

Welcome to

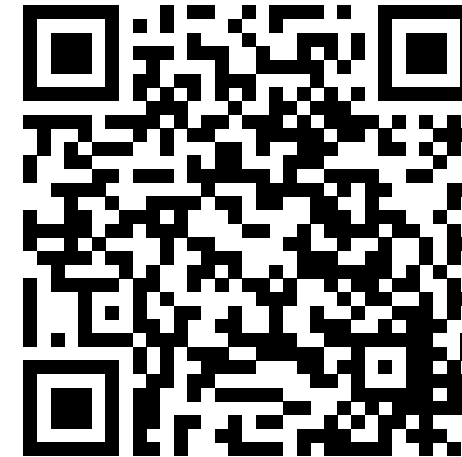
## Introduction to Simulink + Minidrone Competition Overview

The event will begin shortly, before we begin remember:

Mute your mics  
(is already off by default)

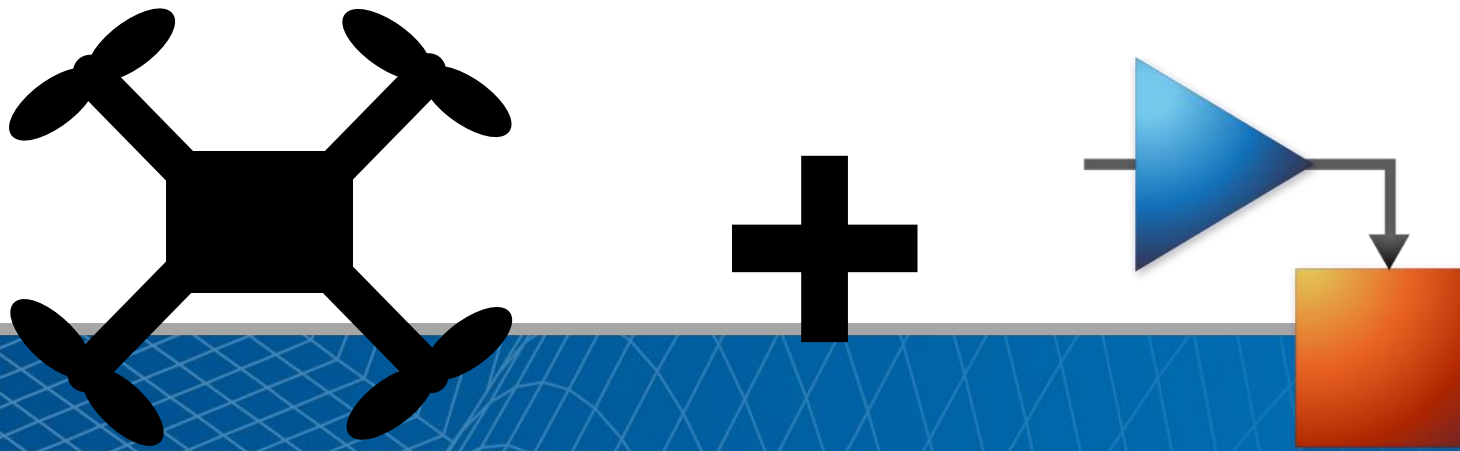


If you don't have MATLAB (Simulink included), scan the code to get started



# Introduction to Simulink

## Minidrone Competition Overview



Simon Thor  
MATLAB Student Ambassador

# Agenda

- Poll
- What is Simulink?
- What is the minidrone competition?
- Demo
  - Simulink
  - Minidrone
- More resources
- Ask questions whenever you want!

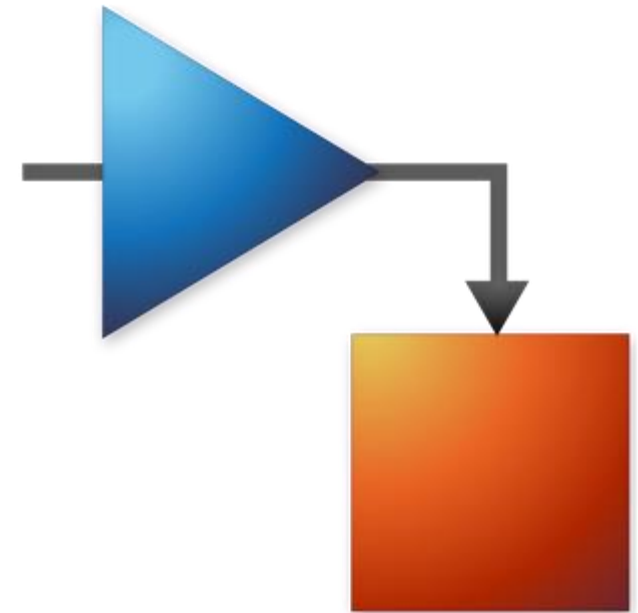
- Presentation and other resources available here:

<https://github.com/simonthor/kth-matlab-ambassador/tree/master/Seminars/Intro%20to%20Simulink>



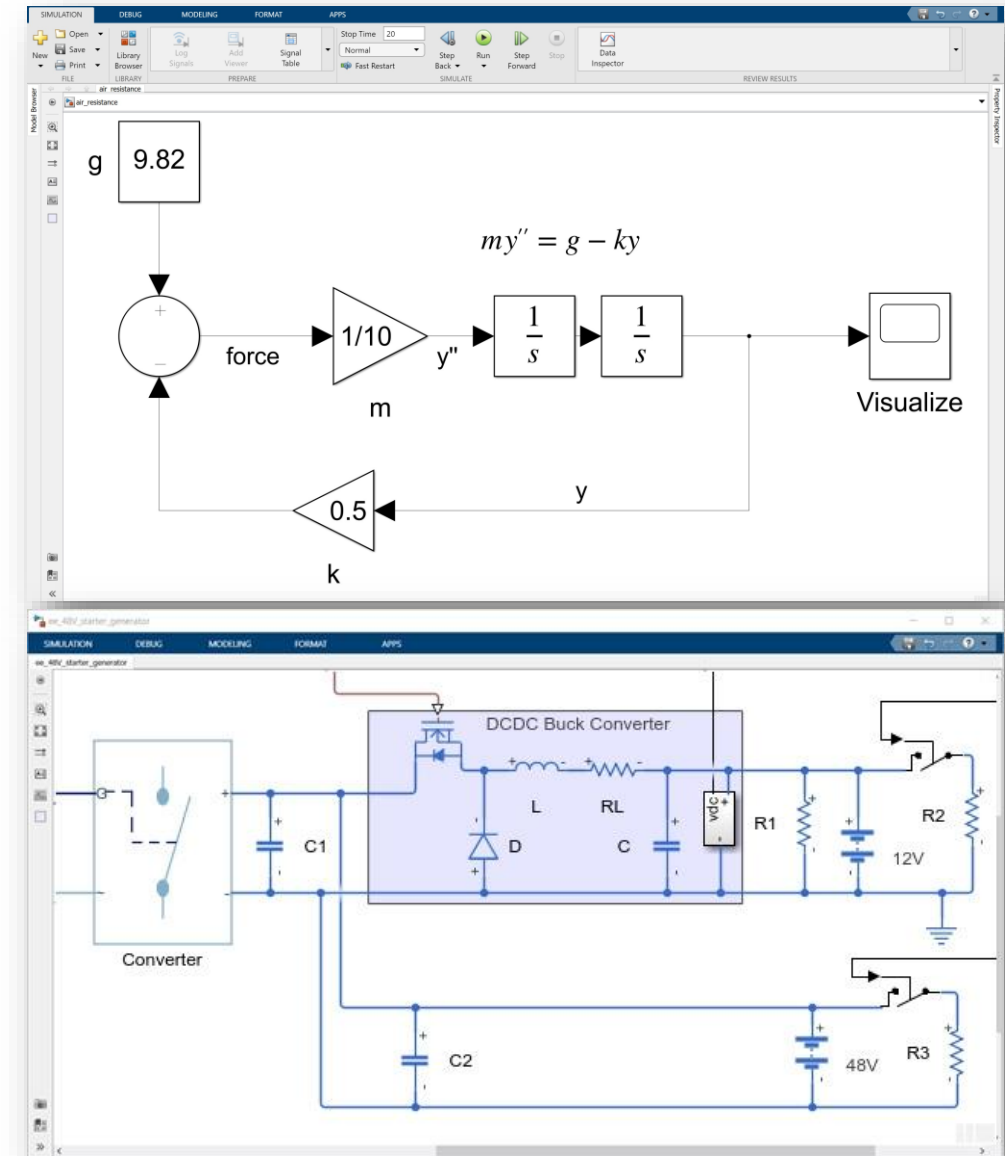
# What is Simulink?

- Graphical programming environment
  - Intuitive
  - Easy to debug
- Used for modelling and simulating systems
- Integrates well with MATLAB
  - MATLAB functions
  - Code generation



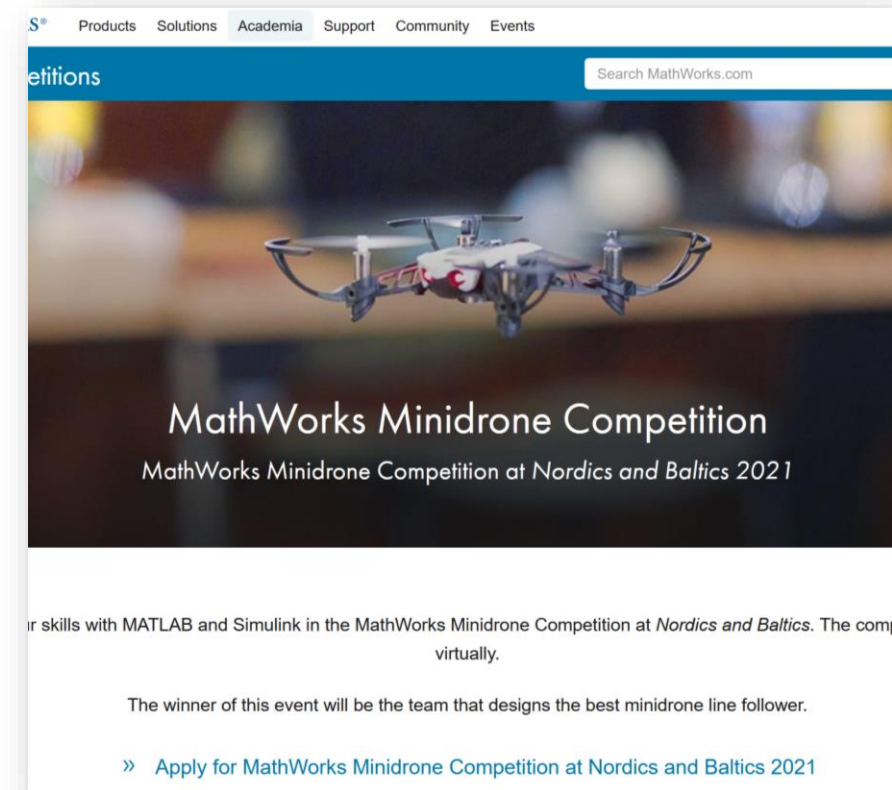
# When is Simulink used?

- Robotics, signal processing, wireless communication etc.
- [Scania](#)
- Dynamical systems
- Stateflow for discrete modeling
- Physical systems
  - Simscape
- Much more...



# MathWorks Minidrone Competition

- Simulate a minidrone with Simulink
- Follow a line
- Practice computer vision, Simulink, MATLAB etc.
- Students in the Nordics and Baltics are eligible
- 2 – 4 team members
- All participants will get the required software



# Competition Timeline

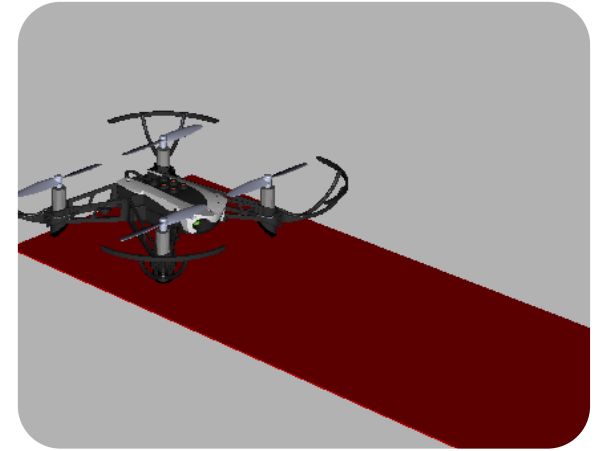
- Round 1:
  - Create a model in Simulink based on the [Simulink Support Package for Parrot Minidrones](#)
  - Submit your model to [minidronecompetition@mathworks.com](mailto:minidronecompetition@mathworks.com)
- Round 2:
  - Top 5 – 7 teams
  - Create a 5 – 7 minute video explaining the model
  - Virtual event



Task	Deadline
<b>Round 1 application closure</b>	<b>12 March 2021, 19:00 CET</b>
Round 1 submission	26 March 2021
Round 1 result declaration	27 April 2021
Video submission	07 May 2021
Round 2 live event and winners selected	19 May 2021

# Demo

- Modelling a propelled object with air resistance
- Overview of the Parrot minidrone support package
- Extra demo (if time permits)



Simulink Online:

<https://drive.matlab.com/sharing/9b0b51b4-f763-4772-a260-4e65450b2b3a>

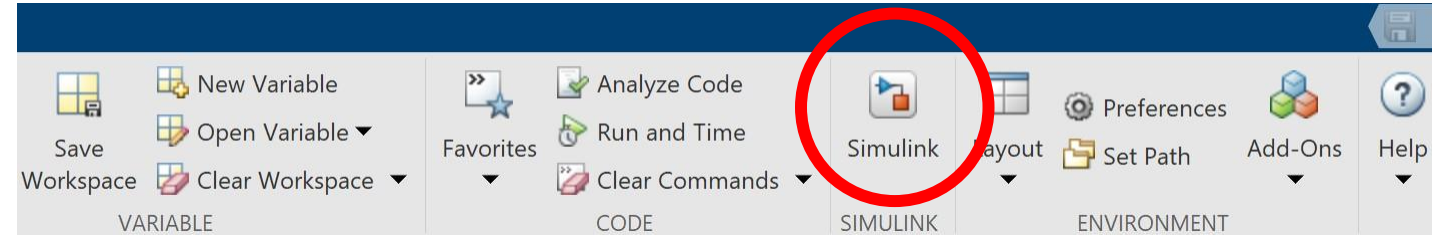
Github:

<https://github.com/simonthor/kth-matlab-ambassador/tree/master/Seminars/Intro%20to%20Simulink>



# Simulink Resources

- Launch it from MATLAB!
- [Simulink website](#)
- [Keyboard shortcuts in Simulink](#)
- [Simulink Onramp](#)
- [Stateflow Onramp](#)
- Use Simulink online via [MATLAB online](#)
- Have problems? Ask in the Facebook group :)



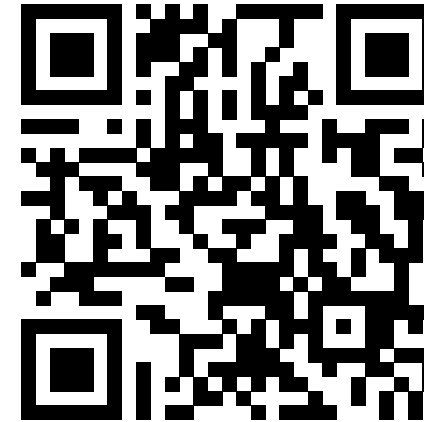
# Minidrone Competition Resources

- [Minidrone competition page](#)
- [Getting started guide about the competition](#)
- [Team registration page](#)
- [Simulink support package for PARROT minidrones](#)
- Submit your Simulink model to:  
[minidronecompetition@mathworks.com](mailto:minidronecompetition@mathworks.com)

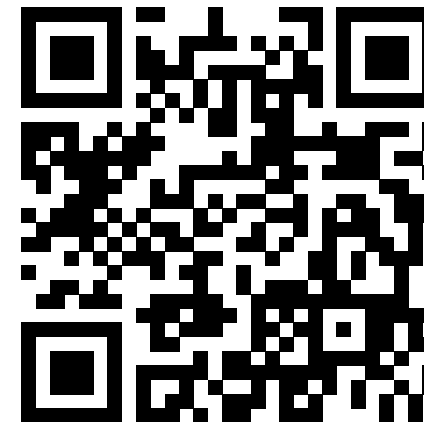


# Social Media

- Join the MATLAB@KTH Facebook group
- Stay up to date with all events being hosted
- Posts about MATLAB & Simulink tips, resources etc.
- Instagram: @matlab\_kth
- Post (outdated) memes
- Suggest better memes!



<https://facebook.com/groups/MATLAB.KTH>



[https://instagram.com/matlab\\_kth](https://instagram.com/matlab_kth)

# Thank you for attending!

- MATLAB merch:
  - Handed out at the KTH library, close to the entrance
  - **12<sup>th</sup> February 9:30-12:30** (Friday this week)
  
- How to get an Amazon gift card:
  1. Fill out this [form](#)
  2. Create a Simulink model. Does not need to be fancy!
  3. Post .slx file in the Facebook group with a short description
    1. Project ideas: Fibonacci calculator, ODE plotter, flowchart (Stateflow), electric circuit (Simscape)
  4. **The first 5 people to post will get Amazon gift cards worth 100 SEK!**

