

# SME Innovation Capacity Boost

## Work Package 5, IICT-BAS

### Transnational Innovation Clusters

Tirana, November 1, 2018

**Prof. Lyubka Doukovska, PhD, DSc**

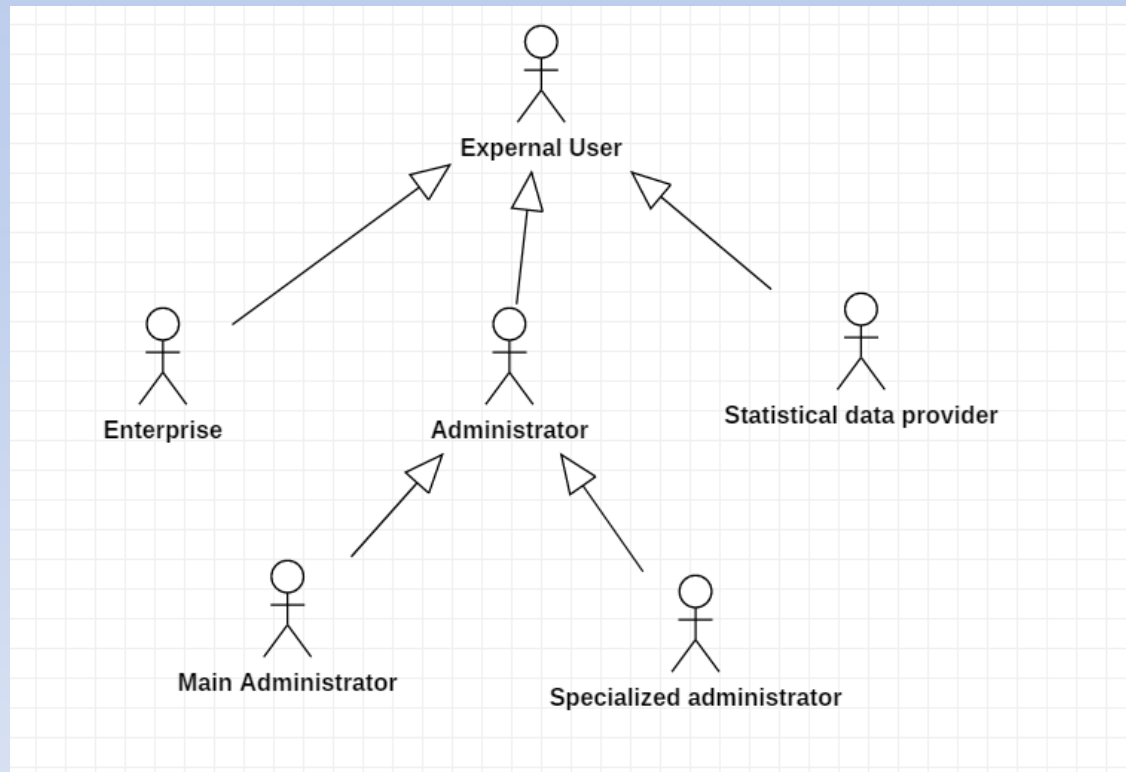


# Transnational Innovation Clusters progress

## Functional requirements to the Internet-based programming system:

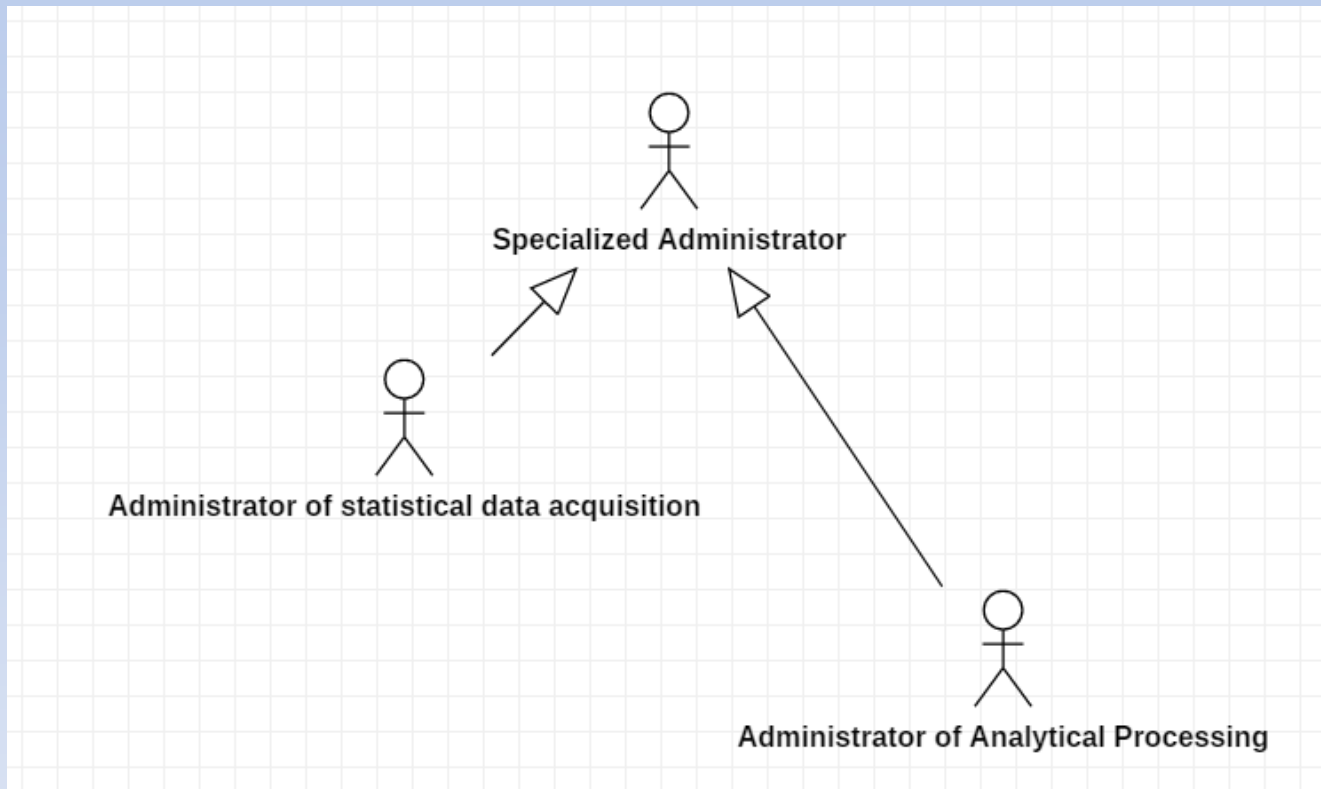
1. User Functions / SME /: Company Registration; SME communication functions supporting cluster creation.
2. Main administrator functions: Reporting on appropriate clustering of enterprises according to their level of innovation, clustering of SMEs on the basis of innovation criteria and on the activity of each registered SME.
3. Functions of specialized administrators.
4. Information functions: Establishing links between cooperative enterprises (including those outside the Balkan-Mediterranean ).

The system will operate with two types of actors - external and internal. The external ones operate with the system outside.



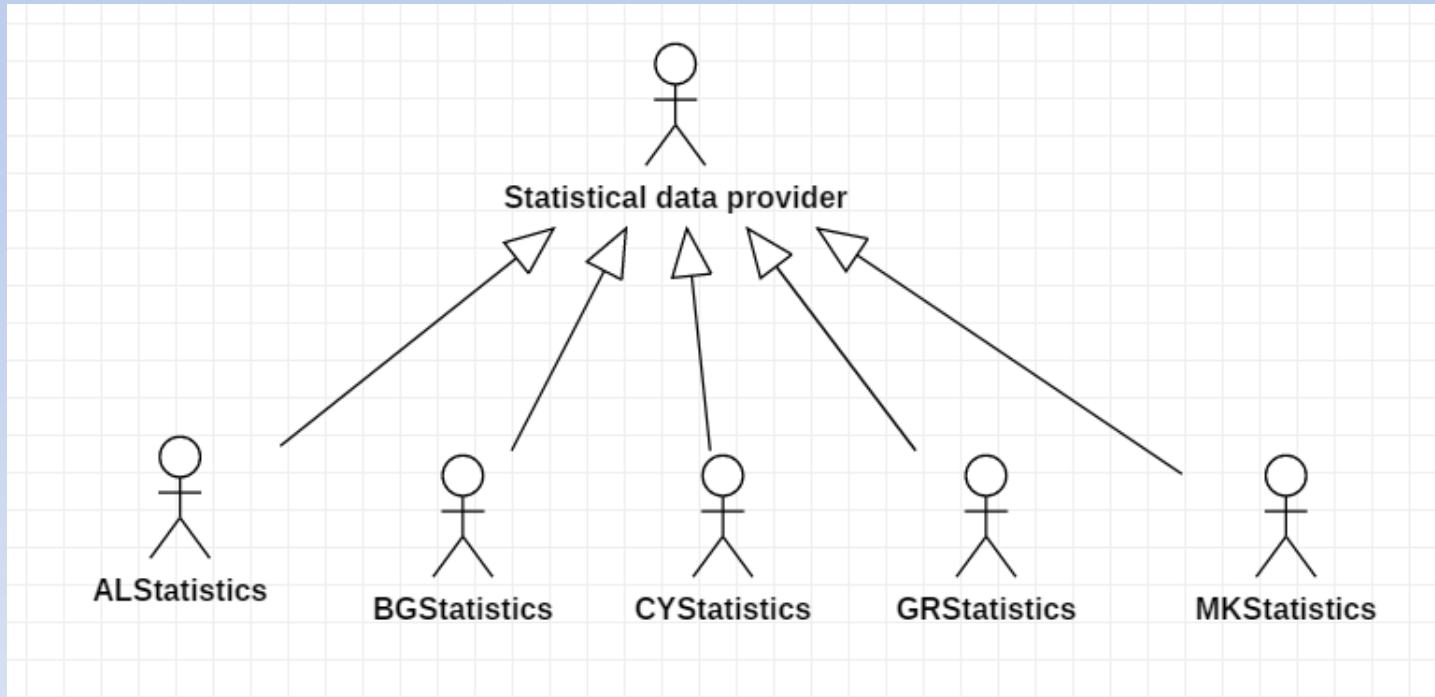
**Figure 1. External actors**

The role of the Administrator is to administer the activities related to the management of incoming data streams.



**Figure 2. Specialized Administrator**

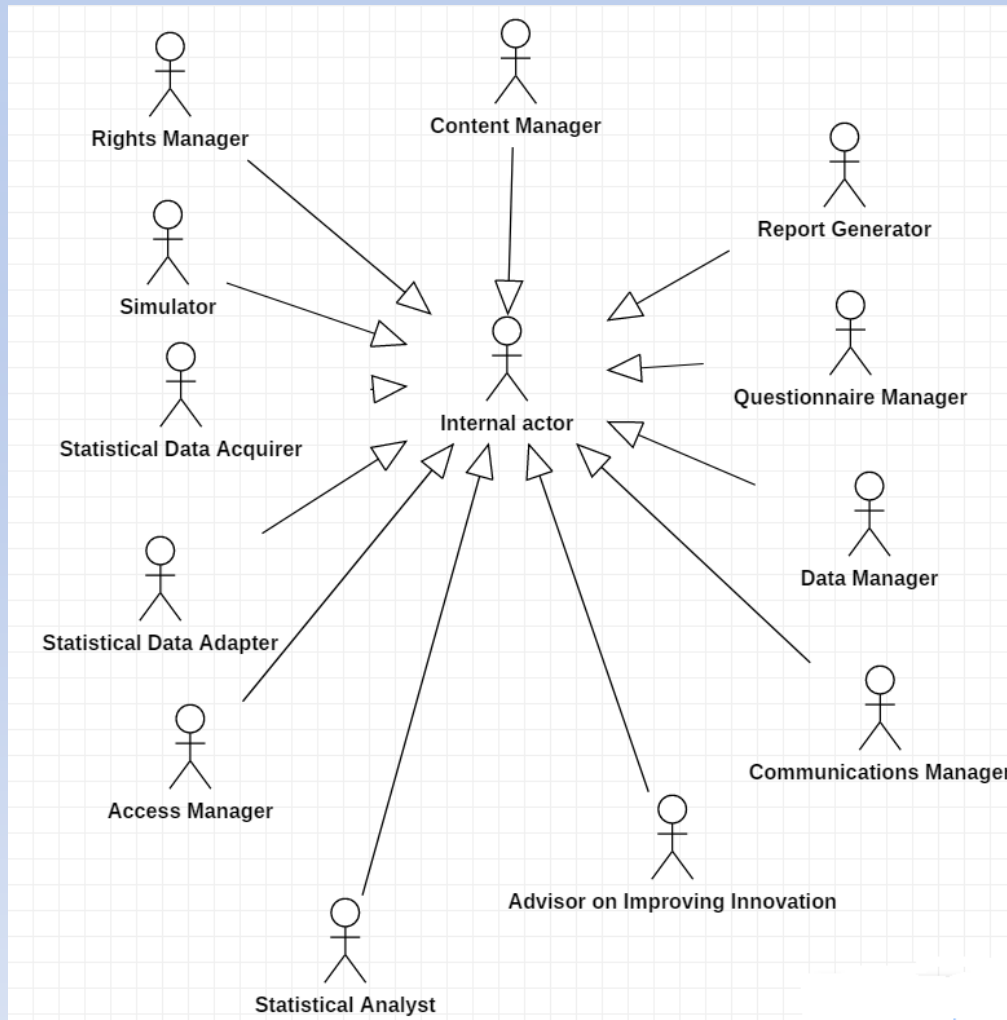
The statistical information provider is a basic actor of five statistical information providers - one for each of the participating countries.



**Figure 3. Statistical data provider**

## **The internal actors are the following:**

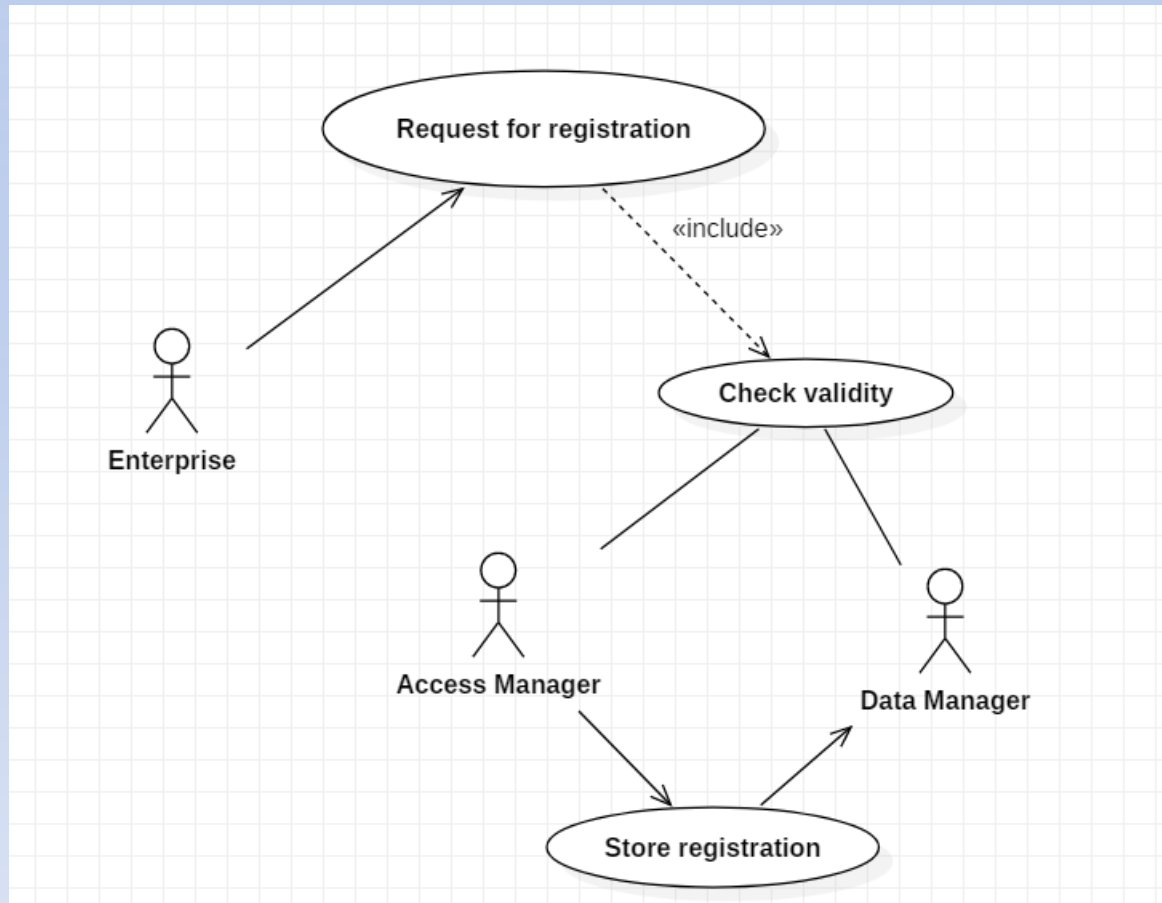
- Rights Manager;
- Access Manager;
- Questionnaire Manager;
- Data Manager;
- Statistical Adapter;
- Statistical Data Adapter;
- Simulator;
- Statistical analyst;
- Content Manager;
- Communications Manager;
- Advisor on Improving Innovation;
- Statistical Data Acquirerer.



**Figure 4. Internal actors**



## Use Cases of an External Actor



**Figure 5. Registration of an enterprise**

## Grant access to enterprise

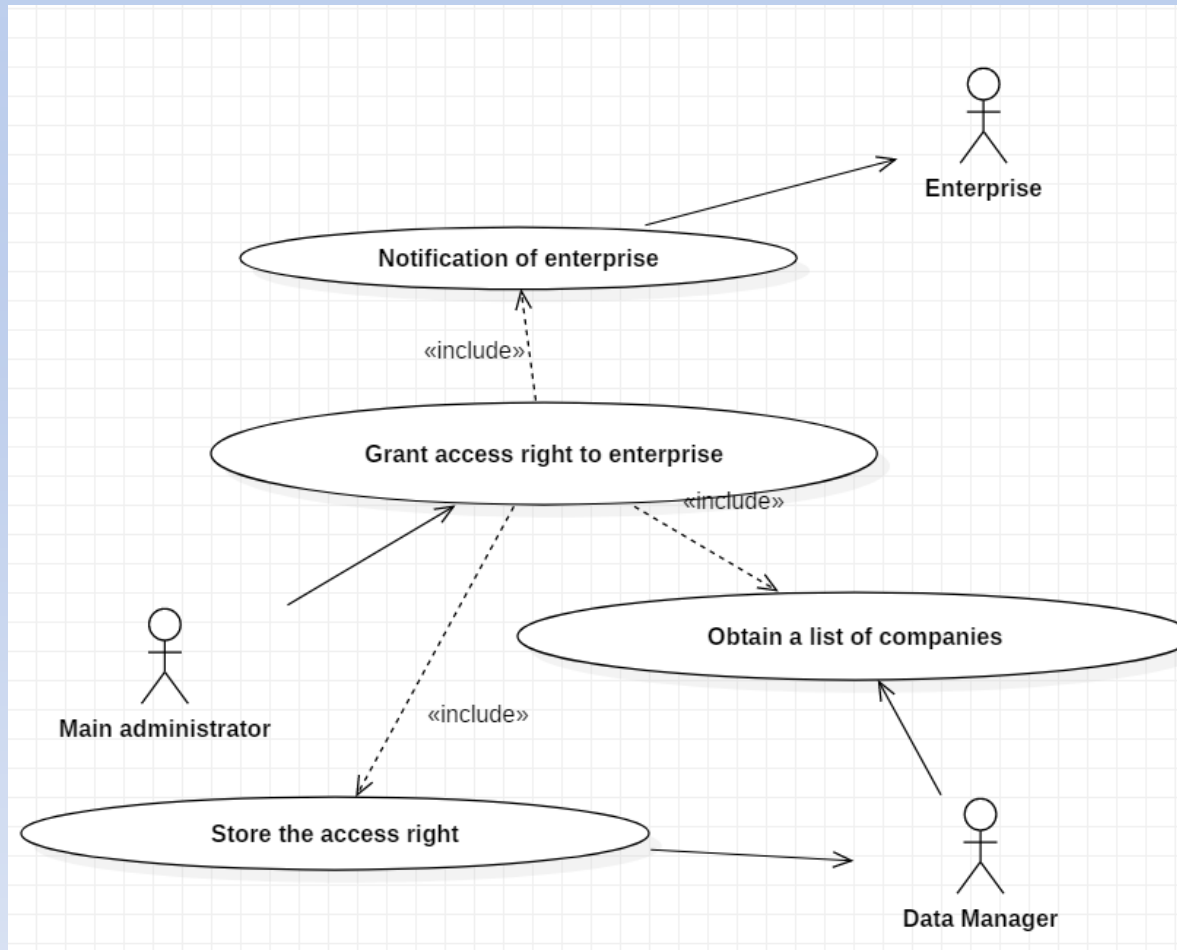
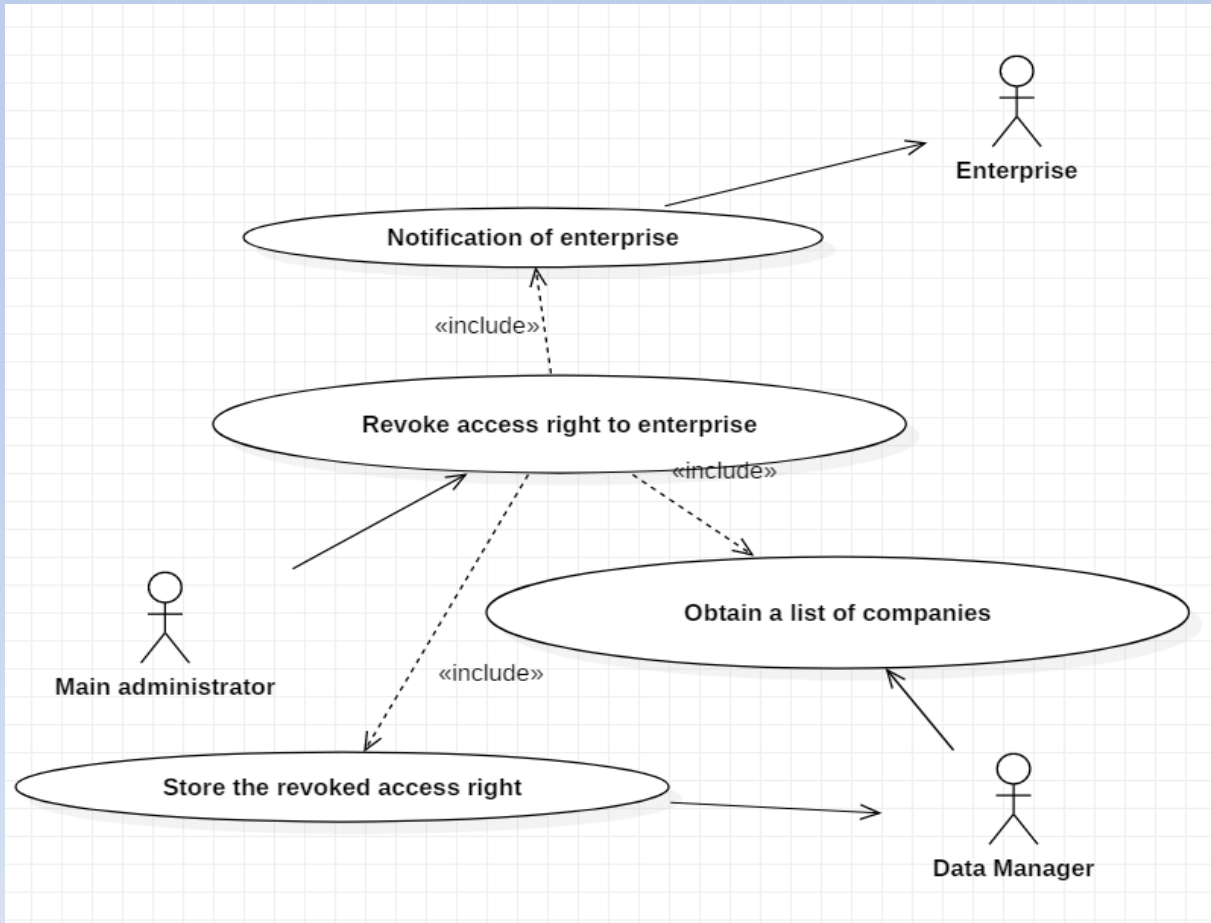


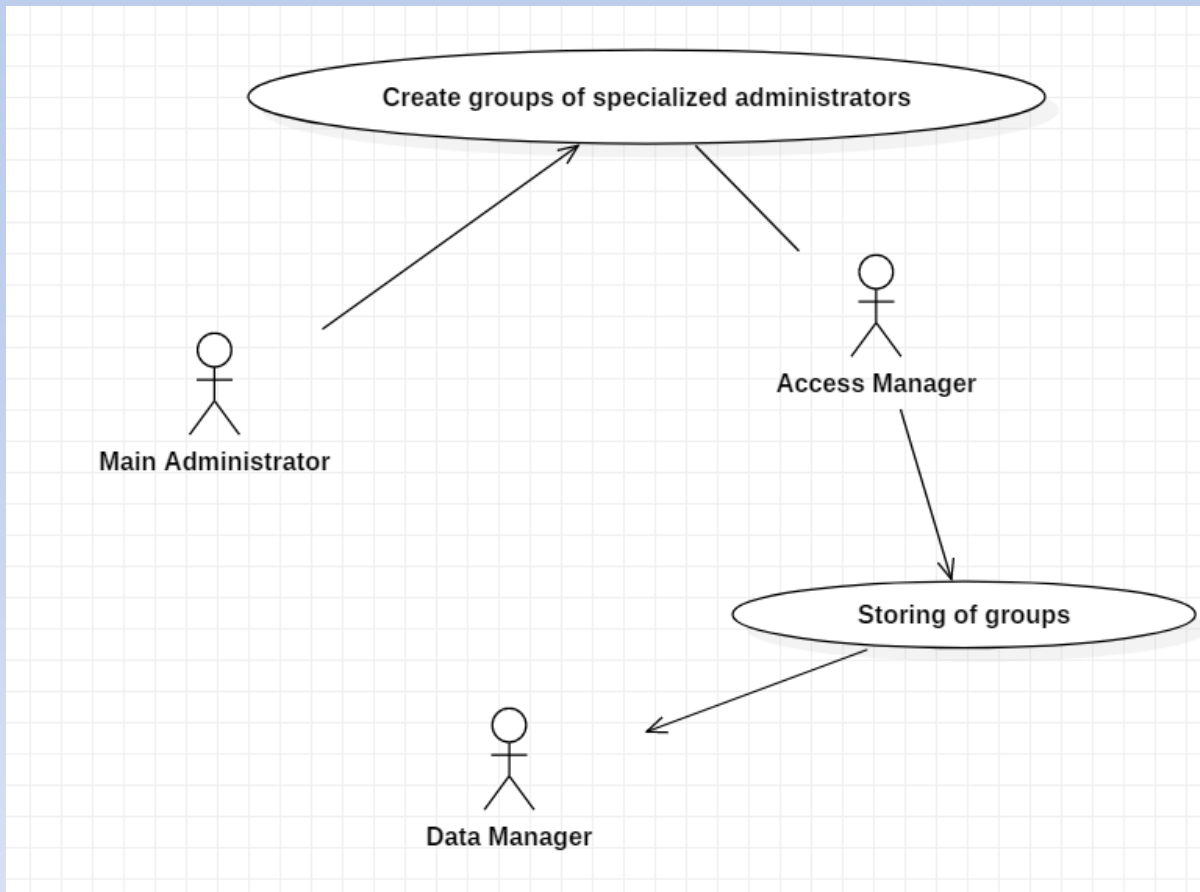
Figure 6. Use case grant access to Enterprise

## Revoke of access rights from Enterprise



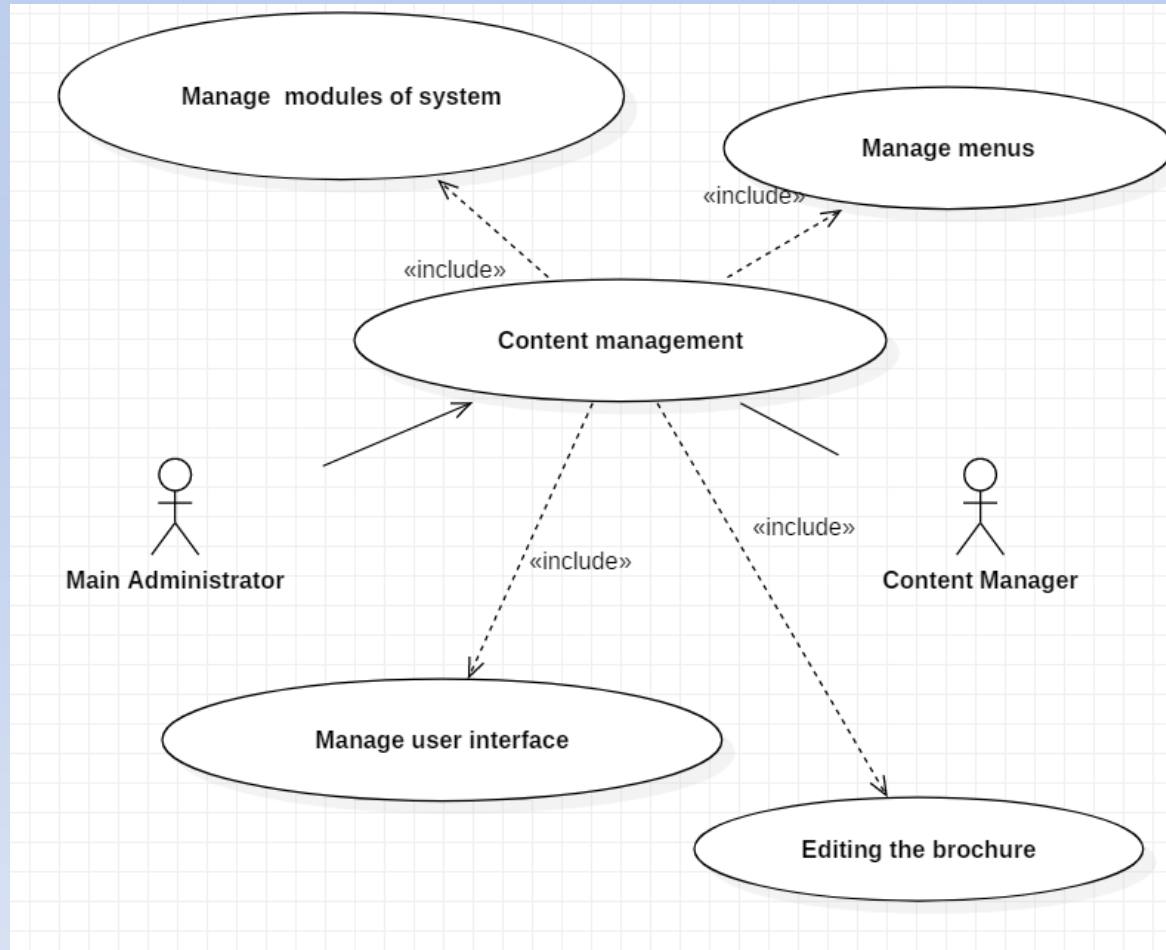
**Figure 7. Use case for revoke access right from Enterprise**

## Create groups of specialized administrators



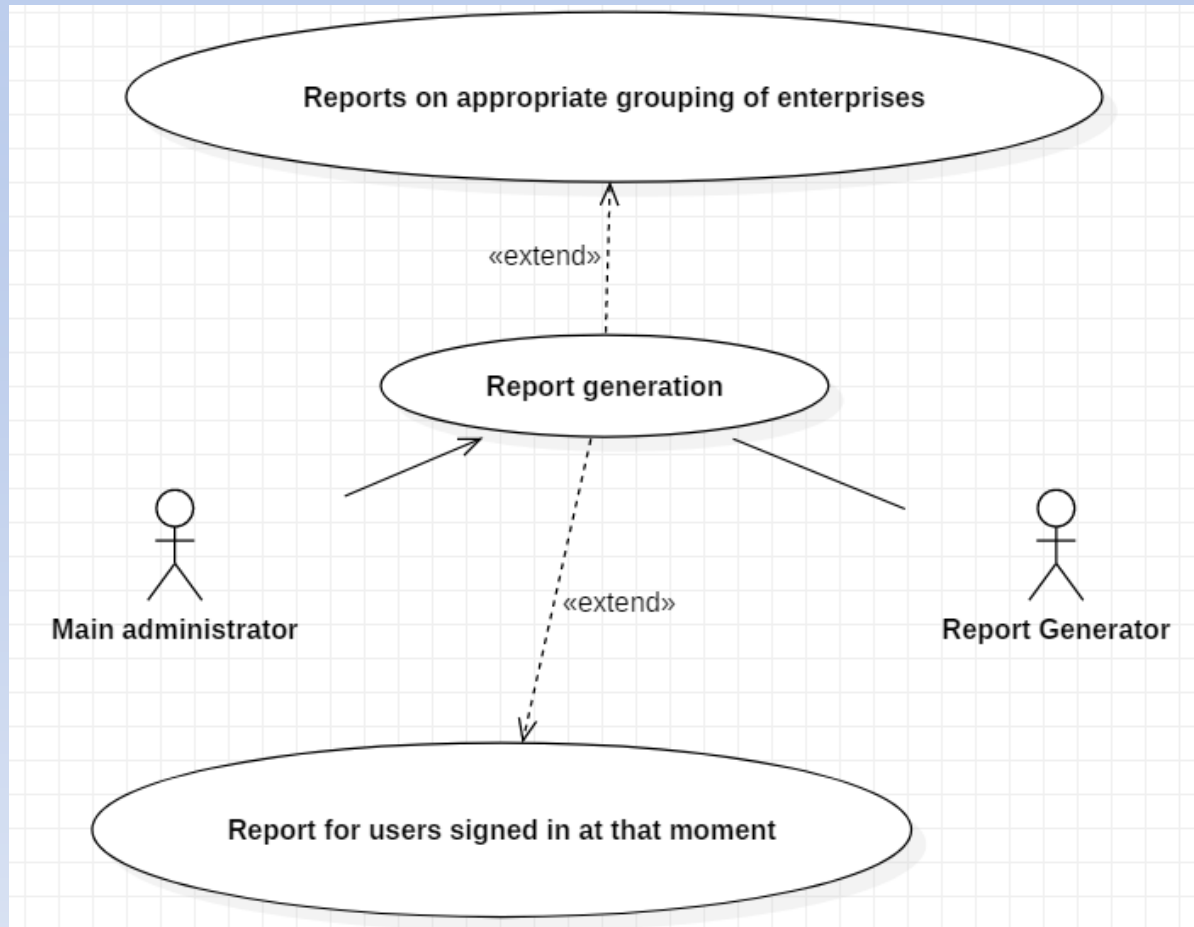
**Figure 8. Use case of creating groups of specialized admin.**

## System content management

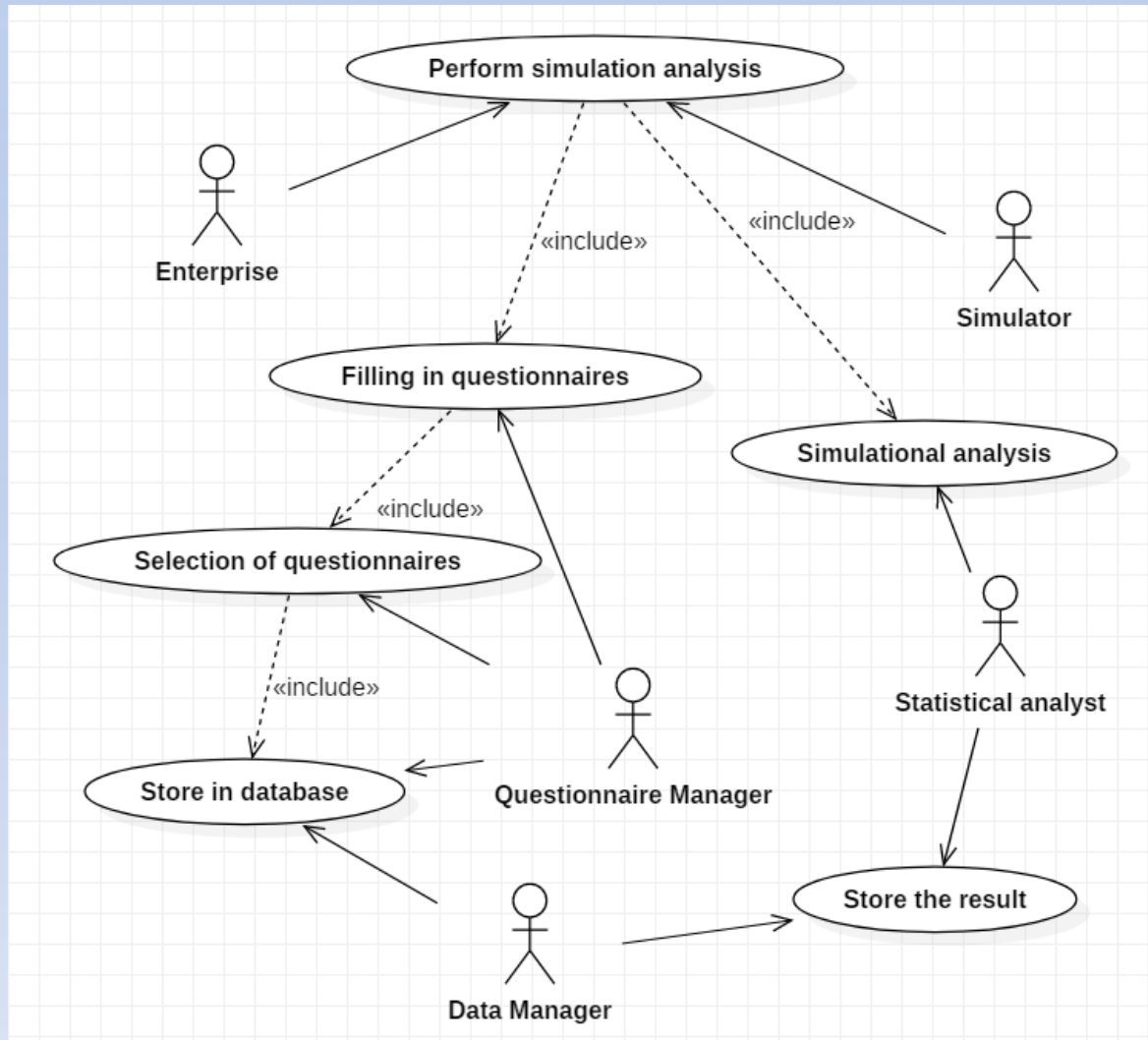


**Figure 9. Use case content management**

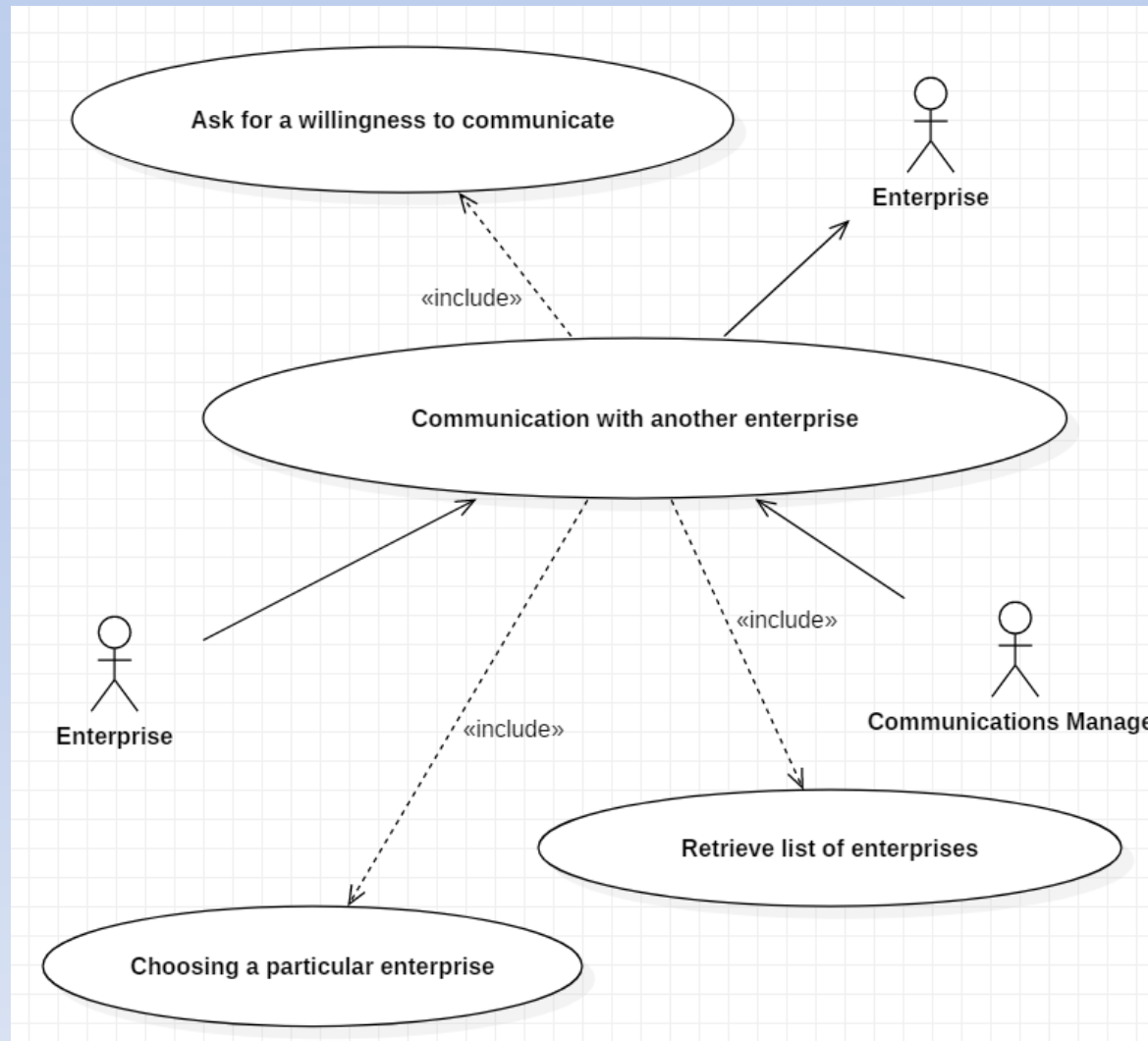
## Reports generation



**Figure 10. Use case of generation of a report**

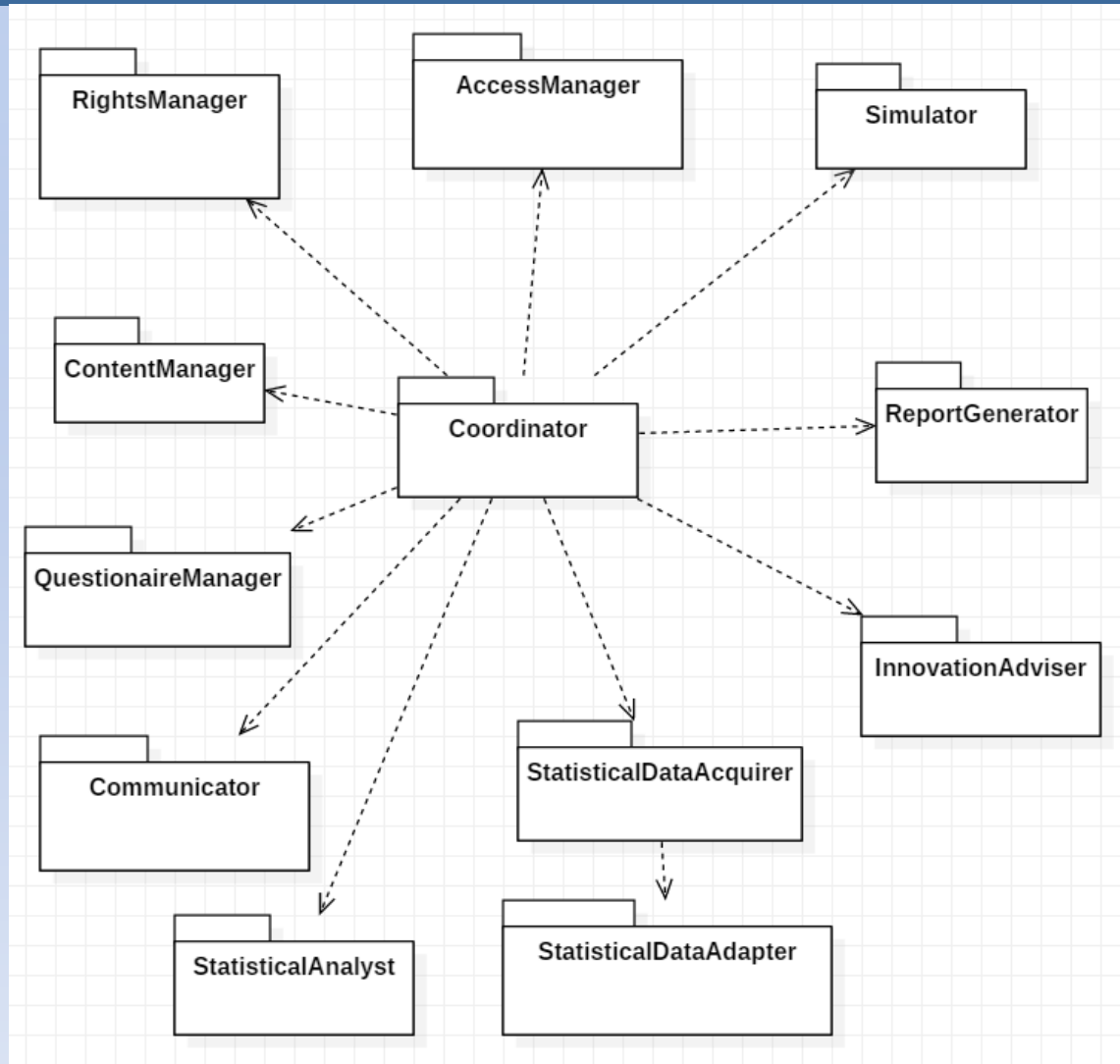


**Figure 11. Use case of using a simulator to test of Enterprise**



**Figure 12. Use case of communication with other enterprises**





**Figure 13. Object diagram of Controller**

- **Web-based decision support system – technical overview**
  - 3 Sections
    - Public – for all visitors
    - Private – for registered users (SMEs)
    - Administrative – for global and specialized administrators
  - Open source technological stack
    - Linux
    - Apache
    - MongoDB, etc.
  - Non-relational database support
  - Scalability
  - Portability to other platforms in case of need

*Thank you  
for your attention!*

