Vision:

*Provide the function and support our customers need to fulfill their research and development goals, while keeping the miniSim an affordable and accessible solution.*

Stats:

- Over 80 simulators at 63 sites
- Over 100 user publications, reports, and dissertations published to date
- Over 20 years of development at the University of Iowa
- Supported by team of full-time staff members
- Single PC
  - Cost effective
  - Reliable
- Configurations
  - Desktop
  - Quarter Cab
  - Half-Cab
  - Custom
- Compatible with NADS simulators
  - *NADS researchers use the same tools daily*
  - *NADS development and support staff*
Common tools used across all NADS simulator platforms

- Integrated Scenario Authoring Tool (ISAT) for scenario authoring
- Tile Mosaic Tool (TMT) for map assembly
- nDAQtools for data reduction
Display configurations

3 x 24” LCD

3 x 48” LCD
Hardware configurations

Desktop

Simplified Cab

Quarter Cab
Supported wheel and pedal systems

- ECCI Trackstar 6000
- Fanatec Wheel Base
- CSL Elite Pedals
- Loadcell Brake
- miniSim Steering and Pedal Loaders (half- and quarter-cabs)
Half-Cab Simulators

Projectors and Curved Screens
Half-Cab Simulators

Projectors and Flat Screens

All are single PC
Custom Configurations

- Mobile
- Clinical Trials
- Training
- Ophthalmology Research

All are single PC
Custom Simulators and Cabs

miniSim™

Fits 36 inch Doorway
Installation and Training

On-site assembly  Projector installation  User training
miniSim™ Integration Features

Network
- Trigger events in simulation
- Control miniSim AutoDriver
- Log data in miniSim
- Control external devices
- UDP over WiFi, LAN, etc

User-Defined Subsystem
- Direct read/write to simulation

Hardware Subsystem
- Handoff control
  - NADS AutoDriver
  - External control
NADS AutoDriver
• 8 behaviors (lane change, merge, exit, etc)
• Control via scenario
• Control via external systems

NADS Virtual World API
• Provides sensor-like data in real-time
  o Geometry
  o Speed limits
  o Scenario vehicles and objects

Hardware Subsystem
• Controls handoff via
  o Scenario trigger
  o External system (UDP)
  o Manual input
ISAT™: Integrated Scenario Authoring Tool

GUI interface
- No scripting required
- Sophisticated event triggering

3 modes
- Edit
- Rehearsal
- Playback
A Tile-Based Approach to Building Road Networks
Includes the following:

>250 tiles
  • Urban
  • Residential
  • Freeway
  • Rural

• Assemble your design
• Export to miniSim
Custom Tile Development

- U.S. and International
  - ✔️ AASHTO
  - ✔️ EU
- Replica or ‘typical’ environments
- Accurate sign fonts and color
- New and aged road markings
- Many source data formats
- Extensive existing libraries
- Support for non-NADS simulators
Wrong-way countermeasures
Customer-supplied data automated feature extraction

Custom Tile Development Service
Compatible Eye-Tracking

**Ergoneers**
- D-Lab data acquisition
- Dikalbis and Tobii

**Smart Eye**
- SmartEye Pro
- MAPPS

**Eyetracking Inc.**
- FOVIO
- EyeWorks
- Tobii
Compatible Motion Systems

D-BOX

Move the World™

(On miniSim™ simplified cab)

SimGear

(SimGear cab shown)

Eleetus

(Eleetus cab shown)
NADS Infotainment System

- Available skins
  - Toyota Entune and Tesla 3
- Multi-platform compatibility
  - Raspberry Pi 3+
    - Android and iOS
    - Windows
- Data acquisition
  - Menu and button status
  - Touch position
  - Operator interface
- Audio playback (MP3 and Internet Radio)
- Map display
- Scenario integration
Tesla Model 3

Infotainment System
Springfield: Anytown, USA

A Virtual Proving Ground for Automated & Connected Vehicles
Built, tested, and ready to go!

Ambient traffic

Diverse environment
- 285 square miles
- 230 miles of roadway
- 178 intersections
- 143 traffic signals
- 1362 signs

Supports many applications
- Automation development
- UI testing
- Distraction
- Outreach, education
NADS Springfield Road Network Option
Video Capture Option: NADS VidCap™

- Synchronized
- Data Overlay
- 4 x Cameras
- Full HD
- AVI, MPEG4
miniSim™ now supports DI-Guy digital humans from VT MÄK.

DI-Guy creates natural-looking smooth behavior for its more than 2,000 motions and transitions.
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Additional Resources