

DESCRIPTION FOR THE GENERAL PUBLIC

The aim of the research project is to design and realize a prototype integrated circuit containing a miniature, intelligent digital camera capable of recording images at high speed. The camera, in addition to systems improving image quality, will contain circuits enabling extraction of information from the image in an intelligent way. As early as at the stage of image recording it will be extracted information such as .: key points or edges, allowing fast comparison and distinguish of objects, moreover, it will be determined parameters characterizing the movement of objects. With these features, the vision system equipped with this type of camera will be distinguished by a very high efficiency of image processing, low supply power consumption and small costs of fabrication. Therefore it becomes possible to use the advanced vision systems for general use equipment that will support the functioning of people in many areas, eg .: medical diagnostics, health surveillance, assistance in movement of the elderly, dissemination of autonomous vehicles that do not require a driver. Vision systems used so far, due to high complexity, high cost of fabrication and high power consumption cannot be used in these applications.