

SmartGene

IDNS™ Integrated Database Network System

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The Integrated Database Network System for Molecular Diagnostics, Research and Networking

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SmartGene IDNS™ The Integrated Database Network System for Molecular Diagnostics and Research
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Background

What are the challenges in a modern laboratory?

- Modern diagnostic and research techniques generate a huge amount of data, which can create a bottle neck in the analysis process
- Complex data such as gene sequences do not fit into current Laboratory Information Systems (LIS)
- Hospital/lab IT staff are not familiar with sequences and bio-informatics
- Proprietary software is mainly provided by the sequencer manufacturers thus changing hardware also requires a change of software. Moreover, software is **rarely validated** and content updates are not frequent
- Sequencer brands provide different data formats, which are difficult or impossible to merge

In this context, independent, routine-compatible, and frequently updated application platforms are of great interest. The ideal tools may have the following characteristics:

- Highly customizable, allowing secured storage of data information and a protected personalized access via the Internet or intranet
- Input/output parameters
- Ease of use on a web-site, avoiding costly hardware and cumbersome software installations
- Gene sequence, data management and analysis tools, adapted to the specific application and targets
- Homology search using sequence references, resistance profiling and generation of reports by using approved algorithms
- Frequently updated reference datasets (from EMBL, Genebank, proprietary...)
- Possibility to upgrade to additional targets and features
- Providing a data-collector to share data with other labs

SmartGene's Integrated Database Network System (**IDNS™**) is fully validated (The software validation guidelines specified by the FDA are applied) and offers a secure, innovative and personalized platform delivering online data hosting and analysis.

IDNS™ provides data management services to leading diagnostic centers and research groups working worldwide in genetic, genomic and veterinary medicine.

Our Product

Adaptable and Flexible

Adaptability and flexibility are central to the IDNS™, with solutions tailored to meet each customer's needs. IDNS™ allows data to be handled, archived, analyzed and mined quickly and effectively, increasing productivity at every stage in diagnostics and research.

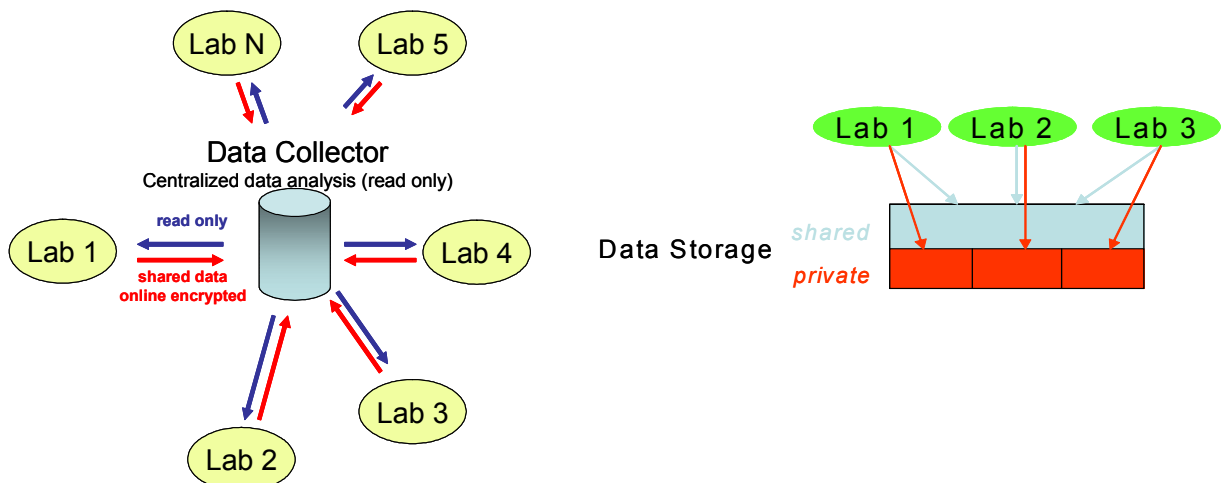
Secure

IDNS™ platforms consist of a multi-page encrypted website with password controlled access via the Internet. By modulating password access privileges, SmartGene can vary data management and analysis capabilities of individual users or centers, following the requirements of the customer. An embedded audit trail allows the retracing of any action on the platform or to a data file.

Promote network collaboration:

IDNS™ can network and merge datasets online, following the needs and requirements of a customer, thus enabling several centers to form an IDNS™ network. This technology offers an ideal platform for collaboration or multi-center studies, facilitates user communities, and allows the development of expert networks in scientific and clinical topics. Furthermore, access and actions tracking provided by IDNS™ represent a useful source of information for quality control or when submitting results to supervising authorities (e.g. for regulation processes and clinical trials). Shared data are accessible to the collaborating laboratories as read-only. Finally, individual labs can also host private datasets, not accessible to others.

Data ownership: data hosted on SmartGene IDNS™ belong to the customer who generated the data. SmartGene is not entitled to give away or grant access to data to third parties, unless it is agreed otherwise with the customer.



Appropriate for many diseases:

SmartGene's expertise with customers performing DNA/RNA sequence analysis and interpretation has led to several **IDNS™** platforms dedicated to specific diseases in many fields of research and medical diagnosis:

- **Microbial identification:** bacteria, mycobacteria, veterinary pathogens.
- **Fungal identification.**
- **HIV drug resistance:** genotyping, mutation interpretation, resistance algorithm, profiling, and follow-up analysis.
- **HCV genotyping and disease management.**
- **Genetic diseases and predisposing factors** (e.g. mitochondrial diseases).
- **Epidemiological genotyping** of bacteria and viruses: MLST on meningococci, enterobacteria, others.
- **Influenza.**
- **Oncology.**
- Etc.

In Summary

The **IDNS™** is an invaluable tool when working with genetic and other complex information.

- Powerful database management and analysis (pattern and similarity searches, direct alignments, mutation interpretation, etc.).
- Also available: multitarget applications (e.g. 16S rDNA and rpoB combined).
- Regularly updated and validated reference data sets.
- Decision support (e.g. HIV drug resistance).
- Ease of use.
- Accessibility.
- Time and resource savings in lab and clinical settings.
- Data networks and data sharing.

What users need to get started

No specific hardware is required to run **IDNS™**, nor complex software installation. **IDNS™** is provided online and updated/upgraded online, thus taking away from the user the burden of managing IT.

Minimal hardware requirements to run **IDNS™** are:

- Internet access (minimum of a 56kb baud rate modem).
- Office standard PC or Apple compatible computer.
- Internet browser (PC: Internet Explorer™ 6.0.2800, Mozilla Firefox™ 1.5; Mac OSX™: Safari 1.2.4 v125.12, or newer, java compatible)
- Optional: ability to install freeware programs such as Adobe® or Java Webstart®.

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SmartGene does not design labels/brands or define applications different from the **IDNS™** package.
SmartGene does not warrant for embedded datasets, algorithms or software provided by Third Parties.