

# The Metrics of Event Capacity and Planning for Growth

By Marc Couture



# How do you handle growth?

- Monitor team count and react
- Make a guesstimate
- When the event is full, it's full
- Other ways?

# [admin.robotevent.com](http://admin.robotevent.com)

## The data is there to help develop a logical plan.

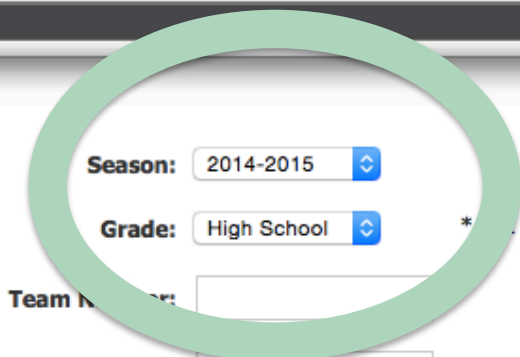
- Track team registration history
  - Quantity of teams
  - Number of average events per team
- Track event history
  - Capacity
  - Percent utilization

# A State Illustration Illinois

Review the previous seasons key statistics to have good data to work from.

- Team count
- Event Utilization

# Illinois Team Counts obtained in admin.robotevents.com



Season: 2014-2015

Grade: High School

\* all grades are applicable to all programs.

Program: All

Team Number:

Country: United States

Team Name:

State/Region: Illinois

Contact Name:

City:

School / Organization:

Order Number:

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Demographics

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Approval: All

# Illinois Seasonal Team Growth

## 2013-2014

- 39 Middle School teams
- 48 High School teams
- 87 total

## 2014-2015

- 47 Middle School teams (20% growth)
- 75 High School teams (56% growth)
- 127 total

## 2015-2016

- Projected 59 Middle School teams w/25% growth
- Projected 98 High School teams w/30% growth
- 157 total

# Illinois Events obtained in admin.robotevents.com

Event Code:

Event/Venue Name:

Start Date:

End Date:

Program:

Event Partner:

Country:

Event Type:

Region (State):

Is TSA:

    Include Demographics.

[Create New Event](#)

Showing 1 future events.

# 2014-15 Illinois Qualifying Events

Spots RC/NC/WC			Champ. Type	Date Added	SKU / Program	Awards Finalized	Event Name / Venue	Location	Event Date	Regs	Price
10	4	-	-	2014-09-03 <a href="#">RE Link</a>	RE-VRC-14-2003 <a href="#">Edit</a> -- <a href="#">Links</a>	12 Finalized	Geneseo VEX Competition Geneseo Middle School	Geneseo Illinois	11/08/2014	<a href="#">23</a> / 24	\$40.00
10	4	-	-	2014-08-18 <a href="#">RE Link</a>	RE-VRC-14-1883 <a href="#">Edit</a> -- <a href="#">Links</a>	13 Finalized	Wildstang VEX Robotics Competition Rolling Meadows High School	Rolling Meadows Illinois	12/06/2014	<a href="#">33</a> / 32	\$50.00
10	4	-	-	2014-09-12 <a href="#">RE Link</a>	RE-VRC-15-2089 <a href="#">Edit</a> -- <a href="#">Links</a>	11 Finalized	Niles 219 Skyrise VEX Robotics Tournament Niles North High School	Skokie Illinois	01/10/2015	<a href="#">27</a> / 32	\$65.00
10	4	-	-	2014-07-03 <a href="#">RE Link</a>	RE-VRC-15-1635 <a href="#">Edit</a> -- <a href="#">Links</a>	13 Finalized	WiredCats Vex Robotics Competition at Neuqua Valley High School Neuqua Valley High School Freshman Campus	Naperville Illinois	01/17/2015	<a href="#">36</a> / 36	\$60.00
10	4	-	-	2014-06-14 <a href="#">RE Link</a>	RE-VRC-15-1527 <a href="#">Edit</a> -- <a href="#">Links</a>	15 Finalized	Battle of the Bots Middle School Tournament Percy Julian Middle School	Oak Park Illinois	02/07/2015	<a href="#">36</a> / 38	\$50.00
-	-	-	-	2014-09-16 <a href="#">RE Link</a>	RE-VRC-15-2092 <a href="#">Edit</a> -- <a href="#">Links</a>	- Finalized	Great Lakes-Illinois Skills Challenge Rotolo Middle School	Batavia Illinois	02/15/2015	<a href="#">23</a> / 48	\$25.00
10	4	-	-	2014-09-10 <a href="#">RE Link</a>	RE-VRC-15-2079 <a href="#">Edit</a> -- <a href="#">Links</a>	13 Finalized	Southern Illinois Skyrise Qualifier Carbondale Community High School	Carbondale Illinois	02/21/2015	<a href="#">41</a> / 50	\$40.00

219/260

196/212

There were a total of 7 VRC state championship qualifying events in IL.

Attendance was 196, regional event capacity was 212, percent capacity 92% (not counting the skills challenge event on 2/15/2015).

The range of event sizes in IL for 2014-15 was 24 to 50 teams.

The average VRC event size in IL for 2014-15 was 32 teams.



# Average Competitions per Team 2014-2015

- 196 event plays
- 127 teams
- $196/127 = 1.54$
- Equals 1.54 plays per team in Illinois

# Competitions per team the last 4 seasons

Program data shows that the number of competitions that a team attends each season is increasing. VRC global numbers;

- 2011-12 it was 2.0
- 2012-13 it was 2.0
- 2013-14 it was 2.3
- 2014-15 it was 2.5
- 2015-16 ?

# Calculating Illinois Event Capacity for 2015-16

- 157 teams (projected team growth)
- Increase events per team ratio from 1.52 to 1.7 (teams are playing more often to improve).
- $157 \times 1.7 = 267/.9$  (10% extra capacity)  $\sim 300$

# Event plans for the 2015-16 Season

Demand shows the need for 300 regional qualifying spaces. How can that demand be met? Options?

- Increase the capacity of existing events.
  - Last season there were 7 regional qualifying events with an average capacity of 30 teams per event.
  - 7 events of 36 teams each = 252 (not enough)
- Add new events.
  - Two 24 team rookie events adds 48 more regional qualification spots.

# Event plans for the 2015-16 Season

One option alone is unlikely going to successfully solve the need for additional capacity. The solution is more likely a combination of the two options.

- **Increase the capacity of existing events.** Do where possible based on space being available and as an event partners knowledge grows.
- **Add new events.** New sites help spread the opportunity to participate to a greater number of areas.

Collectively keep working to add capacity until the total meets or exceeds the new targeted event capacity figures that were calculated.

# A Plan for IL 2015-16 Event Capacity

- 2 new events at 24 teams each adds 48 spots.
- 5 existing events remain the same size at an average of 32 teams per event equals 160 spots.
- 2 existing events grow their capacity to 48-50 each adds 100 spots.
- Total plan has room for 308 team plays.
- Keep looking to add other new events in case growth exceeds projection (build for the future).

# Suggestions for States/Provinces/ Regions/Countries with Championships

- Initially locate these events near the team concentrations to minimize travel expenses.
- Eventually consider moving the Championship event around so that travel is distributed over time amongst teams.
- Once teams are uniformly distributed over the area involved, consider centrally locating to minimize travel, or setup a planned rotation.

**QUESTIONS?**