The system flow starts on a PC, where the desired 3d model is first loaded into software, and a trajectory plan, in this case G code, is generated via Slicer. These trajectory points are approximately 0.1 mm steps. G code is a standard machine manufacturing language commonly used in CNC (Computer Numeric Control) machines and related equipment. A custom written Java script converts the G code into the robot coordinate system - x, y, z and time points.

This output is sent via a USB/Serial connection to the embedded hardware, a PIC 32 MX440 F 128H, which contains the kinematic models and calculations. The device hardware and software is self contained, and only needs the standard 3d space and time output points as generated by the 3d model and accompanying trajectory plan.