In this talk, we present a method for targeted and maskless fabrication of single silicon vacancy (V_{Si}) defect arrays in silicon carbide (SiC) using focused ion beam. Firstly, we studied the photoluminescence (PL) spectrum and optically detected magnetic resonance (ODMR) of the generated defect spin ensemble, confirming that the synthesized centers were in the desired defect state. Then we investigated the fluorescence properties of single V_{Si} defects and our measurements indicate the presence of a photostable single photon source. Finally, we find that the Si^{++} ion to V_{Si} defect conversion yield increases as the implanted dose decreases. The reliable production of V_{Si} defects in silicon carbide could pave the way for its applications in quantum photonics and quantum information processing.