1. **Path Following: Brief introduction**
   a. Why we need it
   b. Where it's used
   c. Why it's important
2. **Path Following: For MC / FW, their differences**
   a. Holonomic vs Non-Holonomic
   b. Variable Speed on path
   c. Animation showing differences in two vehicles intuitively
3. **Unified Path Following, why?**
   a. Why do we need it? Because Hybrid VTOL exists!
   b. The GAP exists for FW vs MC
      i. We FOCUS on making the FW case algorithm work on MC (non-holonomic -> holonomic)
   c. Current constraints that exist
      i. Zero speed on path case for NPFG
   d. <u>Why we CAN'T use FW NPFG on MC! (Important)</u>
      i. Unicyclic motion
4. **Literature**
   a. Showcase one for each FW, MC, and how they differ
5. **Methods**
   a. Diagram showing how it actually works *inside
   b. Look-ahead angle formulation written down
   c. $e_b = t_{const} V_{approach}$
   d. $\bar{e} = \frac{e}{e_b}$
   e. $\theta_l = constrain(\frac{\pi}{2}(1 - \bar{e})^2, 0, \frac{\pi}{2})$
   f. $V_g^{||} = V_{path} * sin(\theta_l)$
   g. $V_g^{\perp} = V_{approach} * cos(\theta_l)$
   h. $V_g^{||} = V_{nom} * sin(\theta_l)$
   i. $V_g^{\perp} = V_{nom} * cos(\theta_l)$
6. **Approach & On-path constraints**
   a. <u>Show that new formulation respects these constraints, and thus *solves the constraint</u>
7. **Evaluation**
   a. Show that FW case is still supported with the new formulation
      i. $V_{approach} = V_{path} = V_{nom}$
   b. Show 2D curve / animation that shows different resulting motion by the new formulation
8. **Conclusion**
   a. We have developed …
9. **Thank You**

       a. Maybe include my past solar airplane project pic again?
       b. Or something from Auterion or during the project

General advice
- Details should be in the thesis
- Presentation is about giving a key idea across in a short time
- Don't focus on details, think about the BIG IDEA you want to present
    - E.g.: "Existing NPFG breaks down for MC, so I made it adaptive"
- Showcase that you actually solved the problem
    - E.g. "Here's a simulation showing how two PF results in different behavior"
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