

3D modeling for equipment (and buildings)	Hand Measurement	Photo Modeling	Views Modeling	3D-CAD Optimization	Laser Scanning
complexity equipment					
planning accuracy <sup>1</sup>					
level of detail					
acceptance	+photos colors		+photos colors	+photos colors	+photos colors
automatic ACTUAL comparison			<sup>1</sup>	<sup>1</sup>	
modeling costs					
advantages	<ul style="list-style-type: none"> <li>+ lean, targeted capture</li> <li>+ visual quality</li> </ul>	<ul style="list-style-type: none"> <li>+ easily generated data basis</li> <li>+ visual quality</li> </ul>	<ul style="list-style-type: none"> <li>+ available from supplier</li> <li>+ visual quality</li> </ul>	<ul style="list-style-type: none"> <li>+ generation by reduction</li> <li>+ available from supplier</li> <li>+ visual quality</li> </ul>	<ul style="list-style-type: none"> <li>+ As-built Visualisierung</li> <li>+ high, hard to reach objects</li> <li>+ visual quality</li> </ul>
building modeling					
on site surveying			-	-	
possible disadvantages	<ul style="list-style-type: none"> <li>- measurement error possible</li> <li>- physical stress</li> <li>- missing information (not reachable)</li> </ul>	<ul style="list-style-type: none"> <li>- detail accuracy</li> <li>- missing information (views, details)</li> </ul>	<ul style="list-style-type: none"> <li>- possible deviation to reality</li> <li>- missing information (views, details)</li> </ul>	<ul style="list-style-type: none"> <li>- possible deviation to reality</li> <li>- data quantity/further processing</li> </ul>	<ul style="list-style-type: none"> <li>- special hardware</li> <li>- Data quantity/further processing</li> <li>- missing information (shading)</li> </ul>
data basis	length dimensions, (photos)	dimensioned photos	2D CAD drawings, technical illustrations (photos)	3D product data supplier and architect (photos)	3D point clouds (photos)
exclusion criteria	no existing factory, not walkable/surveyable, too complex	no existing factory, too complex	too complex	no or too complex CAD product data	no existing factory, not walkable/measurable

1 - an ACTUAL comparison is NOT automatic, the supplier of the data is responsible for the accuracy. Decisive are external dimensions xyz for footprint and total height. This can be secured e.g. with additional photos and drawn in dimensions or by a guarantee of your equipment supplier.