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# Case Study

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## The Consolidation of Online Systems at the Union Investment Group

*“Millions saved and optimised sales”*



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## **Management Summary**

During the years of the stock market boom around the year 2000, investment companies saw the emergence of numerous new applications brought about by the resultant demand for investment funds. The old mainframe-based core systems had to be supplemented as quickly as possible by modern online systems in order to manage the explosive growth in the number of transactions resulting from the shift from fax to on-line entry at the point-of-sale. At the time the growing variety of online systems for customer self-service, call centres, sales support and many other tasks was often built using different technologies, transaction platforms and infrastructures. Today, this heterogeneity and sheer number of different systems are the reason for high follow-up costs in operation, maintenance and further development.

### **Initial situation**

Union Investment, asset manager in the cooperative finance group with 1290 credit unions, people's banks, Raiffaisen banks and other credit unions, operated three major online systems: one for the classic distribution through the consultant in the group, one for direct sales via internet and one for call centre sales. The applications were built on different technologies, each with its own interfaces for fund accounting with Union Investment and some of which had arrived at the end of their technical life cycle.

### **The project: COS - consolidation of online systems**

Union Investment launched the project COS - Consolidation of Online Systems - towards the end of 2004 with the aim of consolidating applications within a single technology platform that could be operated at minimal cost and low risk of downtime and that could also harmonize the landscapes of interfaces. In addition to direct cost savings by improving the utility value of the applications the online consulting business was to be tripled.

The front-end implementation of the project was completed in the course of 2005 by arago, a Frankfurt-based internet pioneer, well experienced in the financial world. The use of the FondsSuite programming platform developed specifically for investment companies makes for short project cycle times, streamlined operations and new features for users. And for good results: The operating costs of the consolidated applications today are about half what they were in the past. The higher level of user satisfaction is also responsible for the steadily increasing online quota from quarter to quarter.

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## Millions Saved, Distribution Optimised

More than EUR 144 billion in *assets under management* and over 2,000 employees - these are Union Investment's key data. The company manages over 9 million accounts for members of the association of banks which owns 1290 people's banks, Raiffeisen banks and other credit unions with nearly 14,000 local branches in Germany. Customers of all these banks manage their accounts at Union Investment and the consultants at these banks need to be able to access the appropriate data.

Like with nearly all banks the legally binding posting of deposits is performed in mainframe applications. At Union Investment, this is comparatively modern: since its first fundamental overhaul in the 90s, it has a well-structured data model, which was implemented in a DB2 database with pure COBOL applications. This is how DASKA, as this system is referred to, creates an excellent foundation in the back office for the entire IT infrastructure of Union Investment, to which all other applications have access.

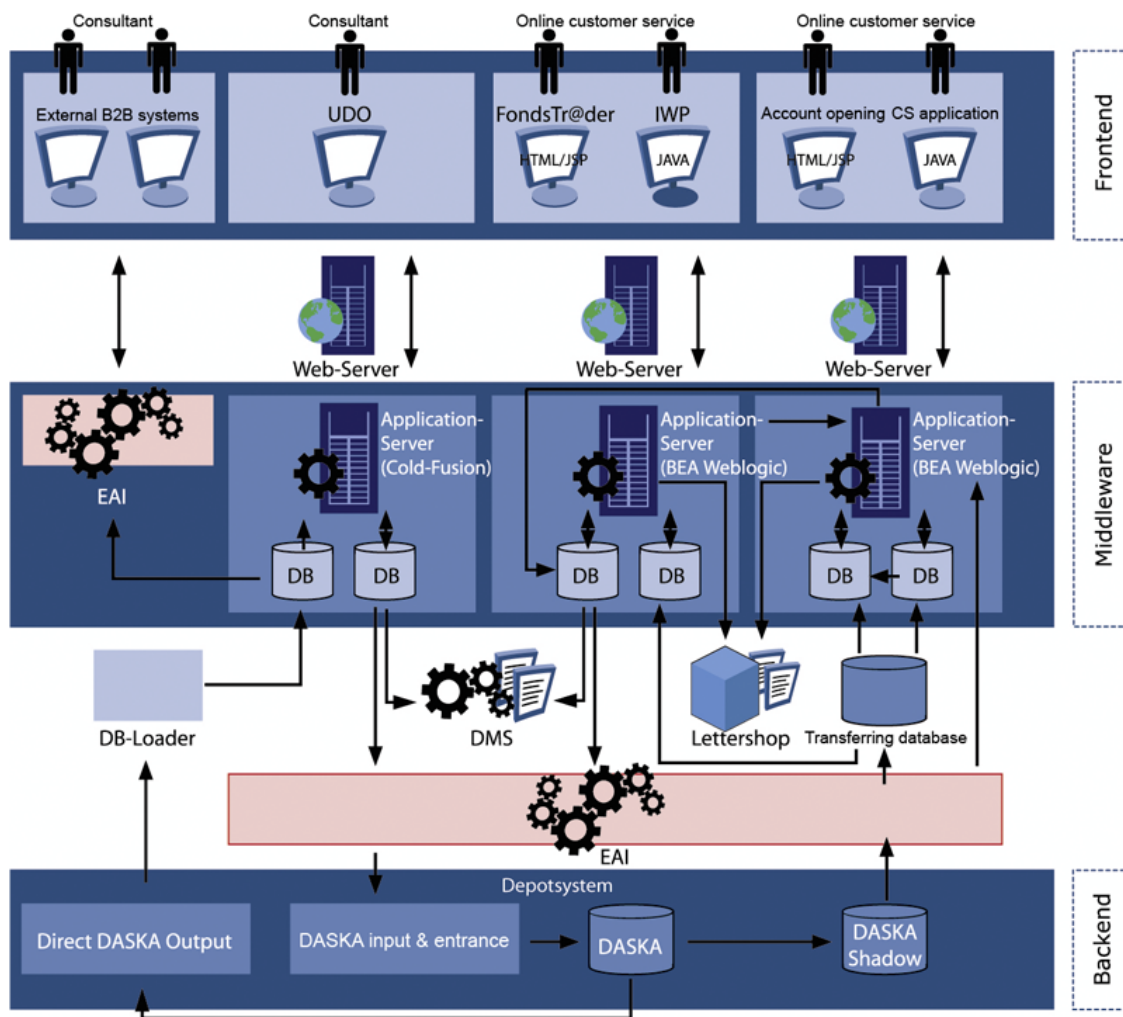
### Diversity of applications in the Group

Over the course of a decade, several applications grew together: originally Group members still accessed the 3270 terminals directly, but over time they gradually developed a wide range of different information systems which were used to communicate with DASKA via the various interfaces, from MQ messaging to Java clients. However, they developed the vast majority of transactions using three applications provided by Union Investment itself.

The "Union Depot Online" (UDO), an application server built with the ColdFusion application server and in operation since 2001, was designed for customer service representatives attending to members of the Group. Since 2003, end customers have been able to use the web application "Union Fund Online" (UFO) to manage their accounts as they see fit. A Java-based call centre application handled the processing of all transactions that were not completed online by consultants or end users but rather those that came in by phone or fax.

Each of the three applications had its own database to which customer and account information was copied from the central DASKA application at regular intervals. Conversely, each of the applications created transactions that had to be transferred back to DASKA in different ways. The decentralised and redundant data storage on the one hand makes the systems autonomous and therefore fail-safe. On the other hand, however, the loading of mass data at peak times resulted in sometimes critical performance congestions.

Most importantly, operating the application became expensive in the long run. Two redundantly coupled Sun E440s housed the UDO. In the case of the other provider, two Sun E10K "Star Fire" units were used for UFO and the call centre application.



Configuration before COS

## IT costs are pivotal

The expenditures for maintenance and further development of the applications contributed to their high costs. For this reason, much of the content such as sales information for new funds had to be imported into multiple applications. When new functions had to be programmed, for example, when legal changes occurred, these quite often had to be implemented in all applications, which in turn required extensive testing by the IT and business department. And the cost of retaining employees with the extensive expertise in the different technologies that were used was ultimately reflected in the operating costs.

“During the boom period, we accepted the operating costs for running parallel applications because the solutions created this way could be put on the market quickly,” explains Dr Olaf Zeitnitz, Head of Market/Accounts at Union IT Services. “But from an economic point of view, there was no long-term alternative to consolidation.” And also due to the ever more cumbersome development of the systems, Zeitnitz pushed to simplify the complex infrastructure.

The opportunity presented itself after Union Investment was working hard on the further expansion of its back office infrastructure between 2002 and 2003. By this time DASKA had been supplemented with an Enterprise Application Integration (EAI). This platform allowed other applications to access DASKA data in real time and even execute transactions. This then allowed online systems direct access to the data which had thus far been copied and transferred during batch runs at regular intervals.

## **The COS project is born**

The first blueprints for COS were designed on the initiative of Union Investment's Hans-Christian Boos, CEO of arago AG, which as one of the participating providers was already hosting the UDO application and was therefore familiar with the existing application environment. "Our key advantage was the many years of experience with online systems in the financial sector," explains Boos. "We were therefore able to present Union Investment with a proposal equally sound in terms of its technology and its business functions." In addition, arago's FondsSuite was equipped with a platform built using the latest Java technology, which was able to meet the majority of Union Investment's consulting and end customer business needs with pre-finished components. "A technology with KAG features, so to speak," as Boos casually describes the scope of products.

The FondsSuite is therefore expected to meet the main technical challenges – the merging to one technology platform without a loss of existing expertise, multi-tenancy capability and the sharing of a core set of features despite varying sales processes on the clients' side. Other requirements included minimising costs and reducing the number of interfaces.

Based on Union Investment's previous good experiences with arago, they were quickly convinced to begin with the project as outlined by Boos. "The business case was plausible," recalls Zeitnitz. "We wanted to halve our operating costs with a relatively low investment and be prepared to handle an on-line quota of 80 to 90 percent. With arago as a long-term partner, we knew we could expect success."

## **In the beginning there was a plan**

To improve the consultants' on-screen work quality, Boos upgraded the user acceptance and created high-quality contents. "Before, users had worked with an often slow application that didn't allow them to view all portfolio assets online," he recalls. "We were confident that, if nothing else, the switch to a fast, real-time transaction platform would significantly improve the acceptance." In addition, the FondsSuite can offer very specific information that assists sales and allows an ideal control of the sales processes. "Both are big plusses for the consultant in day-to-day business."

But before it was time, the task was to comprehensively plan the consolidation project. To this end, the experts from arago together with Union Investment presented a two-step plan of action. The existing consulting system was to be optimized during stage I and upgraded to meet the technical standard of the FondsSuite.

The highest priority in this phase was to reduce the peak load which regularly occurred in the consulting system between 11 and 12 am. Accessing copies of the data from the UDO-internal database turned out to jam the system. The optimisation plan was designed to route this traffic directly to DASKA.

During the second step, the UDO application was to be upgraded to a modern Java platform of the FondsSuite and the outdated Cold Fusion application server shut down. Here, all functions were to be transferred to the new platform and the plausibilities stored in the custom tags were to be converted to FondsSuite XML format so that users were able to continue working in the exact same way on the new platform.

During Stage II, the plan was to migrate the end customer and call centre applications to the FondsSuite platform. However, the focus here was not on a functional replacement of the applications, but rather on combining them on the same platform and making it possible to share the same interfaces. Replacing the individual interfaces with shared access to the EAI solution appeared to be particularly promising because this would make the separate management of the data for the call centre solution largely unnecessary. Since the call centre application suite, just like the FondsSuite, was Java-based, it was possible to achieve a loose integration in form of Java components.

## Ready, steady, go!

After a preliminary study in 2003, which resulted in the upgrade of one particularly critical interface in the UDO to the direct EAI access, it was all go for COS in September 2004. Over the course of a year, the ambitious, two-phase project was planned to phase out the older applications that had been upgraded on 31 December 2005.

Thus, the teams got down to work. While the software developers at arago were working on incorporating the necessary end customer features into FondsSuite, the design team was already working with the various departments at Union Investment to agree on the layout and design. At the same time, a small group of specialists began working on the integration with the EAI platform.

This connection required close coordination with the EAI project team at Union IT, which had to create numerous new services for this purpose. "Any potential request from the process side required that there be a corresponding service in the EAI platform," recalls Nico Richter, IT consultant at Union IT and project manager for COS. "Only by fully upgrading real-time services we were able to shut down the complicated and error-prone replication of data."

The software architects from Union IT strictly ensured that all newly created services were designed from the standpoint of reusability. "Ultimately, the services ensured that the interfaces to the other group interfaces were made considerably simpler," emphasised Richter. "Today we can be sure that any user with any application always accesses the same service when he needs a certain function."

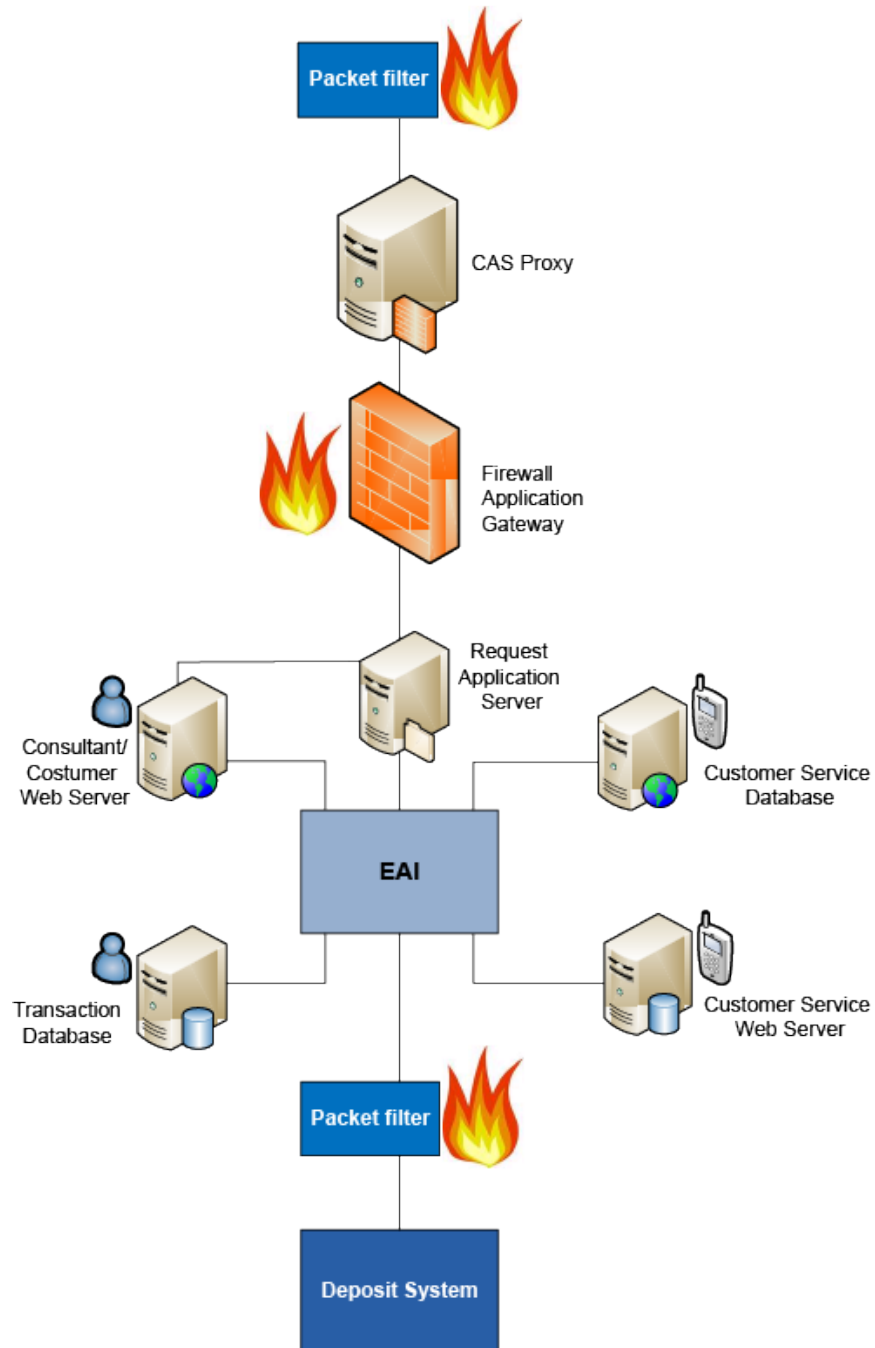
## Production launch encounters obstacles

While the work on the end customer system continued to drag on, the upgrade of the consultant application UDO to the new Java platform was already completed and successfully tested in June 2005. On 1 July 2005, the Starfire configuration went live in the data centre. "We hadn't expected any major problems here", Boos says with a smile, looking back. "But the fact that it went so smoothly made us almost suspicious."

The integration of UFO and IWP was expected to be all the more troublesome. Preparations for the upgrade to the FondsSuite were for the most part complete by autumn 2005. The test, however, proved to be a real challenge. "The sheer number of test cases caused significant problems in terms of time," recalls Richter, who was responsible for overseeing the tests. During the hot phase, our test tools reported as many as 2,500 errors that had to be dealt with. "This required us to heavily prioritize in order to finish at all."

Few of these cases were given the highest priority because they would not have resulted in faulty transactions. In many cases the problem was an incorrect button label or the display of street and house number in a single box instead of two separate boxes, and there was a technical solution for many of the bugs reported. But the application could not be put into operation before Richter's team was able to deal with each individual error. "In the end, it was getting very close to the deadline, the 31 December 2005," recalls Richter. But the expensive operation of the old solution couldn't be extended, which is why we absolutely wanted meet the deadline. Thanks to countless late nights and weekend shifts both at Union IT and at arago, the deadline was met in the end. "If there was still another error to resolve at 8 in the evening or an upgrade had to be performed at the weekend, you could always count on arago," emphasises Richter.

At the beginning of this year, a new account opening feature was added to the consultant application, and after the last replicated database was finally shut down in April 2006, Union Investment had finally arrived in the real-time era. "Overall the transition went very smoothly," says Zeitnitz. "The divisions hardly noticed anything at all." Richter also explained: "The fact that arago provides our application development and operation from a single source was a big plus." Thanks to the short distances it was frequently possible to solve problems before users even noticed them."



Configuration after COS - simplified illustration

## Taking off with the new platform

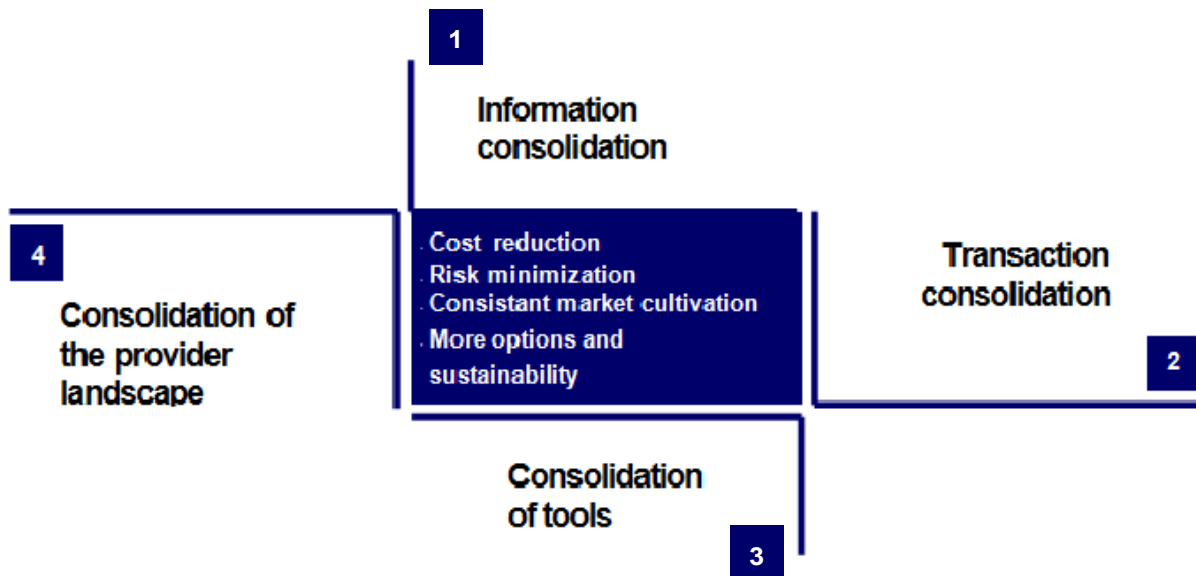
By now the new platform has stood the test of time and the first results from the productive phase are available. “The most important outcome is that we have nearly cut our operating in half over previous figures,” Zeitnitz is happy to report. “COS has already paid off after less than a year.”

Moreover, the new solution is future-proof. The multi-tenancy capability makes it possible, with minimum effort, to integrate Group network partners who need a special front-end in their own design, as for instance with Netbank. Today, the integration of additional network applications with standardised interfaces works considerably faster and without creating new dependencies.

The FondsSuite shows its real strengths, however, when the built-in process engine, content management and business intelligence components are deployed. “The consolidation of the online systems is only the beginning,” predicts arago CEO Boos. “The future lies in the intelligent control of sales processes. The FondsSuite gives consultants a support platform that is already prepared to meet the upcoming MiFID requirements for consulting, sales, monitoring and evaluation of completed trades.”

This, of course, again improves the online quota. At Union Investment it now lies at over 60 % - and rising - thanks to the new solution.

## Benefits from the User's Point of View



### Information consolidation

- Reduced maintenance expenses
- Standardised information platform for all sales channels (direct sales, self service, branch operations, partner sales, IFAs, brokers pools etc.)
- Multiple use of information in various processes

*A portal concept with an integrated and centralised computer-aided selling system replaces the simple online sales platform.*

### Transaction consolidation

- One-time implementation of functional and legal requirements for inspection and product classification
- Shared access by all clients to key functions, with individual workflows and permissions
- Reduced risk and maintenance thanks to standardisation and minimum number of interfaces to securities accounts department, processing partners and fund raising
- The use of the complex transaction platform for multiple processes makes economic sense

*Multiple transaction processes can be mapped on a single infrastructure.*

## Consolidation of customer service tools

- Customers, consultants and call centres work with the same application and have real-time access to the same data.
- Standardised access in customer service (instead of end customer and consultant application) simplifies work
- Focussing on the knowledge level of users enables more effective management and sales control
- Central administration prevents abuse by users and dissatisfaction

## Consolidation of the provider landscape

- Cost reduction for operation, licensing, infrastructure and technical processes
- Improving the control by SLAs for channels instead of for applications and end-to-end access and measurement
- Using the total results data for project development: load and performance, use and users

## Users

Union Investment is the central asset management competence centre for the cooperative finance group *FinanzVerbund*, which, in addition to special institutes, owns 1290 people's banks, Raiffeisen banks and other credit unions with nearly 14,000 local branches in Germany.

Active since 1956 in the investment business, Union Investment Group today has *assets under management* totalling more than EUR144 billion and around 2,000 staff, making it one of Germany's largest asset managers for private and institutional investors.

## IT subsidiary

Union IT Services GmbH (UIT) is the IT provider of the Union Investment Group. UIT bears the overall responsibility for both the IT support using the company's own proprietary industry-specific applications and for the provision of standard software for the entire IT infrastructure. With 140 employees, UIT manages and operates a complex application landscape.

## ROI - How COS could pay off for you, too

Apart from performance and the attendant possibility for increasing the online quota, cost is the main reason for realising a consolidation project, which is why we present a comparison of the potential project costs and potential savings of a hypothetical KAG environment. Here we consider an environment with two independently operating transaction systems for customers and for consultants as a starting point.

As the following table shows, we assume the annual costs for operating the existing system of the separate environments for the consultants and end users to be EUR 4.4 million. After consolidation, the operating costs for the entire environment amount to about EUR 1.4 million. The total cost of the consolidation project, including licenses, is EUR 0.9 million.

In the cost-benefit analysis, we assume that EUR 0.3 million are spent as a down payment in mid-2007 and EUR 0.6 million are due on 1 January 2008 upon project completion.

To ensure a smooth transition from the status quo to the new consolidated system, a three-month parallel operation is factored into the calculation.

	2007	2008	2009
Cost of status quo	EUR 4,400,000	EUR 4,400,000	EUR 4,400,000
Consolidation	EUR 300,000	EUR 600,000	EUR 0
Costs following integration	EUR 4,400,000	EUR 2,500,000	EUR 1,400,000
<b>Savings</b>	<b>- EUR 300,000</b>	<b>EUR 1,300,000</b>	<b>EUR 3,000,000</b>
<b>Cumulative</b>	<b>- EUR 300,000</b>	<b>EUR 1,000,000</b>	<b>EUR 4,000,000</b>

All figures represent only a rough estimate, which was averaged on the basis of our experiences from several other consolidation projects.

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## **FondsSuite – the Multi-fund Sales Solution**

The arago FondsSuite is a modular total solution designed to simplify consulting and the selling of shares for the investment funds sales, corporations and investment companies. The suite is built using current Java-based application technology and contains a variety of investment applications to meet the current challenges of the modern sale of shares.

### **Consulting à la carte**

The core of FondsSuite is the module designed for the consulting business. The consulting tools include applications for customer classification, product selection, fund comparison and product presentation, including historical and projected performance of investment alternatives. This makes FondsSuite the only fund sales solution that is able to make a selection to meet the customer's specifications based on all of the funds available, and create any combination of investment fund offerings and compare them with the projected performance. Investment consultants can therefore offer their customers high quality advice previously reserved for wealthy private clients as part of a very time-consuming support system. Our consulting business is rounded off by tools designed to assist with orders and the monitoring of investment performance.

### **Monitoring and control**

FondsSuite also includes comprehensive tools that assist the product provider with monitoring and controlling of the various levels of its distribution pyramid. This allows various processes for different parts of the distribution structure (or even for individual consultants) to be integrated in a pool of content and product data, which makes it possible to always create the ideal product universe for individuals, groups, or processes – or globally as well . Depending on the sales goals, it is possible to push certain products to the fore to give them first priority among a choice of products. Similarly, a recommendation can be defined for certain product portfolios for certain combinations of investment goals, risk tolerance and investment horizons.

Entering the consulting data and transactions in FondsSuite allows sales reports to be generated directly. This way the achievement of targets and the effect of incentive measures can be tracked directly. During this process, even complex commission and decision systems can be integrated.

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## **Provider and Contact Information**

Offering successful and professional services, arago AG is one of the leading specialists for complex business applications of all types of information networks. Since 1995, the company has been building innovative solutions for the development of its projects, in consulting and, as an outsourcing partner, has made online information quicker, more efficient and more secure.

The company is divided into two complementary spheres of business. With ITIL-compliant sourcing solutions meeting the WebFarm™ standard and IT security, professional IT operations and network security personnel are provided with certified, tried and tested sourcing services in the form of automated, high-availability and high-security systems. Arago holds a successful position in the market in the project area thanks to its many years of experience, for example, with the arago DocMe Information Management System and arago FondsSuite, a modular sales system.

Arago AG has its roots in the financial sector. The standards of efficiency, stability and security required in this field are consistently undergoing further development and being applied in other industries.

Apart from the traditional focuses, arago has developed special solutions particularly for the pharmaceutical/healthcare, media, telecommunications and consumer goods/trade sectors.

Today, our products and services are in demand wherever companies

- generate or need to manage large volumes of information,
- operate from different locations,
- work with different systems,
- require highly available environments,
- have very high security requirements or work with sensitive data.

For more information about our company and our product services, please visit our website at: [www.arago.de](http://www.arago.de).

For questions about this case study and the services offered by arago AG, please contact us at:

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