

Ford Motor Company Autonomous Vehicles

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Autonomous Vehicle Systems Engineering



SAE Automation Levels

Operating Domain	May Be Limited					Unlimited
Driver's Role	Perform or Supervise Driving Tasks			Fallback (Ab. Cond.)	Driver Not Required While Automation Engaged	
Sensing & Response	Partial Capability			Complete Capability		
Control	Warnings / Support	Lateral <u>OR</u> Longitudinal	Lateral <u>AND</u> Longitudinal			
Automation Level	0	1	2	3	4	5



Dual Approach

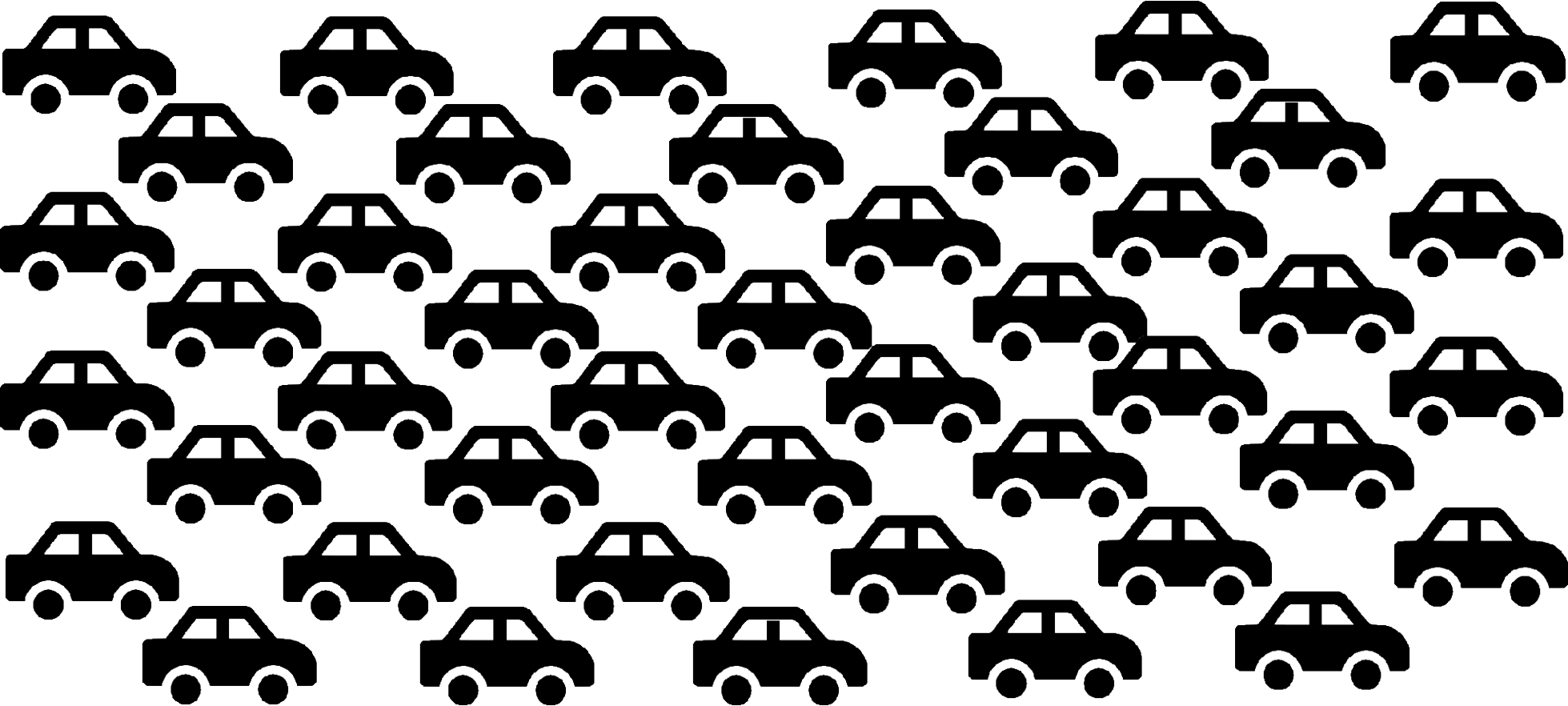


LiDAR Movie – Ann
Arbor



LiDAR Movie –
Nighthonomy


Designed to Serve Millions of Customers



Cold chamber
facility movie



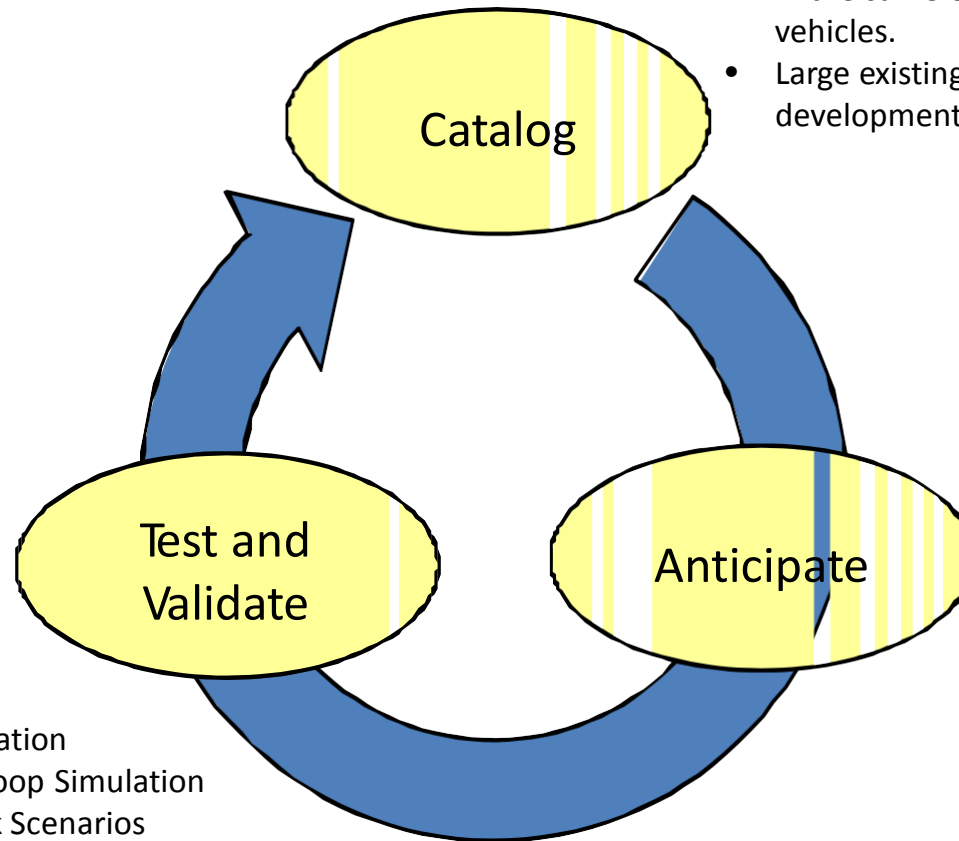
F-150 Durability
Movie

A winter landscape featuring a snow-covered ground in the foreground. In the middle ground, there are several bare, snow-dusted trees and bushes. To the right, a green utility box stands prominently. The background shows a line of evergreen trees under a clear sky. A blue rectangular box with white text is overlaid on the left side of the image.

Ford Focus Winter
Test movie

Ford Product Development Process

- Ford AVs are being designed to drive in the same environment as today's vehicles.
- Large existing database from prior development.



- Re-Simulation
- Closed-Loop Simulation
- Test Track Scenarios
- Real-World Driving

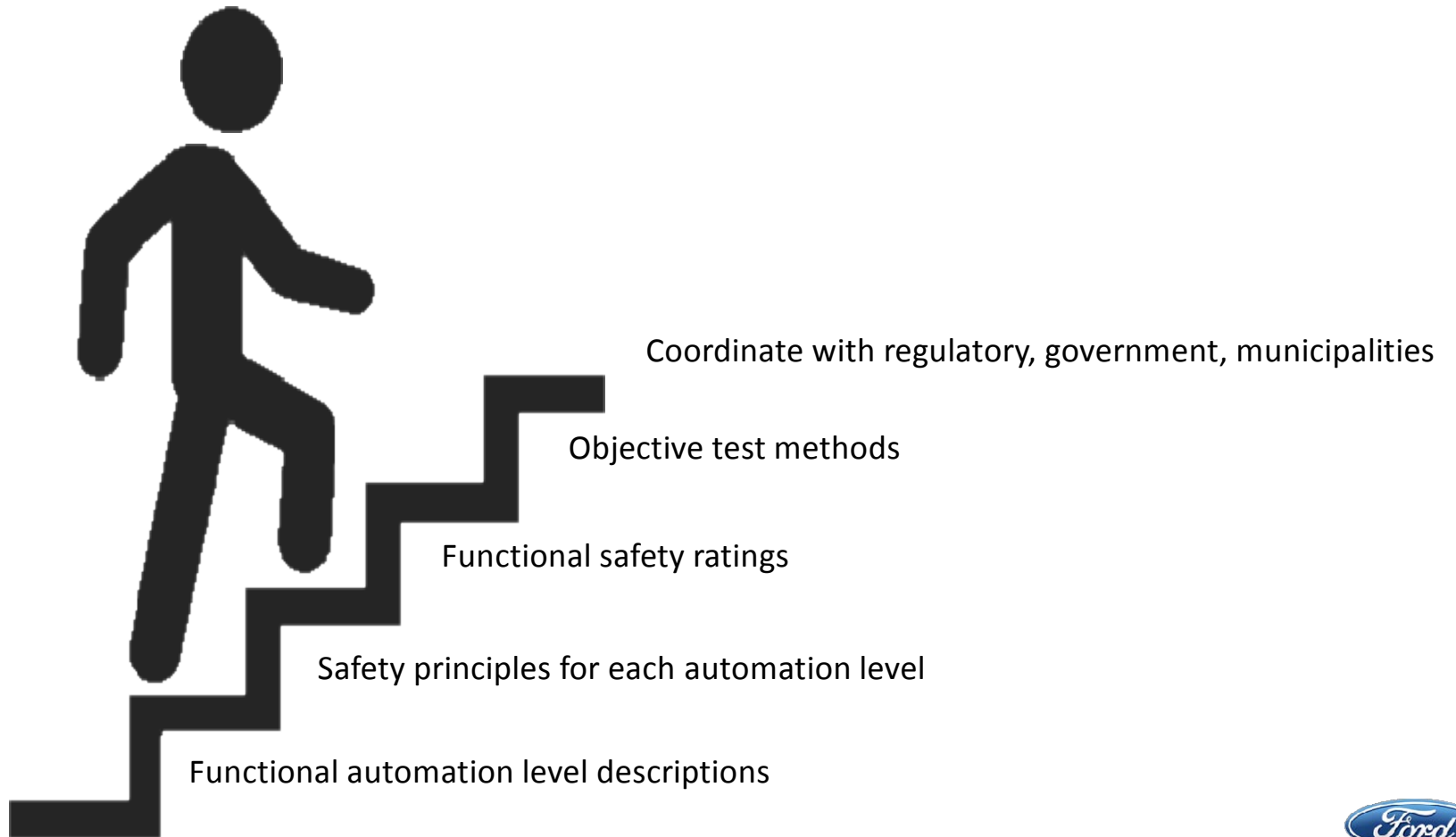
Attributes and Noise factors:

- Vehicle performance / dynamics / ride
- Part-to-part variation
- Aging
- Vibration
- Temperature
- Weather
- Etc.

A photograph of a modern building with a grey, horizontally-slatted facade. The building is partially obscured by a large, snow-covered weeping tree with yellowish-brown leaves. The ground is covered in a layer of snow, and the sky is overcast and grey. A blue rectangular box is overlaid on the building's facade, containing the text "Snowtonomy Movie".

Snowtonomy Movie

The Importance of Collaboration





Go Further

