

# 1 Introduction and Related Work

Representation of the environment of a mobile robot is of fundamental importance. If there is no prior information about the environment the the robot has to build this during the exploration. Over the past decade there has been a lot of work on map building for mobile robots. Some approaches use the landmarks (installed or natural) as a reference for map building while some use the relative positions of landmarks as invariant features for map building.

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<sup>a</sup>Offline Information found here

<sup>b</sup>Live Broad casting of vidoes