ACCELRYS ENTERPRISE PLATFORM

A scientific informatics platform that addresses the challenges associated with taking scientific innovations from ideation to early manufacturing—the process otherwise known as Scientific Innovation Lifecycle Management (SILM).

CLOSING THE INNOVATION PRODUCTIVITY GAP

For organizations that use science to drive new product development, there is a productivity gap from innovation through commercialization that is slowing product development, extending time-to-market and hampering competitiveness. As a result of this gap, much of the work that is done in early research and development ends up lost, unable to deliver any cumulative downstream benefits. Organizations are unable to reuse the knowledge gained from the many expensive experiments they conducted to get to a successful product candidate. According to IDC Insights, many organizations end up repeating about 40% of these "lost" experiments with resulting increased costs and longer development times.

STREAMLINING TECHNOLOGY TRANSFER

Another aspect of the innovation productivity gap is the hand-off between the cycles—the technology transfer from research into development and early manufacturing scale-up. Traditional information technology approaches have proved incapable of adequately managing the complexity of scientific data and processes and the volumes of unstructured data characteristic of scientific R&D.

The above challenges result in:

- Processes that are out of compliance and/or lead to product recall
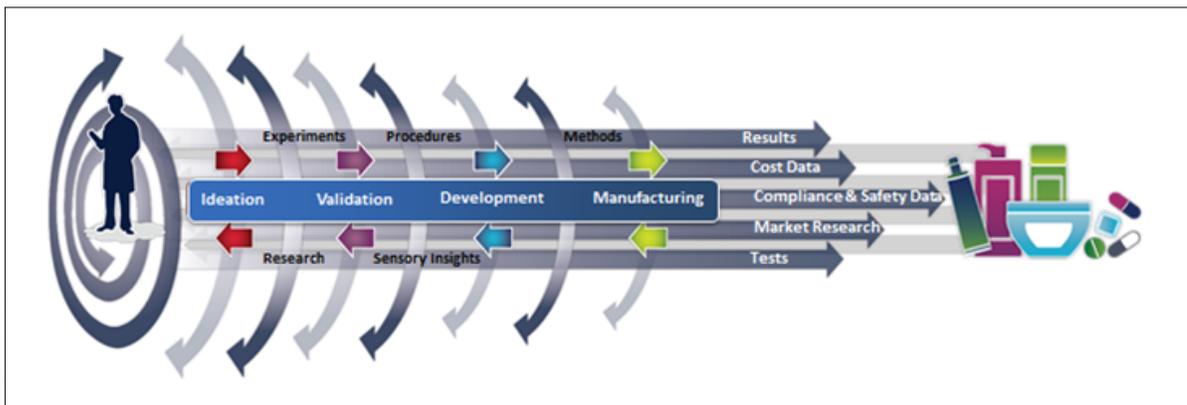- Costly errors that slow down time-to-market and impact overall quality

Figure 1: *The scientific innovation cycle: The Accelrys Enterprise Platform ensures the flow of information back and forth across the continuum from product ideation through validation and development to manufacturing and commercialization*

- More expensive products due to serial product development

- Inability to respond rapidly to trends driving change in the industry

- Manual data collection creating costly bottlenecks and rework

To achieve end-to-end productivity, organizations must be able to pass core scientific information and data from the ideation phase along the lab-to-plant continuum to better inform downstream processes. Only then can scientists apply contextual knowledge to remove bottlenecks during ingredient sourcing, quality control, costing, manufacturing and compliance or claims support.

The Accelrys Enterprise Platform supports science-driven product development by automating critical processes and enabling users to capture and access core scientific information and data, whether created by a lab-driven experimental process or *in-silico*. The Platform facilitates the flow of information between all functions from the ideation, development and validation phases of the innovation cycle through the handoff to commercialization and downstream PLM, ERP and similar systems.

The Accelrys Enterprise Platform enables organizations to:

- Complete projects significantly faster (10x or more) by leveraging existing research and intellectual property and automating routine data gathering and analysis processes

- Uncover the knowledge hidden in data by quickly aggregating and processing massive volumes of structured and unstructured data from multiple disparate areas in a single environment

- Deploy best practices to ensure adherence and enable collaboration across employees, partners, departments and throughout the organization.

- Improve decision making with better, faster results through real-time, interactive reporting

- Reduce total cost of ownership (TCO) through a common and consistent approach to IT services
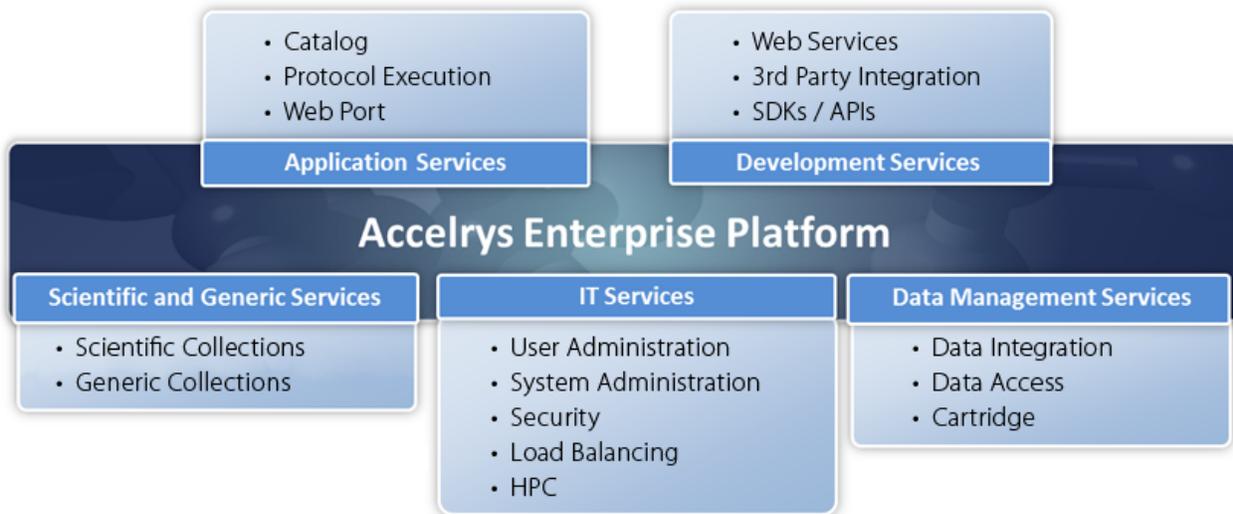

Figure 2: *The scientifically aware Accelrys Enterprise Platform is comprised of five groups of services that help organizations better manage scientific workflows and accelerate product development across the innovation to commercialization value chain.*

APPLICATION SERVICES

The Application Services are a set of functional capabilities that directly support Accelrys applications.

Accelrys Catalog is a library of published protocols that users can search, access, comment and execute to be more productive. The Accelrys Catalog facilitates collaborative development and knowledge transfer throughout the organization.

Accelrys Enterprise Platform's powerful data pipelining execution engine executes protocols, automating scientific data management, analysis and reporting processes. These protocols eliminate highly repetitive, often complex manual processes that consume high-value resources and drive up costs.

Accelrys Enterprise Web Port is a browser-based environment extending access to a broad community of users. Protocols are made accessible to Web Port users, thereby exposing the full scientific capabilities of Accelrys Enterprise Platform through a simple web-based interface. Web Port users can browse available protocols and execute them to reduce the time spent on processes that can now be automated.

DEVELOPMENT SERVICES

Development Services capabilities support customer and partner requirements to integrate with third-party applications and support custom software development efforts.

Accelrys Enterprise Platform supports a diverse number of out-of-the-box integrations with third-party applications such as Microsoft SharePoint, Microsoft Office and image data management systems.

In addition to supporting integration with common software applications, the Accelrys Enterprise Platform enables customers and partners to extend and integrate their applications via the Accelrys Enterprise Platform software development kits (SDKs), APIs and web services.

DATA MANAGEMENT SERVICES

Data Management Services enable organizations to access, integrate and manage scientific data.

Leveraging a number of standard technologies and the Accelrys Query Service, organizations can bring data together from in-house databases, and files, as well as from external sources such as PubMed, PubChem, patent databases, RCSB (bio sequence data and protein structures) and BLAST (sequence database). For highly efficient on-demand data processing and reporting, organizations can dynamically create data marts using extract, transform and load (ETL) capabilities.

IT SERVICES

IT Services provide enterprise IT capabilities that enable organizations to deploy, manage and maintain Accelrys solutions with a lower total cost of ownership.

Organizations can perform user administration across a number of Accelrys solutions, such as managing roles, groups and permissions. Accelrys Enterprise Platform supports common technologies such as Active Directory, Kerberos and SAML.

Accelrys Enterprise Platform is scalable and performant, supporting a variety of deployment options including Internet, Grid, Cluster and Server.

SCIENTIFIC AND GENERIC SERVICES

Scientific and Generic Services represent the scientific analytics available in the platform. These services consist of configurable components for data retrieval, manipulation, computational filtering, display, validated scientific components and best practice workflows.

The Accelrys Enterprise Platform components are the "building blocks" of the scientific informatics platform. They are grouped into Collections by category of science or function. The collections contain numerous components which allow researchers, developers and IT professionals to perform both science-specific and generic data-processing functions.

Reporting and Integration Collections

Now part of the Accelrys Enterprise Platform, the Reporting Collection offers a comprehensive set of components to create customized reports that display the results of data analysis and mining. Reports can include text, tables, charts and images, and can be created in a variety of formats including web pages, Microsoft Office applications and PDFs. By adding interactivity to web reports, users can create a rich environment for data exploration.

Also now part of the Accelrys Enterprise Platform, the Integration Collection incorporates existing in-house or third party programs as computational services using Java, Perl, VBScript or SOAP. The Collection enables data integration supported through ODBC and JDBC technologies for analysis or reporting and provides the ability to store results directly in a corporate database.

INTEGRATING THE INNOVATION AND COMMERCIALIZATION LIFECYCLE

The Accelrys Enterprise Platform's breadth and depth of science, along with Accelrys' ecosystem of partners, enables organizations in research-based industries including pharmaceuticals, biotechnology, materials science, consumer packaged goods, oil and gas, automotive, aerospace, energy and defense to close the innovation productivity gap and streamline technology transfer along the end-to-end, lab-to-plant continuum.

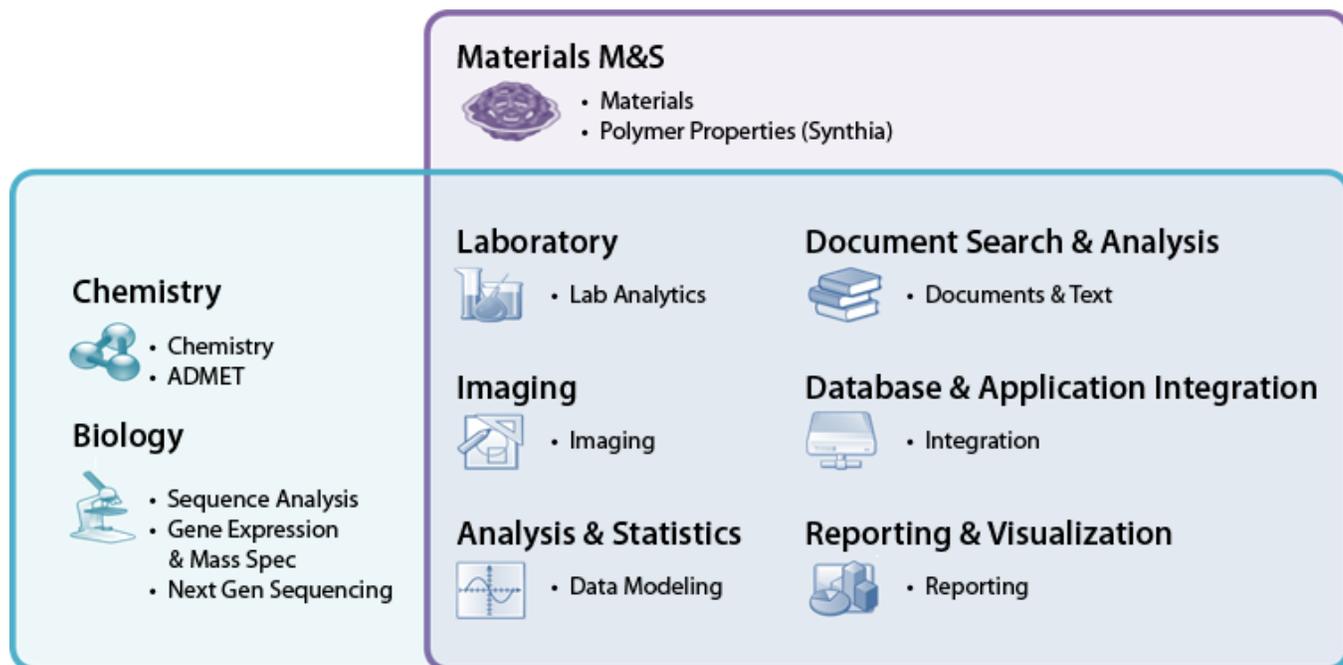To learn more about Accelrys Enterprise Platform, go to **accelrys.com/AEP**

Figure 3: *Component Collections available within the Accelrys Enterprise Platform*

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