



*Consultant points of view*

*By IBM Life Sciences*

## **Aventis increases research and development productivity with IBM**

### **Business Issue**

Aventis, formed by the merger of Hoechst AG of Germany and Rhone-Poulenc S.A. of France, is dedicated to improving life through the discovery and development of innovative products in the fields of prescription drugs, vaccines and therapeutic proteins. With pharmaceutical and drug research and development facilities in multiple locations across three main international geographies, Aventis wanted to create a truly global system to allow scientific resources and results to be shared, regardless of the locations of the individual scientists.

Critical to the success of a collaborative environment was meeting the need for an infrastructure that would allow secure access to and optimize querying of heterogeneous data, including important legacy data. Through their Target-Lead Candidate (TLC) project, Aventis wanted to access the company's relational databases in four separate global locations, and mine external resources such as genomics and proteomics databases, to compile information and make it available for collaborative research.

### **Strategy**

IBM Life Sciences Consultants knew that the primary concerns of the Aventis team included system performance and scalability, extensibility and adaptability, global support capability, solution support, and network protocols and compatibility issues. The team needed tools that could respond effectively to the processes established by disease study, lead generation, and lead optimization groups in the drug discovery process.

Aventis required an open architecture solution to ensure global access to distributed data sources. The solution needed to be integrated with existing Aventis system components to protect their information technology (IT) investment without disruption. Aventis was also using many Web-based tools and knew that the focus for future reporting and data mining-tool development would continue to be on Web-based applications and solutions.

Working closely with an international Aventis scientific and IT team, IBM Life Sciences Consulting developed a technical and support architecture -- including servers, global support capability and IBM DiscoveryLink middleware -- to provide Aventis with the global capabilities to streamline the drug discovery processes.

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### **Results**

As a result of the engagement, Aventis researchers now have:

- Single query access to large volume of heterogeneous research data sources -- including the integration of important legacy data -- across multiple platforms.
- Optimization technology that automatically searches for the most efficient means of executing a query and assembling the results. New sources can be added dynamically.
- A single-table virtual database federation of multiple heterogeneous data sources. The integrity and form of the original data remains unchanged.

IBM's consulting services and solutions will play an important role in helping Aventis achieve its cycle time reduction goals -- decreasing the time involved from lead generation to marketplace delivery from 10 to 15 years to as little as six to nine years.