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Romania-Republic of Moldova  
ENI-CROSS BORDER COOPERATION



**WiNet@Uni**

# Joint Cross-Border Networking Infrastructure of Technical Universities of Iasi and Moldova

1HARD/3.1/75

Project Opening Event - Iasi, February 8<sup>th</sup> 2022

Joint Operational Programme Romania-Republic of Moldova 2014-2020

[www.ro-md.ro-ua-md.net/en/](http://www.ro-md.ro-ua-md.net/en/)

# Project info

## Partners

“Gheorghe Asachi” Technical University of Iasi – Lead Beneficiary  
Technical University of Moldova - Beneficiary

## Budget

Total - 1.991.415,00 Euro  
ENI contribution – 1.792.273,00 Euro

## Implementation period

Nov. 2021 – Nov. 2023 (24 months)



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# Objectives

Develop and upgrade the available communication infrastructures of the two partner universities.

Implement **state-of-art corporate communication networks** featuring free **WiFi access** in the university campuses in both **indoor and outdoor spaces**

## Specific objectives:

1. Build a state-of-art **wired communication infrastructure** for the corporate network of each partner.
2. Build a state-of-art **wireless communication infrastructure** for the corporate network of each partner.
3. Build a **collaborative virtual space** to support cooperation between the two Universities.



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# Context & relevance

Joint Operational Programme Romania – Republic of Moldova 2014-2020

**Thematic objective 7** - Improvement of accessibility to the regions, development of transport and communication networks and system

**Priority 3.1.2** - Improved integrated ICT networks and facilities to support the cross-border connections

**Type of action** - HARD

- Need for further support for the already strong collaboration between TUIASI and UTM
  - Collaborative educational and research projects
  - Double degree study programmes
- Both universities have a strong need to upgrade their networking & communication infrastructures
- Target groups: 21408 **students**, 2741 **academic & admin. staff**

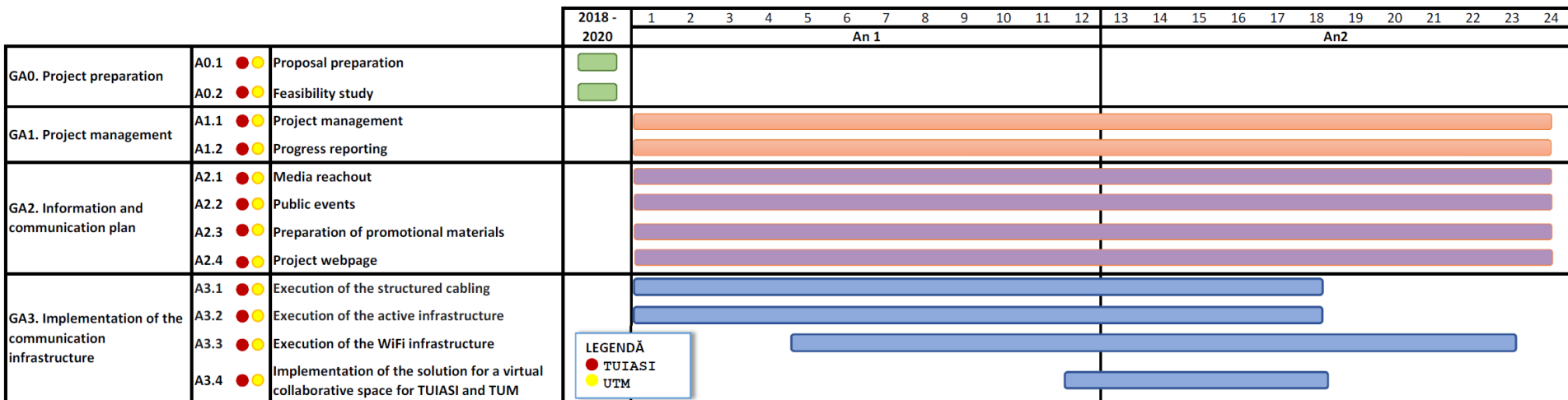


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# Project activities



# Expected outputs

State-of-art wired communication infrastructure for the corporate network of each partner

- stable and fast wired Internet connectivity
- solid foundation layer for the wireless communication infrastructure
- 10Gbit/s transfer rates through redundant fiber optic connections between all the university buildings and the central communication nodes
- structured cabling in 13 buildings at TUIASI and 10 buildings at UTM
- active infrastructure for 48 buildings at TUIASI and 11 buildings at UTM



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# Expected outputs

State-of-art wireless communication infrastructure for the corporate network of each partner

- stable, fast and ubiquitous wireless Internet connectivity facilitating the access of students and staff to all the ICT services offered by TUIASI and UTM
- in both **indoor** and **outdoor** campus spaces
- installing (indoor and outdoor) WiFi networks at the two universities, accessible through an **integrated identity management system** that allows the use of a single digital ID.



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# Expected outputs

Collaborative virtual space to support cooperation between the two Universities

- modern teleconferencing systems in the facilities of each partner
- team collaboration devices that combines wireless presentation, digital white boarding, and video conferencing



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# Project Teams

- **TUIASI**

**Project manager** – assoc. prof. Simona Caraiman

**Key personnel** – prof. Vasile Manta, eng. Marius Sutu, eng. Gheorghita Butnaru

**Networking & Comm. specialists** – staff of the IT&C Directorate (7 persons),  
**Student Campus** (1 person)

**Support staff** – financial management, project assistance, procurement specialists (2 persons)

- **UTM**

**Project manager** – Daniela Pojar

**Key personnel** – Dinu Turcanu, Vasile Chetroi

**Networking & Comm. specialists** – 4 persons

**Support staff** – financial management, project assistance, procurement specialist



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# Implementation @TUIASI

## Context

- WiNet@Uni is perfectly aligned with the **digital transformation** objectives of TUIASI:
  - **Smart Campus**: Smart Education & Research, Smart Connectivity, Smart Management of Resources
    - Infrastructure as a service – research & teaching activities
- Extends our previous efforts of developing & upgrading the networking & communication infrastructure
  - previous projects supported by the Institutional Development Fund (FDI 2017 – 2020) – wireless infrastructure in the academic campus (indoor)



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# Implementation @TUIASI

## IT&C resources



Data Center TUIASI

**Cisco Certified Network Associate Routing and Switching**  
**Huawei Certified Network Associate**  
**Huawei Certified Network Associate – Storage**  
**Certified OpenStack Administrator**  
**Amazon Web Services Certified Solutions Architect**  
**Rittal Data Centre Infrastructure Specialist**  
**Fortinet Network Security Professional**



# Implementation @TUIASI

## IT&C resources

### Data Center TUIASI

- 10 RITTAL racks with individual cooling
- Up to 300 kWh power availability
- Multiple redundancies for the cooling and power systems
- A modern Network Operations Center

6 communication nodes in the academic campus and 24 IT rooms in the student campus

Own fiber optic infrastructure that connects all University buildings to the TUIASI Data Center



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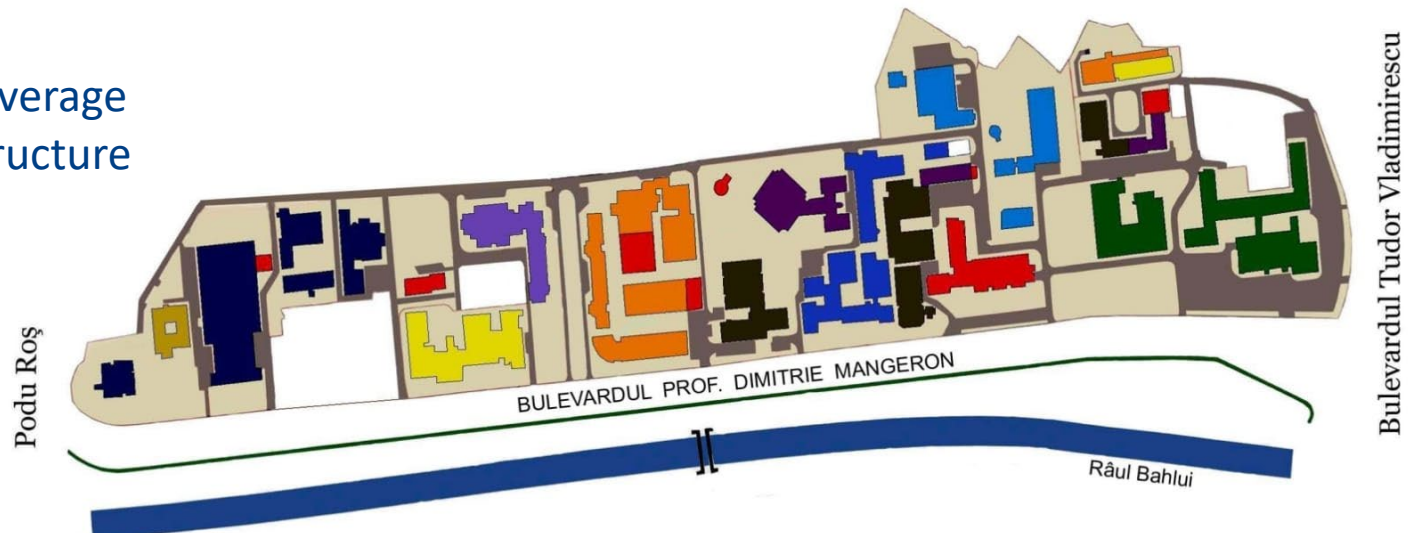
# Implementation @TUIASI














CAMPUS ACADEMIC



- Outdoor WiFi coverage
- active infrastructure
  - WiFi APs
  - 34 buildings



Legendă culori:

|   |  |   |   |
|---|--|---|---|
|  | Facultatea de Automatică și Calculatoare                     |  | Facultatea de Mecanică                                  |
|  | Facultatea de Inginerie Chimică și Protecția Mediului        |  | Facultatea de Știința și Ingineria Materialelor         |
|  | Facultatea de Construcții și Instalații                      |  | Facultatea de Textile-Pielărie și Management Industrial |
|  | Facultatea de Construcții de Mașini și Management Industrial |  | Facultatea de Arhitectură "G.M. Cantacuzino"            |
|  | Facultatea de Electrotehnică                                 |  | Administrația   |
|  | Facultatea de Hidrotehnică Geodezie și Ingineria Mediului    |   |   |



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# Implementation @TUIASI

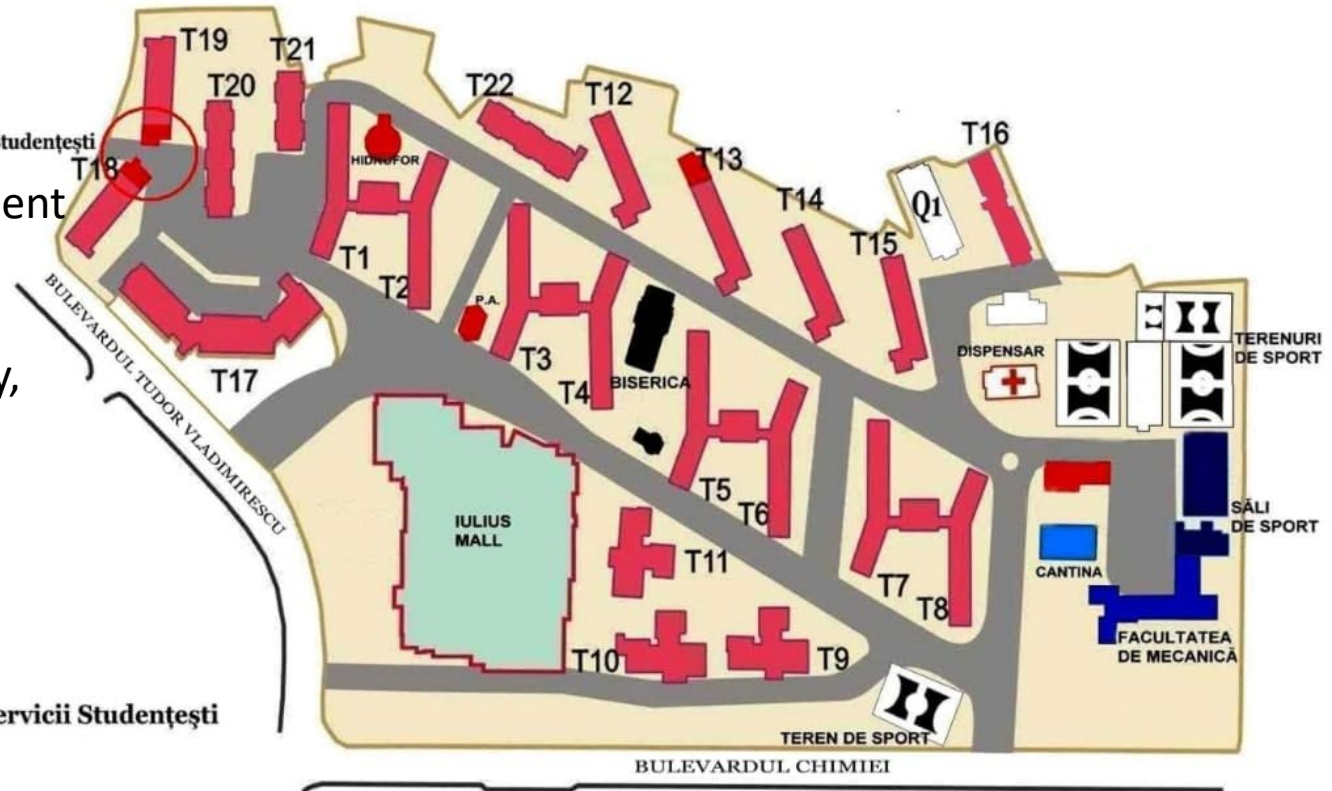
Structured cabling (13 student dorms)

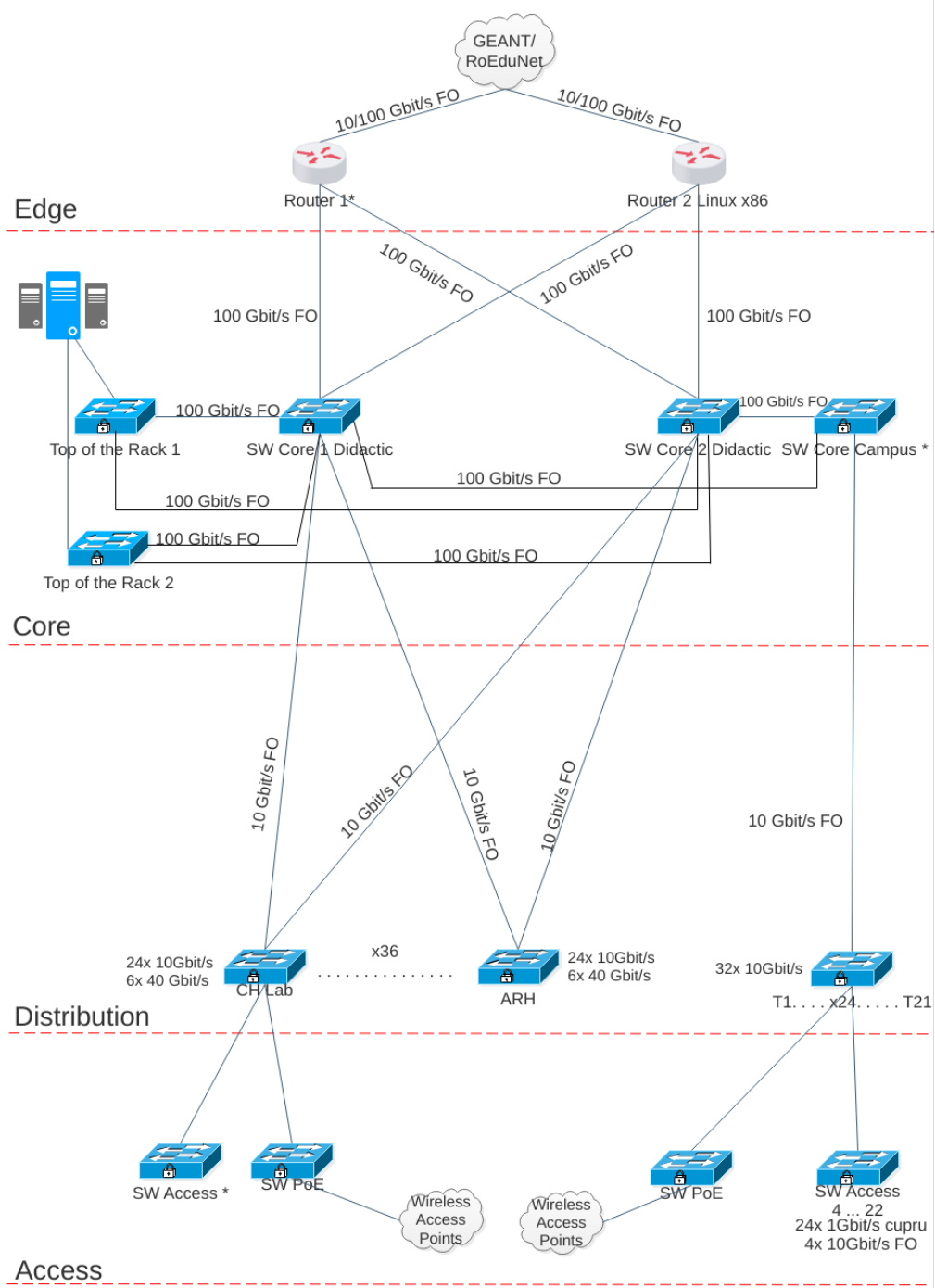
Indoor WiFi (21 student dorms, canteen, dispensary, sports hall)

Outdoor WiFi coverage

Legendă culori:

- Cămine
- Direcția Serviciii Studentești





# Implementation @TUIASI

>300 000m ETH cable

>900 equipment for the active and WiFi infrastructure

Access

\* Componente existente



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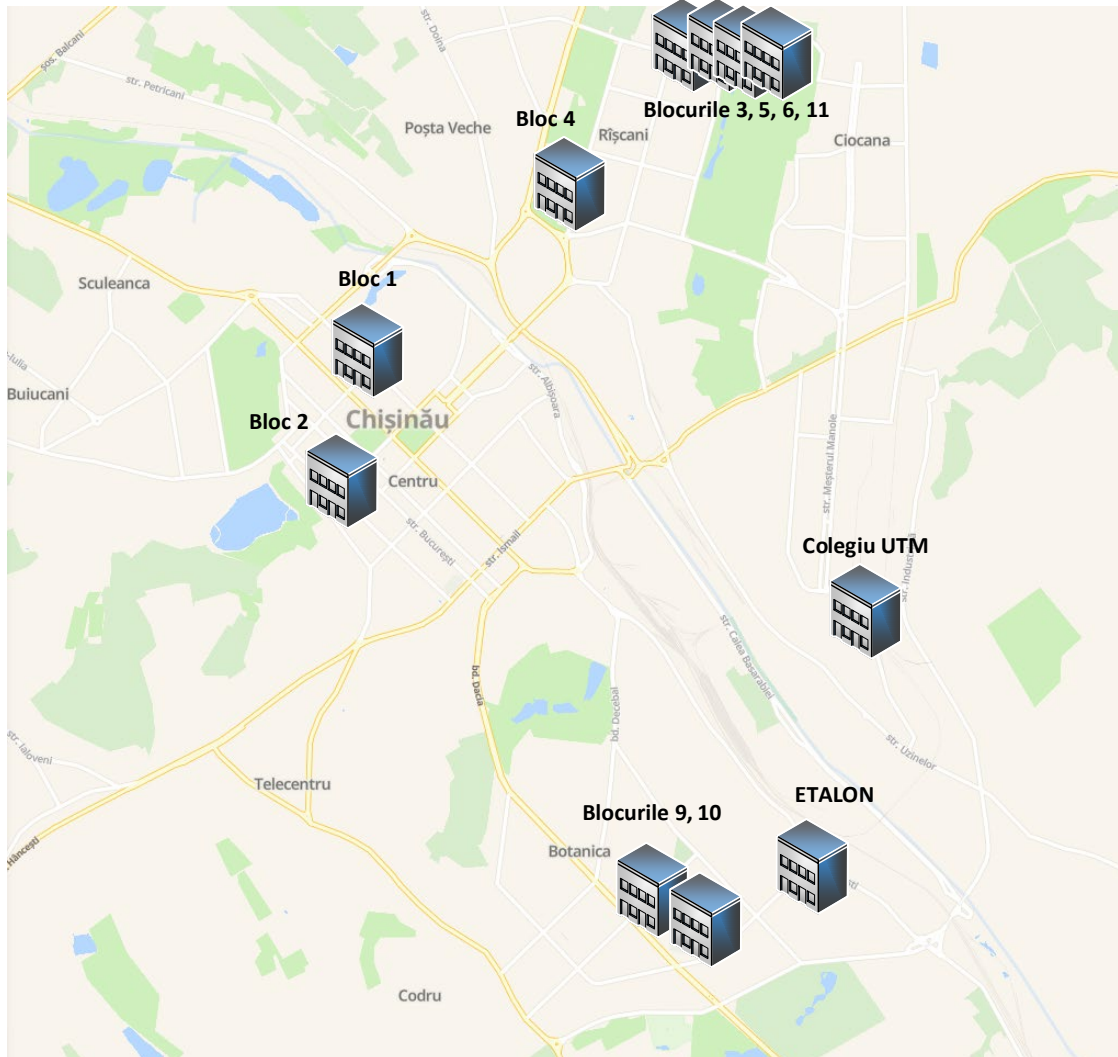


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# Implementation @UTM

Schema generală a locațiilor blocurilor UTM in mun. Chișinău.



Structured cabling

Active infrastructure

Indoor WiFi coverage

- 9 study buildings



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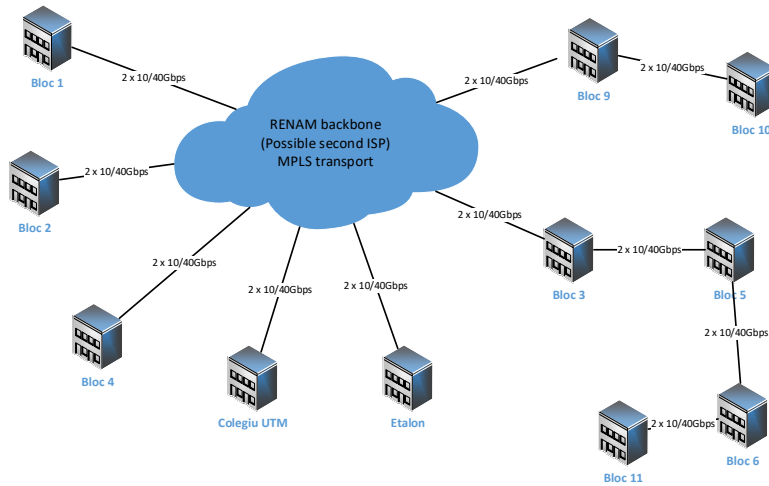


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# Implementation @UTM

Schema a retelei magistrale al UTM

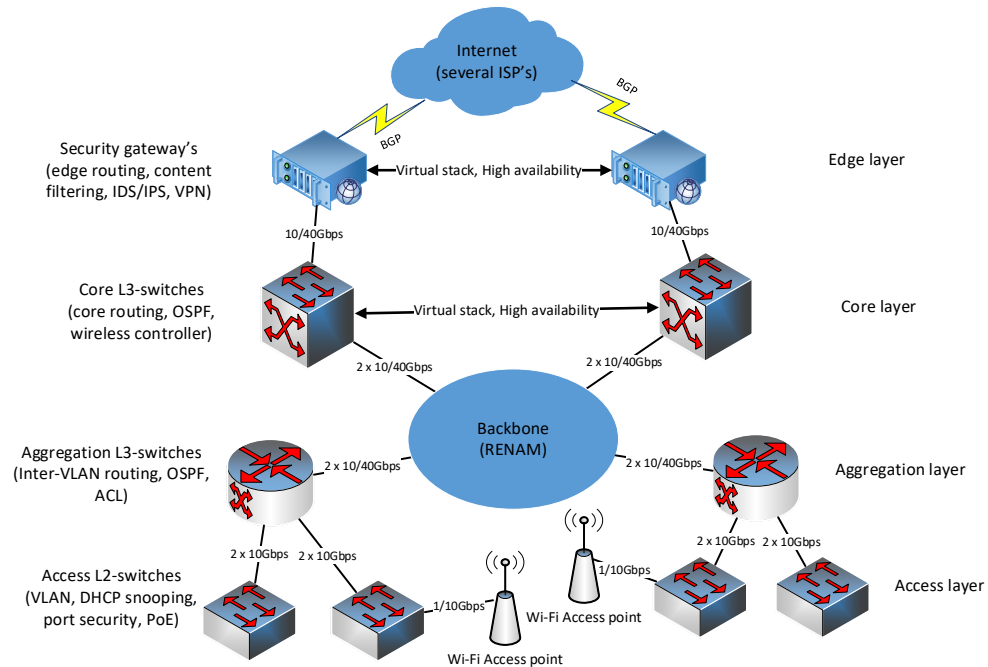


~16 000 m optic fiber

~126 500 m ETH cable

>500 active and WiFi infrastructure equip.

Arhitectura retelei UTM la nivel inalt.



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# Further endeavors

The wireless infrastructure built upon state of the art structured cabling & a very performant switched infrastructure

- will create the premises to **explore and develop wireless campus services**
- deploy modern paradigms like **BYOD** and **IoT** towards a **Smart Campus** implementation

**WiNet@Uni** will create the premises for strengthening the role of the two Universities in their regional and national digital transformation ecosystem



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# Thank you!



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