

Autonomous Snowplow Competition



**ION North Star Section
Outreach Program**

Autonomous Snowplow Committee



**Final Presentation Information & Outline
2012-13 Competitors**

19 December 2012

Final Presentation Rules

- Final Presentation slides must follow the provided outline
 - Standardize judging for all Teams
- Final Presentation slides (initial draft) submission deadline
 - 21 January 2013
 - Time: 12 PM (noon) Central time
 - Email submission: vibhor.bageshwar@honeywell.com
 - Please submit a PDF version of the presentation to minimize file size
- Final Presentation Day: 24 January 2013 (Thursday)
 - Final Presentation Venue: Landmark Center, Saint Paul, MN
 - Final version of the Final Presentation slides must be delivered to Vibhor by 4:30 PM on January 24 at the Final Presentation Venue
 - Final presentations will be hosted using the Landmark Center's AV equipment and Vibhor's Laptop
 - Supported media: standard Microsoft applications or Adobe Acrobat format

Final Presentation Rules

- Final Presentation time: each Team is allotted 20 minutes
 - Team Presentation order will be determined by random draw at 4:30 PM on 24 January 2013 at the Final Presentation Venue
 - First Team Presentation begins at 5:20 PM on 24 January 2013
 - Presentation time: 15 minutes maximum
 - Q&A time: 5 minutes maximum
- Team scoring
 - Final Presentation scoring is independent of Final Reports
 - Team standings will be updated by 26 January 2013
 - Website
 - www.autosnowplow.com
 - ASC Scoring Board at the Competition Venue

Final Presentation Outline

- Title Slide (1 slide)
 - Team university/name/logo
- Objectives (1 slide)
 - Team objectives
 - Team composition
- Snowplow Vehicle Program Top-Level Requirements (1 slide)
 - Table format
 - ASC Committee hint: a requirement is a metric that indicates when a design satisfies an objective
 - Ex: Heading angle accuracy: 0.25 deg

Final Presentation Outline

- Snowplow Vehicle Description (please follow the give order)
 - Concept/Plowing strategy (minimum 1 slide)
 - Snowplow vehicle design (minimum 1 slide)
 - Snowplow vehicle and blade design
 - Snowplow vehicle physical dimensions
 - Sensor + processor component housing
 - Navigation system design (minimum 1 slide)
 - Concept
 - Sensors
 - Navigation augmentation system
 - Placement of navigation aids in competition field
 - Guidance system design (if applicable) (minimum 1 slide)
 - Way-point selection concept
 - Control system design (minimum 1 slide)
 - Concept & available actuators
 - Bandwidth & actuator response speed
 - Processor & Software design (minimum 1 slide)
 - Timing and action sequence flowchart

Final Presentation Outline

- Safety System (minimum 1 slide)
 - System description
 - Emergency shut-off options
 - Physical and remote
 - Stopping distance from maximum speed
 - Identify surface
- Failure Modes and Recovery Actions (1 slide)
 - Identify failure mode and recovery actions
 - Table format
- Overall Risk Assessment Summary (1 slide)
 - Evaluate each subsystem
 - Identify known issues
 - Table format
- Commercialization & Implementation (1 slide)
 - Table format

Final Presentation Schedule

Team	Presentation Time (central)
Case Western Reserve University: “Cutter Hex”	TBD: random draw at 4:30 PM on 24 January 2013
Dunwoody College of Technology: “Snow Devil 0011_2”	
Iowa State University: “Snow Clone”	
Miami University: “Red Blade 2”	
North Dakota State University: “Albino Bison”	
Ohio University: “M.A.C.S.”	
University of Michigan-Dearborn: “Team Bang”	
University of Michigan-Dearborn: “Geili 2.0”	
University of Michigan-Dearborn: “Yeti 3.0”	
University of Minnesota: “Blizzard Buster 2.0”	



Final Presentation Scoring

- Final Presentation scoring: 10% of the total Competition score

Category	Scoring
Technical and Quality of Presentation	80
Ability to Engage Audience	20
Total Points	100