Group enterprise Model Standard cloud manufacturing model and standard Cloud-oriented manufacturing and 3D Cloud manufacturing Big-Data in cloud Group enterprise printing on-demand usage credible and security of cloud services technology cloud manufacturing key technology Multi-tenant cloud research manufacturing resources capabilities and dynamic on-demand usage collaborative service Typical group Group manufacturing enterprise enterprise cloud services platform cloud services platform development CASIC cloud manufacturing CASC cloud manufacturing applications applications Aerospace industry group enterprise Multi-tenant cloud 3D printing and cloud Manufacturing capacity Big-Data in cloud demonstration manufacturing resources manufacturing services dynamic manufacturing on-demand usage integration application collaborative applications application application demonstration demonstration demonstration demonstration