
2026 Canton Kickoff

CAD with Onshape

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Introduction

If you're been on a team before, how many of you started off the season like this?



If you're part of the design team, right now I bet a bunch of you are feeling some pressure to make something awesome:



With CAD, you will be on
your way to create the plan
- become a Master Builder



WHY USE CAD?

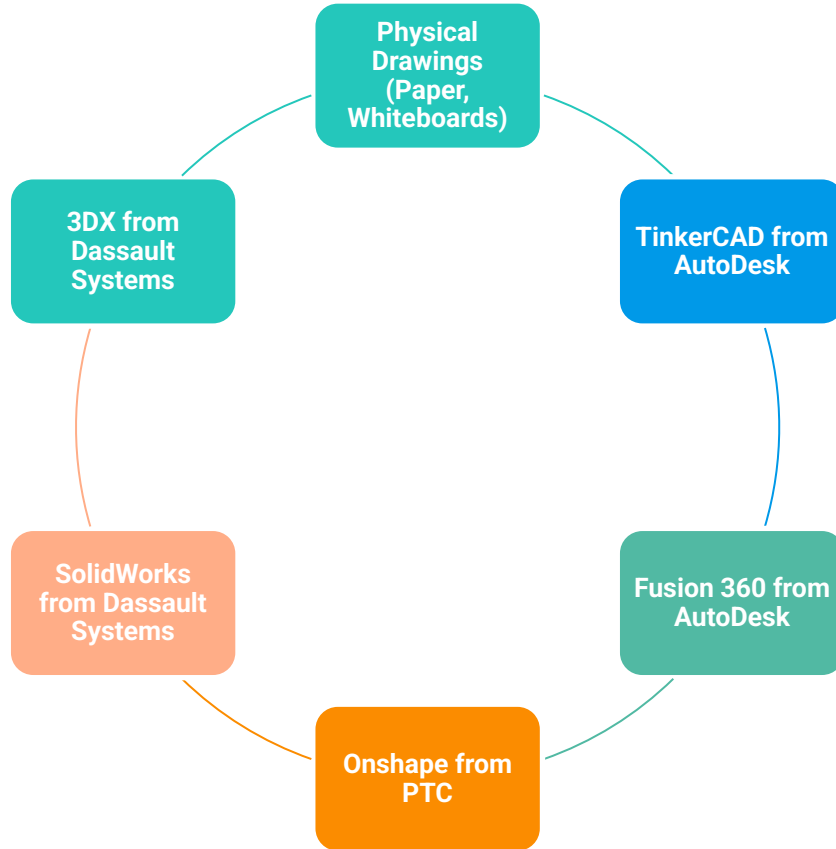
Computer-Aided Design (CAD) is an integral part of modern Engineering

In FTC, CAD is important because:

- It demonstrates knowledge of the engineering process
- It allows for checking of dimensions, and ranges of motion before lengthy builds (and re-builds)
- When integrated into the process, it provides:
 - What parts and materials are needed in which quantities — a “Bill of Material”
 - What manufacturing processes are needed, like cutting dimensions, drilling locations, or 3D printing — a “Bill of Design”
 - What assembly steps to follow, in which order if it is important - A “Bill of Process”
- Judges during the competition want to know!

CAD Options

Design Options



Why Onshape?

- Accounts are easier to create and manage
- Onshape will run on any computer (even a Chromebook)
- Great learning resources

Getting Started with Onshape

- Create accounts
- Import data from prior CAD systems (if necessary)
- Install the FTC Insert Tool (MAGIC!)
- Get familiar with your majority hardware vendor (typically REV Robotics or Gobilda)
- New to CAD?
 - Onshape has TONS of learning resources.
 - Start from a prebuilt model! Both REV and Gobilda offer a Starter Bot not long after the game reveal.

Demonstration

Resources

- Onshape: <https://www.onshape.com>
- Official Onshape Learning Resources: <https://learn.onshape.com>
- Infinity Tech Summer Learning Videos:
<https://www.infinitytechrobotics.com/resources/>