

AO FOUNDATION

LIFE SCIENCES CASE STUDY



Challenge:

AO Foundation needed a way to provide its global network of surgeons and hospital personnel with fast and easy access to information found in multiple databases.

Solution:

The organization selected Dassault Systèmes' 3DEXPERIENCE® Platform and its EXALEAD CloudView information discovery application as its unique portal for its network of more than 12,000 surgeons.

Benefits:

With EXALEAD's powerful search capabilities, users no longer need to wade through different sources when searching for information, which saves time and ensures a more comprehensive result.

Focus on DTI Management AG

Founded in 1994, DTI AG is a system integrator in the information management segment in Germany, Austria and Switzerland. The company implements IT projects in the areas of information search, retrieval, enterprise search, portals as well as the collection, processing, archiving and retrieval of documents, texts, audio and visual images. DTI assisted AO Foundation with implementation, tailoring the search results display and training.

For more information: www.dti.ch

TRANSFORMING SURGERY AND PATIENT CARE

The AO Foundation was born out of the realization that the biology of bone healing lacked scientific investigation, resulting in haphazard development of techniques and devices that failed to attract unanimous approval from the surgical community. In his book *Théorie et Pratique de l'Ostéosynthèse*, Belgian surgeon Robert Danis put forth his theories on rigid fracture fixation, which attracted the attention of Maurice E. Müller, a Swiss surgeon. Dr. Müller later decided to follow up on these theories with a small group of fellow surgeons. In 1958, 13 visionary surgeons founded AO Foundation to conduct research in bone healing and to refine surgical practices to treat traumas and disorders in the most optimal way.

The advent of computer-aided surgery in the 1990's and the use of digital technologies for research, education and documentation opened up new horizons for the AO Foundation. Its flagship online reference, the AO Surgery Reference, is one of the world's most dynamic online reference tools for surgeons and hospital personnel around the world. Maintained and enhanced by a network of more than 12,000 surgeons, operating room personnel and scientists in over 100 countries, the Reference contributes to helping the AO Foundation foster and expand its network of healthcare professionals in education, research, development and clinical investigation for the purpose of achieving more effective patient care worldwide.

The AO Foundation is comprised of four clinical divisions: Trauma (international community of trauma and orthopedic surgeons, musculoskeletal researchers, and operating room personnel); Spine (international community of spine surgeons); Vet (for veterinary surgery of musculoskeletal disorders); and CMF (for craniomaxillofacial trauma and reconstruction), each with its own specialty, leadership, and information systems. "As an international knowledge organization, we create a lot of information that is shared by our different divisions," explained Benno Richner, chief information officer at AO Foundation. "The surgeons and operating room personnel from around the world who consult our information on surgical techniques for trauma and musculoskeletal system disorders must be

absolutely sure that they have access to all the most recent information pertaining to their subject matter when they connect to our website, not just that which is maintained by only one of our divisions. When in the middle of a surgical procedure, an incomplete or outdated view of the latest techniques or clinical discoveries made by fellow colleagues can have grave consequences for the patient," he added.

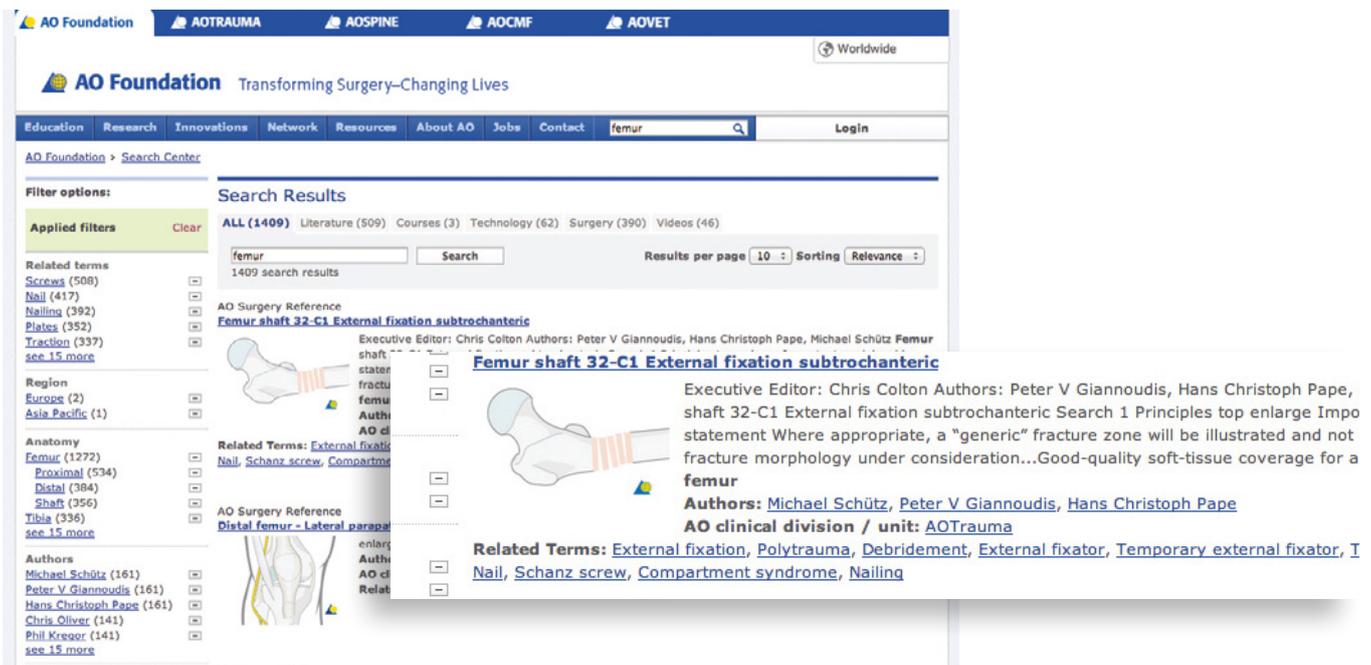
EVERY QUESTION HAS A PRECISE ANSWER

The AO Foundation looked for a way to provide its global network with fast and easy access to all its information and to deliver this information in a way that has meaning for the inquirer. "Each specific question requires a specific answer, not a plethora of lines of data that the inquirer must manually sift through to find an answer," Richner said. "The tool we needed had to have the ability to automatically and intelligently access all the information, whether stored in one of our internal databases or on the cloud in third-party information systems, and to filter the results as a function of the search criteria defined by the surgeon. The results have to be exhaustive but relevant to the inquirer's problem," he emphasized.

"Only relevant information is retrieved and displayed in an intuitive way that makes sense to the user. Our different data silos are now linked thanks to EXALEAD."



— Benno Richner
Chief Information Officer
AO Foundation



The AO Foundation also needed to minimize investments by conserving its existing information sources instead of consolidating them or replacing them with new ones. "A non-intrusive, universal search-based application that functions across any client platform, that can be installed on our existing IT infrastructure, with the ability to centrally manage user profiles and access rights, and that can be accessed from anywhere in the world; these were our primary specifications. We needed a precise solution to handle more than 40,000 visits per month," declared Richner.

Assisted by DTI Management, a Dassault Systèmes partner experienced in information management, the AO Foundation analyzed a variety of search solutions on the market and opted for EXALEAD CloudView, Dassault Systèmes' information access application based on its 3DEXPERIENCE® Platform, "for its speed, robust architecture and the fact that it is platform-independent," Richner said. "We were also reassured by EXALEAD's long-term development strategy and vision, which guarantees the sustainability of our investment." DTI helped AO Foundation to define the taxonomies most suited to its users. "DTI also customized and optimized the way search results are displayed. The result is a user-friendly application tailored to our needs."

With EXALEAD, users no longer have to search through the different information sources individually to find the answers to their questions. "Prior to implementing EXALEAD, they had to search in each application separately, using the search capabilities of that particular application," Richner said. "Needless to say, this only produced a partial view of all the information available in our databases, which include the Surgery Reference, user profiles, website, video repository, Cumulus enterprise information database, education classes and more. Now, they have a unique interface with a single sign-on to access all our information. EXALEAD can even find unstructured information contained in a video and bring the

Example of search for "femur" using EXALEAD on www.aofoundation.org

Focus on AO FOUNDATION

Medical non-profit organization specializing in the treatment of trauma and musculoskeletal disorders.

Products: Research and development, clinical investigation, education and knowledge services

Employees: International faculty of +3,000 experts

Headquarters: Davos, Switzerland

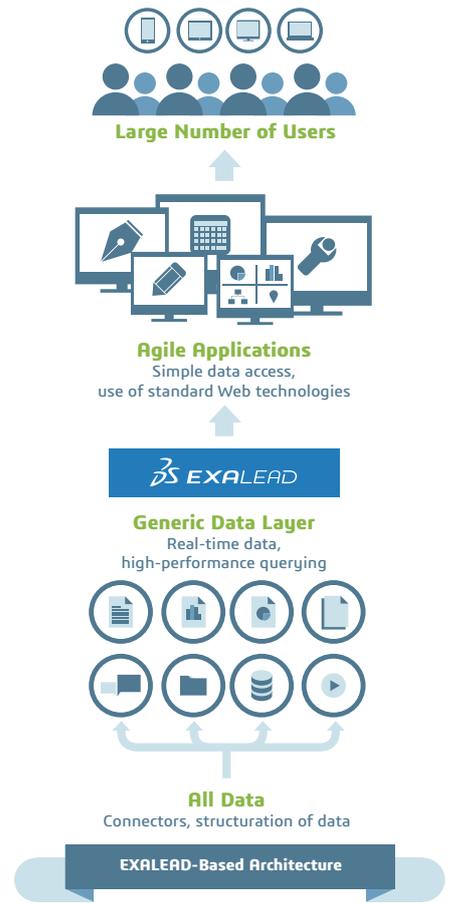
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user to that specific point, which saves valuable time when looking for a visual demonstration of new surgical techniques.”

Another advantage is EXALEAD’s powerful faceted discovery capabilities. “Users are not lost in a flood of data,” Richner said. “Only relevant information is retrieved and displayed in an intuitive way that makes sense to the user. Our different data silos are now linked thanks to EXALEAD.” One of the next steps will be for the search function to retrieve and display only information pertinent to the user profile.

INFORMATION DISCOVERY - AN EVOLVING AND DEMANDING MARKET

Users have become increasingly demanding as search solutions increase in speed and power. “Ten years ago, applications had their own custom-made search functionalities, with search limited to inside of each application. Powerful search solutions like EXALEAD have changed all this; it has broken down barriers by extending access into other systems. In an age in which humans are faced with more information than they can handle, for our particular case, the possibility of accessing only the most useful information related to a particular context is a genuine timesaver,” he concluded.



Dassault Systèmes 3DEXPERIENCE Life Sciences solutions are about bringing products to life – connecting innovative virtual 3D designs with patients, physicians, and other research, regulatory, and clinical communities. From concept to patient, drug manufacturers create and optimize a formulated product, gain regulatory approvals, and manage the delivery of the medicine to consumers. Similarly, medical device companies can create and manage a design, validate it with regulators, and then provide training and treatments to physicians and patients using a virtual 3D world.

Our 3DEXPERIENCE Platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes’ collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 170,000 customers of all sizes in all industries in more than 140 countries.

For more information, visit www.3ds.com/life-sciences.



| The 3DEXPERIENCE Company

Europe/Middle East/Africa
 Dassault Systèmes
 10, rue Marcel Dassault
 CS 40501
 78946 Vélizy-Villacoublay Cedex
 France

Asia-Pacific
 Dassault Systèmes K.K.
 ThinkPark Tower
 2-1-1 Osaki, Shinagawa-ku
 Tokyo 141-6020
 Japan

Americas
 Dassault Systèmes
 175 Wyman Street
 Waltham, Massachusetts
 02451-1223
 USA