

The logo for ROBONAUTS 118 is set against a dark grey background with a subtle circular gradient. It features the word "ROBONAUTS" in a bold, yellow, sans-serif font. A white orbital ring encircles the letters "O", "N", and "A". A red swoosh, resembling a comet tail or a satellite path, curves across the top and right of the text. Below "ROBONAUTS" is the number "118" in the same yellow font. The background is decorated with several white stars of varying sizes and a few small white dots.

# ROBONAUTS 118

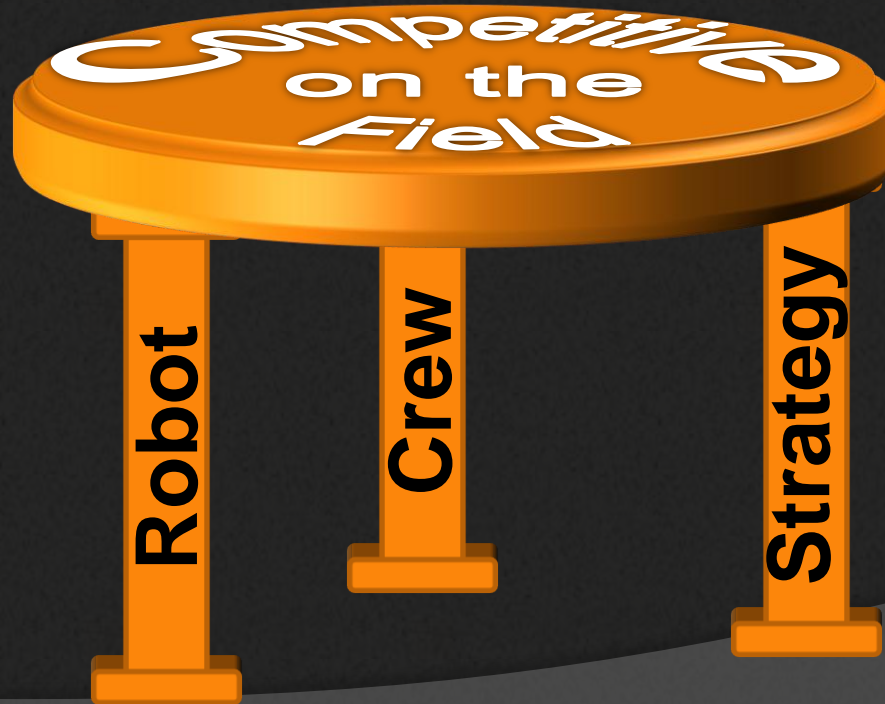
NASA House Team Seminar  
The **ROBONAUTS** Three Pillars of Competitiveness  
Lucien Junkin

# ROBONAUTS Goals

- Educate The Robonauts in the Field of Engineering
- Introduce Our Community to Engineering & Robotics
- ***Field a Competitive Team***
- Grow The Robonauts' Family



# ROBONAUTS Three Pillars



# Philosophy of Pillars

The Robonauts strive to "build" 80% of each pillar by our first regional and "build" 95% by Championships.

80% Robot + 80% Strategy + 80% Crew = Regional Wins

95% Robot + 95% Strategy + 95% Crew = Championship Picker



# 80% Robot

- Study & know the Rules
- Analyze the Challenge ... ask "How will the Einstein robots play the game?"
- Develop "Robot Can" & "Our Robot Will" lists for the Challenge
- Work Smart ... Work Hard ... WORK EVERYONE
  - Be *organized* and have *structure*
- prototype ... Prototype ... PROTOTYPE
- Design ... Build ... Test ... Break ... Design ... Build ... Test ... Break ...
- Run flight robot through mock matches ... at least 118 of them 😊



# 80% Strategy

- Study & know the Rules
- Analyze the Challenge & keep up with the Evolution of Play
- Know your strengths & weaknesses
- Know your opponents & allies strengths & weaknesses
  - Scout matches & organize data for very quick access to data
  - Latest performance is the most important ... study trends
- Each match, play to your and your allies strengths
- Each match, TAKE AWAY your opponents strengths
- Pick finals alliance from the scouting numbers



# 80% Crew

- Philosophy: Everyone has a job and if you do that job with focus, we'll be just fine
- Flight (drive) crew gets better by deliberate practice
  - Task level practice ... things that only take a few seconds
  - Match level practice ... complete match practice
  - Strive for the flight crew to be "on their own" during the match
  - Gotta have a practice robot, SORRY!
- Pit crew gets better by taking care of, taking apart, and putting together the robot
  - Full functional, routine maintenance, & failure modes practice
  - Set up pit at practice facility
- Scouting crew gets better by scouting matches & organizing data
  - Scout week 0 matches
  - Practice putting prematch packets together



# 80% to 95%

- Robot
  - Eliminate & add capabilities based on experience and Evolution of Play
  - Strive to make robustness upgrades
  - Develop on your practice robot
- Strategy
  - Study, very Very HARD, the Evolution of Play
  - Tune data gathering based on experience and Evolution of Play
- Crew
  - Learn your job better & do your job with more focus
  - practice, Practice, PRACTICE
  - Have a practice robot





THANK  
YOU!

The ROBONAUTS

