

# 2. Construction Symstems

# Characteristics of Construction Systems

- **The construction system of the building** is a complex of interconnected and interacting structural elements that interact with each other in relation to the surroundings.
- The most important function of the construction system is the **load-bearing function**.
- The construction system must also withstand the effects of the environment - static and dynamic loads, temperature, humidity, noise and other physical, chemical and biological effects.
- According to the **static effect**, the construction structures are divided into **load-bearing structures** and **non-load-bearing structures**

# The Choice of the Construction System

- Purpose, spatial and shape solution of the object
- Territorial and site conditions
- Dimensions and loads of ceilings
- Construction height of the floors
- Material base and technical possibilities
- Foundation conditions
- Environmental influences

# The Choice of the Construction System

- Fire safety
- Operational technical requirements
- Architectural requirements
- Energy performance of construction and operation
- Life expectancy
- Investment and operating costs, etc.

# Basic Classification of Construction Systems

- **Construction systems of multi-storey buildings:** are characterized by vertical load-bearing structures carrying all the loads into the foundation soil.
- **The construction systems of hall buildings** are characterized by their roofing and free interior layout.
- **Floor (storey)** is part of a building defined by two consecutive levels.
  - structural floor height x headroom
- **The tract** is the space part of a building defined by two consecutive vertical planes.
  - Longitudinal tracts x Transverse tracts

# Basic Classification of Construction Systems

- **According to the arrangement of the vertical structures**
  - Longitudinal systems
  - Transverse systems
  - Two-way systems
- **According to the building technology used**
  - Brickwork systems
  - Monolithic systems
  - Prefabricated systems
  - Combined systems