RAUCH GmbH Cuts Publishing Costs by 90% after Installing Arbortext® Publishing Solutions from PTC®

Farm equipment manufacturer replaces 100%-text publications with entirely graphic manuals

RAUCH Landmaschinenfabrik GmbH, Sinzheim, Germany
Founded in 1921, German agricultural machinery manufacturer RAUCH today is proud to still be a 100% family owned business, now in its third generation. RAUCH is a leading innovator in designing and manufacturing machinery that meters and distributes granules in fertiliser and seeding applications. Today, 280 RAUCH employees deliver more than 15,000 machines per year, 65% of which are exported. RAUCH is the proud owner of more than 100 registered patents as well as numerous national and international awards demonstrating its innovative thinking.

The Challenge: Save time, effort, money in publication process
Until 2004, RAUCH created its technical publications in-house, relying on an external service provider to create and translate operation manuals. Graphics for manuals and assembly instructions – mainly photos and illustrations – were still being produced internally. And since the design department used Pro/ENGINEER®, all assemblies and parts already existed, fully drawn, as 3D models. However, to create graphics for describing complex work steps in an assembly instruction, design engineers had to draw totally new parts – a massive, time-consuming effort requiring extensive communication between all involved parties.

The Solution: Arbortext® IsoDraw™ automated publishing solution from PTC
To reduce this considerable time and cost factor, RAUCH started searching for a solution to optimize its publication processes. To save translation and administration costs, they decided to create the product assembly instructions entirely 'without text', as purely graphic manuals. For engineers, however, this meant a tremendous additional workload, especially considering that one spreader may incorporate 2000 parts. So the only solution was to provide the technical publications department with direct access to 3D data, so their illustrators could manipulate graphics themselves. To do this, RAUCH implemented Arbortext IsoDraw into its technical publications workflow. Now, engineers no longer have to do any preparation work to create the graphics; they simply provide Pro/ENGINEER models, and all further processing is done in the technical publications department.

RAUCH GmbH uses a variety of PTC solutions, including Pro/ENGINEER for 3D CAD, and Arbortext IsoDraw for creating user manuals and assembly instructions.

The Results: Reduces pages; cuts publication cost by 90%
With Arbortext IsoDraw, RAUCH has achieved tremendous savings in time and effort in their manual and assembly instructions process. In addition to reducing the workload of the engineering department, RAUCH has chopped the number of pages created for each manual, thus slicing the costs of publishing and translating. In the past, manuals consisted of 36 pages, all text. Today, manuals run between 2-24 pages—all graphics! As a result, RAUCH proudly states that Arbortext has reduced translation expenses by approximately 90%.

> "Our old manuals consisted of up to 36 pages and these were mainly text. Our current assembly manuals consist of 2-24, all-graphic pages... In summary, we managed to reduce our translation expenses by approximately 90%."

-Alexander Lörch
Head of Technical Publications
RAUCH GmbH

Award-Winning Innovation in Farm Equipment

Founded in 1921, German agricultural machinery manufacturer RAUCH is a 100% family owned business, now in its third generation. Rauch has earned a stellar reputation for its fertilizer and seed product technology, the two core concepts for its success.

RAUCH conducts extensive discussions with both agriculturists and agronomists to learn the most challenging issues in farm machinery in order to create innovative metering and distribution solutions. The company seeks to reach perfection in every aspect of its business – including its ability to publish quality user manuals and assembly instructions.

Until 2004, RAUCH created its technical publications in-house. However, as the product portfolio became more and more diversified – putting increased time pressure on the technical publications department, management decided to hire an external service provider to create and translate operation manuals. The graphics for the operation manuals and assembly instructions – part photos, part illustrations – were still created internally.

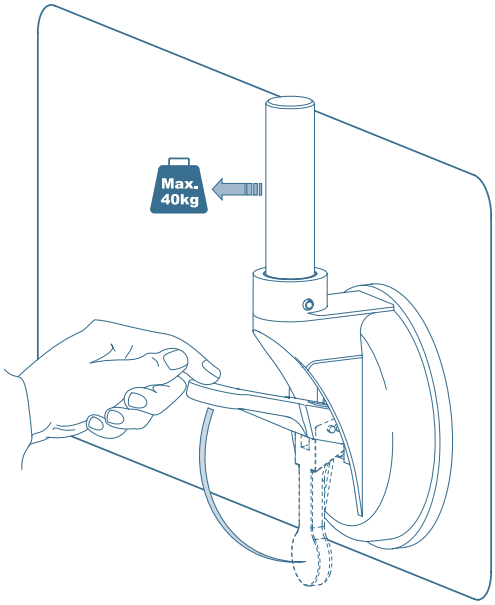
The design department at RAUCH has been working with Pro/ENGINEER, and thus, all assemblies and parts already existed, fully drawn, as 3D models. However, in order to create graphics for describing complex work steps in an assembly instruction – and to fulfil the requirements of the technical publications team, design engineers often had to draw new parts from scratch. Apart from this additional effort for the design engineers, the communication effort between all involved parties was tremendous.

Creating Assembly Instructions without Text

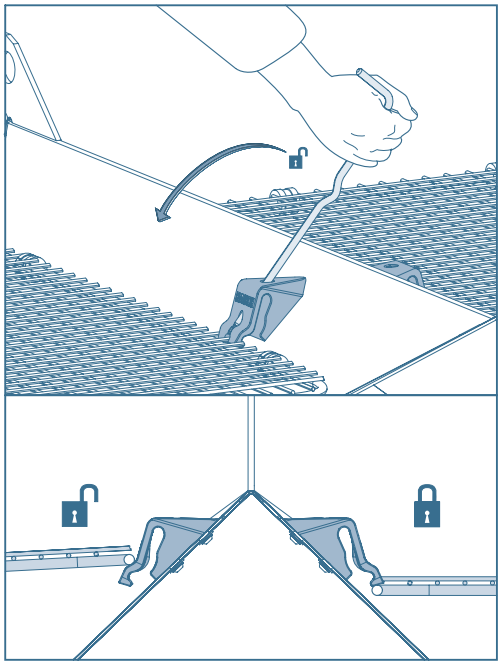
In order to reduce this considerable time and cost factor, the team at RAUCH started to search for a solution that would optimize their processes. To save translation and administration costs, they decided to create the assembly instructions for RAUCH products entirely 'without text', that is, to create purely graphic manuals. In addition to obvious benefits to the publications department in cutting translation costs, this would also increase user-friendliness; imagine a farmer trying to assemble a spreader to his tractor by having to read through pages and pages of text!

For the engineers, however, 100% graphical manuals would have been a tremendous additional workload, especially when considering that an average spreader can consist of up to 2000 single parts. So the only solution would be to provide the technical publications department with access to the 3D data, so the illustrators could manipulate the graphics themselves.

For this reason, RAUCH implemented Abortext IsoDraw into its technical publications workflow in the summer of 2005. Now, engineers no longer have to do any preparation work; they simply provide the Pro/ENGINEER models. Any further processing is performed in the technical publications department.

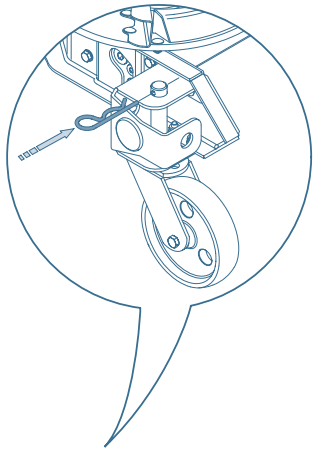


Extract from the assembly manual of the AXIS spreader system.



Arbortext IsoDraw includes a library with many predrawn hands and tools.

"By implementing Arbortext IsoDraw, we managed to drastically reduce the effort for preparing the illustrations through our engineers," explains Norbert Rauch, company CEO. "In the past, we had to manipulate every single part according to the needs of the technical publications team, for example, put it into the right perspective and export it individually. Very often, we had to provide several variations of a single part, depending on how it should be represented in the manual. This had cost us a lot of time that we would rather have spent on engineering tasks. However, since the introduction of Arbortext IsoDraw, the only thing our engineering team has to do is just export the assemblies as a whole to IGES. Now with version 7.0, we can even read native Pro/ENGINEER files, so even the step via IGES becomes obsolete and we can invest all of our time into the development of new products," states Mr. Rauch.



Using a magnifier is a common means in technical illustration to show detail.

Arbortext: Intuitive and Easy to Operate

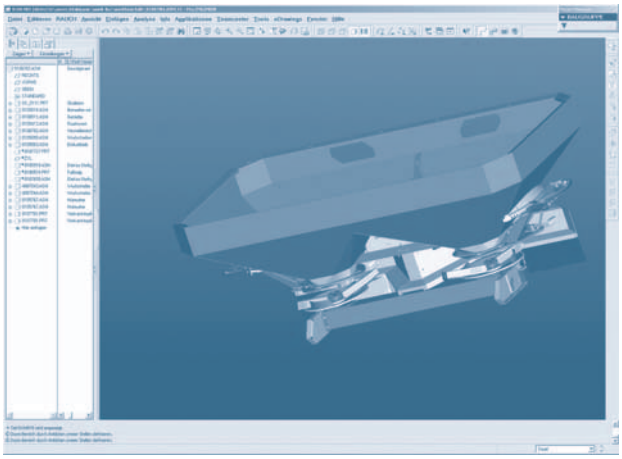
Arbortext IsoDraw CADprocess can be operated intuitively, and is similar in handling to the common graphics programs on the market. The technical publications team doesn't need any CAD training. Illustrators simply open the 3D data with Arbortext IsoDraw CADprocess and manipulate it in multiple ways. For example, graphics can be put in perspective or rotated. Furthermore, you can combine the 3D data with the help of CADprocess in a unique way with a variety of graphic elements to produce high-quality and meaningful illustrations for manuals.

A single mouse click removes the hidden lines and converts the 3D drawing to technical illustrations. The result is a high-quality illustration that requires only a minimum of manual editing, if at all. This is another major gain for RAUCH compared to the former process. Before the implementation of Arbortext IsoDraw CADprocess, the graphics that were provided by the design department had to be 'cleaned up' manually, which was a time-consuming procedure. Stylistic devices like the typical thick-thin technique, tools, or hands were not provided by the CAD system. However, for creating assembly instructions (especially when they come without textual explanations), these devices are essential. Arbortext IsoDraw CADprocess thus provides a library with a large volume of standard parts, such as hands, tools and others.

With the creation of illustrations now so much easier, there is no longer a need for taking photographs for publications. This means additional savings potential for RAUCH. Previously, to create photos for the assembly instructions, a member of the team had to assemble the parts, while a technical author documented the assembly. Very often, to create the photo, a machine first had to be carried from one of the production sites to the headquarters.

Solution Quickly Adopted for Multiple Product Publishing

With the help of Arbortext IsoDraw CADprocess· the new, purely graphic assembly instructions were first created for the AXIS spreading system, which was first introduced in late 2005. Other products followed quickly and in the meantime, these new assembly instructions are used for other product groups as well. More than 35 purely graphic assembly instructions have been realized for a variety of RAUCH products so far.



The AXIS spreader system assembly in Pro/ENGINEER.

When considering the value and ROI of Arbortext IsoDraw, managers at RAUCH calculated the acquisition costs of the software against the expected savings and the internal effort, and the result was soon confirmed in practice: "If we had created the assembly instructions 'the old way' – with photos and text – the translation costs only would have exceeded the cost for a license of Arbortext IsoDraw CADprocess. So this investment had amortized after a few months and manuals," explained Alexander Lörch, head of the technical publications department at RAUCH. "Our old manuals consisted of up to 36 pages and these were mainly text. Our current assembly manuals consist of 2-24 pages of graphics, the only text being the general security advice. In summary, we managed to reduce our translation expenses by approximately 90%."

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