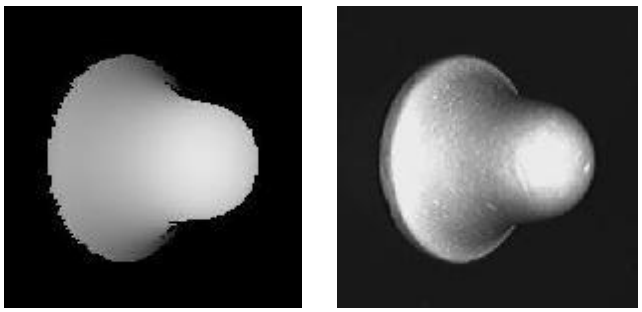
mvIMPACT 3D Display

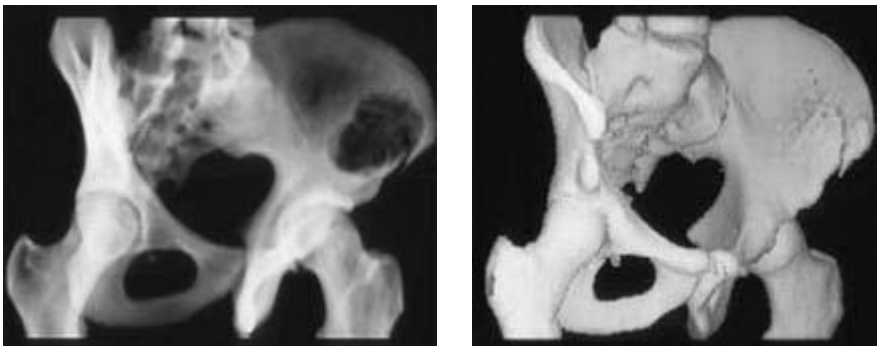
As technology evolves, vision systems become able to deal with the third dimension and open up a very new world of possibilities.

With 3D imaging sensors, such as those implementing fly-time or interferometric methods, one obtains so-called range images, where depth information is attached to each pixel. This allows describing the actual shape of surfaces and objects. Standard methods of gray-scale images processing such as morphology or pattern matching can be directly applied to such a representation.

With scanning devices, such as PET or X-Ray imagers, it becomes even possible to have a look inside materials and capture 3D densitometric maps. Animated image sequences can also be thought of as 3D stacks. True three-dimensional information need specific processing functions generalized to the spatial case.



Range image with mapped reflectance



Volume and iso-surface rendering

Whatever the case, reasoning and solving problems on 3D images requires appropriate visualization tools to allow appropriate removal of hidden parts. The advanced 3D Display module of mvIMPACT is especially powerful in this respect. It supports rendering of range images with possible texture mapping when reflectance information is available.

It also supports volume and iso-surface rendering of true spatial data. 3D navigation is built-in.