



# BIOLOGI (TFD 251)

Pertemuan 7 – Penerapan Teknologi Informasi pada Bidang Biologi

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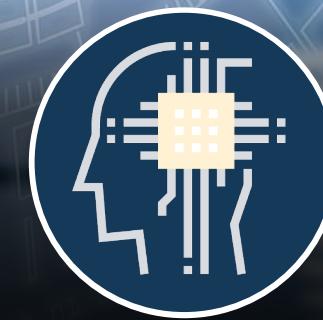
# OUTLINE



The needs for smart  
information system



AI for supporting  
biological sector



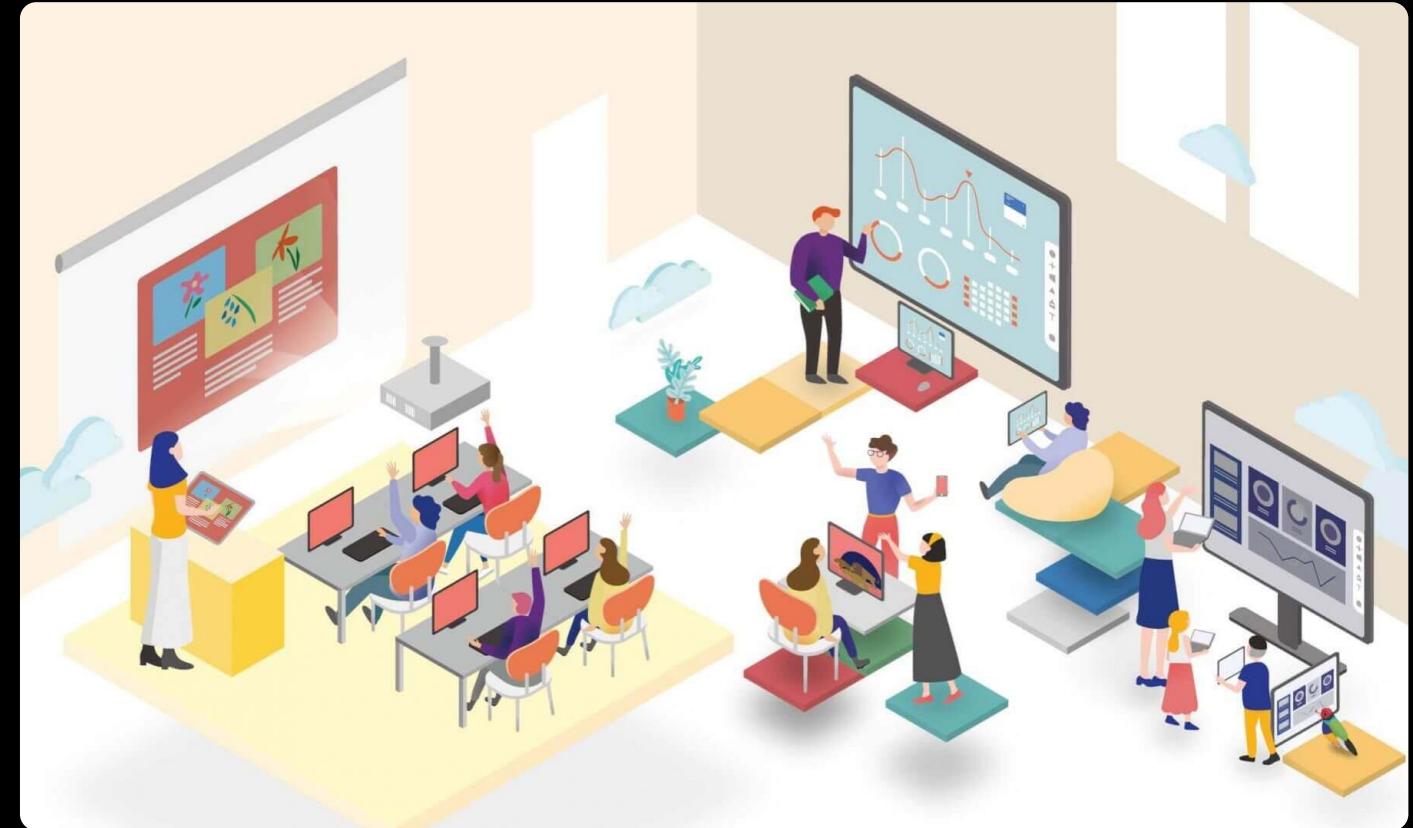
Strategy to reach good quality of  
digitalization for Biological sector

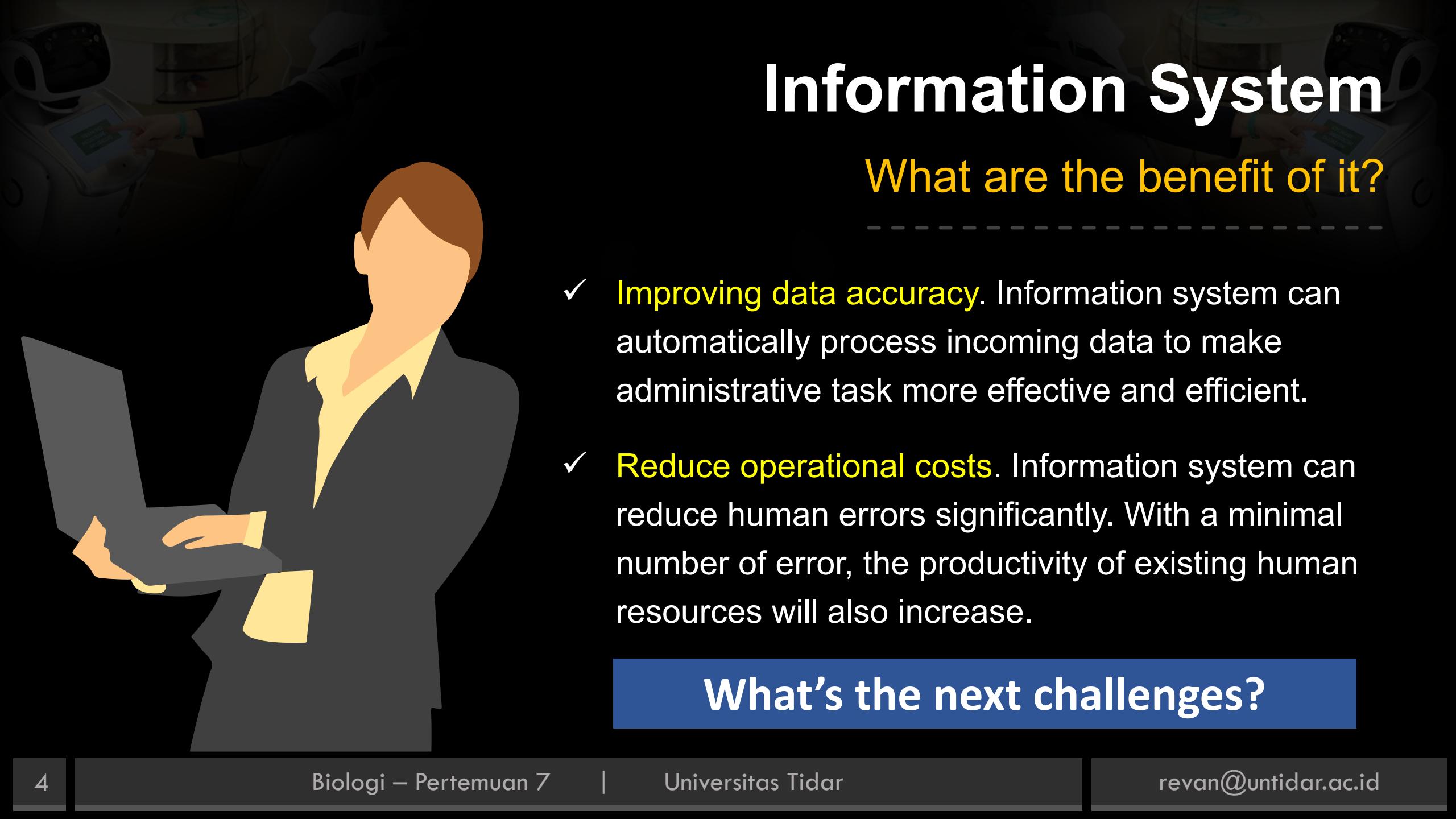
# Information System

How is the current situation ?

Information system has been widely used in several sectors such as education, finance, industry, entertainment, healthcare, etc., in which it was proven that it can provide beneficial impact and increase productivity.

**Information system is designed to manage all company activities**





# Information System

What are the benefit of it?

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- ✓ **Improving data accuracy.** Information system can automatically process incoming data to make administrative task more effective and efficient.
- ✓ **Reduce operational costs.** Information system can reduce human errors significantly. With a minimal number of error, the productivity of existing human resources will also increase.

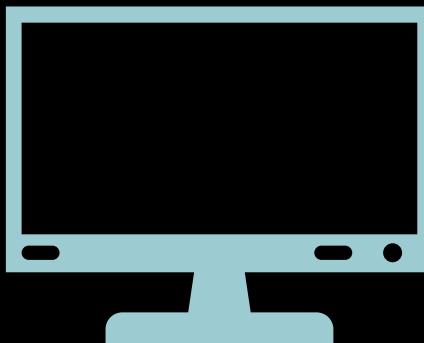
What's the next challenges?



# Challenges in developing information system

# What are the challenges?

To develop an **integrated intelligent system**, we have to understand the **objective**, **scope**, **environment**, **data**, **cost** and **possible problems** during development process.



## Objective



The objective of the proposed system should be **clear**

## Scope



The proposed system should **follow** the business process

## Environment



Related to the **platform** of the proposed system

## Data



The number and characteristics of data **affect** the performance

## Cost



We can **reduce cost optimally** if we understand the scope carefully

## Possible problems



Estimate the possible **problems** during development process



# Strategy to reach good quality of digitalization

# Democratization of AI to Transform Digitalization

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- Democratizing AI refers to the process of **making AI tools and technologies more widely available and easier to use.**
- This can involve initiatives such as:
  - making AI tools and technologies more affordable and accessible
  - providing education and training on how to use them
  - encouraging the development of open source AI
  - promoting the ethical use of AI.

# Democratization of AI to Transform Digitalization

AI is empowering every activity to take part in AI initiatives, enabling them to easily build AI applications, access predictive insights and, most importantly, use these insights to make critical decisions.

When it comes to enterprise IT, democratizing AI means making intelligence accessible for every organization, perhaps even for every person within the organization. The future of AI is using hardware and software to:



See the pattern of data or cases



Learn, improve, and make prediction



Take specific actions with this intelligence

Tech enthusiasts see AI as a tool for good, that can help every person achieve more and achieve better

# Benefits of Democratizing AI

What are the it's advantages?



Increased access  
to AI technologies.



Enhanced innovation  
and progress



Greater participation  
and inclusivity

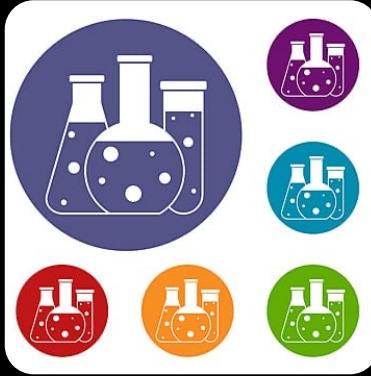


Improved education  
and skills  
development

# EXAMPLE



Biological online  
course or certification



Smart laboratory



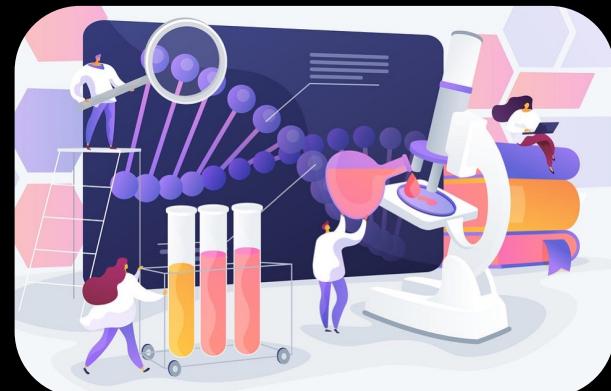
Monitoring, reporting  
and evaluating



Treatment recommendation



Intelligent services



Object detection and  
recognition in Biology



# ANY QUESTION ?