENTERPRISE SYSTEMS DESIGN AND  
MODELING (WBL)



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# Introduction



01

The rise of Enterprise Information Systems (EIS) has fundamentally transformed business operations, enhancing data management, communication, and decision-making processes. As a result, EIS has become a foundation for enterprises striving to maintain competitiveness and broaden their influence in the digital age.

EIS are a subset of ES, comprising all information systems that enhance the functionality and efficiency of enterprise operations through integration. EIS includes hardware, networking, databases, and software applications.

The rise of internet technologies led to web-based EIS solutions, enabling real-time access to information and team collaboration.

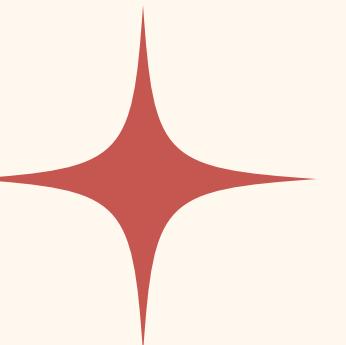




# Past Trends

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## in EIS





## EIS History

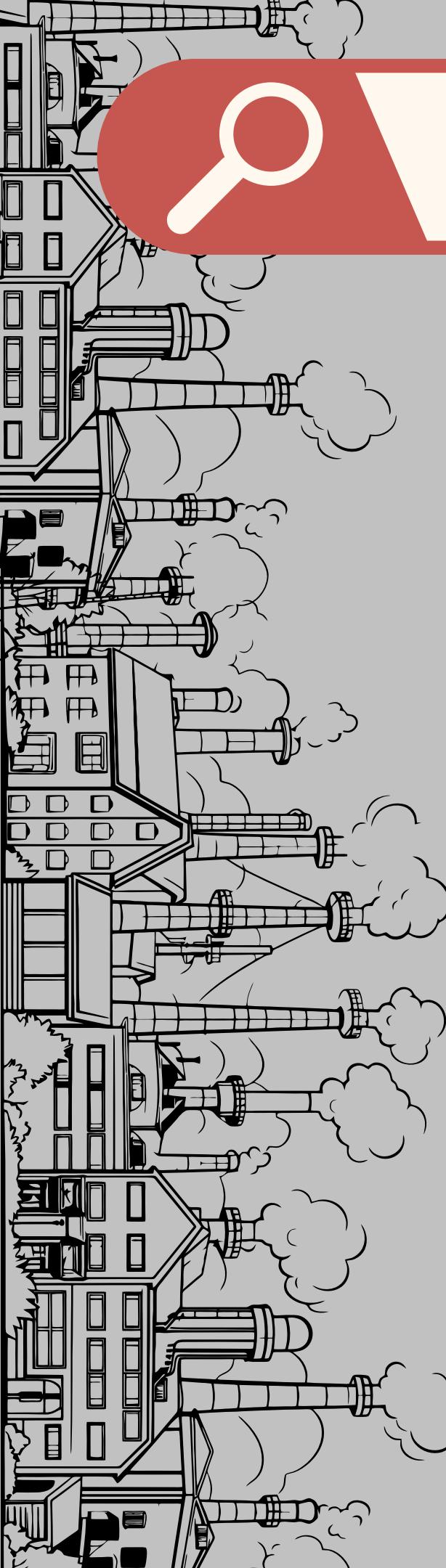
EARLY 1960S

The history of EIS began with the integration of computers into industry automating manual tasks

Replacing paper-book system

Stand-alone system





# EIS History

1960S

MRP I

Material Requirement Planning (MRP I) is an EIS system that self built by the construction machinery manufacturer

Created by IBM and J.I Case

Help in monitoring inventory and production

Limited function and high cost

03

# EIS History



1970S



MRP II

Manufacturing Resource Planning (MRP II) is an extended version of MRP I as it allow various departments involved



Still in manufacturing industry



Better Coordination

03

# EIS History



1990S

ERP I

Enterprise Resource Planning (ERP/I) is a software that integrates various business processes and data into a single system

Term introduced by research firm, Gartner

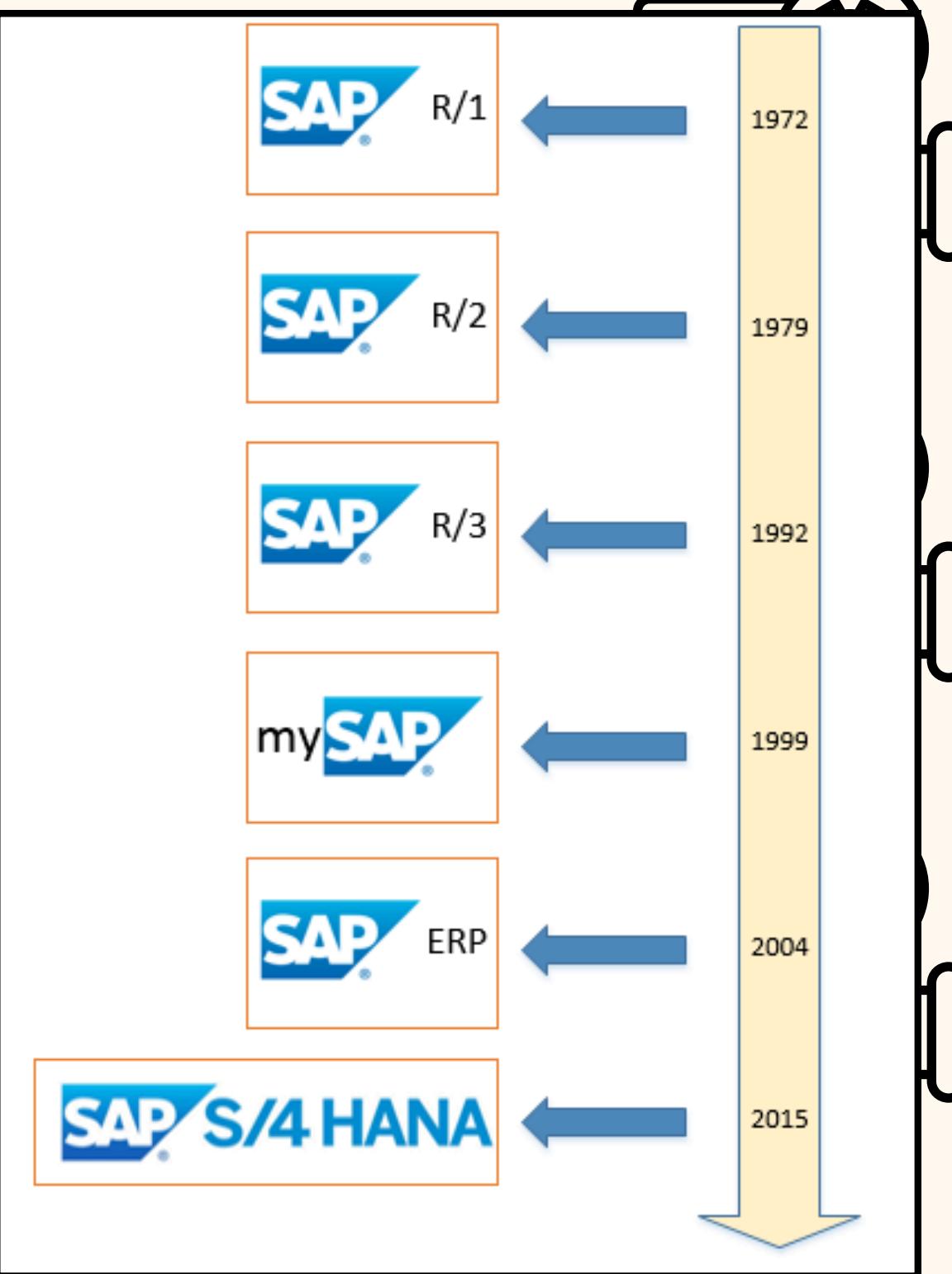
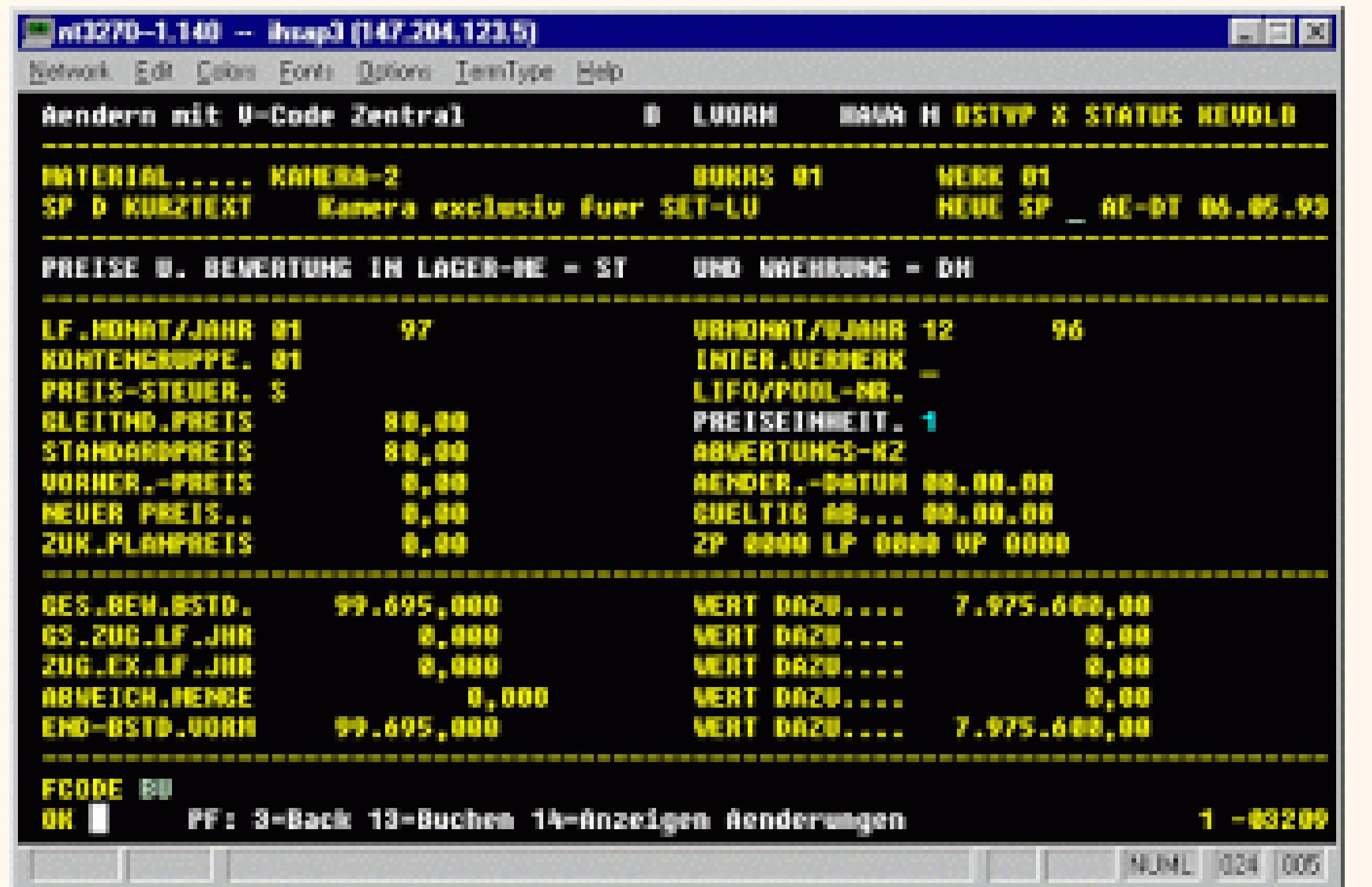
Accounting, sales, engineering and human resources (HR)

Web-aware, closed and monolithic.

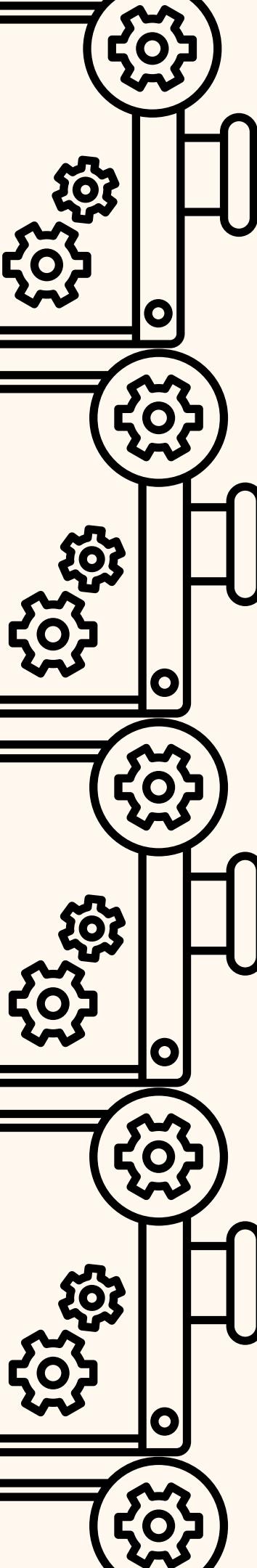
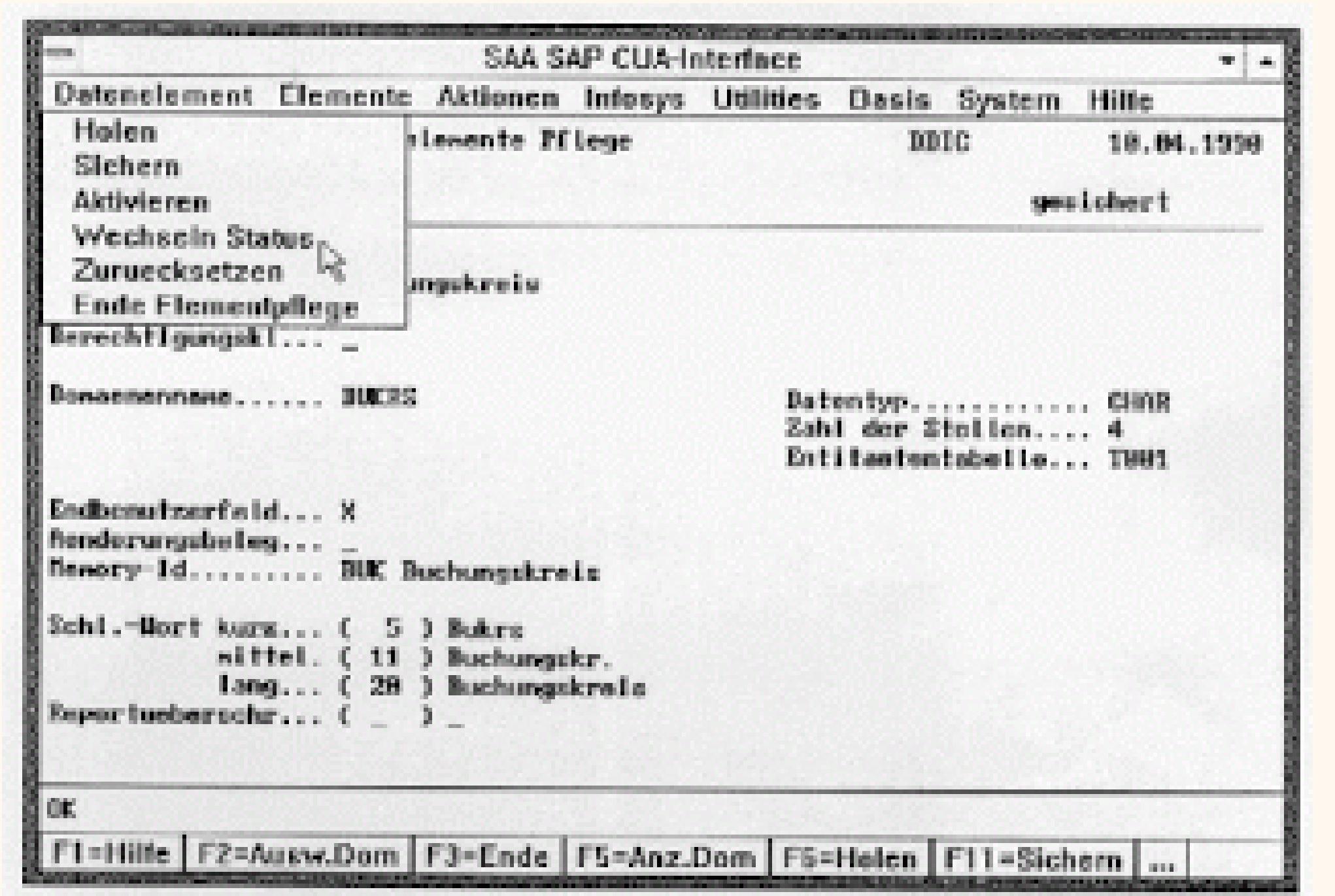
Used local network

Earliest ERP software recorded is SAP R/1 in 1970!

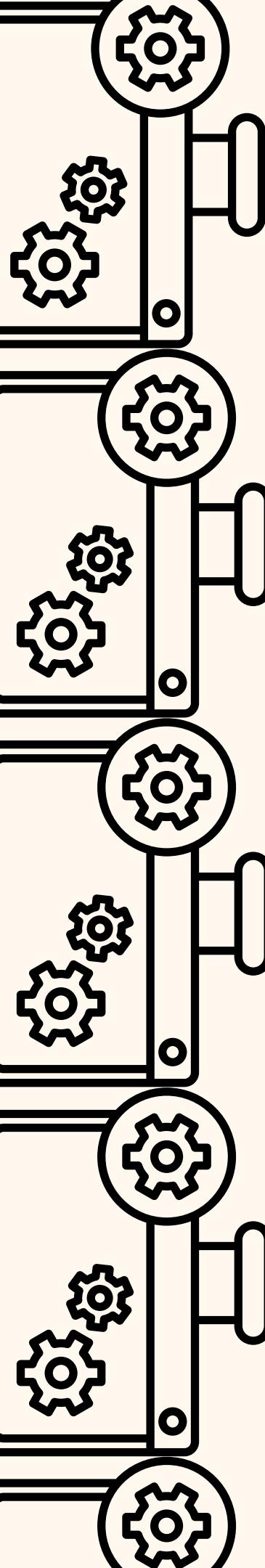
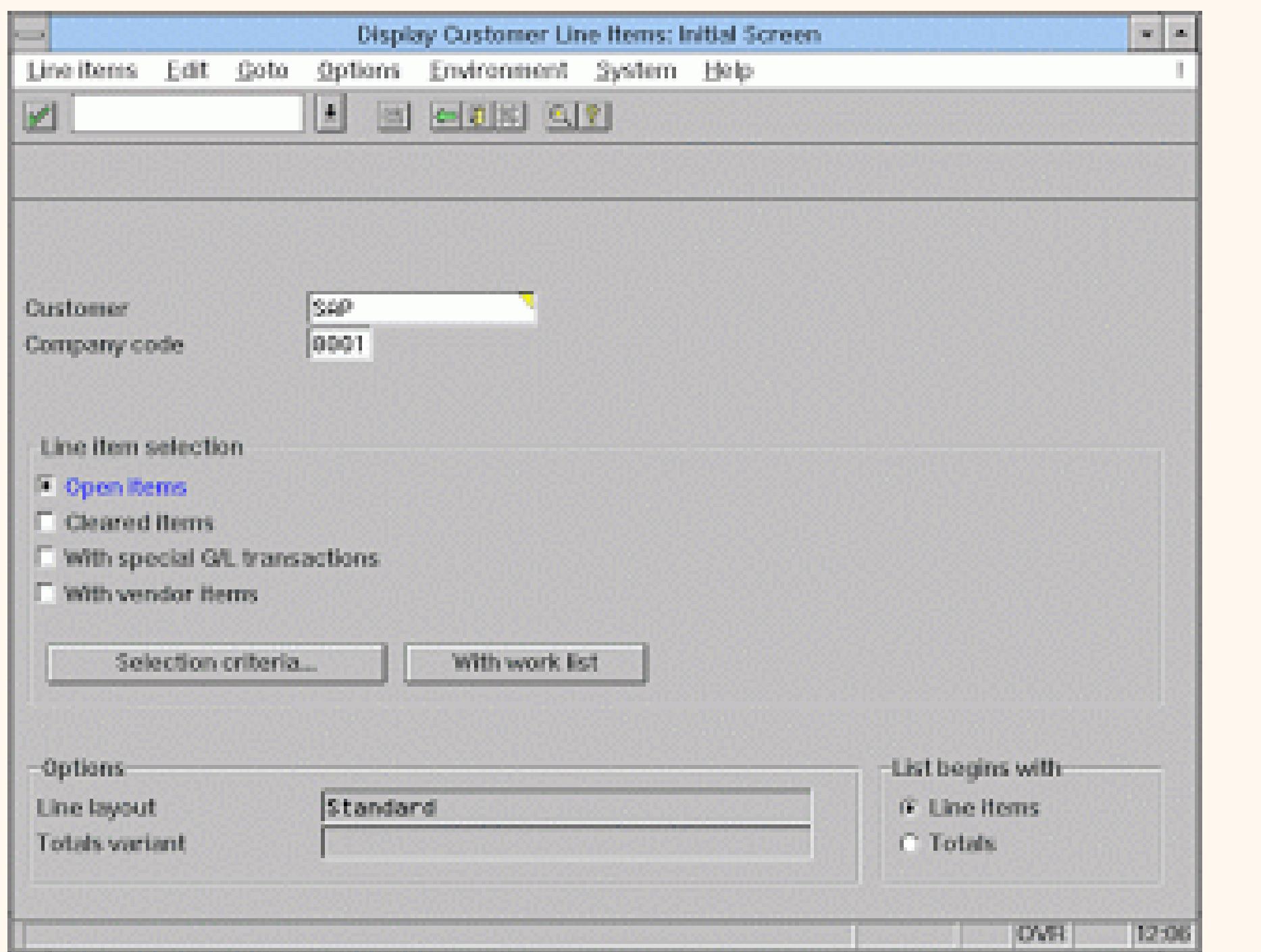
## Evolution of GUI version for SAP R/2 and SAP R/3



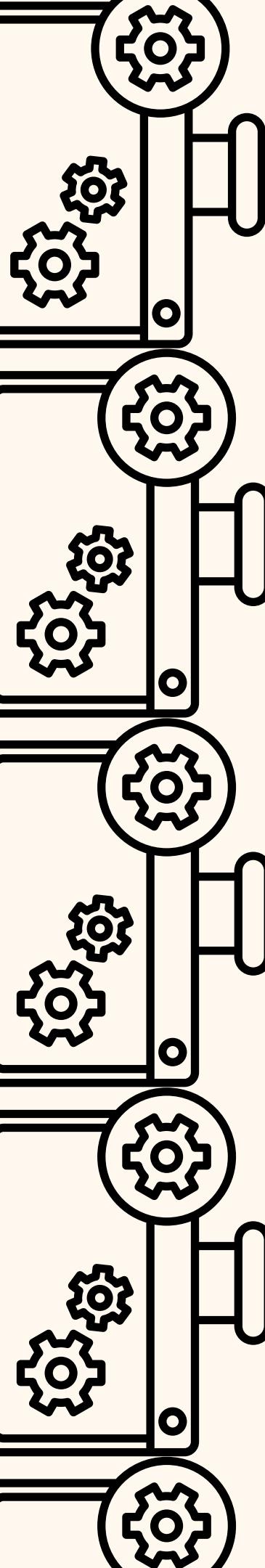
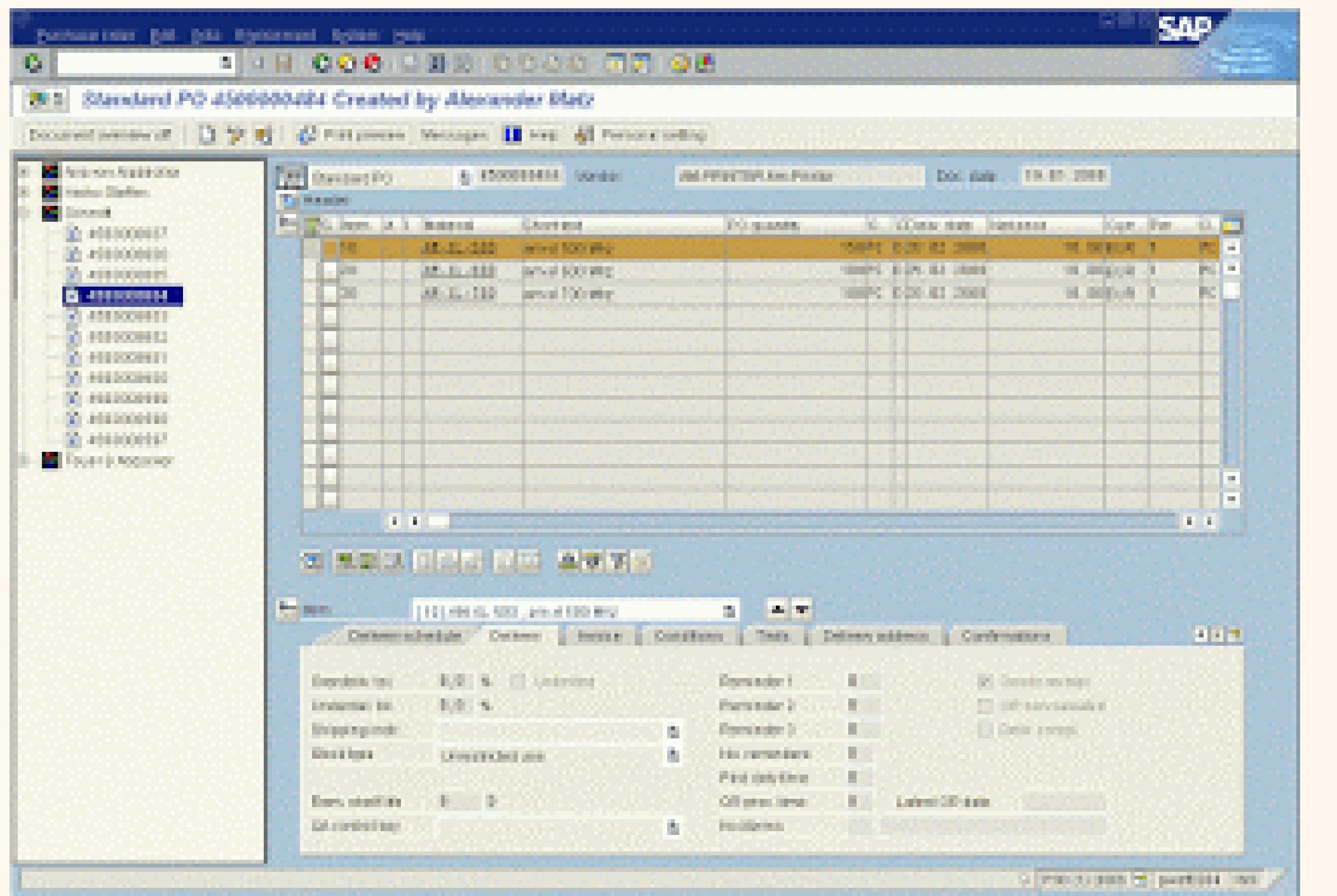
## Evolution of GUI version for SAP R/2 and SAP R/3



## Evolution of GUI version for SAP R/2 and SAP R/3



## Evolution of GUI version for SAP R/2 and SAP R/3



## EIS History



2000

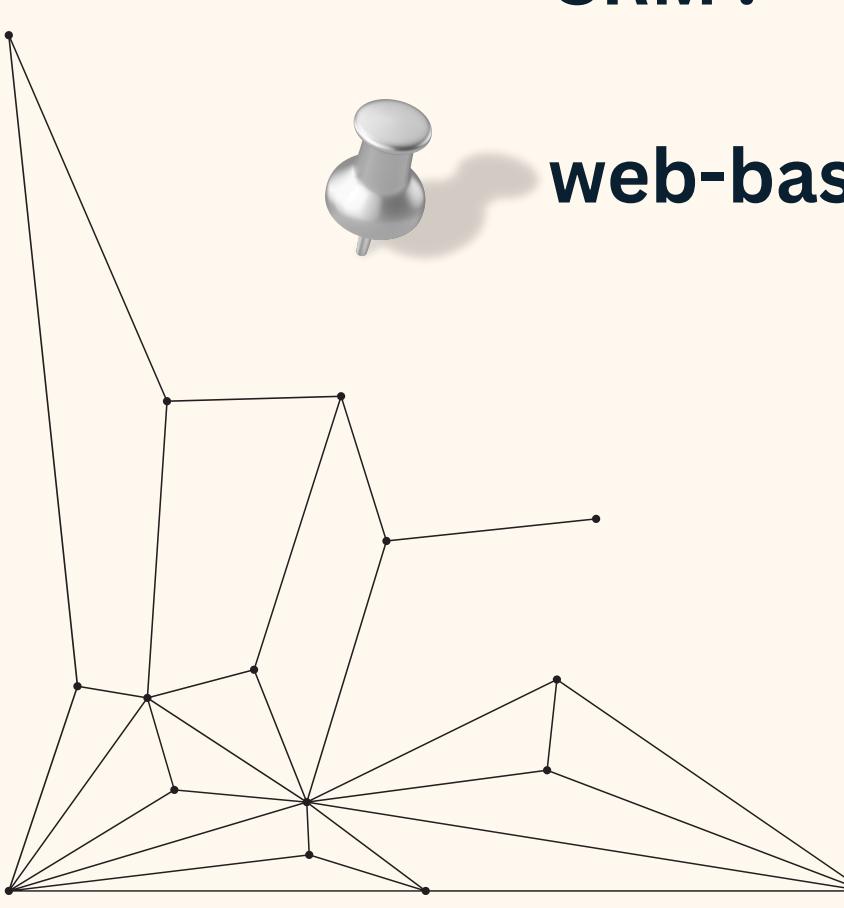
ERP II was introduced in conjunction with the Internet arrival where enterprises were able to share and extract information and data from external sources



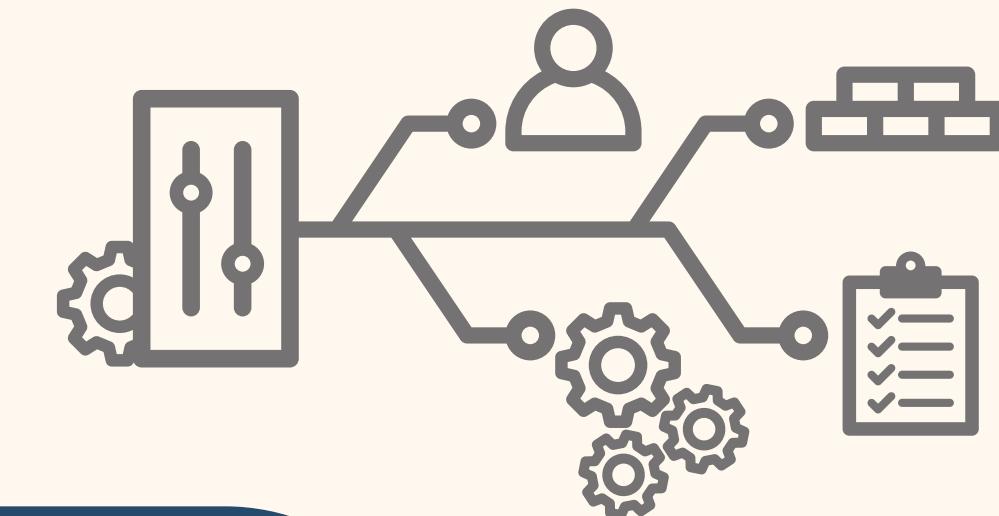
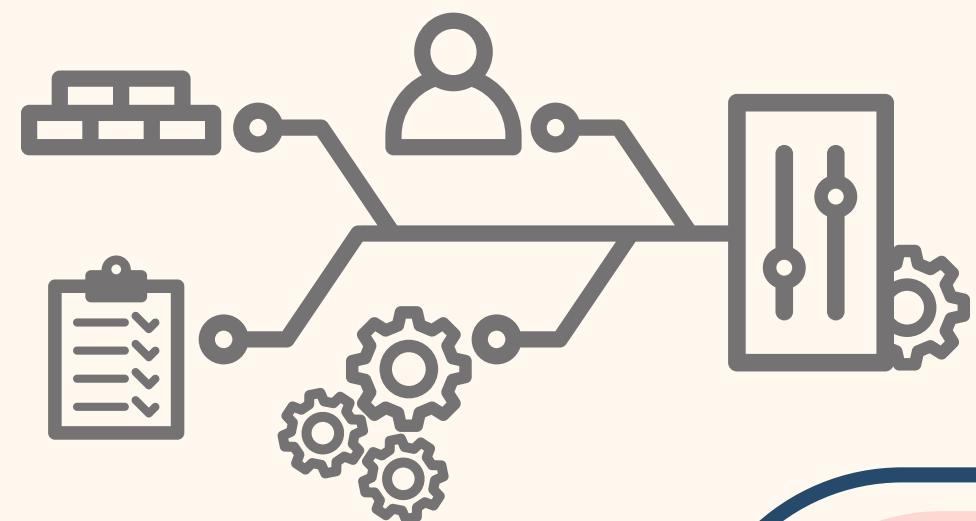
Internet-enabled

Bring functions such as SCM, SRM, and CRM .

web-based, open and componentized



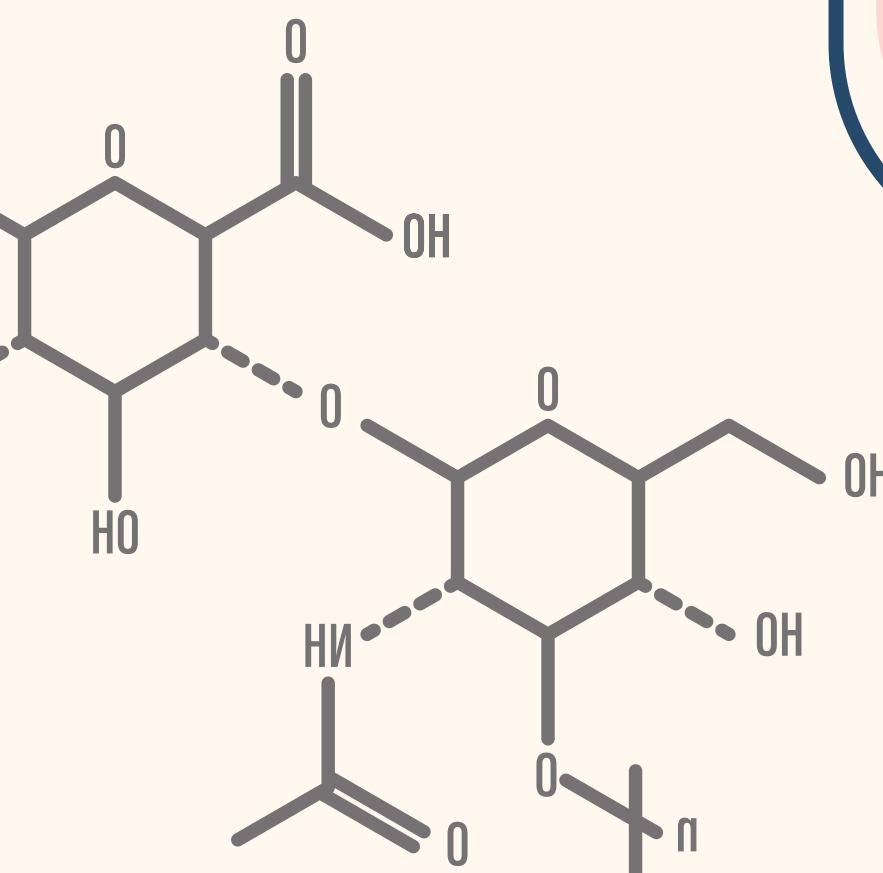
# EIS History



2009

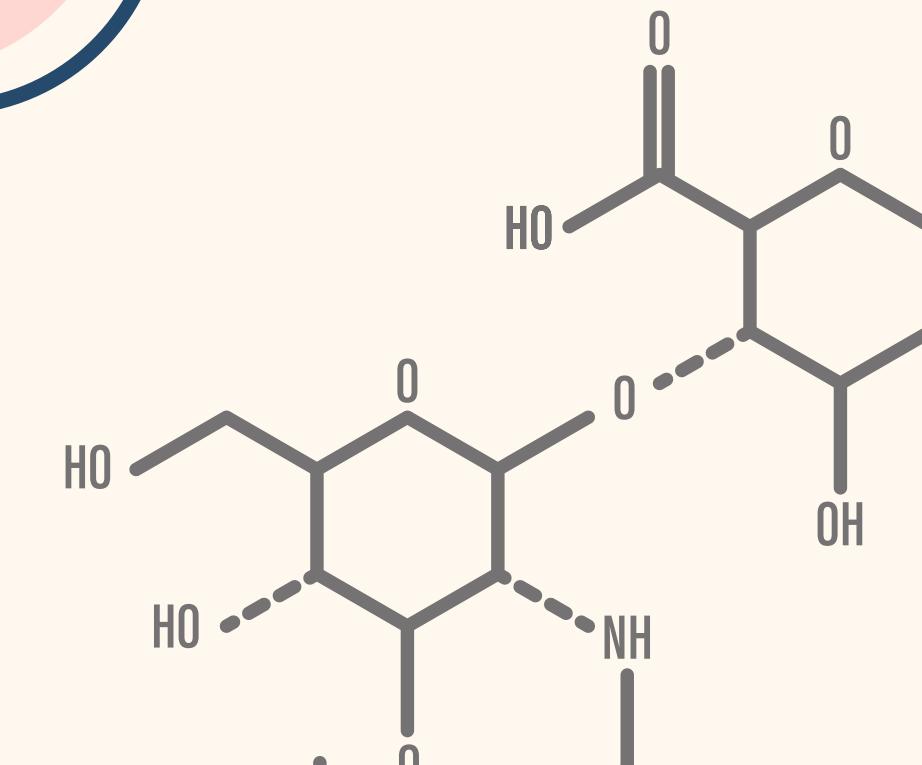
IERP

IERP is an ERP system developed for specific industries which are not covered in general purpose ERP.

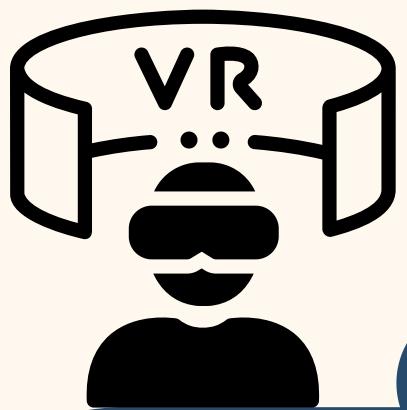


Use new architecture (DSSA)

Textil and apparel industry  
(Datatex ITM)



# EIS History

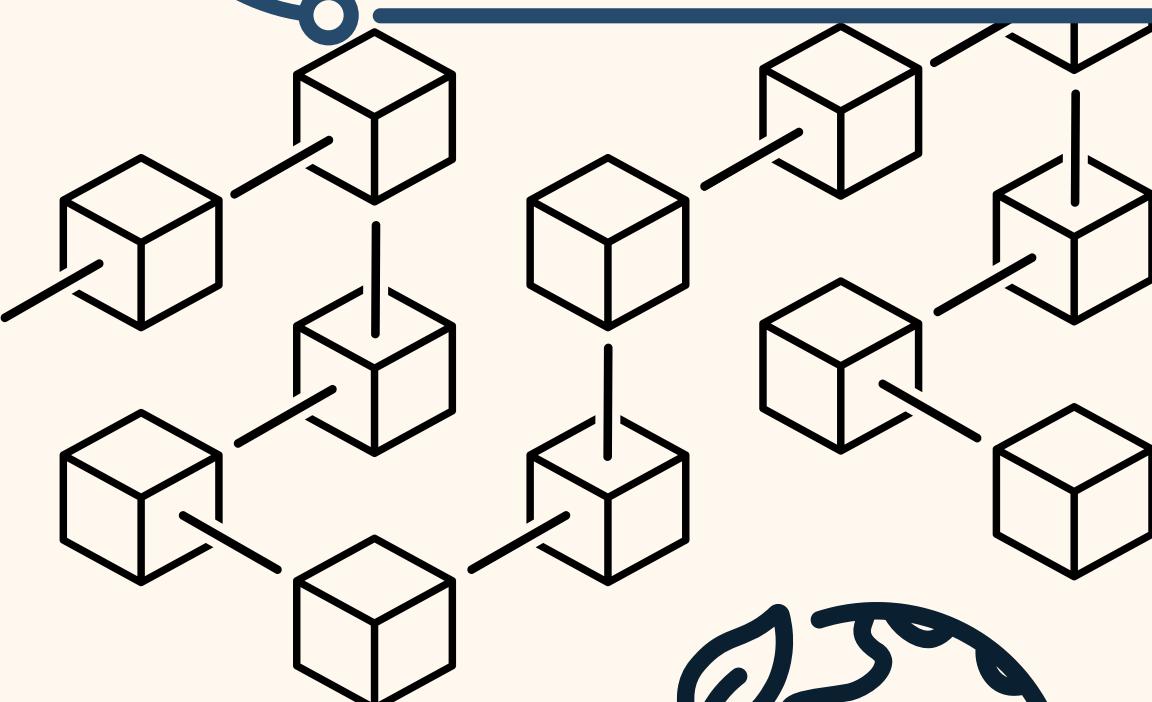


Big Data,  
blockchai-  
n, BI, VR



ERP III

ERP III is known by integrating various business functions by using the modern software and high-end digital technologies



Natural  
material  
flow



CRP

Complete Resource Planning (CRP) consists of unification of all ERP while encompasses the resources used by different industrial sectors to focus on economic, social, and natural aspect

Social  
material  
flow, HCM

# Current Trends in EIS

01

## Generative Artificial Intelligence

- ★ Have transformative capabilities
  - Automate task
  - Enhance customer experience
    - Personalized interactions
    - Real-time query resolution
  - Drive business insights
- ★ Adds business value
  - ChatGPT
- ★ Analyze vast amount of data quickly and accurately
- ★ Recognize patterns

- ★ Provide intelligent recommendations
- ★ Increased accessibility
- ★ Prevent cyber risks and safeguard sensitive data
  - Network traffic patterns
  - Anomalies
  - Potential threats

# Current Trends in EIS

02

## Cloud Platforms

- ★ Provide access to servers, storage, databases, networking and software
- ★ Offer scalability, flexibility, and cost-effectiveness
- ★ Industry cloud
  - Provide a range capabilities tailored to specific industries
  - Access to all necessary tools and resources required
  - Eliminate separate maintenance
- ★ Faster solution deployment
- ★ Greater collaboration and information exchange
- ★ Combine services
  - SaaS
  - PaaS
  - IaaS
- ★ Drive business outcome

# Current Trends in EIS

03

Edge Computing

A distributed computing framework that relocates computation and data storage closer to data sources.

- ★ Involves processing data locally on devices instead of transmitting over long distances.
  - Decreases the duration for data to travel
- ★ Disperse processing tasks across a network of edge devices
- ★ Enhance scalability
- ★ Crucial for applications needing
  - Real-time responses
  - Low-latency responses

Augmented Reality  
(AR)

Industrial  
Automation

Autonomous  
Vehicles

# FUTURE TRENDS IN EIS

## INTERNET OF THING (IOT)

**Network infrastructure made up of many connected devices which rely on sensory, communication, networking, and information processing technology**

**E.g. Radio-frequency identification (RFID)  
Wireless sensor network (WSN) used for sensing and monitoring**

**Offers higher quality data in less time**



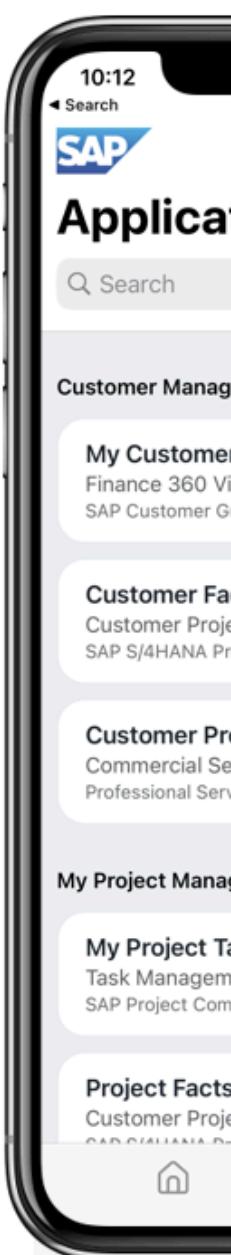
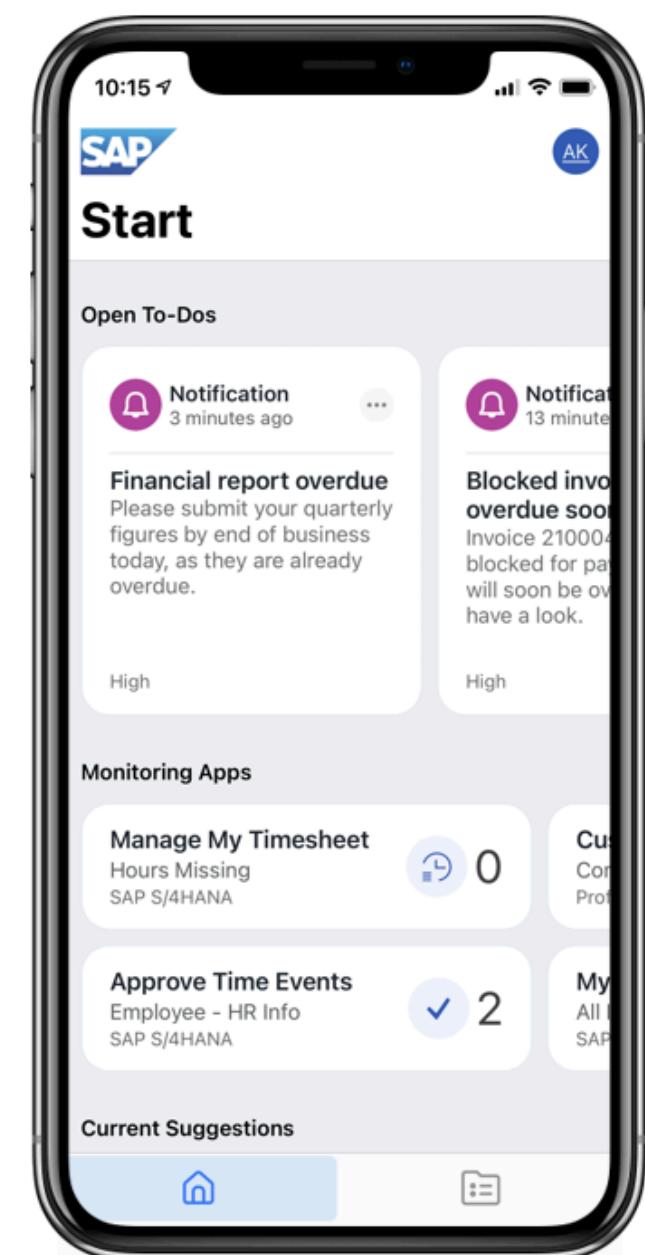
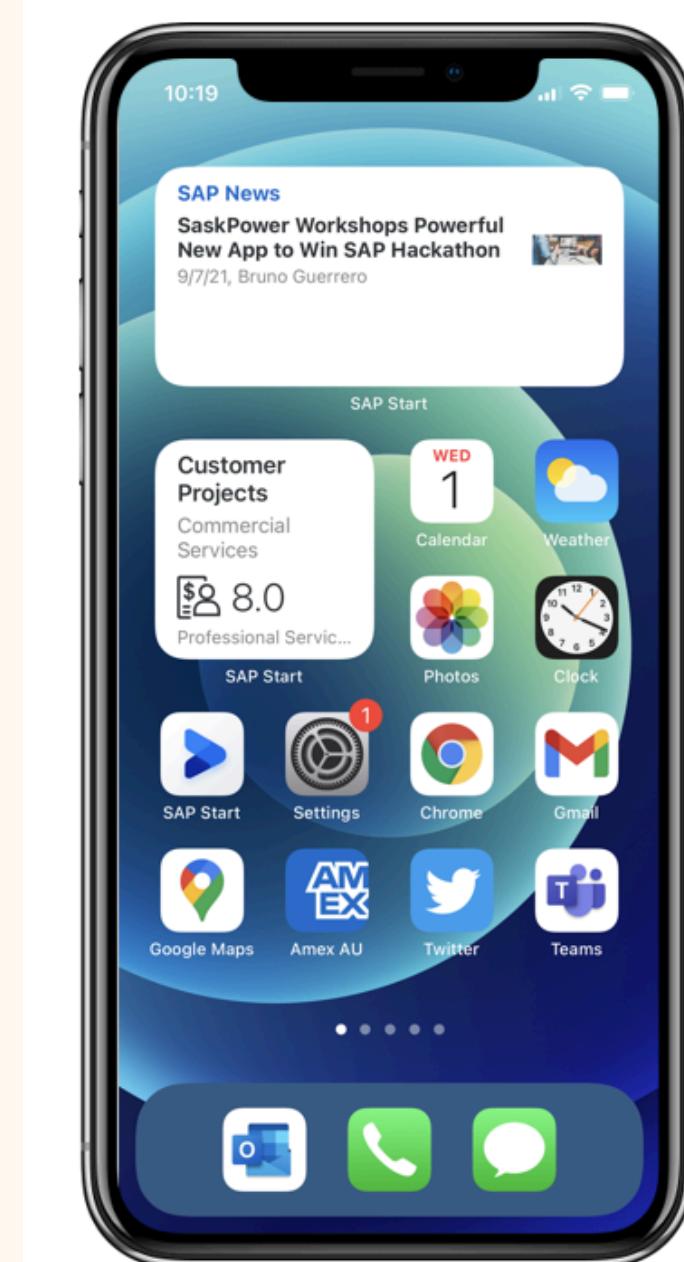
# FUTURE TRENDS IN EIS

## MOBILE ERP

A cloud-based ERP that enables access to ERP systems via mobile devices such as smartphones and tablets

Streamlining operations, increase productivity, and improve efficiency

Impact the upcoming working environment, making remote work a new norm



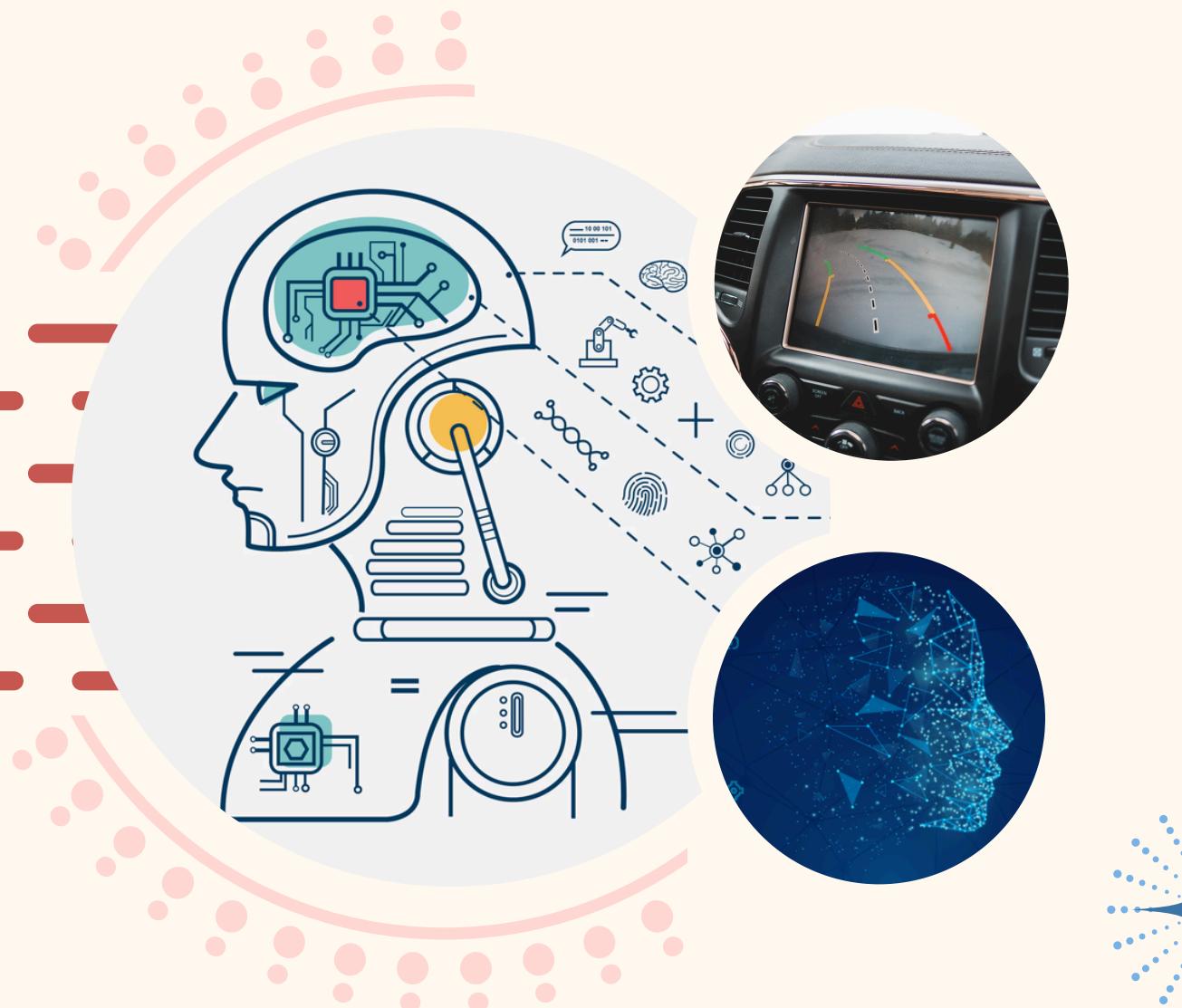
# FUTURE TRENDS IN EIS

## MACHINE LEARNING (ML)

A part of Artificial Intelligence that defines how systems undergo data learning to identify patterns and make decisions with minimal human intervention

Good for automating tasks which is similar to the concept of ERP and use predictive analysis in uncovering what will happen to gather much insightful info related to business

A protector for the enterprise digital environment by anticipating any potential issue that may arise



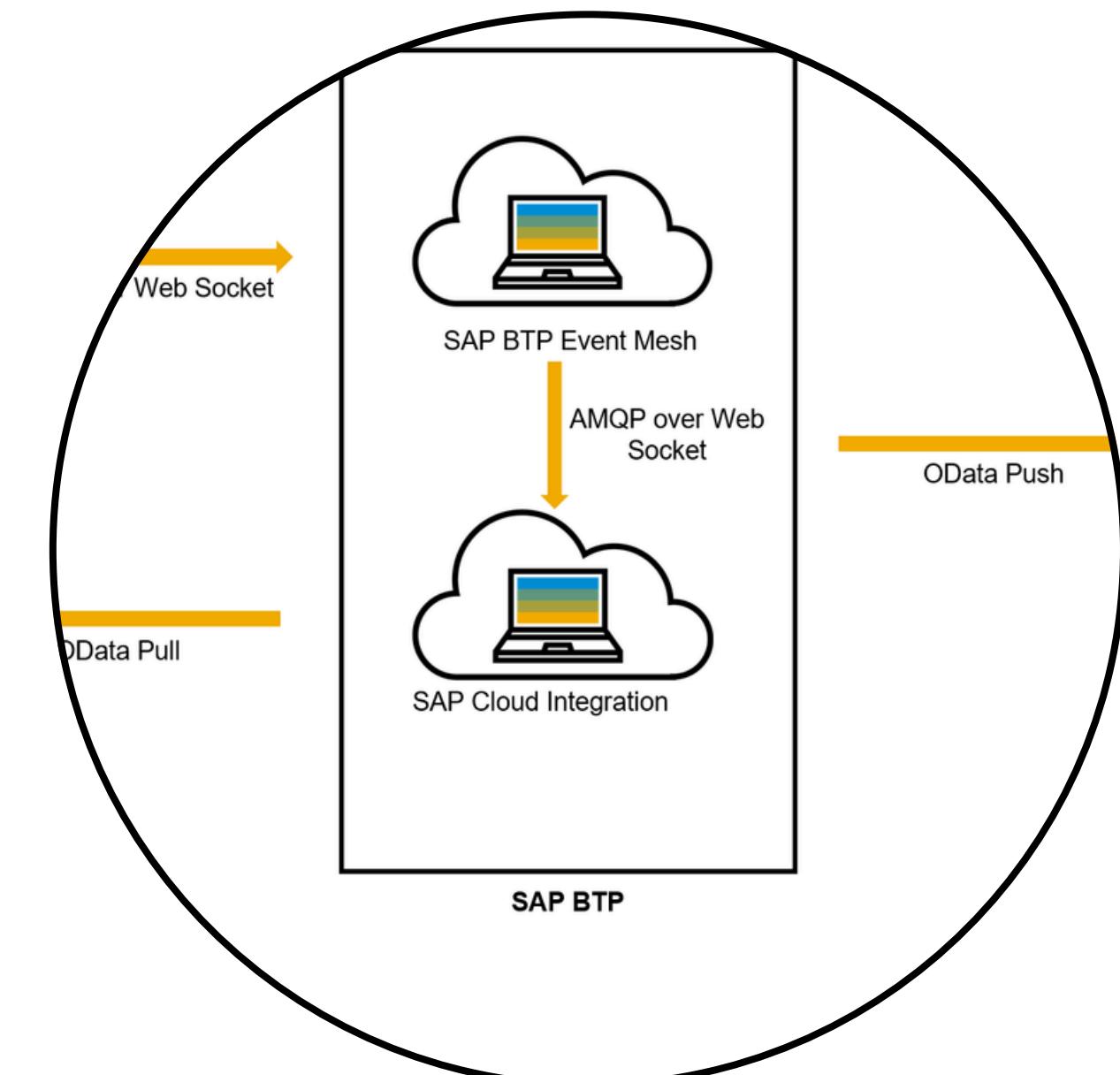
# FUTURE TRENDS IN EIS

## TWO TIER ERP

**Two-tier ERP is a strategy good for large enterprises, where core processes are handled by the tier one ERP system, while company subsidiaries use a tier two ERP system**

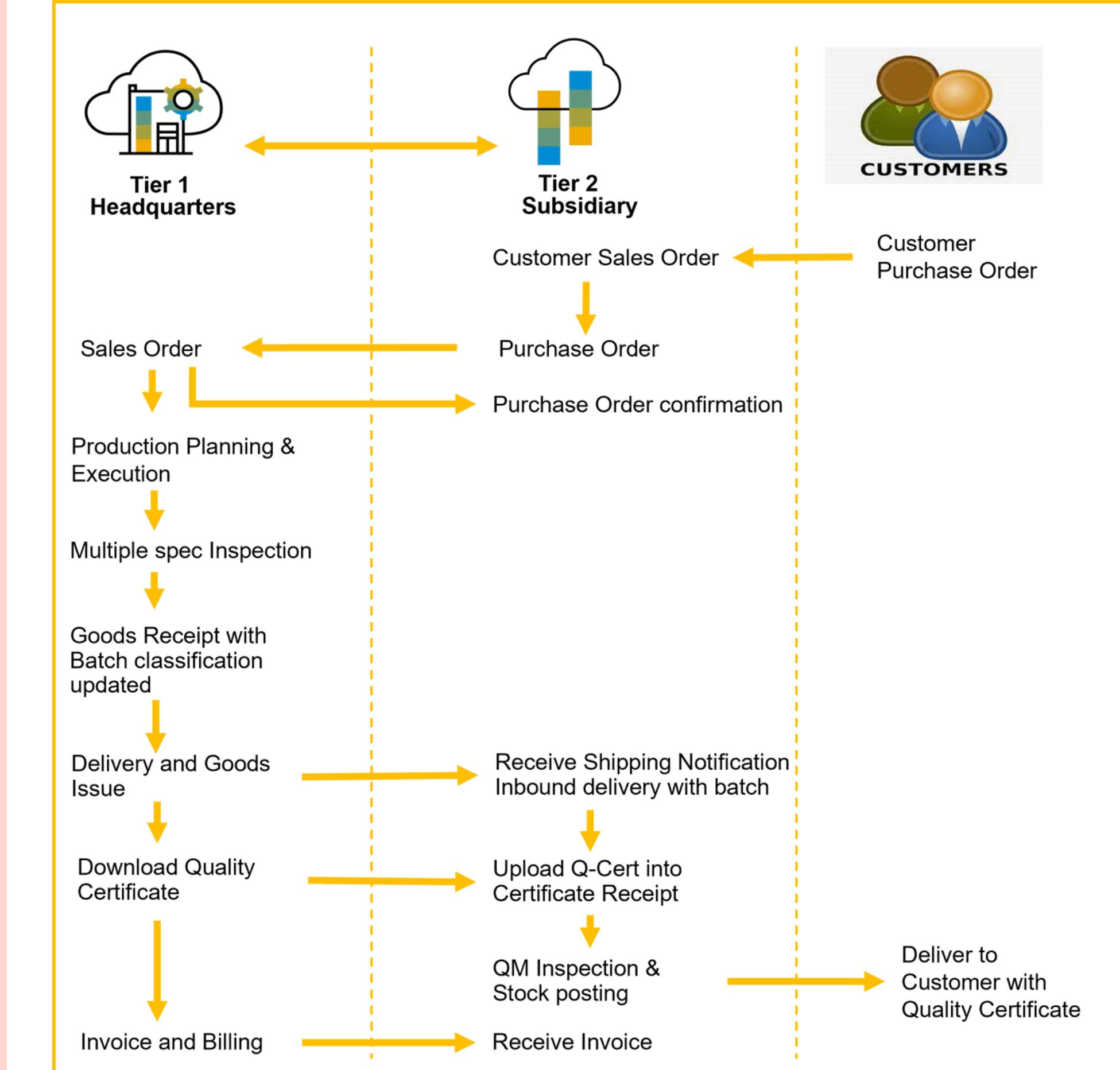
**Less complex and costly to address specific needs**

**Giving subsidiaries more control and agility to achieve maximum performance.**



## TWO TIER ERP

## SAP Event Mesh



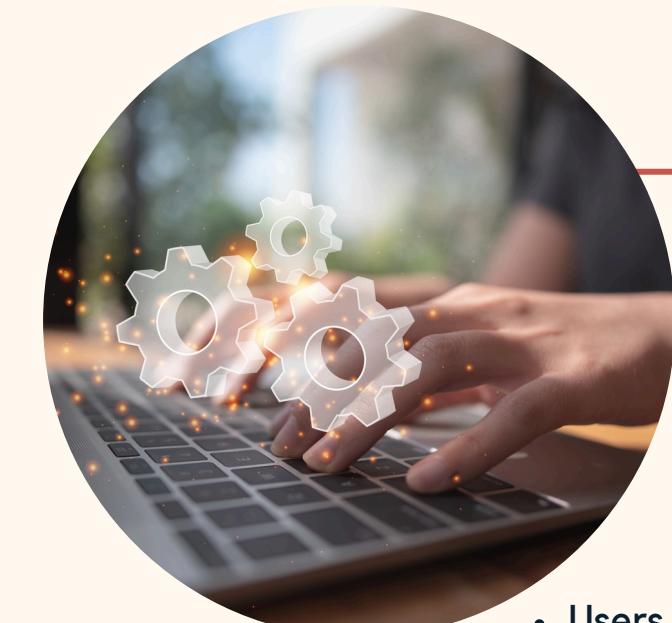
# Challenges



## Data Value Chain Management

- Safeguard sensitive data from unauthorized access
- Managing the four Vs of Big Data
  - Volume
  - Variety
  - Veracity
  - Velocity
- Requires appropriate accessibility to be processed and analyzed
- Compliance with data protection regulations adds complexity
  - GDPR
  - CCPA
  - HIPAA

• Developing incentives for secure data sharing  
*Obtain comprehensive information into the individual user interactions with a product*



## Context Awareness

- Acts as a set ability for a current system to interpret external stimuli
- Developing accurate models
  - Context can be dynamic and multifaceted**
- Difficult for users to access relevant and crucial information promptly
  - Hinders activity and overall activity**
- Users are required to comprehend the significance of the provided information

## User Adoption and Training

- Demands users to adapt and acquire particular skills
- Involves elements such as:
  - Training initiatives
  - Workshops
  - Educational materials
- Requires a complex ongoing investment of **time, resources, and effort**
- Challenge in establishing and sustaining the culture of **continuous learning and skill development**





# Conclusion

**Integrating EIS especially ERP into the enterprise environment will have significant costs in terms of both finances and time, needing the understanding for the associated challenges.**

**By understanding the concept of ERP trend and acknowledging the challenge, it paves the way for innovation in identifying optimal solutions to address these challenges and improve EIS in the future.**