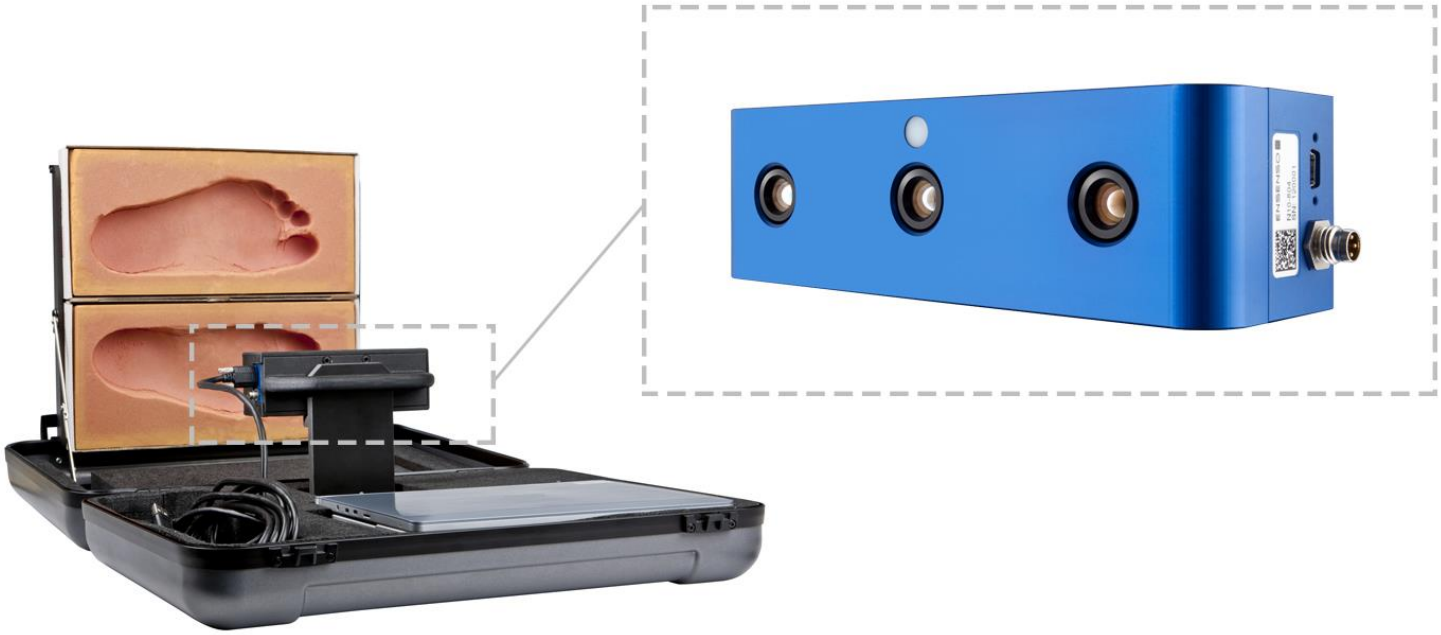


Ensenso N10 stereo 3D camera

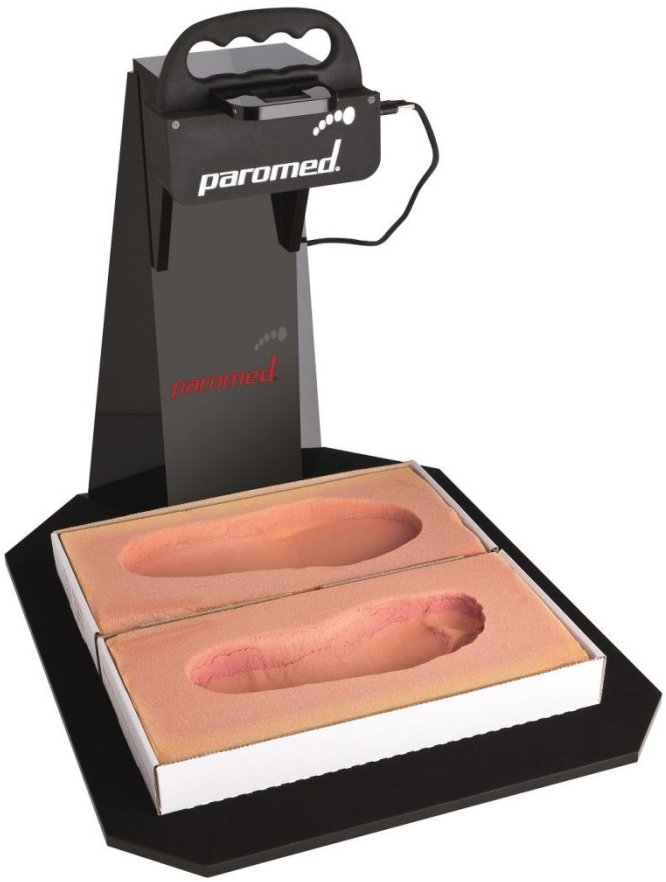
Where the shoe pinches

Medical experts and physiotherapists recommend to walk barefoot regularly. Unfortunately, this is often impossible in everyday life, at work or in leisure time. Therefore, it is good to know where the shoe pinches - in the truest sense of the word. An Ensenso stereo camera N10 supports the accurate 3D measurement of feet to create comfortable shoe insoles.

Foot impression foams are made of biologically harmless, non-resilient material that orthopedists use to detect and analyze malpositions of feet, among other things. Ingenious: the system can easily be transported in a case, making it the perfect, portable alternative to stationary working methods.

"Up to now, we were implementing the foot impression foam system in a non-mobile scanner," says Georg Näger, Development Manager at paromed, "but to ensure an individual service, it is necessary to realize the precise detection even mobile.“

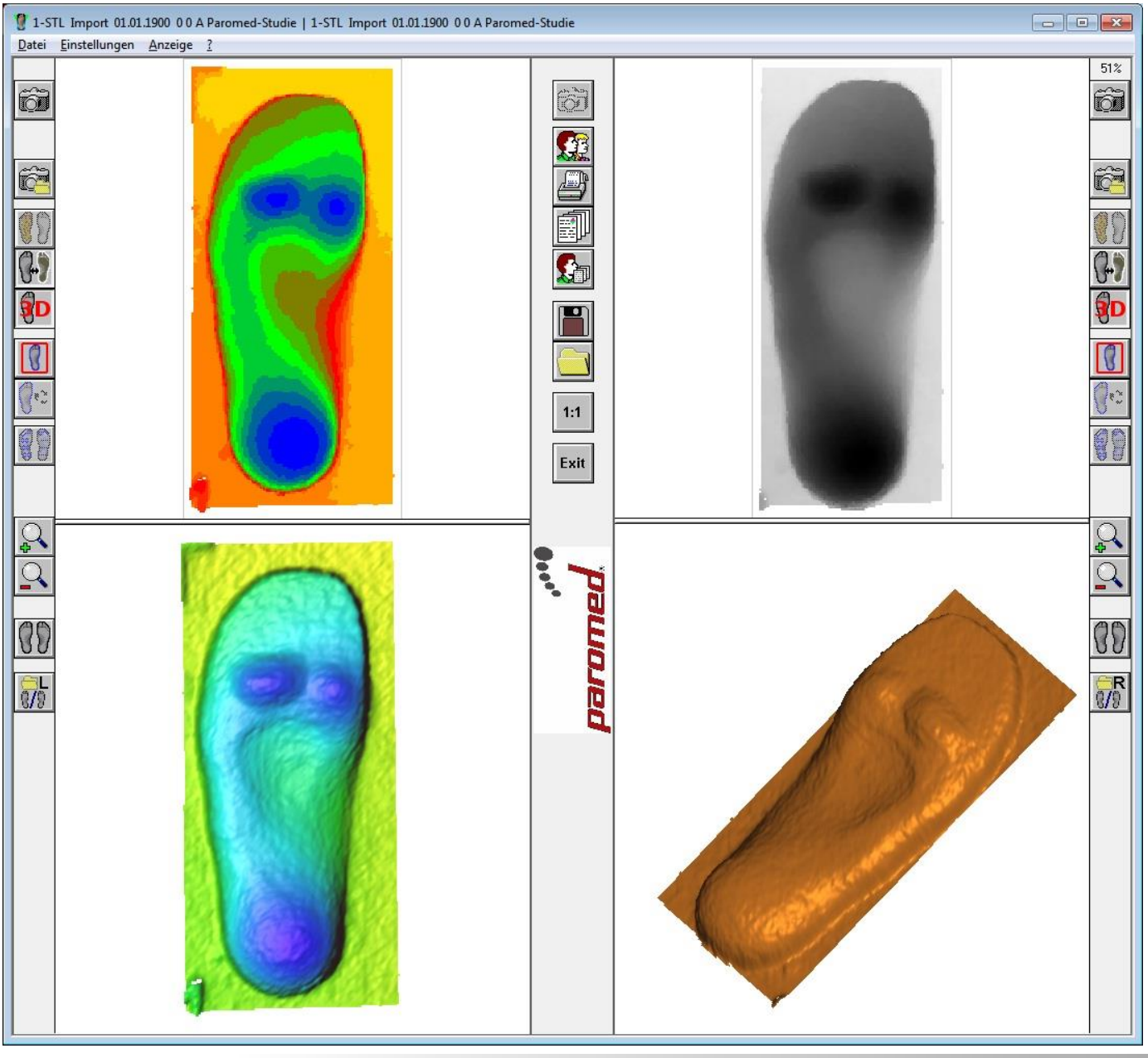
The 3D scanner expands the field of application of this high-quality technology, with regard to orthopedic shoemakers, doctors' offices or hospitals. Georg Näger adds: “When we were looking for a camera, it was important to us that it is robust and cost-effective, and provides high-resolution images. After several tests with positive results, we decided to capture the complex 3D full foot scan with an Ensenso N10."



"We have developed a mobile solution that is cost-effective, portable and easy to use." - Georg Näger, Development Manager at paromed

Customers who require an individual footprint for the production of inlays place themselves barefoot on the foot impression foam. It deforms and adapts to the physiological characteristics of the feet. Then the Ensenso N10 stereo camera captures a 3D image of the footprint in the foam box.

The point clouds are converted, filtered and displayed in an internal file format.. A CAD system fort individual modeling of shoe insoles covers the further processing of image data. Then the data is used either for shaping shoe insoles from blanks or in a 3D printer.



The Ensenso N10 stereo 3D camera with USB 2.0 interface works according to the ""projected texture stereo vision"" principle. It has two integrated CMOS sensors (Global Shutter, 752 x 480 pixels) and a projector that casts a random point pattern onto the object to be captured. The key advantage of the pattern is that it also works in multi-camera mode and can capture images of surfaces that have virtually no texture at all. The compact and robust aluminum housing of the cameras with lockable GPIO connector for trigger and flash underline the suitability of the cameras for industrial use.

Advantages of the IDS Software Suite

Paromed uses software and drivers by IDS Imaging Development Systems, amongst others, for image capturing and analysis. "We use the uEye API and Ensenso nxLib to integrate the camera," says Georg Näger, "as it is integrated into several applications. It works very well with our own code. More advantages of the IDS Software Suite are stability, usability, availability of the source code, and the optimal expandability of the software."

Orthopedic shoemakers, medical experts and physiotherapists breathe a sigh of relief. Thanks to paromed’s mobile 3D scanner and the Ensenso N10 stereo camera customers won’t become patients. They feel as if they walk barefoot and hopefully never get the feeling, where the shoe pinches.

Name	Ensenso N10 stereo camera
Interface	USB 2.0, screw-on
Protect. code	IP30
Sensor type	CMOS
Resolution	752x480, 1/3“ Wide VGA
Shutter	Global Shutter
Dimensions	ca. 150 x 45 x 45 mm
Weight	ca. 400 g
Power consum.	ca. 2.5 W
Focal number	1,8

Pre-calibrated ex works

Focal lengths of 3.6 to 16 mm available

For working distances of up to 2,000 mm and variable picture fields

The Ensenso stereo 3D camera series.

The new definition of 3D vision.

Customer

Since over 20 years, paromed has been developing, producing and distributing high-quality, innovative solutions for modern foot fittings. From efficient, precise measuring to custom-made shoes.

www.paromed.de