Argo AI

Austin Bicycle Advisory Council Presentation

At Argo AI, we are on a mission to build self-driving technology you can trust.

Our purpose is to make getting around cities safe, easy, and enjoyable for all.

We Build the Technology

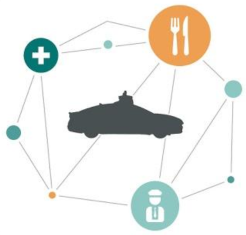
A self-driving system designed to support multiple partner applications at scale.

We Collaborate with Automaker Partners on Vehicle Integration

Tight end-to-end engineering and integration creates a compelling product.

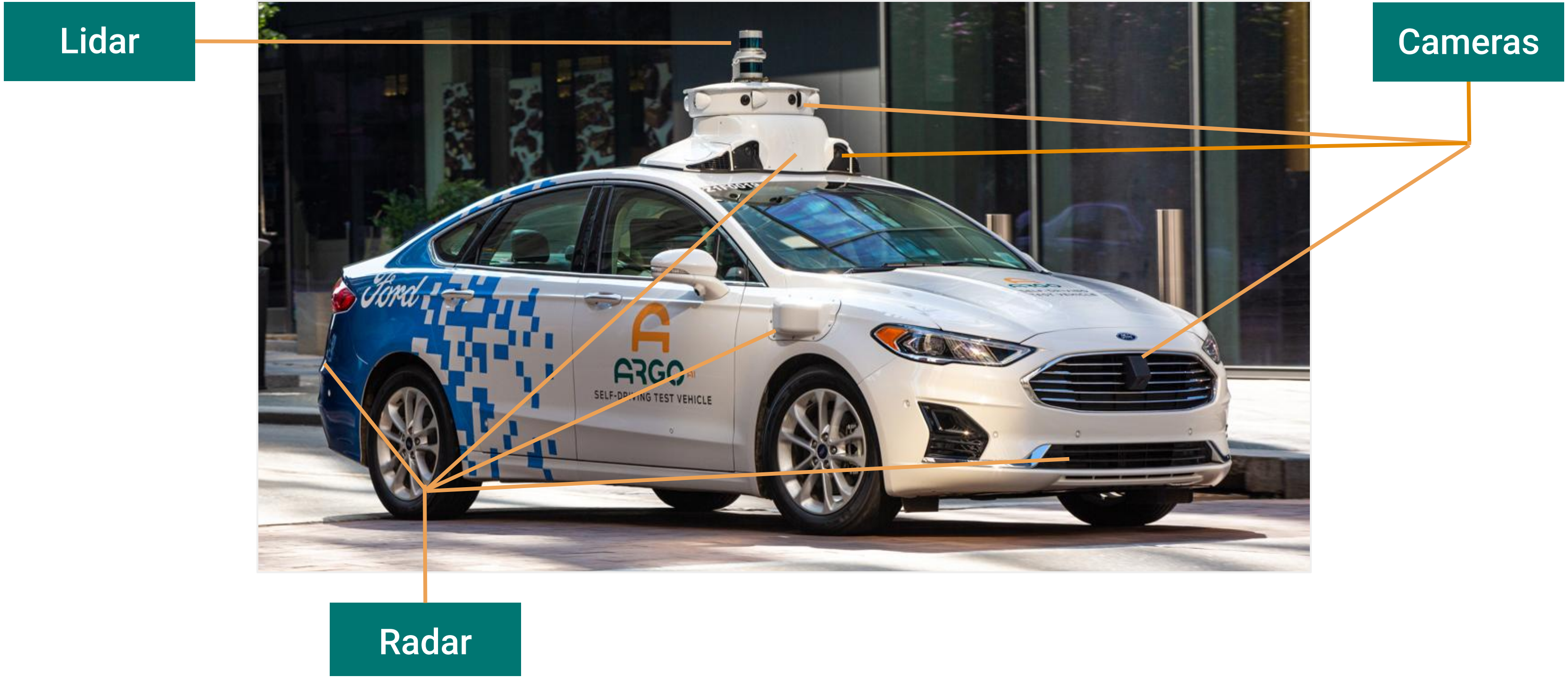
Partners Deploy People and Goods Movement Services with our Support

On-going fleet operational support for geofence expansion and improvement of the self-driving system

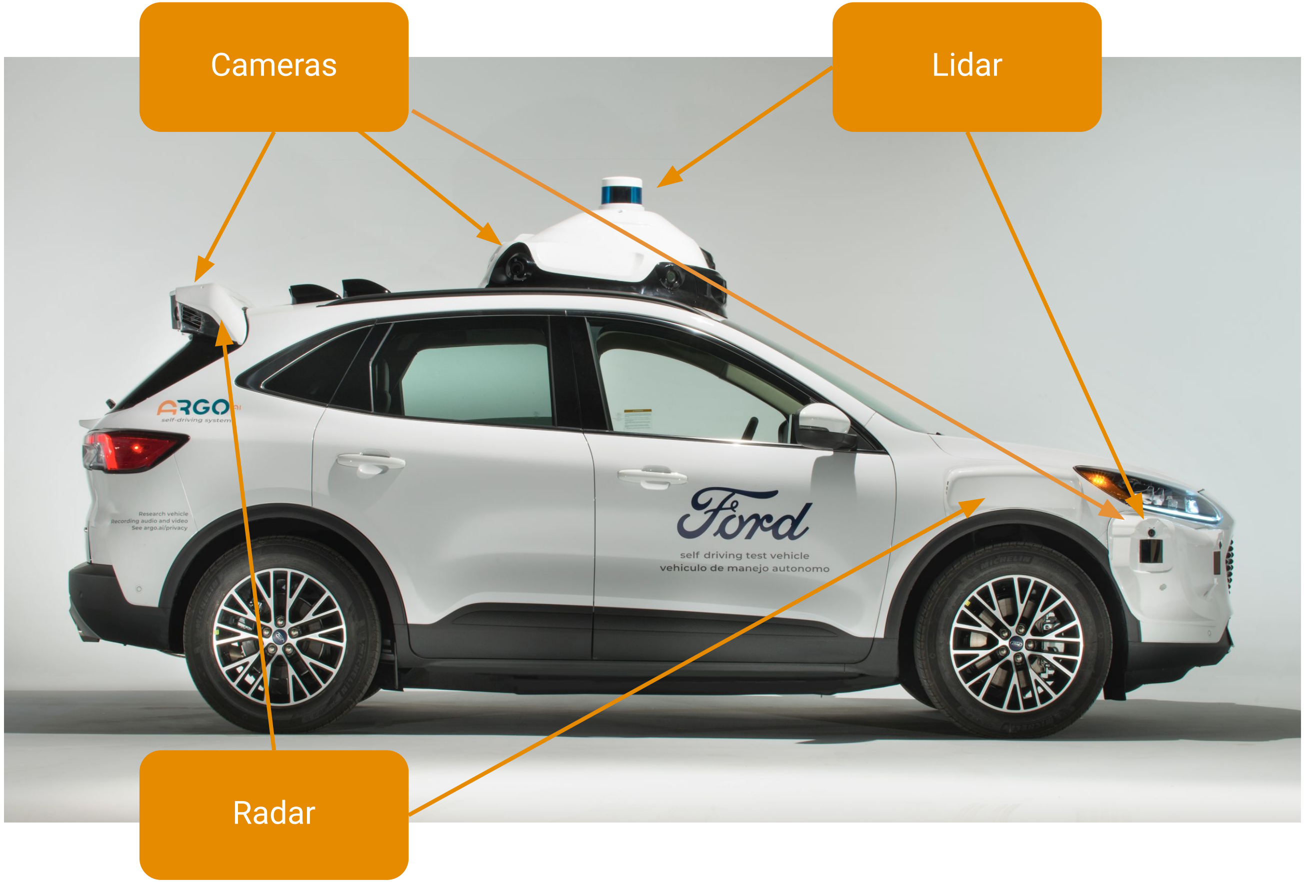



Pittsburgh
Munich
Detroit
Cranbury, NJ
Palo Alto
Washington D.C.
Austin
Miami
ARGO AI

How Our Technology Works - Ford Fusion

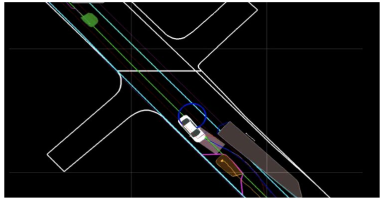


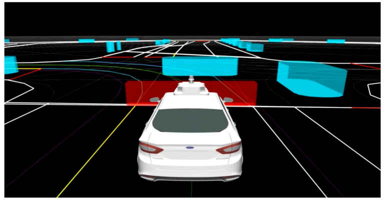
How Our Technology Works - Ford Escape

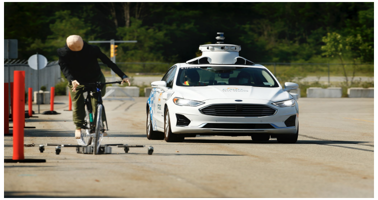


Rigorous Testing Methodology

Rigorous Testing Regime Ensures We Never Compromise on Safety.







Development Testing

Narrowly-scoped tests that can be run at an engineer's desk.

Often small hand-curated test sets.

Focused on components under active development.

Sim/ReSim Testing

Broadly-scoped tests that can be run on cloud computing.

Exhaustive evaluation and regression tests.

Focused on exercising as much functionality as possible.

Closed-Track Testing

Narrowly-scoped tests run on vehicles on test tracks.

A mix of known hard cases and new test cases.

Focused on proving out functionality for a release.

Fleet Testing

Broadly-scoped tests run on vehicles on public roads.

A mix of common and novel situations.

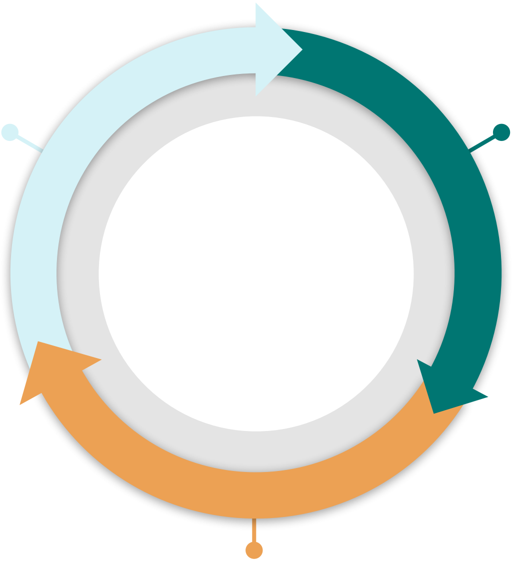
Focused on validating the system against real-world conditions.

Faster Feedback ⇨ Faster Problem Identification and Solution

Real world experience is used to drive development priorities and run regression test sets.

Data-driven and iterative development process.

How Our Technology Works



1 Sense

- Cameras
- Radar
- Lidar

2 Plan

- Destination
- Objects
- Actors

3 Act

- Brake
- Throttle
- Steer

‘Sense, plan, act’ in action

<u>Objects</u>

- Trees
- Buildings / Infrastructure
- Vehicles / Peds / Cyclists
- Traffic Lights / Stop Signs

<u>What is everyone going to do?</u>

- Go straight or turn?
- Run a stop sign?
- Pull out from a parking space?
- Pick up passengers?

Test Track & Bike Tests

- Different poses (e.g. seated, standing)
- Different bicycle types (e.g. road, mountain, recumbent)
- Traffic lights
- Stopping (or not) at stop signs
- Anti-routing (against traffic)
- Lane-splitting
- Crosswalks
- Lane-changing
- Car doors
- Margins and speeds

Our Principles

Guiding Principles

1. Self-driving vehicles should enable safer streets for everyone, including cyclists and pedestrians, not just those utilizing the vehicle.

2. Self-driving vehicles should augment existing personal, private, and public transportation options, including cycling and bike sharing, to empower mobility choice and equity.

3. Self-driving technology and service providers should encourage the creation of cycling infrastructure and dedicated bicycle lanes where feasible throughout cities.

Guiding Principles

4. In addition to following all applicable local traffic laws, self-driving technology and service providers should aid mutual safety by maintaining safe lateral and following distances.

5. Self-driving technology should anticipate common cyclist behaviors, such as yielding at stop signs or treating red lights as stop signs, as well as recognize and respect rights-of-way for bicycle lanes and related cycling infrastructure.

6. Self-driving technology and service providers should contribute to an environment of collaboration, engagement, and education within the communities in which they operate, including, but not limited to, providing education about how self-driving vehicle systems work and related safety procedures, as well as soliciting feedback from community members.

Collaboration & Learning

- What are your biggest concerns as a cyclist that you face in dealing with cars?
- How can we continue collaborating moving forward?
- What other groups should we be in contact with?