

## User report: Quality assurance in the vehicle component field Digital imaging using the dhs Image Data Base

Oris Fahrzeugteile GmbH is a globally active company with locations in the USA, France and Germany. The product palette ranges from coupling devices, roof girder systems, Cabrio-“Windstops”, optical tuning components for off-road vehicles to vehicle modules, special solutions and services for the automotive industry. The customers include almost all the important automobile manufacturers worldwide. More detailed information can also be found on the Internet at [www.oris-gmbh.de](http://www.oris-gmbh.de).

### Innovative imaging and documentation in the QA laboratory

The **dhs Image Data Base** has been used successfully in the quality assurance laboratory of the Oris factory in Saxony (St. Egidien) since January 2005. The decision to opt for the solution offered by dhs Dietermann & Heuser Solution GmbH was based on the desire to use a network-compliant and multiple workstation-compliant image processing software with a very easy-to-operate, intuitive user interface and modularly extendable functionality. The QA laboratory comprises one area including equipment technology (separating, grinding, polishing) for creating and preparing metal grindings, as well as a second area for the digital image acquisition and software-driven evaluations of these grindings. The imaging system consists of a reflected-light microscope with vertical beam path, the *dhs-MicroCam 1.3* digital colour camera, as well as the dhs software including the basic module (database), Image Support for digital camera (driver), Measurement Tool incl. weld-seam measurement, Automatic Reporting and also Communication modules (see Fig. 1).



Fig. 1 – dhs Image Data Base image acquisition station

The digital image acquisition, standard measurement of weld-seams and such like, determination of the A dimension (see Fig. 3), as well as the entire image documentation, ensue via the **dhs Image Data Base**.

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### It's all a matter of detail!

In particular the detail function (see Fig. 2), one of the many helpful features of the “Automatic Reporting” software module, offers some completely new options here. For instance, images that have been acquired and archived in the database using the dhs software can be displayed in the desired standard enlargement. Or, as an alternative, one can also display the minute detail of the sample in an additional detailed image (detailed zoom), a method that is very clear and meaningful to the recipient of an inspection report (“*A picture says more than a thousand words...*“)!

MS Word™ document templates (forms) allow images and the desired text data to be transferred from the image database into a quality report via a fully automatic timesaving process. The use of this globally accepted text processing program results in numerous advantages, e.g. no other program need be procured and learned (cost minimisation) and, thanks to the universally accepted data format, the report can be read on almost any PC in the world. On request PDF files can also be generated, an equally widespread procedure nowadays.

As one can imagine, both the conception and the handling of the report module are clear and simple, which makes it child's play to conveniently and rapidly generate quality reports according to one's own specific wishes. With the **dhs Image Data Base** the entire process takes only a few minutes out of the daily routine, beginning with the image acquisition via the evaluation and measurement and culminating in the final report mailed with MS Outlook™!

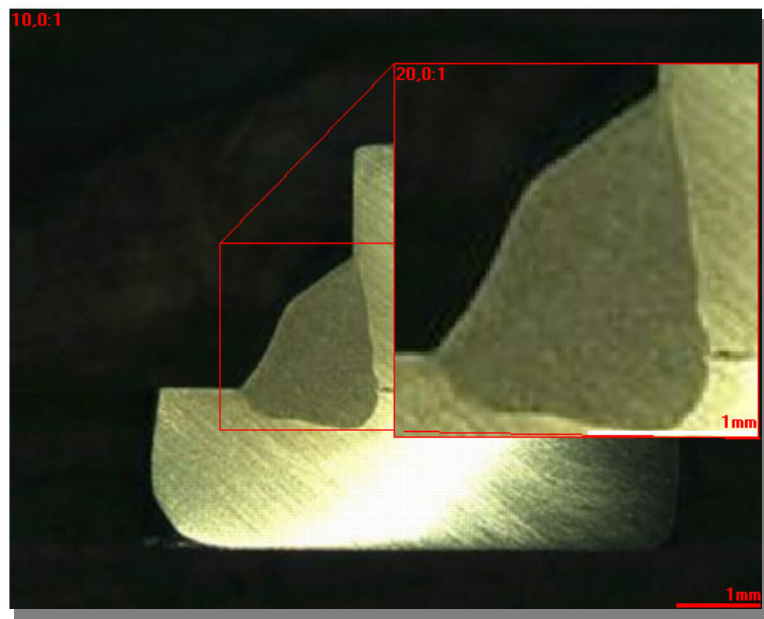


Fig. 2 – Detail function with detailed zoom in standard enlargement

### Precision supplies constant quality – weld-seam measurement according to the norm

Oris Fahrzeugteile GmbH is obliged to guarantee to furnish proof of the weld joint quality to the buyers over a period of 15 years. The results of the weld-seam measurement performed by the internal QA Department also serve to derive corrective actions for the welding robot settings, such as the optimisation of the creation of welding torches (see Fig. 3) for example.

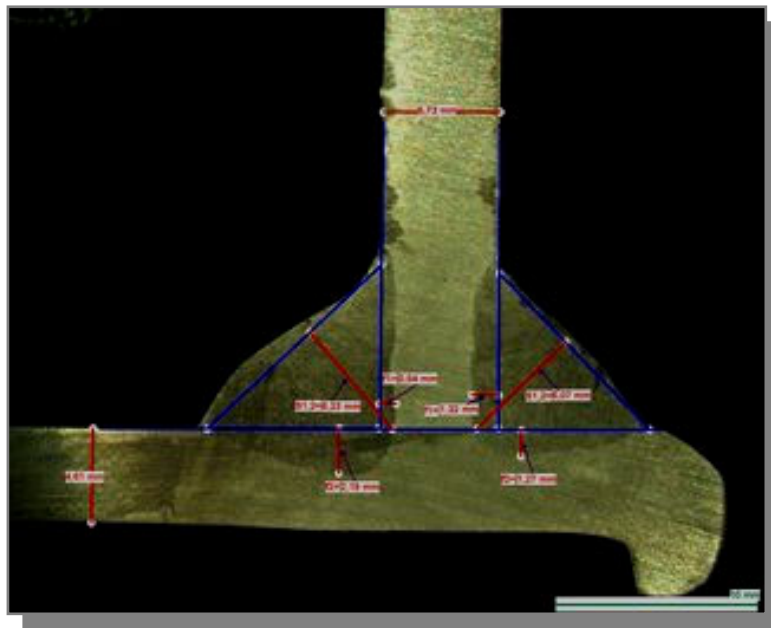


Fig. 3 – Example of a weld seam measurement

### The investment has rapidly paid off

On the whole the **dhs Image Data Base** operates very efficiently and considerably simplifies work in the QA laboratory. The software can be adapted to the company's organisational workflows in very few moves, and one feels at ease with the program in no time at all. It has become an important quality assurance component and, in addition, this investment has also rapidly paid off from a commercial point of view.