In selecting the right crane for the job, consider the following points:

1. What is the Maximum radius from the centre of slew.
2. What will be the Total weight of the load.
3. Is Clearance height under the ceiling (if any) an issue.
4. Allow for distance from jib head to the hook.
5. Allow for the hook height required with associated lifting equipment.
6. Allow for the height of obstructions between crane and load.
7. Allow for obstructions which may hinder the counterweight when slewing.
8. Allow for obstructions the crane may need to work around when setting up.
9. Consider what Boom length will be required.
10. Ensure the ground can support the crane.
11. Allow for how the crane will access and leave the site.
**CRANE SELECTION**

→ **Tower Cranes**  
**Pros:**  
+ high lifting height  
+ good work radius  

**Cons:**  
- low lift capacity  
- limited mobility

→ **Crawler Cranes**  
**Pros:**  
+ Travel mobility  
+ Can be modified for very heavy lifts

**Cons:**  
- limit working height
Regardless of the Crane you select there are basic stability rules to follow to ensure the crane is stable. You have to make sure the Toppling moment is less than the Resisting moment.

**Factor of safety against toppling = Resisting moment/Toppling moment**

**Toppling Moment** = \( W_L \times L_L + W_b \times L_b \)

**Resisting Moment** = \( W_C \times L_C + W_g \times L_g \)

- \( W_L \) = Weight of the Load
- \( W_C \) = Weight of the Counter Weight
- \( W_b \) = Weight of the boom
- \( W_g \) = Weight of the crane body

Point A is where the crane will topple over if the toppling moment is greater than the resisting moment.