

Game analysis head start!

“What is FRC strategy?” and tips from the pros

BC FRC Kickoff @ BCIT
January 5, 2019



What is strategy?

- Loosely: directing **resources** to meet **goals**
- Usually competitive: business, corporate, war, games
- Similar to M_ _ _ _ _ and D _ _ _ _ _

What is FRC strategy?

0. Learn
1. Predict
2. Build your role (robot design + build)
3. Play and react (scouting, driving, coaching, making plays)

For the bigger picture, stay tuned for Ian's presentation

Panel introduction

Philip Wang

Ian Koscielski

Why should you listen to us?

Q: First impression of
“DESTINATION: DEEP SPACE”?

Q: What is one of the first things you do to analyze the game?

Q: What challenges do you see
this year?

Questions from the audience

Competition placement goals - yours and other teams'

Competition goal	Robot equivalent: make a...
None	Moving robot (i.e., pass inspection)
Get “picked” (Top 24)	Consistent or functional robot
Win regional (Top 8)	Consistent and functional robot
Win champs	High-performing robot (e.g. lift other robot to earn max ranking points)

Q: What robot would you build if you were a _____ team?

- Rookie-ish
- top 24
- top 8
- champs-winning

Q: Describe your favourite strategic play from a past game.

Strategic Design

- Designing and building a cool robot is a lot of fun
 - Designing and building a cool robot that does well in competition is even more fun
- Very hard to go through the build process without a concrete aim
 - The clear choice is success in competition

Analyzing the Game

- Read the rules!
 - Nothing is worse than designing something that is not legal
- Examine every possible way to score points, no matter how obscure
 - Laps (2008)
- Examine every possible way to prevent your opponents from scoring
 - Stealing Balls(2016, 2012)
- Understand the ranking system
 - Win-Loss-Tie, Bonus Ranking Points (2012,2016)
- Consider possible strategies
 - Leads to overall robot design

Simplicity and Golden Rules

- Golden Rule #1: Always build within your team's limits
 - Evaluate your abilities and resources honestly and realistically
 - Limits are defined by manpower, budget, experience
 - Avoid building unnecessarily complex functions
 - On the other hand, as you get more experienced, start cautiously pushing a few boundaries
- Golden Rule #2: Don't Build outside your limits, Teams that can realistically have 3 functions and build 5 usually have 5 bad functions.

Other Tips

- This strategic analysis is a MUST
- There's a tendency to skip this stage, and to head straight into design and implementation
- You must know what you want to do before you can figure out how to do it
- Remember, you have partners. It's okay to depend on them for certain tasks. (How much you leave to them should be decided by the Golden Rules)
- Try to identify the different types of robots that will exist, you must be able to work with those robots to achieve your goal.

For more info, read "Effective FIRST Strategies for Design and Competition" by Karthik and Simbotics