

# Genedata Selector™

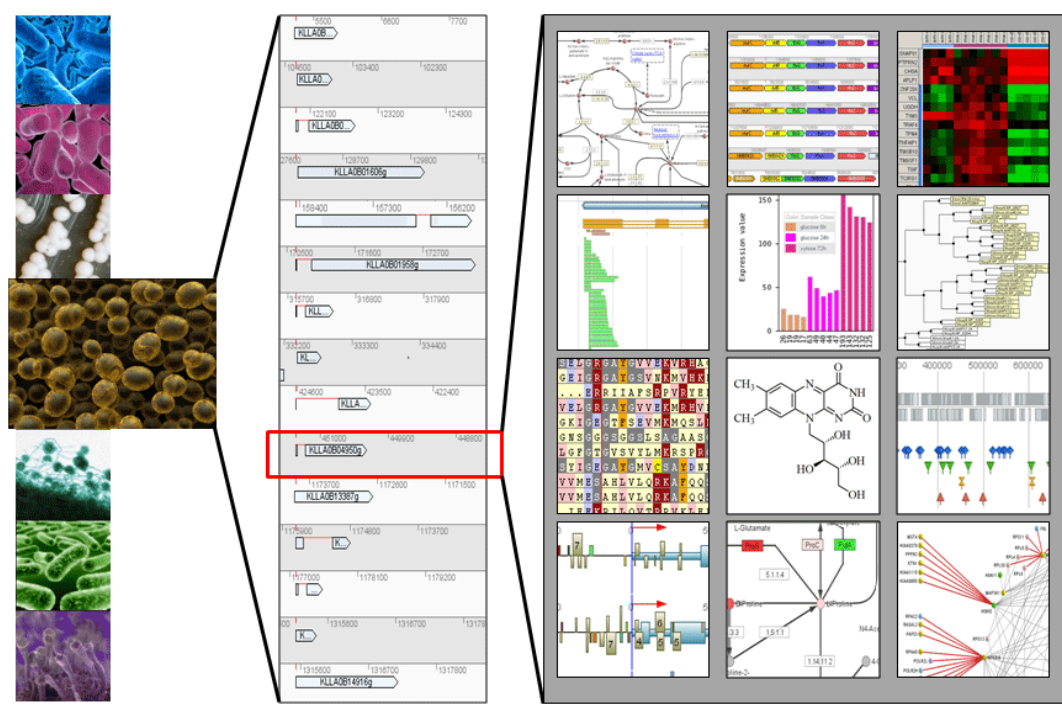
for Strain Development

## Enterprise Software for Next-generation Sequencing Applications

Genedata Selector stores, processes, and analyzes strain-related genotype and phenotype data to support both directed and undirected strain development strategies and to optimize fermentation processes.

*“Strain genotyping using next-generation sequencing technology has enabled us to systematically assess whole strain ancestries on a molecular level. Genedata’s tools pinpoint production-relevant mutations and evaluate their impact on genes, pathways, and overall production phenotypes.”*

Dr. Ralf Kelle  
VP R&D Biotechnology  
Evonik



Genome Data Center  
*Organism-agnostic GeneIndex integrates public and proprietary genome data for comprehensive and easy access to experimental data in their biological context.*

### Benefits

- ▶ Supports R&D processes to optimize fermentation-based production of feed and food additives, beverages, personal care products, biofuels, pharmaceuticals, and agrochemicals
- ▶ Enables the efficient support of both directed and undirected strain selection processes
- ▶ Addresses scalability and workflow requirements of NGS- and omics-based strain selection programs
- ▶ Provides a single enterprise system to process, store, and analyze an unlimited number of genomes and related experimental data

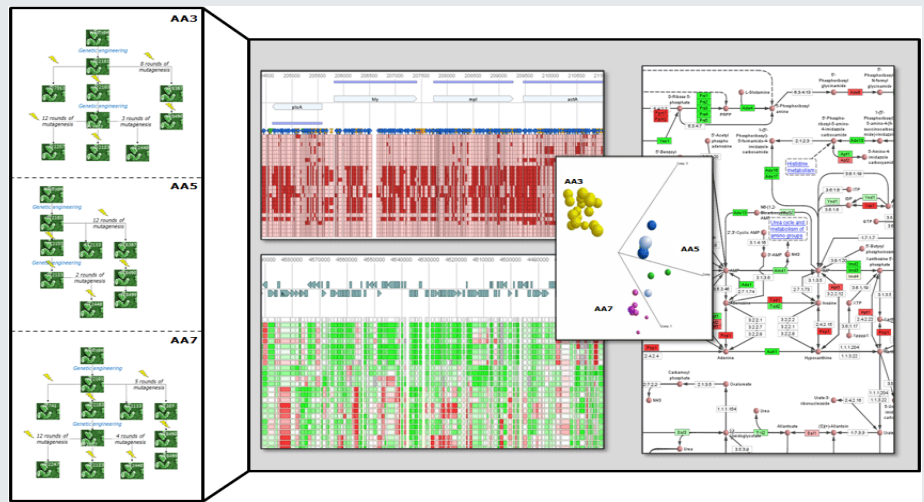
# From Strain Genealogy to Optimized Production Strains



*Genedata Selector™ analyzes and manages all strain-related data in the context of directed and undirected strain development processes – with a special focus on improving gene annotations and integrating next-generation sequencing data with other omics data to better understand biological processes and obtain optimized production strains.*

## Key Features

- ▶ Complete strain genealogy analysis to correlate genotype & phenotype
- ▶ Integration of public and proprietary genome sequence information
- ▶ Comprehensive analysis of all prokaryotic and eukaryotic genomes
- ▶ Automatic identification of mutations correlating with production-relevant phenotypes
- ▶ Quick identification of novel metabolic engineering targets by cross-strain comparisons
- ▶ Joint analysis of promoter, metabolic, and regulatory pathways including expression profiles and mutations
- ▶ Integration and storage of all experimental data including genomics, transcriptomics, proteomics, and metabolomics data

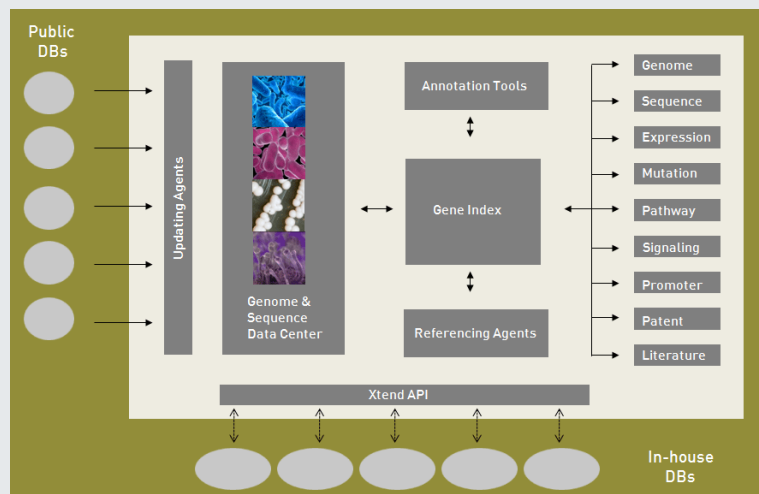


### Integrated Genotype & Phenotype Analysis

*Complex strain genealogies result in unlimited genotypes and phenotype profiling data, which can be processed and analyzed in its genome-wide, regulatory, and metabolic pathway context.*

## Architecture

- ▶ High-performance, scalable, and open enterprise software system
- ▶ Modular and configurable to address specific workflow requirements
- ▶ Agents for automated data integration and maintenance
- ▶ Xtend API for integration with database and tool infrastructure
- ▶ Underlying Oracle® database
- ▶ Client-server architecture for low maintenance and easy administration



**Modular Design**  
*Genedata Selector is available as a whole or as a set of selected modules and components.*

Genedata Selector™ is part of the Genedata portfolio of advanced software solutions that serve the evolving needs of drug discovery, industrial biotechnology, and other life sciences.

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