


GLIMS	Programme: Bando FIMSER – Regione Lombardia	 Regione Lombardia www.research.softeco.it/glims.aspx
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OVERVIEW

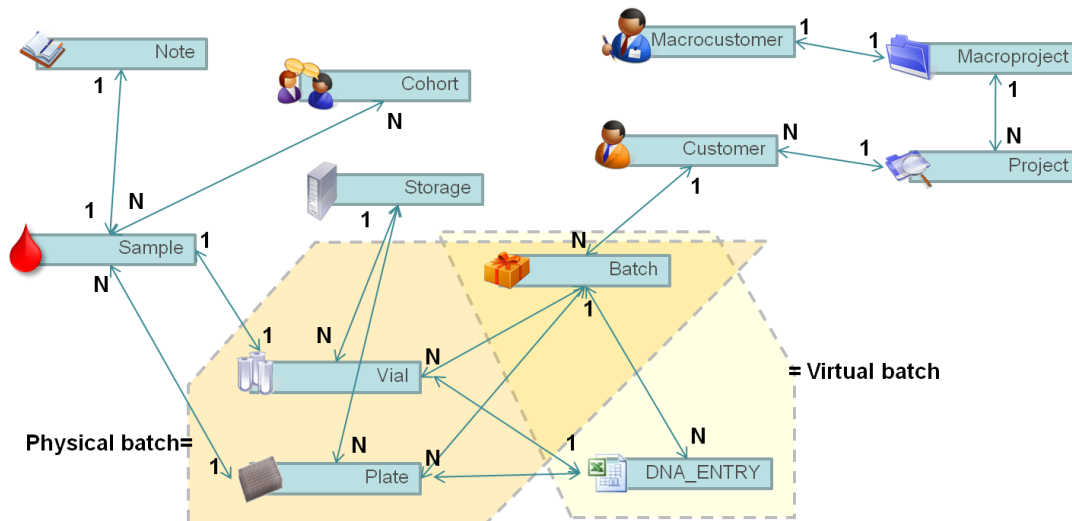
Newest genomic and molecular biology technologies – together with the creation of platforms specifically dedicated to genotyping and sequencing techniques – recently brought an exponential growth of biological data hardly imaginable – both from a quantitative and from a qualitative point of view – just a few years ago.

On one side, large biological data sets allow to express strong analytical potentialities and to improve biomedical research results, on the other side they raise problems related to **biological sample management, sample and data quality control, long term storage and preservation.**

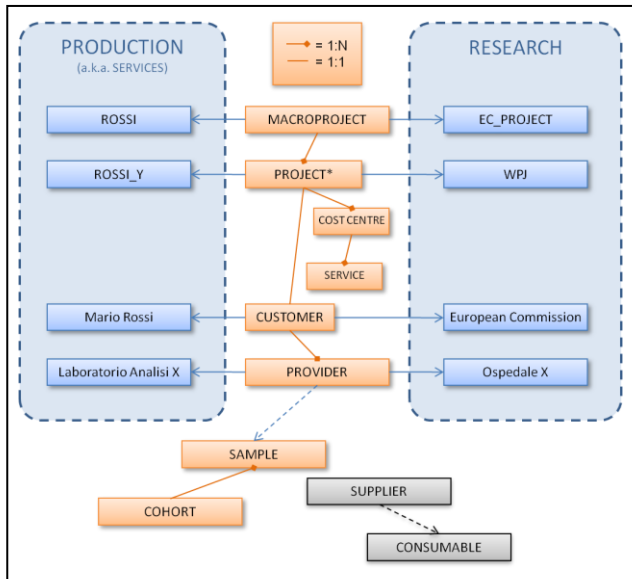


The project aims at implementing a **Genomic Laboratory Information Management System (GLIMS)** able to **homogenize, formalize and integrate wet** (sample management) **and dry** (data analysis) **laboratory workflow processes**, in order to

- improve research centre productivity and competitiveness,
- improve laboratory process workflows,
- manage data provided by **Next Generation Sequencing and Whole Genome Genotyping.**



Laboratory workflow data model

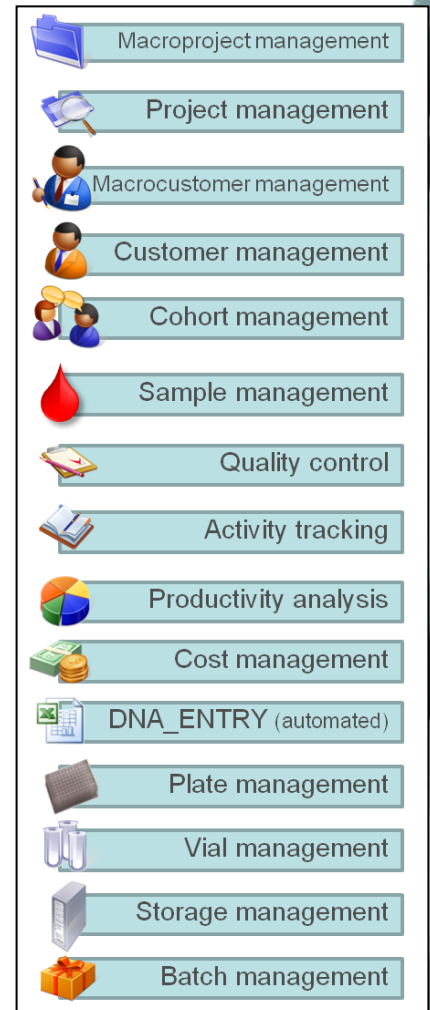


GLIMS element conceptual scheme

OBJECTIVES

Three main objectives have been identified:

- **workflow process formalization;**
- **ICT workflow support implementation;**
- **assessment and validation.**



Main functionalities

FUNCTIONALITIES

The GLIMS will include the following functionalities:

- **management of macroprojects, projects, macrocustomers, customers, biological samples, plates, vials, batches, storages, consumables and study cohorts;**
- **tracking of biological sample management and processing;**
- **laboratory workflow support and tracking.**

EXPECTED RESULTS

The GLIMS will improve the management of the activities related to the joint or singular provision of the following services:

- **DNA extraction;**
- **DNA genotyping;**
- **DNA sequencing;**
- **gene expression.**

The functionalities included will support both **project administrative management and project operative management**, with a specific focus on the activities related to the wet laboratory workflows (biological sample validation, error tracking, document management, etc.) and to the dry laboratory processes (statistical analysis, data aggregation and modeling, etc.).

The GLIMS will ultimately allow to manage the whole genomic data life cycle from biological sample registration to biological sample processing and data analysis.