Cluster 1 (green)Cluster 2 (red)Cluster 3 (Blue)activitycollaborationarchitecturechangecollaborative robotbig dataconditioncontrolblockchain	
change collaborative robot big data condition control blockchain	
condition control blockchain	
covid digital twin capability	
digitalization efficiency communication	
economy energy customer	
education factory cyber physical s	ystem
effectiveness healthcare digital technolog	gy
enterprise human iiot	
factor improvement industrial intern	et
fifth industrial revolution interaction internet	
flexility logistic iot	
fourth industrial revolution manufacturing industry industrial intern	et
goal operation internet	
government operator iot	
industrial revolution optimization machine	
influence paradigm machine learnin	g
innovation performance revolution	
knowledge productivity security	
life requirement sensor	
manufacturing sector resilience thing	
mathodology robot user	
new technology robotic	
pandemic safety	
person simulation	
possiblity smart manufacturing	
principle task	
production process vision	
relationship worker	
skill	
society	
strategy	
student	
sustainable development	
technological innovation	
transition	
type	