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2016

CHAMPIONSHIP

APRIL 27-30
St. Louis, Missouri

**KNOW YOUR
OPPONENT**



**MORE THAN
ROBOTS**SM

FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY **FIRST**[®]

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CHAMPIONSHIP

2016

KNOW YOUR OPPONENT

**Learn scouting strategies
and
how to use Tableau for
improved decision-making**



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Kevin Zheng

- *FIRST* for 6 years
- Team Advisor & Strategy lead
- Senior at Bloomfield Hills High School

Andrew Raine

- Coach of Team 2834
- Manager at FCA



- What is scouting and why is it important?
- How do I create effective scouting visualizations?
- How can I apply these visualizations meaningfully?
- How can I get started?

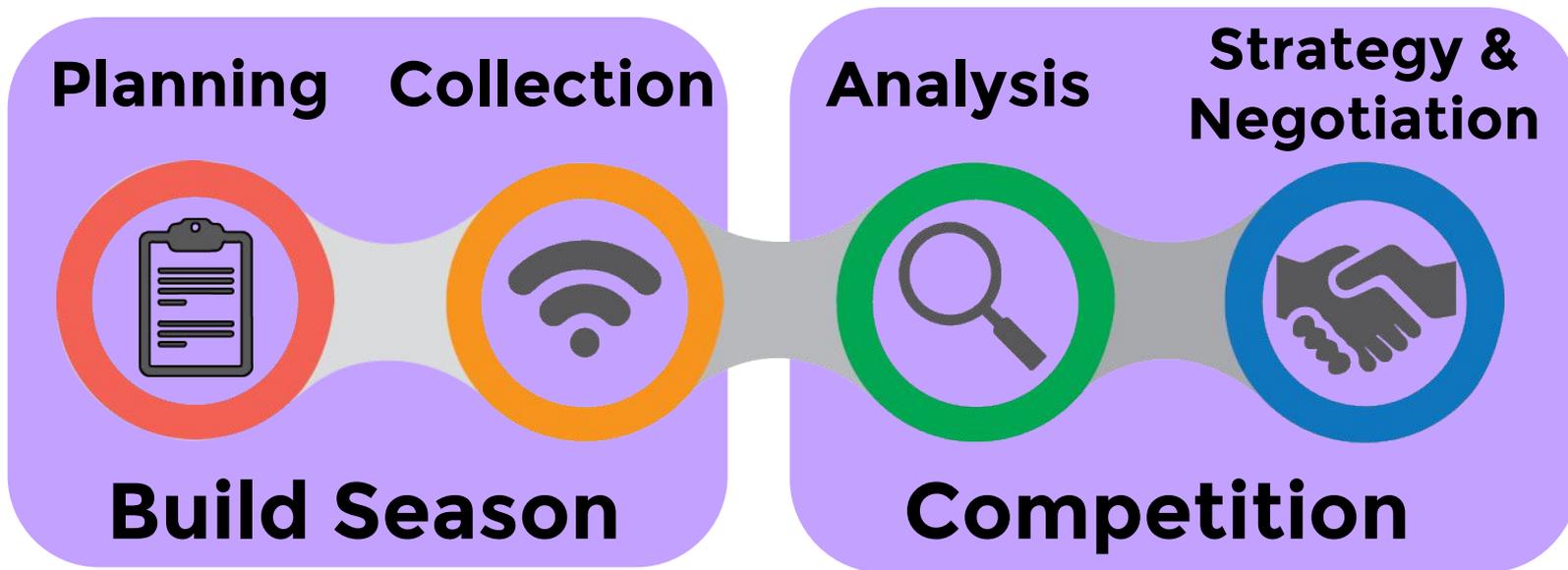


tableau[®]
S O F T W A R E



What is scouting?

- “If you know **neither the enemy nor yourself**, you will succumb in every battle.
- If you know **yourself but not the enemy**, for every victory gained you will also suffer a defeat.
- If you know the **enemy and know yourself**, you need not fear the result of a hundred battles. “
- Sun Tzu, The Art of War



Knowing yourself...

- Read the rules
- Strategize for multiple situations



Knowing your opponent...

- Scout only what is useful
 - ◆ How detailed should data be?



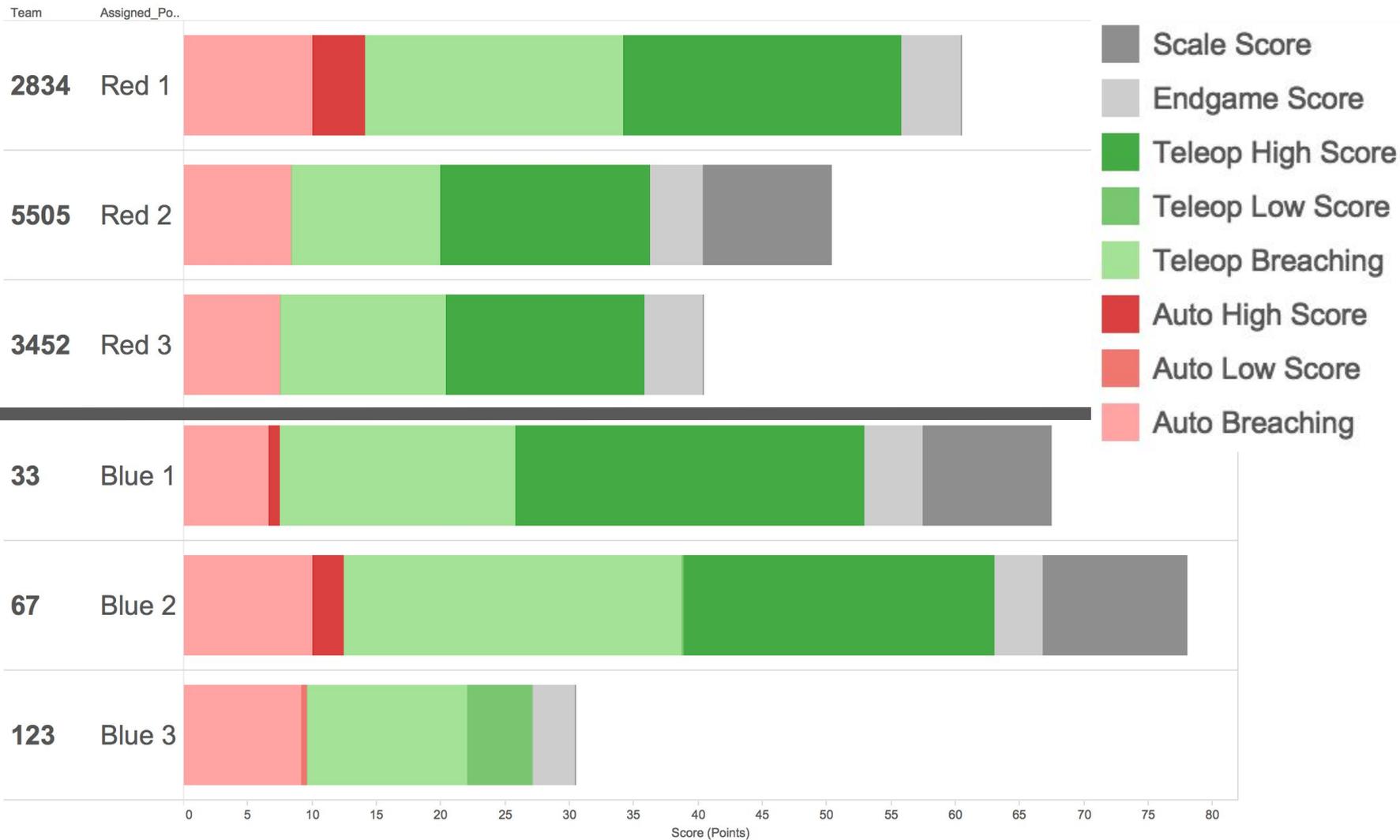
- Plenty of available scouting apps
 - ◆ Android/iOS
 - Team 2729, 2338, FRC Tools
 - ◆ Tablet-Free
 - Try 180's PDF to log data
- Other options
 - ◆ Scouting Database



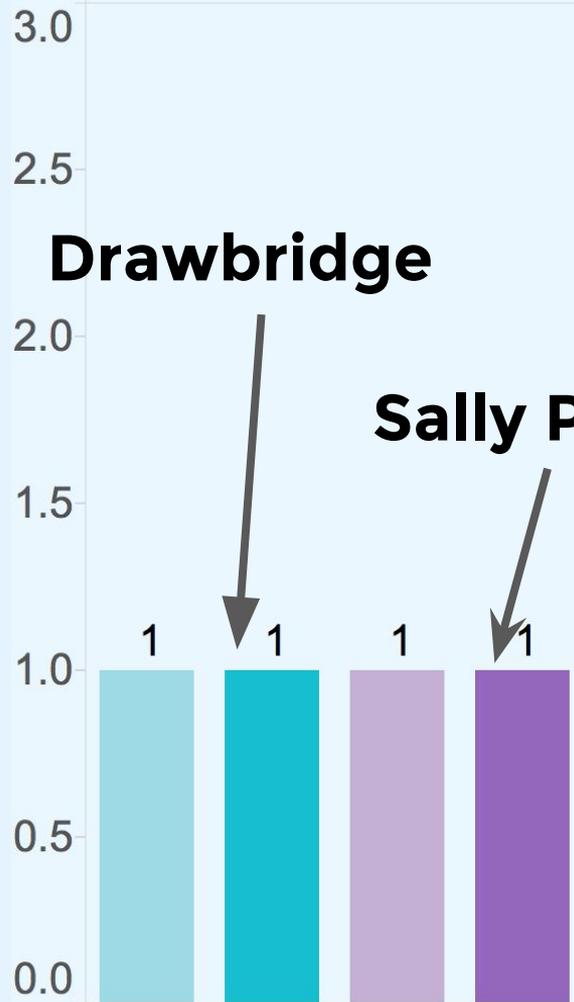


- Creating effective visualizations
 - ◆ User-friendly, interactive
- Developing strategies
 - ◆ How to visualize scores?
- Figure out opponent's strategy
 - ◆ How to visualize breaching?
- Real-Time data collection & Analysis

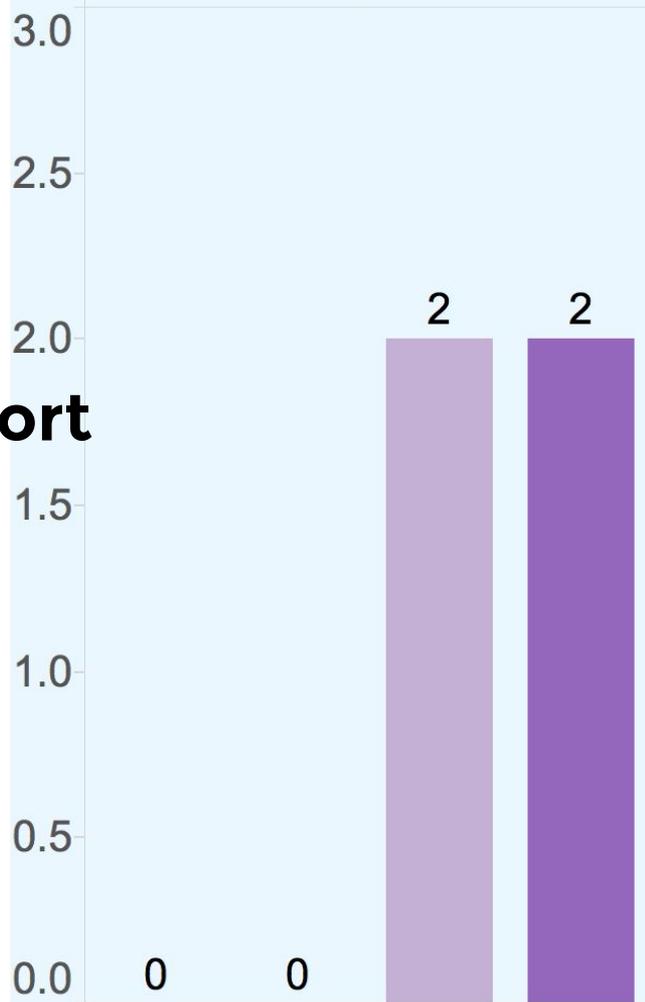




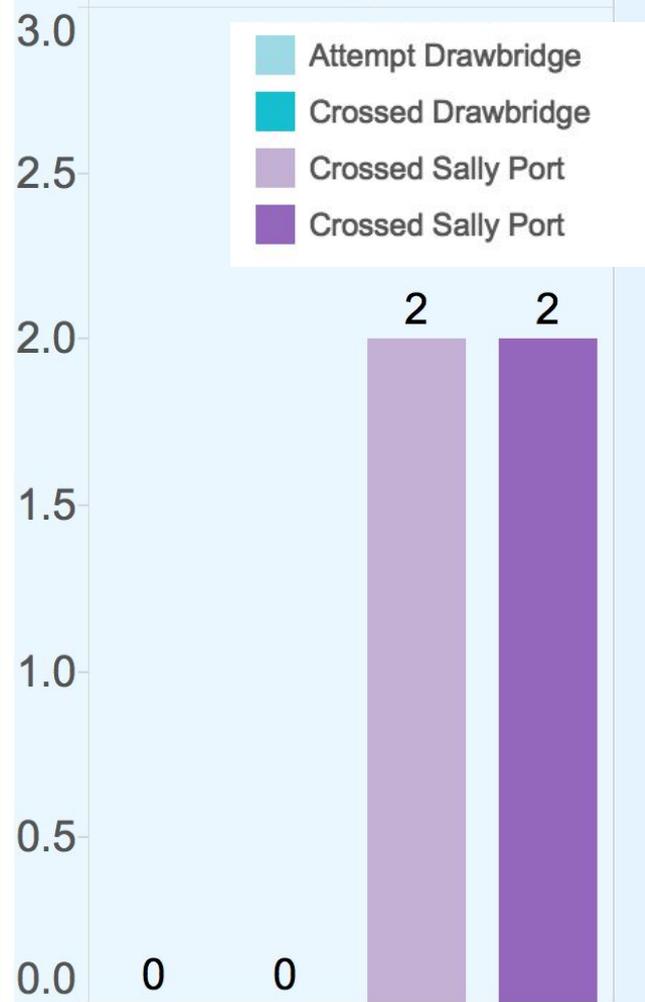
Team
33

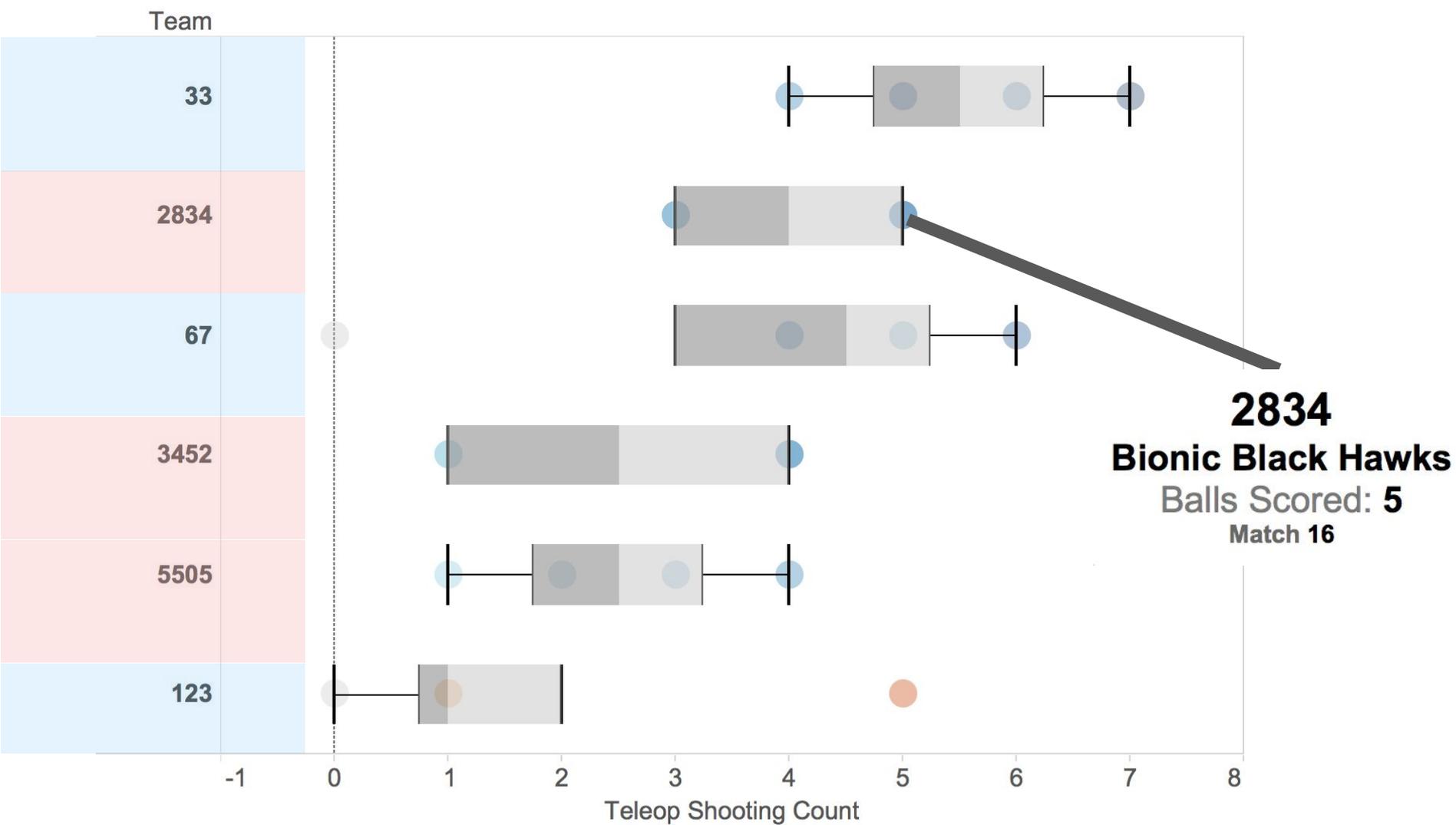


Team
67

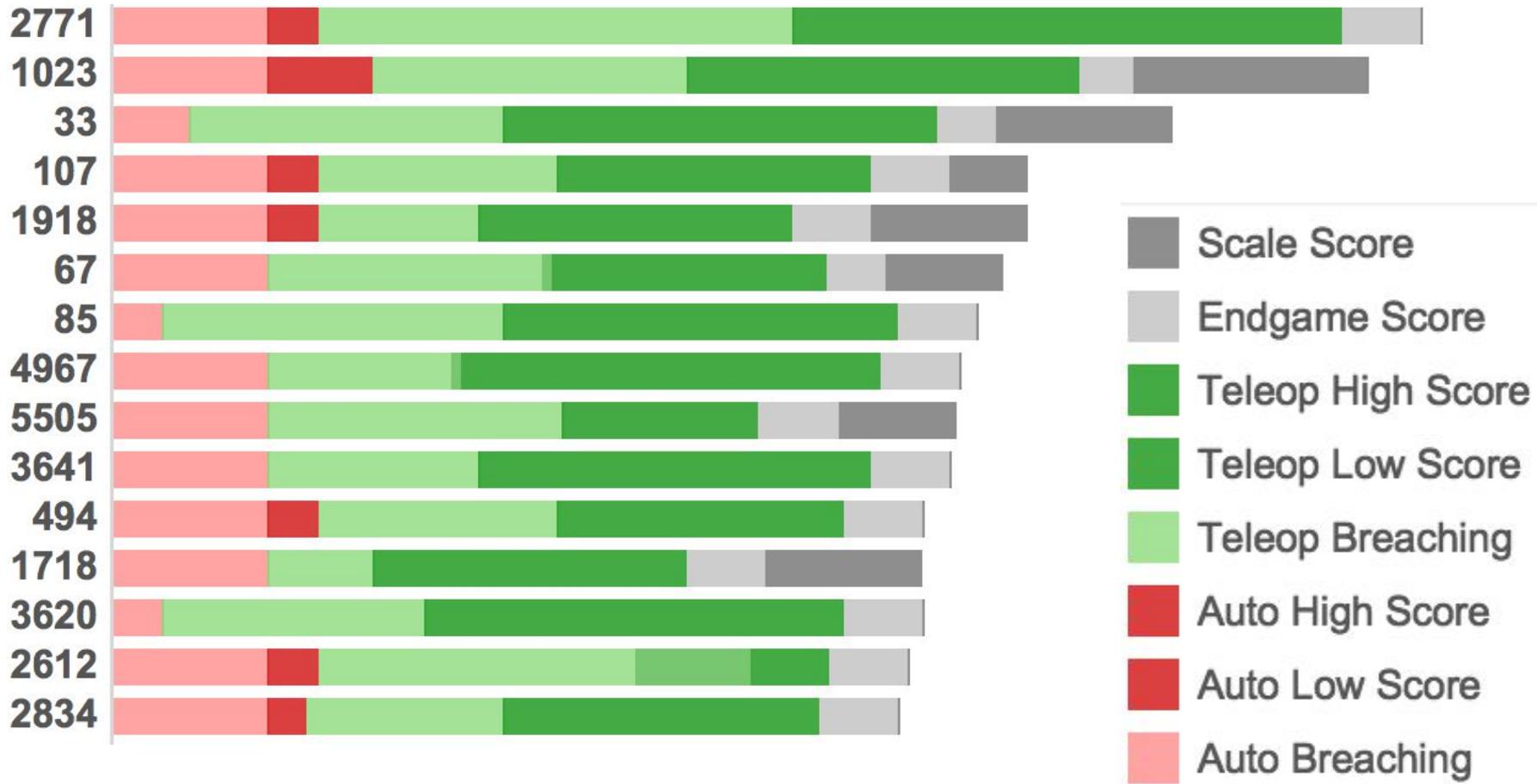


Team
123

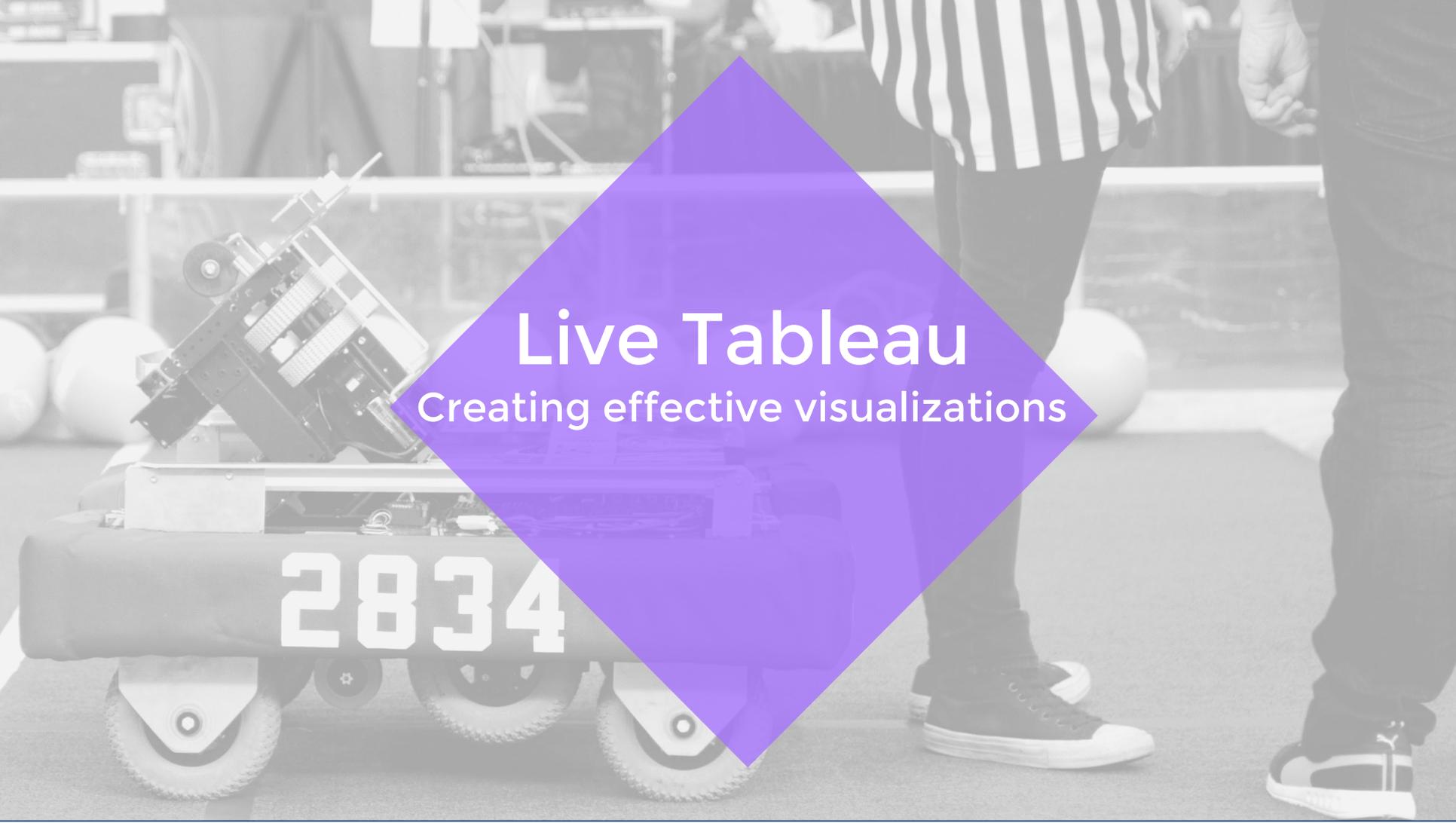




Pick lists for Alliance Selection



- Strategize with alliance members
 - ◆ Compromise on different strategies
 - ◆ Back your findings with analysis
- The data speaks for itself
 - ◆ Trust your team's observations
 - ◆ **Reliability is better than risk**



Live Tableau

Creating effective visualizations

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- Match predictions
- Autonomous
- Ranking points
 - ◆ Defense breaching roles
 - ◆ Winning strategy - Defense or Shooting?
 - ◆ Capture?

- Predict qualification outcomes
- Create preliminary lists
 - ◆ Best auto, shooter, climber, etc.
- Create final pick list
 - ◆ Tailor list based on desired traits
- Adjust list during alliance selection



How to get started

- Plan your team's strategies and decide what to collect
- Decide how to collect data
- Download Tableau Desktop
 - ◆ Each team gets 5 copies in the team summary dashboard on FIRSTinspires
 - ◆ Training Videos
- Check out our sample visualizations



- Knowing your opponent is just as important as knowing yourself
- Aim for concise, effective visualizations
- Be the leader of your match
- Trust your data

Presentation Link:

bit.ly/26vtxUD

- team2834.com/resources
- tableau.com/first-robotics
- [Team 2834 Scouting Database](#)
- [Team 180 No-Tablet Scouting PDF](#)
- [App Suggestion Thread](#)

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Thanks for listening!



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→ Questions?

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