

# L1-C3 Degrees of Mobility

For an artist, we have to design a robot able to deposit sand on the ground to make a drawing. The basic test will be to draw a square. The robot will have to draw the full square, made of four segments joined at 90 degrees angles, at constant speed. This because the sand is falling also at constant speed and the full square needs to be perfectly homogeneous (same thickness, same width on the whole square). Which design choice do you make?



A: DOM do not play a role here as we draw a line. You can take a differential drive robot, cheap and efficient, depositing sand in the middle of the robot.

B: Here we need to be omnidirectional, even if non-holonomic like the synchro-drive, able to orient the wheel in any directions and then move, without turning the body.

C: DOM play a role here. You need to take an holonomic robot. This structure allows to take any direction without stopping.