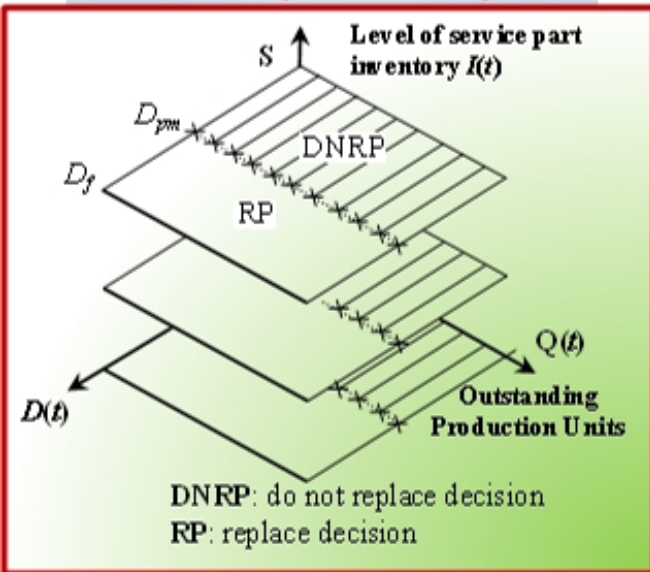


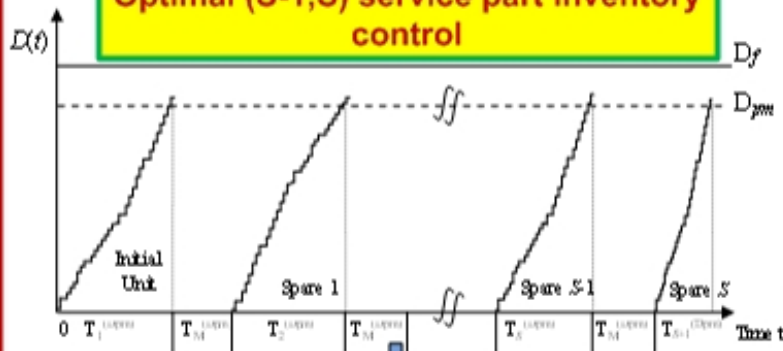
**Complex, joint decision making in a modern production system**



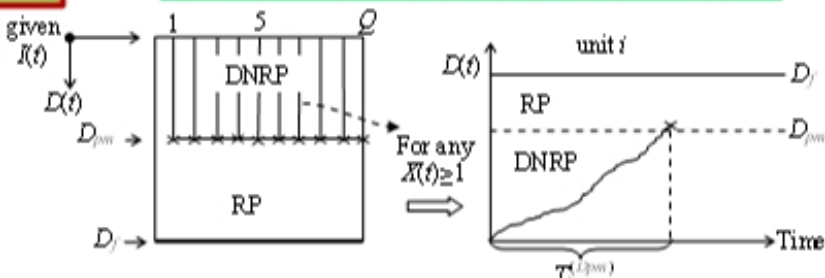
- **Three dimensional model**
- **Considerations:**
  - Production throughput
  - Equipment degradation
  - Service part inventory control
- **Challenges:**
  - Problem formulation
  - Solution algorithms

**Two-stage solution methodology**

**Stage one**  
**Optimal (S-1,S) service part inventory control**



**Stage Two**  
**Optimal condition based maintenance**



**Production and Service Part Inventory Control Driven by Condition Monitoring**

See Rausch and Liao (2010) in IEEE Trans. on Reliability.

