

Abstract: A new approach which defines the robot as the central element of a reconfigurable assembly system by using robot guided reconfigurable fixture elements is needed in industry. In this work new fixture elements and reconfigurable fixture systems were developed. The reconfiguration of the fixture positions was made by an industrial robot. For that reason the complexity of the integration of reconfigurable fixture elements in a 3D simulation system was reduced. This new approach permits the economic simulation, optimization and off-line programming of robot-aided reconfigurable systems of complex applications.