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 research 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