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