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# ICT-TEX course on Digital skills

## Topic 3: Tools for Business Digitalization

The course is developed under Erasmus+ Program Key Action 2:  
Cooperation for innovation and the exchange of good practices [Knowledge Alliance](#)

**ICT IN TEXTILE AND CLOTHING HIGHER EDUCATION AND BUSINESS**

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## 3.1. CLOUD PLATFORMS

These slides are part of the Topic 3 on “*Tools for Business Digitalization*” of the course on Digital skills in Textile and clothing industry.

Check also the other themes in this topic:

- 3.2. Online meetings
- 3.3. Social media



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# Introduction

- With the development of ICT and digitalization new opportunities arise that helps manage the enterprise and improve the business
- One of the most important advances in this respect is development of cloud computing
- Cloud computing allows for many digital services to be publicly available without any significant computer or programming skills



# Cloud services

- Some of the most popular cloud-based services are
  - Online file sharing (like DropBox, WeTransfer, etc.)
  - Office management applications (like Google Docs and Microsoft Office)
  - Online streaming platforms (like YouTube, Spotify, etc.)
  - Virtual meeting rooms (like Zoom, Google Meet, etc.)
  - Social media (like Facebook, Twitter, etc)



# What is cloud

- The cloud is a collection of very large number of computers that may be managed together
  - These computers act as servers that may be rented to customers by the companies that own them
  - Cloud servers are actually virtual servers i.e., software machines that are hosted on real (hardware) computers
  - A virtual server runs on the hardware and consists of an operating system and a set applications that provide the server functionality
  - From user point of view virtual server does not differ from hardware servers
- This way computing services may be centralized and offered to public on demand, in a manner similar to electric or water supply
  - Businesses may use servers rented this way, to deploy applications and/or content and offer them to their customers



# Cloud benefits

- Scalability – number of servers that process requests may vary depending on current demand
- This leads to increased performance, reliability and availability
- Business does not need to pay in order to maintain both high-quality hardware and keep its software up to date. This becomes a duty of the cloud provider
- Generally easy to use



# Cloud benefits

- Resource sharing:
  - Cloud resources may serve multiple consumers via the so-called multi-tenant model.
  - Both hardware and virtual resources are dynamically assigned and reassigned with respect to current demands
  - Cloud software has the duty to automatically control and optimize resources used

# Cloud service models

- Cloud has some essential **service delivery** and **deployment models** with respect to how its users may access and use it
- Cloud service delivery models
  - Software as a Service (SaaS)
  - Platform as a Service (PaaS)
  - Infrastructure as a Service (IaaS)
- Cloud deployment models
  - Public cloud
  - Private cloud
  - Hybrid cloud

# Software as a service (SaaS)

- SaaS is probably the simplest for the end user of all delivery models
  - Most appropriate for every day users or non-IT businesses
- Provides end user software applications running on cloud
- The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage,...
- They are accessible from various client devices without need for download or install
  - Most often access is made via web browser
  - Examples include CRM software, cloud-based file storage, and email.



# Platform as a service (PaaS)

- PaaS offers capabilities to deploy onto the cloud infrastructure applications created using programming platforms supported by the cloud provider
- Users of PaaS are preliminary software developers or administrators
- They may do the following
  - Do not manage or control the underlying cloud infrastructure.
  - May control deployed applications and possibly manage application hosting environment configurations
- Examples of PaaS include Windows Azure and Google App.

# Infrastructure as a service (IaaS)

- The most complex service delivery model, the cloud provider offers a full infrastructure for rent to the business.
  - This includes both servers and storage
- IaaS users are able to deploy and run all kinds of software, which includes either applications or operating systems.
- They do not manage the infrastructure but have full control over what software runs over it



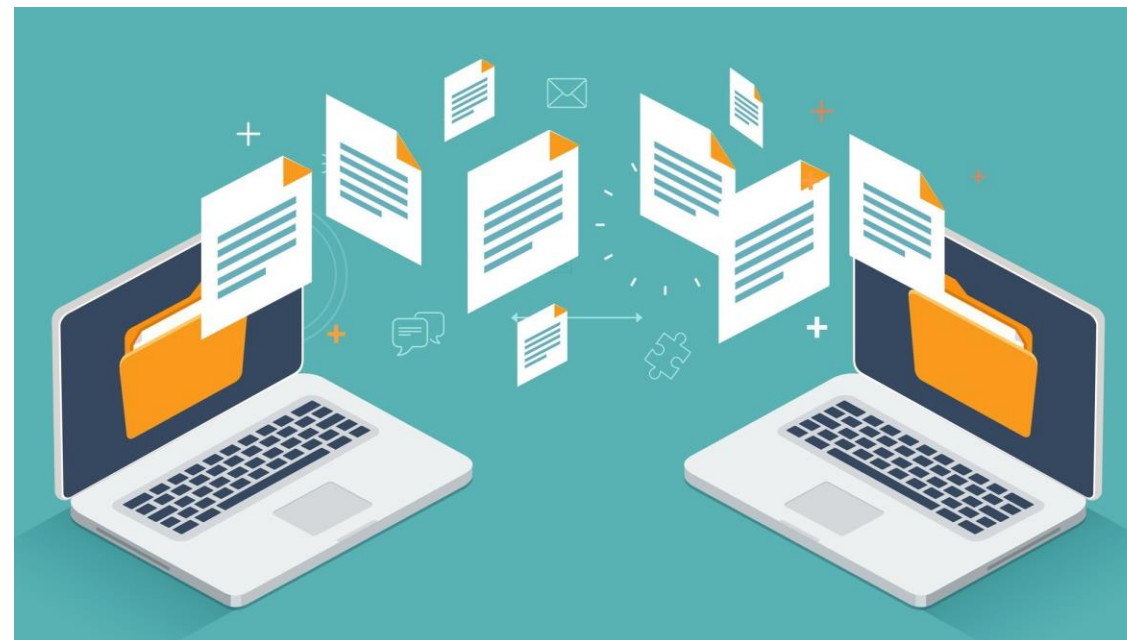
# Cloud service deployment Models

- Private Cloud:
  - Cloud environment is dedicated to a specific organization or a group of organizations with similar policies
  - It may be managed by the organization or a third party and may exist on premise or off premise.
- Public Cloud:
  - The cloud is owned by a cloud service provider and everyone may use its services
- Hybrid cloud:
  - The cloud deployment model is a combination of the above



# Online file sharing

- File-sharing applications allow end users to upload files to a shared, **cloud-based** storage space
  - you can usually share various kinds of files like images, audio, video, documents, graphics, computer programs etc.
  - Most file sharing services offer possibilities to control who may access the files
- File sharing applications are mostly cloud-based



# Online file sharing

- Suppose a very large file (e.g. graphics or video) has to be shared with colleagues
- What are the options?
  - Send via email? (not recommended if the file is larger than 20-30 MB)
  - Better option is to upload it on a cloud-based file sharing service get a link and send the latter to the colleagues





# Online file sharing

- Online file sharing platforms allow for
  - Easy sharing of very large files
  - Store them in the cloud
  - Synchronize them across multiple devices
  - Easy collaboration

# Online file sharing

- There exist both free (basic) and paid (offering more features) online file sharing services
- Some of the most popular (until 2021) free services are:
  - Google Drive
  - Microsoft OneDrive
  - DropBox
  - WeTransfer
  - Etc.



# Types of File Sharing platforms

- Online file sharing platforms may be divided into user-oriented and enterprise-oriented
  - User-oriented platforms (such as Dropbox and Google Drive) offer basic collaboration tools, such as file synch, storage and sharing. Primarily designed for personal use by consumers, these apps are very low cost and have user-friendly interfaces,
  - Enterprise-oriented platforms offer more features for content security and compliance, such as automated workflows, document tracking and content-based access controls.



# Types of File Sharing platforms

## User-oriented

- Cloud-based
- Offer basic tools
- Designed for personal use
- Inexpensive/free
- Lack control, security and business features

## Business-oriented

- Better control and security
- Automated workflows
- Document tracking
- Content-based access



# Virtual Data Rooms

- Virtual data room (VDR) is a secure online repository for document storage and distribution.
- VDR is an online database in which companies can store and share confidential information, usually used during a financial transaction.



# References

- This course presentation has reused contents from the following sources:
  - Sommerville, I. (2020). Engineering Software Products: An Introduction to Modern Software Engineering. Pearson. Chapter 5: Cloud-based Software
  - Advantages and Disadvantages of Online Meetings, <https://myownconference.com/blog/en/advantages-disadvantages-online-meetings/>, last visited: April 2021

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