

# FTC 2015/2016 Robot Control System Changes

Subject: Migration of FTC Control Platform from LEGO NXT to Android Cell Phones

Date: 22Mar2015

Author: Craig Rochester

## Summary

On 11Mar2015 FTC announced a major change to game structure for the 2015/2016 season's competition. This means that our RobotC, NXT and Samantha hardware/software systems will not be used next season. We must purchase the new system and learn a whole new programming language. This will significantly change how Team Technado will plan, purchase and build next year's robot. I think this is a terrific change which expands the possibilities for electronics and mechanical assemblies that will be available for the robot. I recommend we start immediately to study these new systems and plan our work to achieve the greatest fluency we can before next season. This works to our advantage and FTC has "reset the clock"; the veteran team's years of accumulated expertise and competitive advantage in the Lego control systems will be erased.

The technical information has not been fully revealed and this document is intended to present the current information available on the internet. From the press release<sup>1</sup>:

*"Moving to a communication and control system based on Android and Snapdragon will give FIRST Tech Challenge students powerful benefits during their build and competition seasons, including:*

...

- *Teams can use all their existing FTC hardware, sensors, and electronics – just by adding Android and devices powered by Snapdragon processors and interface modules;*
- *Less intimidating step into robotics for students and teachers who have not yet participated on a robotics team;*
- *Elimination of a central field control system which means easier set up and inspections for fewer volunteers at on site competitions; and*
- *Fast team competition check-in, easier event set up, more reliable on field communications...*"

## Internet References

1. [Press Release about the FTC new Android-based technology](#), FIRST©
2. [Team Blast email sent to teams on March 11, 2015](#)
3. [Question & Answer Document](#)
4. [FTC Tech Talk video blog](#) by Ken Johnson, Director of FIRST Tech Challenge
5. [FTC Technology Forum](#), FIRST©
6. [YouTube Video of Adroid Retrofit](#) - (our invited scrimmage)
7. [FTC® Tech Talk: Introduction](#)
8. [FTC Tech Talk: Programming](#)
9. [FTC Tech Talk: Platform Presentation](#)
10. [PDF of "FTC Tech Talk: Platform Presentation"](#)
11. [FIRST Tech Challenge Facebook Page](#)
12. [FIRST Tech Challenge Twitter](#) - Tweets!
13. [Oregon FIRST Website](#) - new platform review
14. [Chief Delphi- unofficial FIRST forum](#)
15. [MIT App Inventor](#) – Graphical Programming Tool for next year (looks cool)
16. [Android Studio](#) - full-blown programming language software for Androids (RobotC on steroids)
17. [Snapdragon](#) -Tehnnical information on Android processor