Cluster size is limited

Kubernetes clusters can’t grow infinitely large. The Kubernetes project defines some upper limits of 5000 nodes, 150,000 Pods, and 300,000 containers that can still be supported in a single cluster.

The reason for these limits is the strain that large numbers of nodes, Pods, and containers put on the Kubernetes control plane and other cluster-wide components, such as DNS and the Pod networking implementation

For example, a large number of worker nodes may overload the Node Controller or the etcd storage backend, since each node agent results in a watcher on the etcd database.