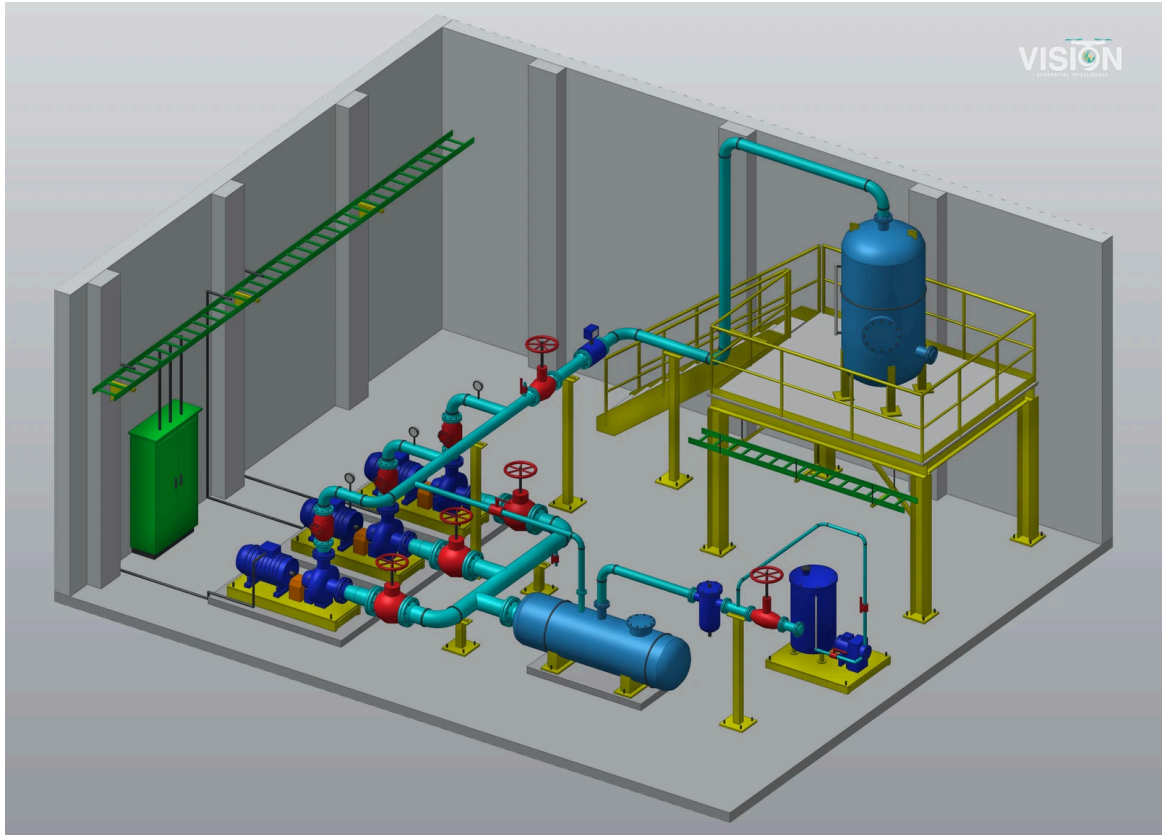
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GEOSPATIAL INTELLIGENCE

Level of detail guide

Level of detail in industrial 3D models

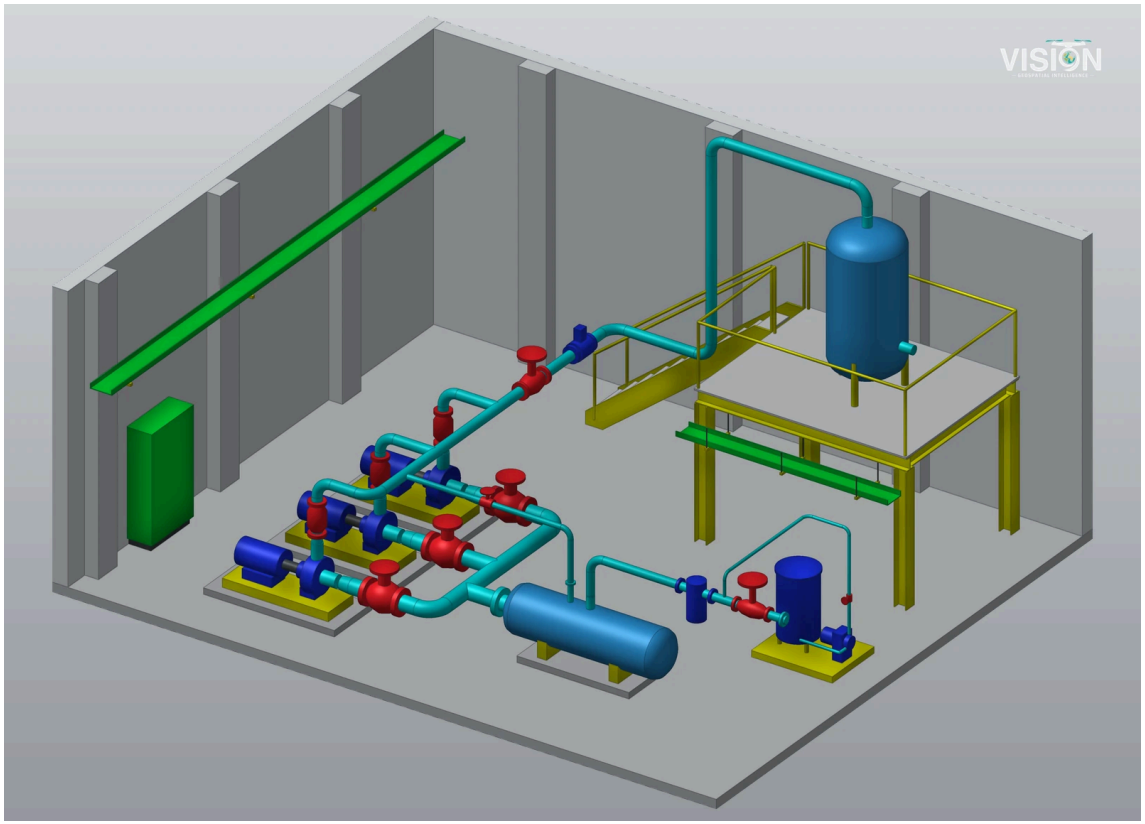


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Detail and fit to the scan

We model plants and mechanical facilities from the point cloud. More detail means more modeling time and a larger file, so we choose the level by what the model will be used for.

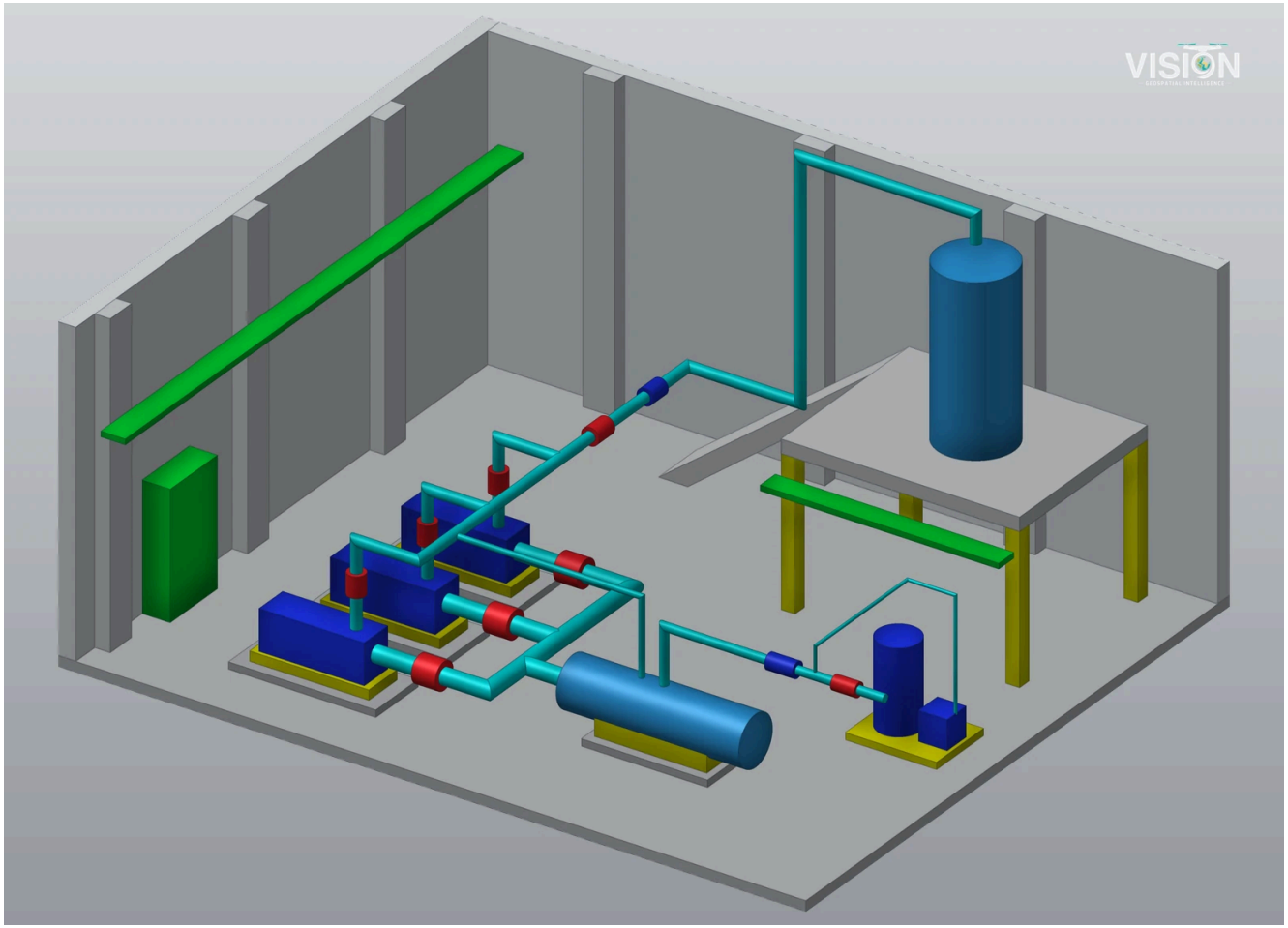
Before modeling starts we agree two things with you: the level of detail for each kind of element, and the largest difference allowed between the model and the point cloud. One area or one kind of element can take a higher level than the rest.



Level 1

Overall shapes

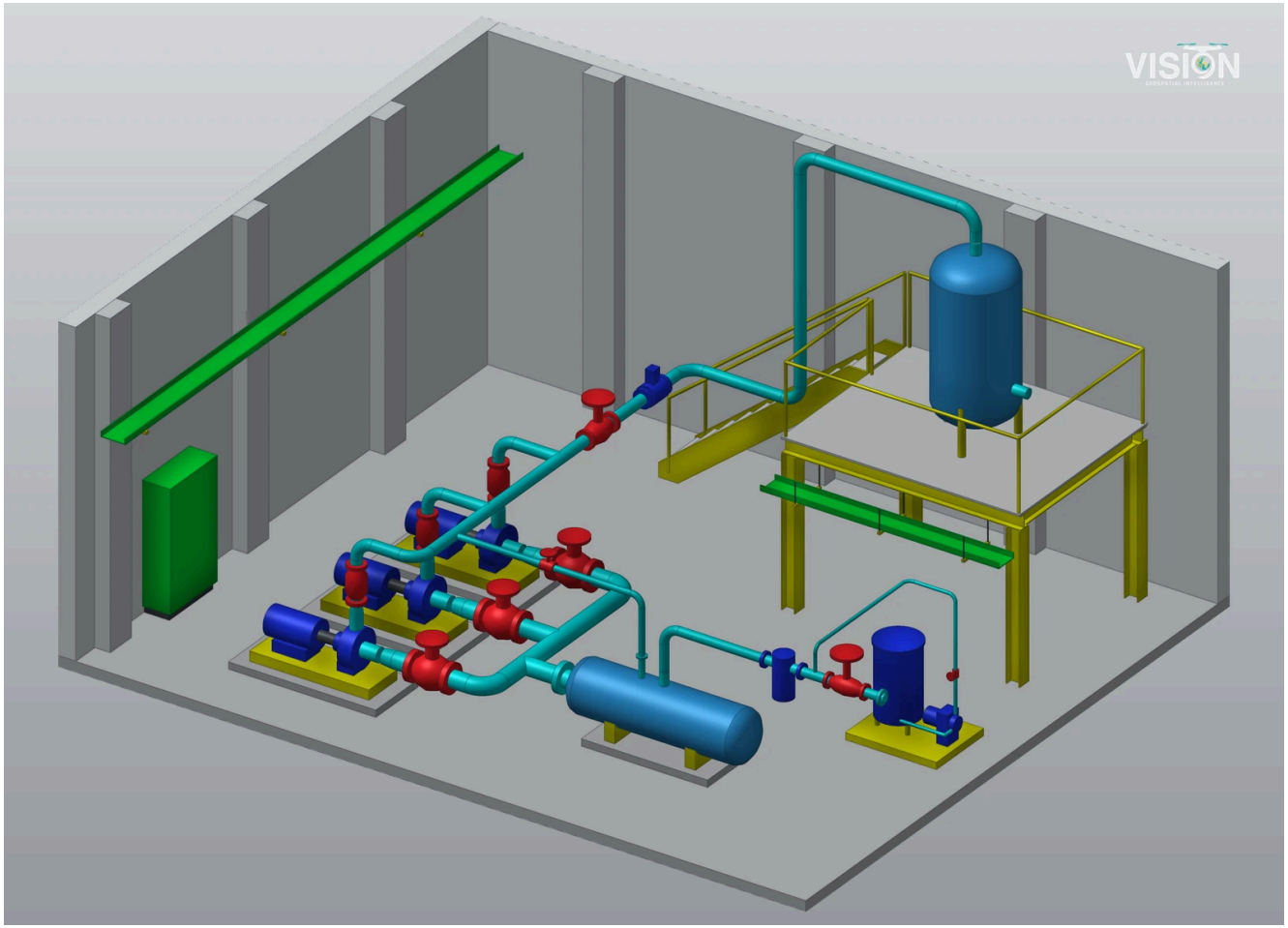
Each element is shown by its overall shape and position: equipment as simple volumes, pipes with sharp corners, steel as solid sections. It suits layout studies of large installations and clash checks.



Level 2

The usual choice

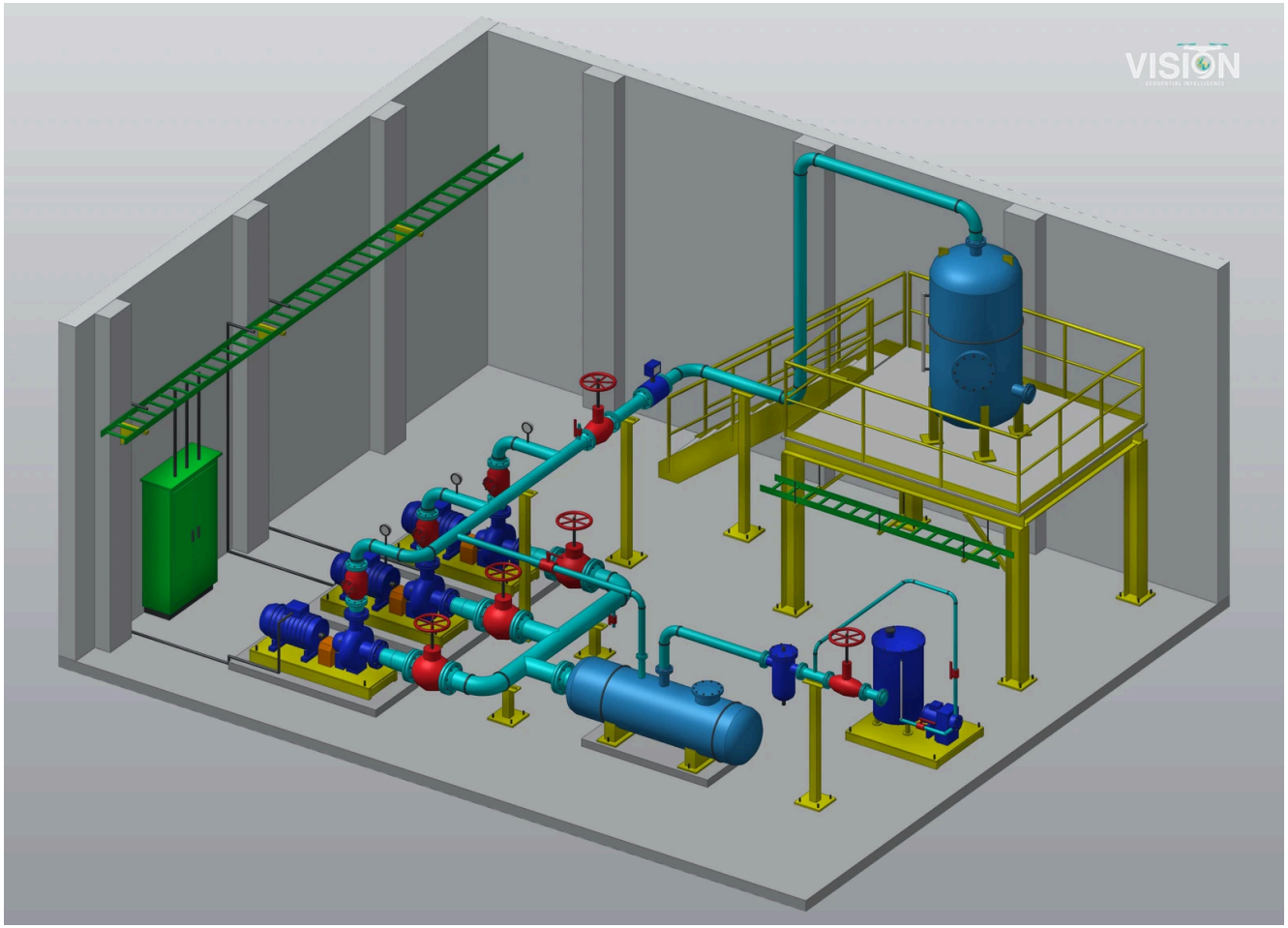
Equipment takes its real form, pipes get their bends, flanges and valves, steel is modeled with its true sections, and stairs and handrails are included. It balances detail against modeling time and suits most engineering uses.



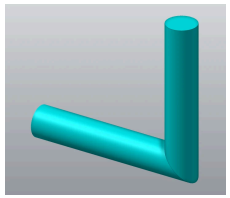
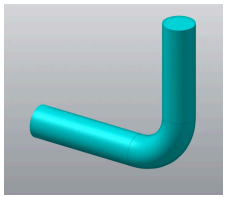
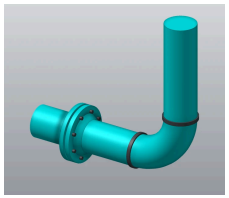
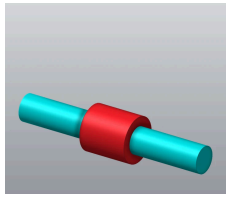
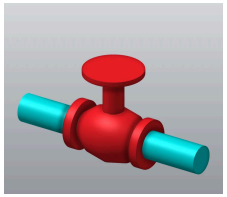
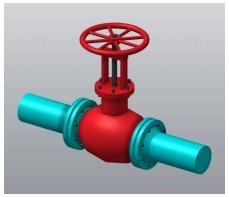
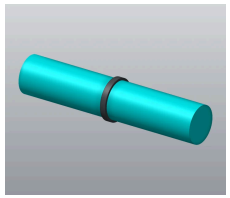
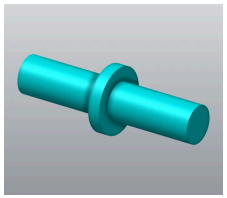
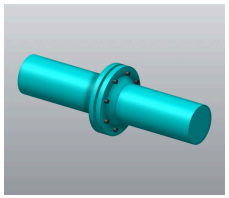
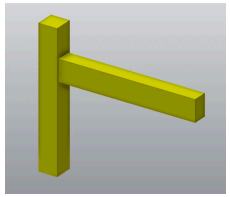
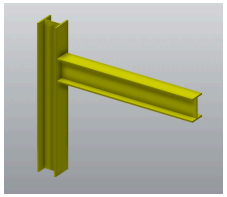
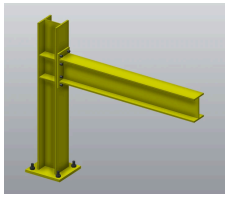
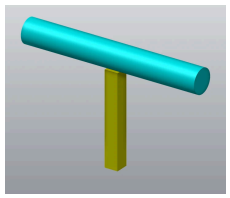
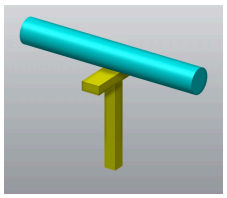
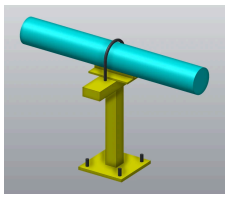
Level 3

Connections and fittings

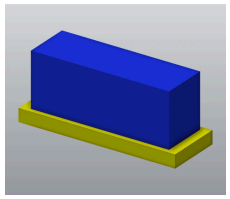
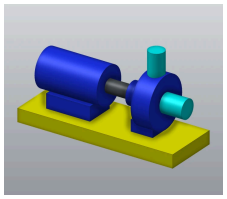
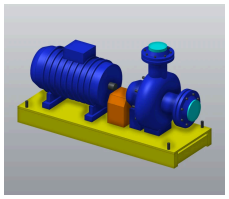
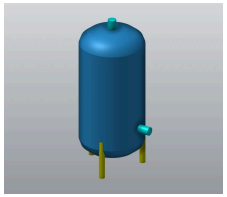
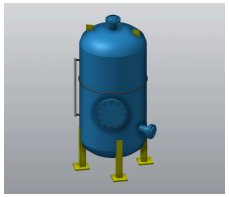
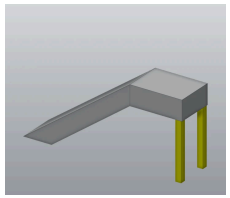
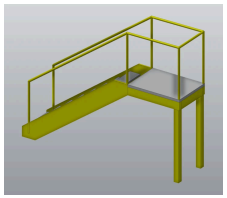
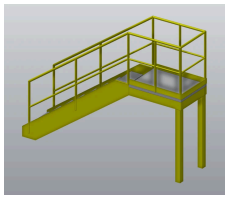
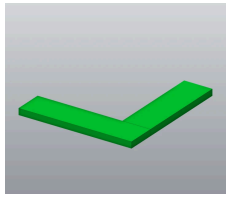
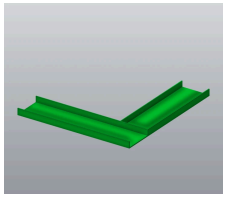
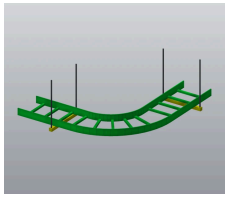
Adds bolted connections, nozzles, supports, base plates, cable ladders and small fittings. It is used for visualization and for design work where space is tight. It takes noticeably more modeling time, so it is often applied to selected areas only.



The same components at each level

	Level 1	Level 2	Level 3
Pipe bend			
Valve			
Flanged joint			
Steel column and beam			
Pipe support			

The same components at each level

	Level 1	Level 2	Level 3
Pump set			
Vessel			
Stair and handrail			
Cable tray			

Modeling tolerance

Pipes sag and beams deflect, so a straight element in the model never lies exactly on the scan. The tolerance is the largest distance we accept between the two. A tighter tolerance means more segments and more modeling time. We set its value with you, for pipes and for structural members, and record it in the scope of work.

