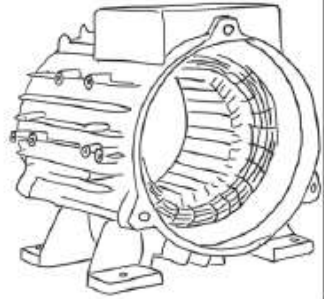


# An “executable Digital Twin”

(Siemens Research, 2020)



**Real System**

**Execute / Control**

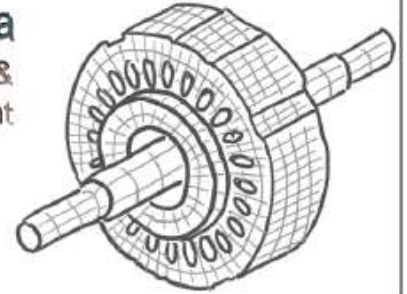
Control actions  
Decisions  
Predictive maintenance

Sensors  
Operation data

**Measure**

**Virtual Replica**

of asset &  
environment



**Improve**

Predictive simulation  
Machine learning  
Mathematical optimization

Physics-based models  
Data-based models

**Analyze / Predict**

**Connectivity**

Plan / Optimize

Unleash  
value

Perceive / Monitor

