

# Selection Criteria for General Linear Motion System

# P.O.S.T.L.U.D.E.S.

## Precision

aka: accuracy, repeatability

- What is more important, accuracy or repeatability?
  - What is the accuracy/repeatability requirement?
  - Are these values realistic, based upon the desired motion profile?
- 

## Orientation

- How will the system be mounted (“normal”, on its side, inverted, vertical, etc.)?
  - How will this affect the load requirements?
- 

## Speed

aka: velocity, acceleration, motion profile

- What is the maximum speed and acceleration required?
  - What is the maximum jerk allowable?
  - What motion profile (shape) is desired?
- 

## Travel

aka: stroke, over-travel, envelope

- What is the required travel (stroke)?
  - What is the overall envelope allowed?
  - How much over travel (safety zone) is required?
- 

## Load

- What is **End of Arm Tooling (EOAT)** and where is it located?
  - What additional forces are seen by the system during use (e.g., cutting or pushing forces)?
  - What do the static and dynamic free body diagrams look like? Are all loads considered?
  - What is expected of the system after an impact?
- 

## Unknowns

- What could possibly go wrong?
  - How will someone misuse this system?
  - What else could go wrong (Repeat this question to further explore)?
- 

## Duty/Life Cycle

- What is the actual duty cycle for the system?
  - What is the expected lifetime?
- 

## Environment

- What environment will the system be installed?
  - Are there hazards in the environment?
  - Will the system disburse contaminants?
  - What's the maintenance schedule?
  - Is the system accessible for maintenance/lubrication?
- 

## Safety

- Are there any safety standards to which the system needs to conform?
- What could happen if the system fails?
- Are there safeguards that need to be installed for a system failure?
- Could people be injured by this system? Are there installed safety features?