3D printing is very popular method of additive manufacturing that can be used even at home. Possibility of creation of designed by yourself element by the use of desktop device it is a sign of XXI century. 3D printing is now commonly used technique not only in research laboratory or rapid prototyping facilities but also in our home as a desktop device. Natural tendency is to print not only a mechanical components but also fully functional device with sensors, actuators and power supplying units. Combination of these components forms a mechatronic system. So the question is it possible to print mechatronic system? Not yet in the form as we would like to have. But printing of the mechatronic system is hot and actual scientific issue. The key to achieve this goal is 3D printing of micromechanical structures. In 3D printing mechanic component are printed together or with use of compatible technology with functional materials or structures. The sign of our century is also miniaturization and "sensorization" of everything – smartphones, analytical device or cars. These miniature sensors and actuators are called as micromechatronic systems or MEMS. Thus why do not 3D print MEMS? To answer this question comprehensive studies must be carried out. 3D printing of MEMS is a subject of this ambitious project – from virtual designing, through 3D printing of micromechanic structures, development and printing novel smart structures to printing of integrated vibrational micromechatronic systems device. Maybe in the nearest future we will be able to print at home our own micromechatronic sensor or energy harvester?