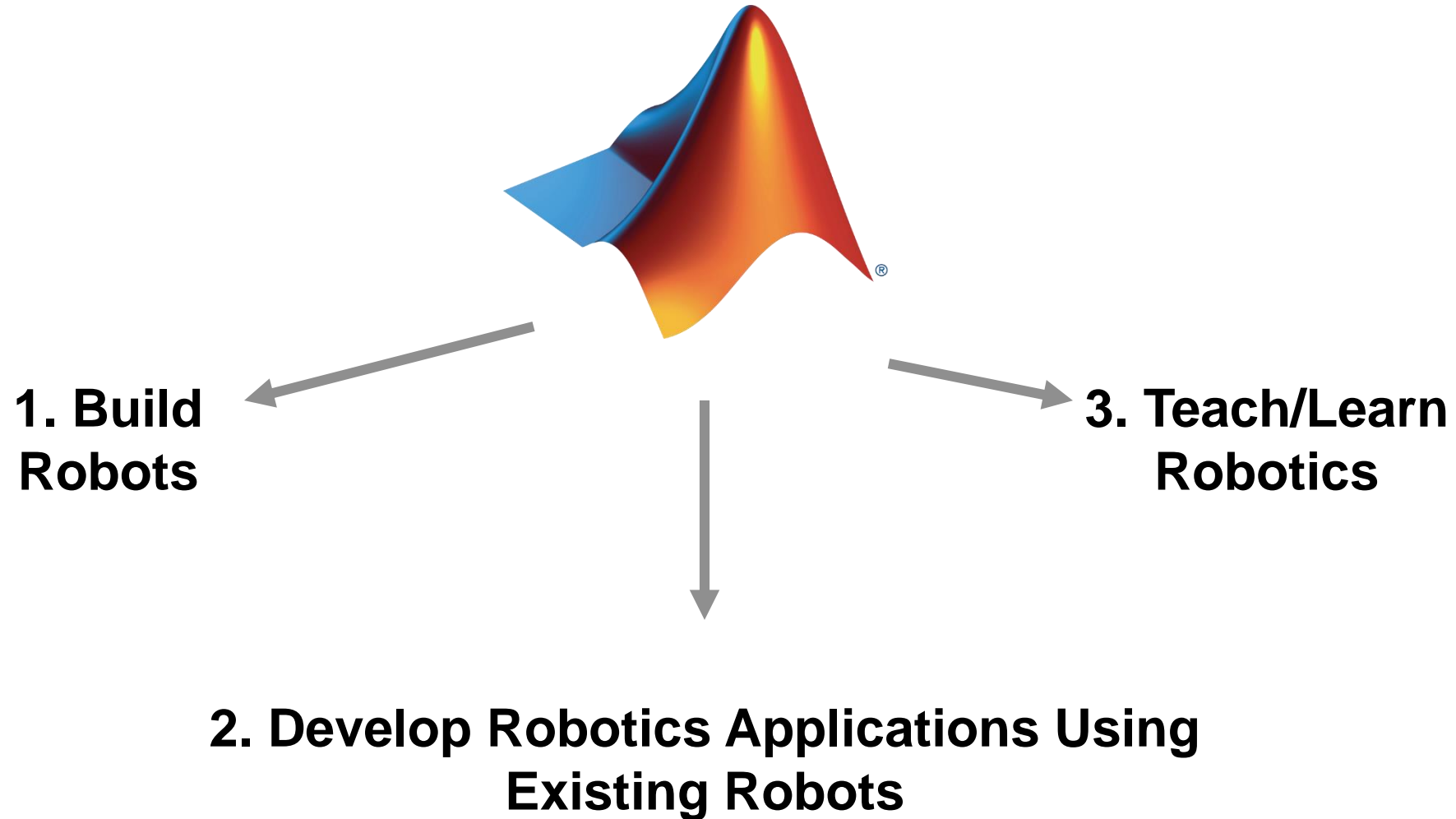


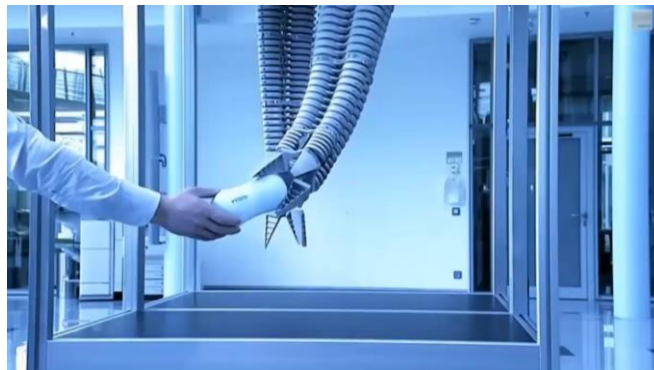
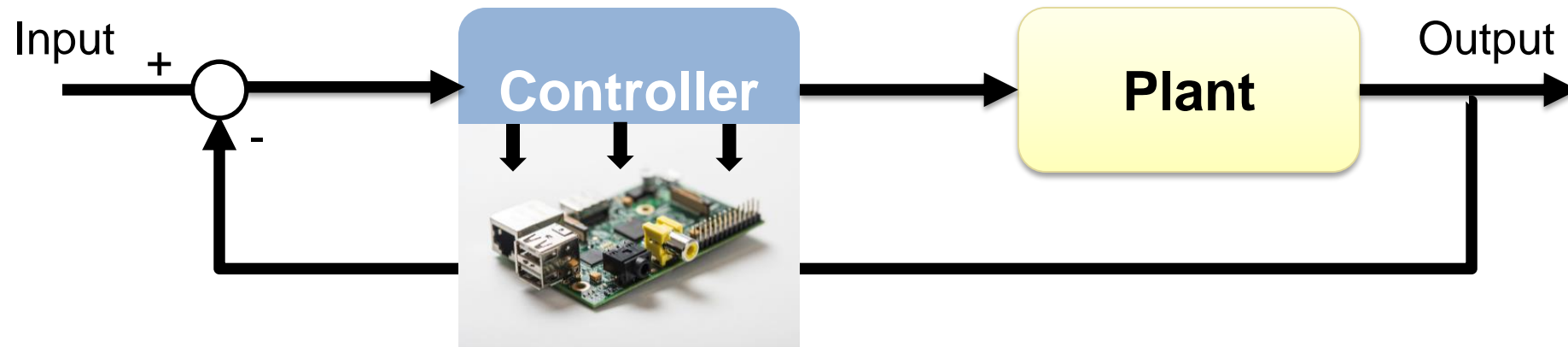
# Developing Robotics Applications with MATLAB and Robotics System Toolbox

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*MathWorks Benelux*

# What Are You Doing with Robotics?



# Using MATLAB and Simulink for “Building Robots”



**Festo Bionic Arm**



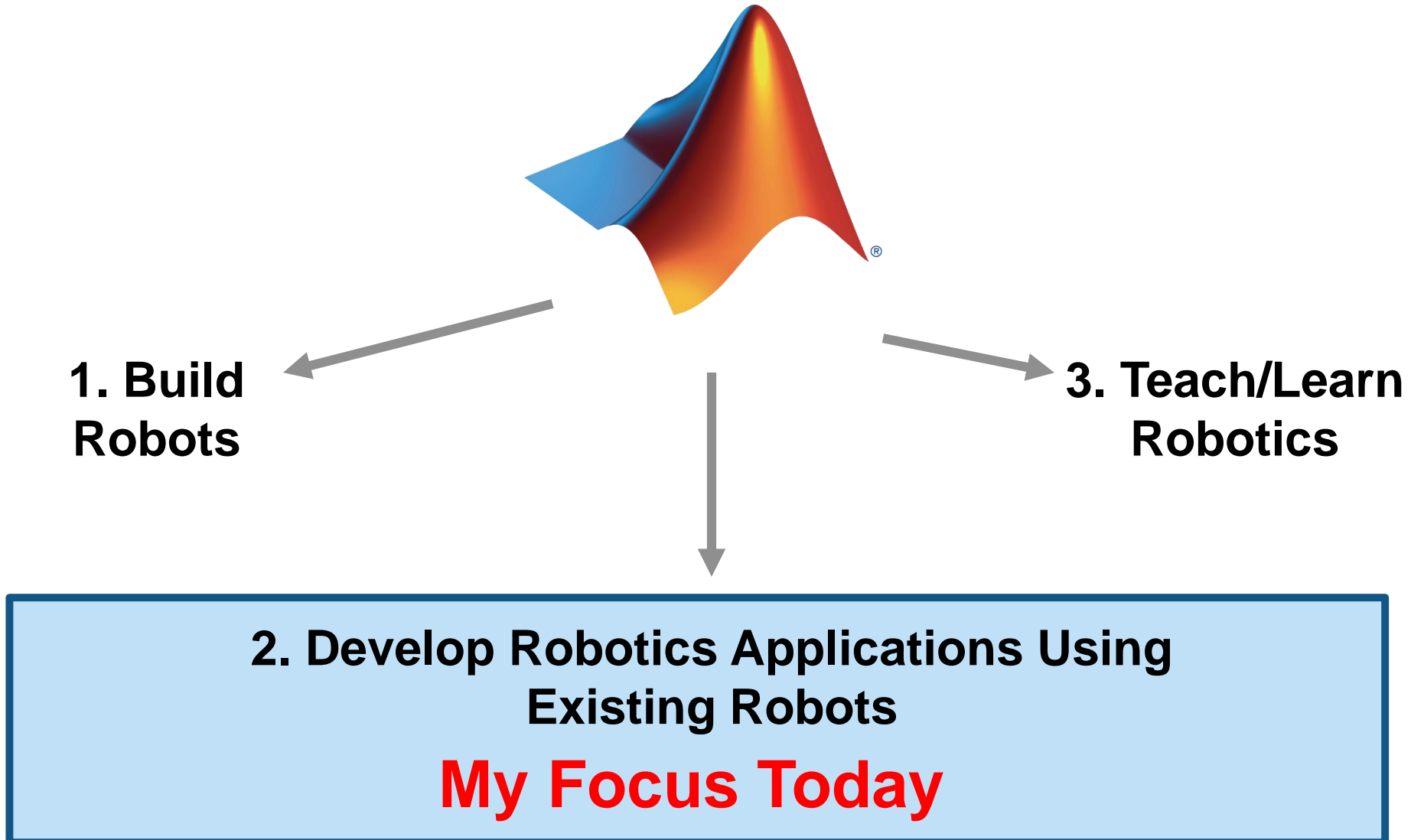
**DLR Humanoid Robot**



**YZU Robot Hand**

Recorded Webinar: [How a Differential Equation Becomes a Robot](#)

# What Are You Doing with Robotics?



# Key Features of Robotics System Toolbox

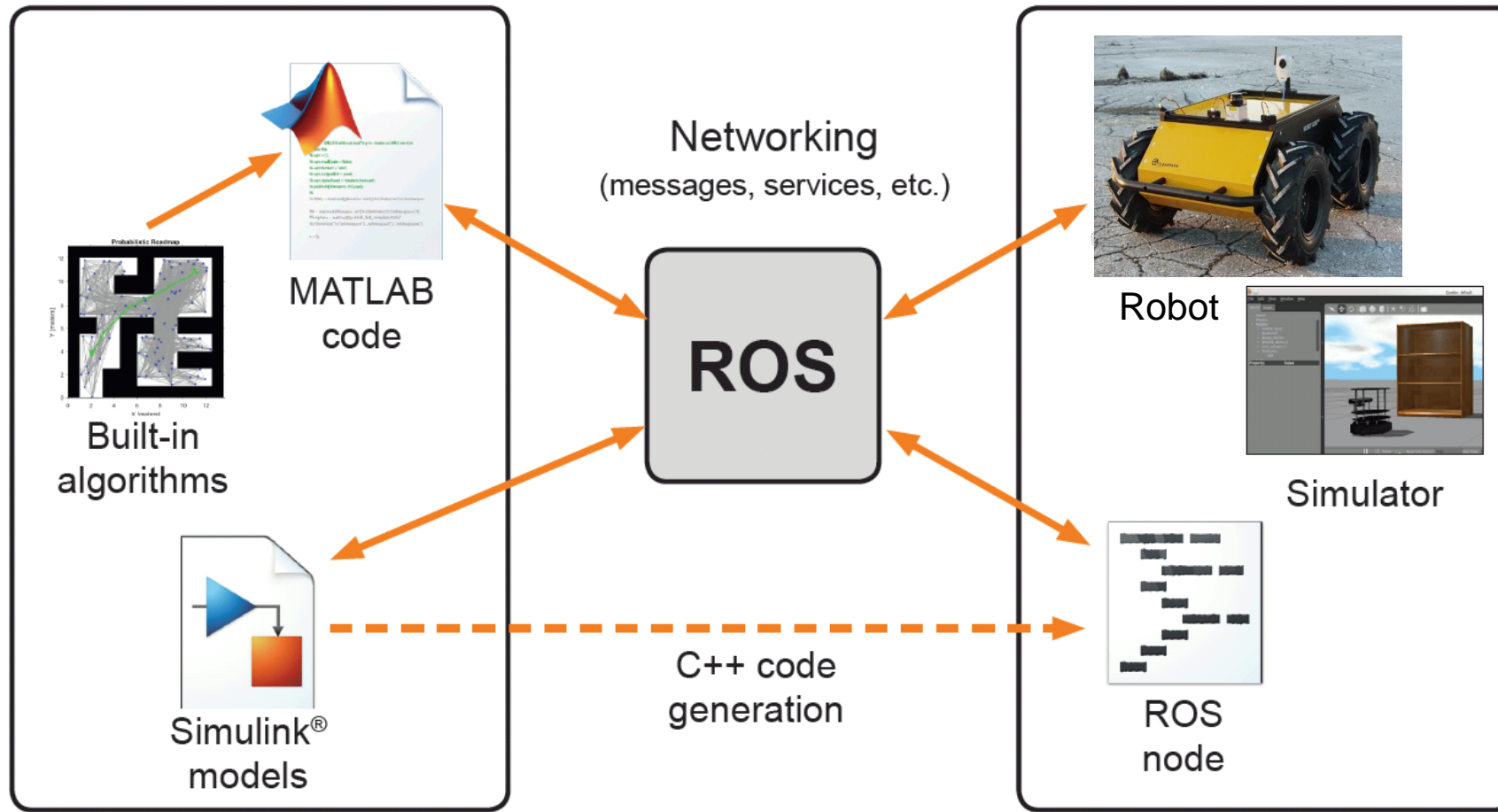


1. MATLAB-ROS Interface
2. Simulink-ROS Interface
3. Robotics Algorithms
4. Comprehensive Demos



ROS

# What Can You Do with Robotics System Toolbox?

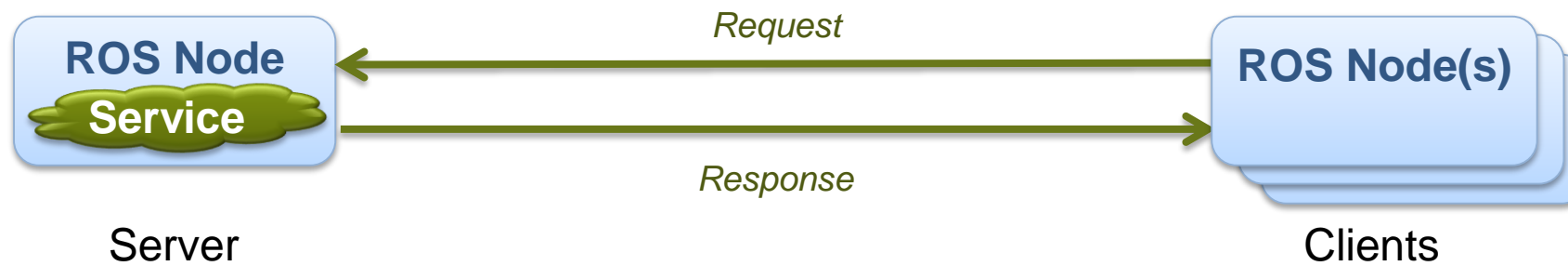


# Data Exchange Paradigms

- Topics



- Services



# Demo

- A MATLAB App connecting to Gazebo using Robotics System Toolbox
- Model of a Husky robot



# Quick Tutorial

- Communicating using ROS from the MATLAB command prompt
  - Matlab as ROS master node
  - ROS Topics
  - ROS subscribers
  - ROS publisher

# MATLAB-ROS Interface Key Capabilities

Connect to any ROS-enabled robot or Simulator:

- Create ROS nodes, publishers, and subscribers
- Call and provide ROS Services
- Access the ROS Parameter Server
- Access the tf ROS Transformation Tree
- Read, filter, and extract message data from rosbag files

# Thank You