BLACK&GOLD AUTONOMOUS RACING

January 13, 2021

Engineered To Win!

PURDUE UNIVERSITY®

With engineering support from the

UNITED STATES MILITARY ACADEMY

WEST POINT®

THE INDY AUTONOMOUS CHALLENGE

- The Indy Autonomous Challenge (IAC) pits university-sponsored teams against one another to win the first head-to-head, high-speed autonomous race at the famed Indianapolis Brickyard.

- In the spirit of previous competitions, like the DARPA Grand Challenge (2004), the IAC requires teams to design, program, and race their completely autonomous, modified Dallara IL-15 race car in a 20-lap, head-to-head race.

- To complete the challenge, teams must complete 20-laps in 25 minutes or less, which will require speeds in excess of 110 mph. Cars are theoretically capable of speeds approaching 200 mph.

- The first team to cross the bricks wins $1 million.

WHAT IS AUTONOMOUS RACING?

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AUTONOMOUS RACING

- Autonomous racing is a rapidly-evolving division of the $3.5 billion global motor sports industry.
- The sport involves designing, innovating, programming, and racing self-driving ground-based wheeled vehicles, controlled entirely by computer.
- Autonomous race cars have a traditional chassis and powertrain augmented by integrated real-time LIDAR and radar arrays, ultrasonic and optical speed sensors, & GNSS positioning technologies.
- Teams rely upon algorithms, machine learning, and artificial intelligence to refine the vehicle's sensors and software, as well as its data collection, analysis, and integration; navigation; global and local positioning; dynamic obstacle detection; and trajectory, lateral, and longitudinal control systems.
- For this challenge, B&G will design and program its Dallara IL-15 Indy Lights race car to compete against 39 other university-sponsored teams and win the world's first high speed, head-to-head autonomous race at the Indianapolis Motor Speedway.

OUR TEAM

Funded through PURDUE UNIVERSITY

With engineering support from the UNITED STATES MILITARY ACADEMY WEST POINT

- 2 World-Class Engineering Universities
- 1 Pro Driver and Winning Race Team
- 1 Indy 500 Race Winning Engineer
- 8 PhDs
- 4 PhD Candidates
- 28 Undergraduate Engineers
- 10 Partners in Industry
- 6 Combat Veterans
- Award-winning marketing and creative team

OUR MISSION

Unite the collaborative efforts of Purdue University, West Point, and our public and private partners to program a modified, autonomous Dallara IL-15 Indy Lights race car to outrace and outmaneuver competitors from around the world in a head-to-head, high speed, fully-autonomous race at the Indianapolis Motor Speedway in October 2021.

ENGINEERED TO WIN!

OTHER COMPETITORS / OUR RESULTS

- 39 university teams started the challenge from around the world, including from 10 countries.
- 30 teams remain.
- Milestone # 1 (Feb 28, 2020): Team White Paper
  - **Assessed as exemplary**, the highest assessment possible
- Milestone # 2 (Aug 19, 2020): SAE Level 2 Autonomy Demo
  - **Completed to standard three months early**
- Hackathon # 2 (Sep 12-22, 2020): Virtual Car / Virtual IMS
  - **Second fastest lap of 39 teams!**
- **Hackathon # 3 (Dec 3, 2020- Jan 22, 2021): Underway!**

ABHIYAAN - INDIAN INSTITUTE OF TECHNOLOGY, MADRAS

ARIEL UNIVERSITY

AUTONOMOUS RACING GRAZ (ARG) - GRAZ UNIVERSITY OF TECHNOLOGY

AUTONOMOUS TIGER RACING - AUBURN UNIVERSITY

BERKELEY MPC LAB - UNIVERSITY OF CALIFORNIA BERKELEY

BLACK & GOLD AUTONOMOUS RACING - PURDUE UNIVERSITY AND THE UNITED STATES MILITARY ACADEMY (WEST POINT)

CAVALIER AUTONOMOUS RACING - UNIVERSITY OF VIRGINIA

CRIMSON AUTONOMOUS RACING (CAR) - UNIVERSITY OF ALABAMA

EAGLE AUTONOMOUS - EMBRY-RIDDLE AERONAUTICAL UNIVERSITY

EURORACING - UNIVERSITY OF MODENA AND REGGIO EMILIA, UNIVERSITY OF PISA, ETH ZÜRICH, POLISH ACADEMY OF SCIENCES

GATOR DOUBLE DRAGON - UNIVERSITY OF FLORIDA AND KOOKMIN UNIVERSITY

GO HEELS RACING - UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

INDYCAR POLY - CALIFORNIA POLYTECHNIC STATE UNIVERSITY

IUPUI-IITKGP-USB - INDIANA UNIVERSITY-PURDUE UNIVERSITY INDIANAPOLIS

KENNESAW STATE UNIVERSITY

KENNESAW STATE UNIVERSITY

M@UTO - UNIVERSITY OF MICHIGAN-DEARBORN

MIT DRIVERLESS - MASSACHUSETTS INSTITUTE OF TECHNOLOGY

NA-SARATHY - AMRITA VISHWA VIDYAPEETHAM

PANTHER AV RAS-ING - UNIVERSITY OF PITTSBURGH

PEGASUS - COLORADO STATE UNIVERSITY AND WESTERN MICHIGAN UNIVERSITY

POLIMOVE - POLITECNICO DI MILANO

RIT AUTONOMOUS RACING - ROCHESTER INSTITUTE OF TECHNOLOGY

SPARTAN AUTONOMOUS - MICHIGAN STATE UNIVERSITY

TEAM KAIST - KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY

TEXAS A&M AUTONOMOUS INDY RACING TEAM

TUM AUTONOMOUS MOTORSPORT - TECHNICAL UNIVERSITY OF MUNICH

UNIVERSITY OF HAWAII

WATONOMOUS - UNIVERSITY OF WATERLOO

WISCONSIN AUTONOMOUS - UNIVERSITY OF WISCONSIN-MADISON

WUT DRIVERLESS - WARSAW UNIVERSITY OF TECHNOLOGY

THE WAY AHEAD

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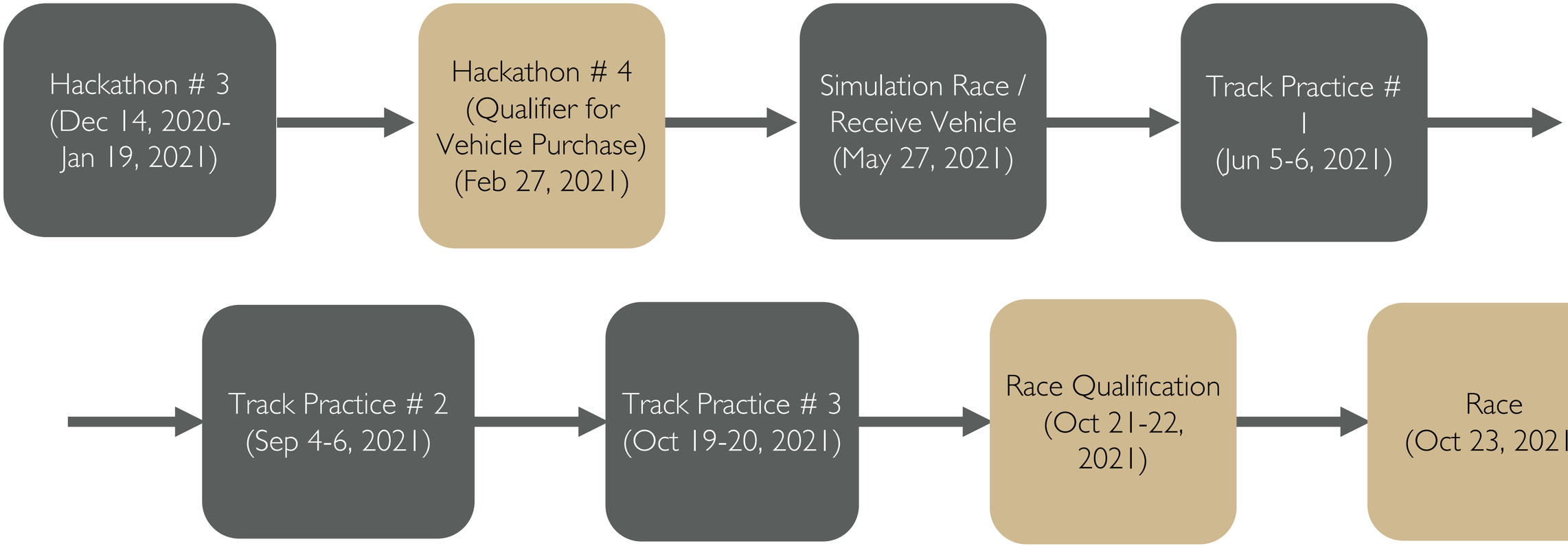

OUR ASK

- Black & Gold Autonomous Racing will customize partnerships to **maximize the impact of your investment,** including a range of rights, benefits, and access based upon the objectives of your organization.
- Your partnership allows the team to purchase, develop, and program our car, finalize its look, feel, and paint scheme, race, and eventually feature the car as the centerpiece of a multimedia presentation detailing the two-year project, which we hope to place at the West Point Museum or Malek Visitors Center, **both of which boast tens of thousands of visitors a year.**
- **We seek a minimum of $1.7 million in total sponsor funding** to cover the car's development and team expenses throughout the 24-month process.
- In addition to ensuring **excellent stewardship of sponsor funds**, any remaining money will be earmarked for future research and academic enrichment efforts at both Purdue University & West Point.
- Help us establish the conditions for success by securing the expertise and sponsors required to cross that famed brick finish line in first place!

BENEFITS OF SPONSORSHIP

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AUTONOMOUS RACING

- Company branding on our car's paint scheme, in front of thousands of spectators, during one of the most extreme and technologically exciting events of the decade!
- Access to team events and students at both universities
- Track and race-day events and access
- Panel and individual discussions and presentations with our team and with RKM Racing
- Virtual events on technology, leadership, data science, human performance, engineering, and other topics
- Sponsorship noted in team's video documentary
- Sponsorship highlighted in team's social media posts
- Race car placement at company HQ or other facilities
- Sponsorship noted at all team events
- Race car displayed with sponsor branding at Purdue University and/or West Point
- Tax advantages consistent with funding a 501(C)(3)
- What else do you have in mind?

OUR CAR

Sponsor Placement

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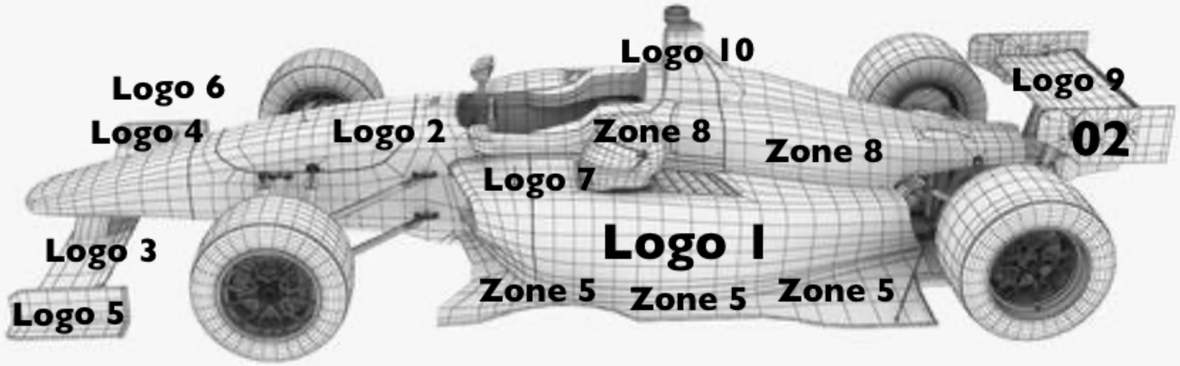
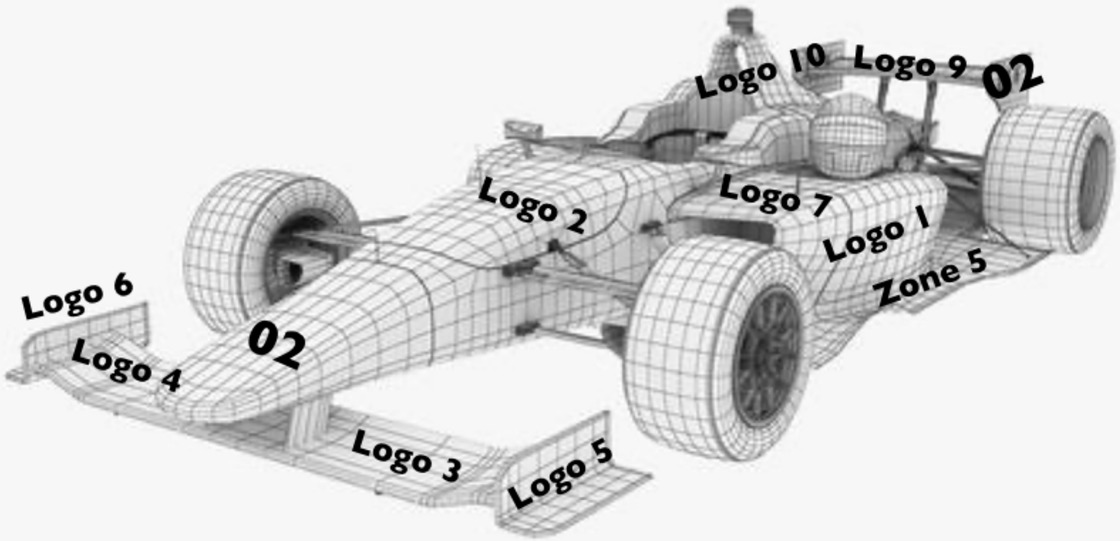
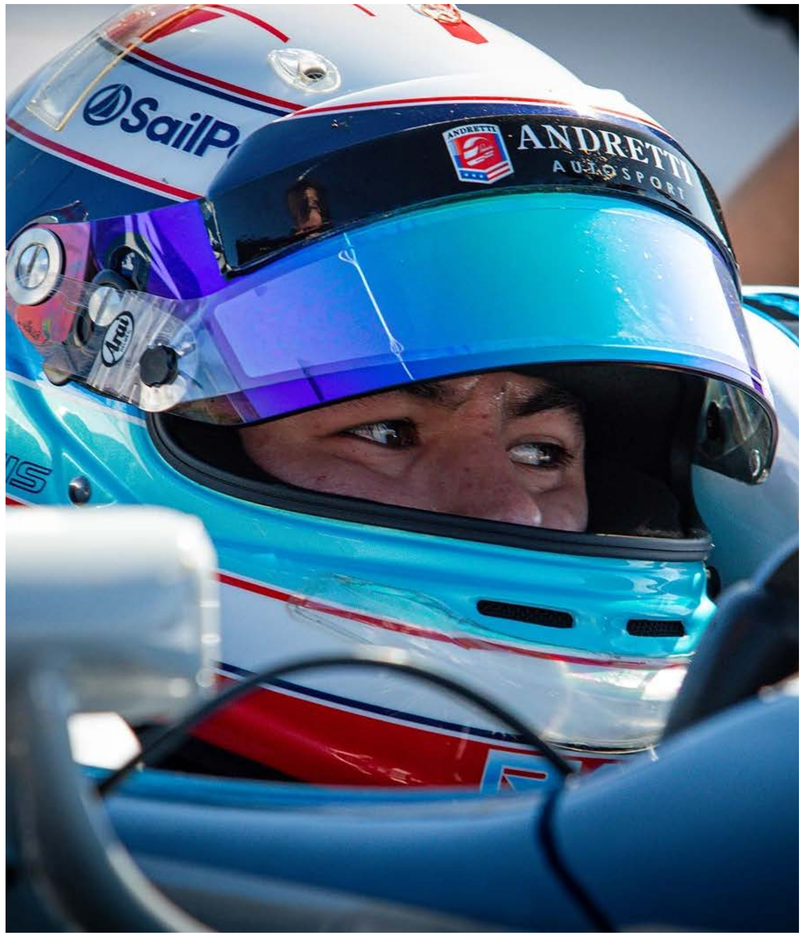
AUTONOMOUS RACING





RKM RACING

- Robert Megennis, driver of the #27 Andretti Autosport race car in the 2019 Indy Lights Championship Presented by Cooper Tires
- Winner at Indianapolis Motor Speedway
- Pole winner at the Freedom 100
- Double podium at Circuit of the Americas
- 6 podium finishes overall
- 12 Top 5s overall



OUR CURRENT PARTNERS

BLACK & GOLD AUTONOMOUS RACING

splunk>

https://www.splunk.com

REDLINE ACE CREATIVE

https://redlineace.com

SKG

https://www.stormkingconsulting.com

SILO AUTO CLUB AND CONSERVANCY

https://siloautoclub.com

CLASSIC AUTO INSURANCE

https://www.classicins.com

MaplessAI

https://mapless.ai

RKM RACING

https://www.rkmracing.com

evereffect™

https://www.evereffect.com

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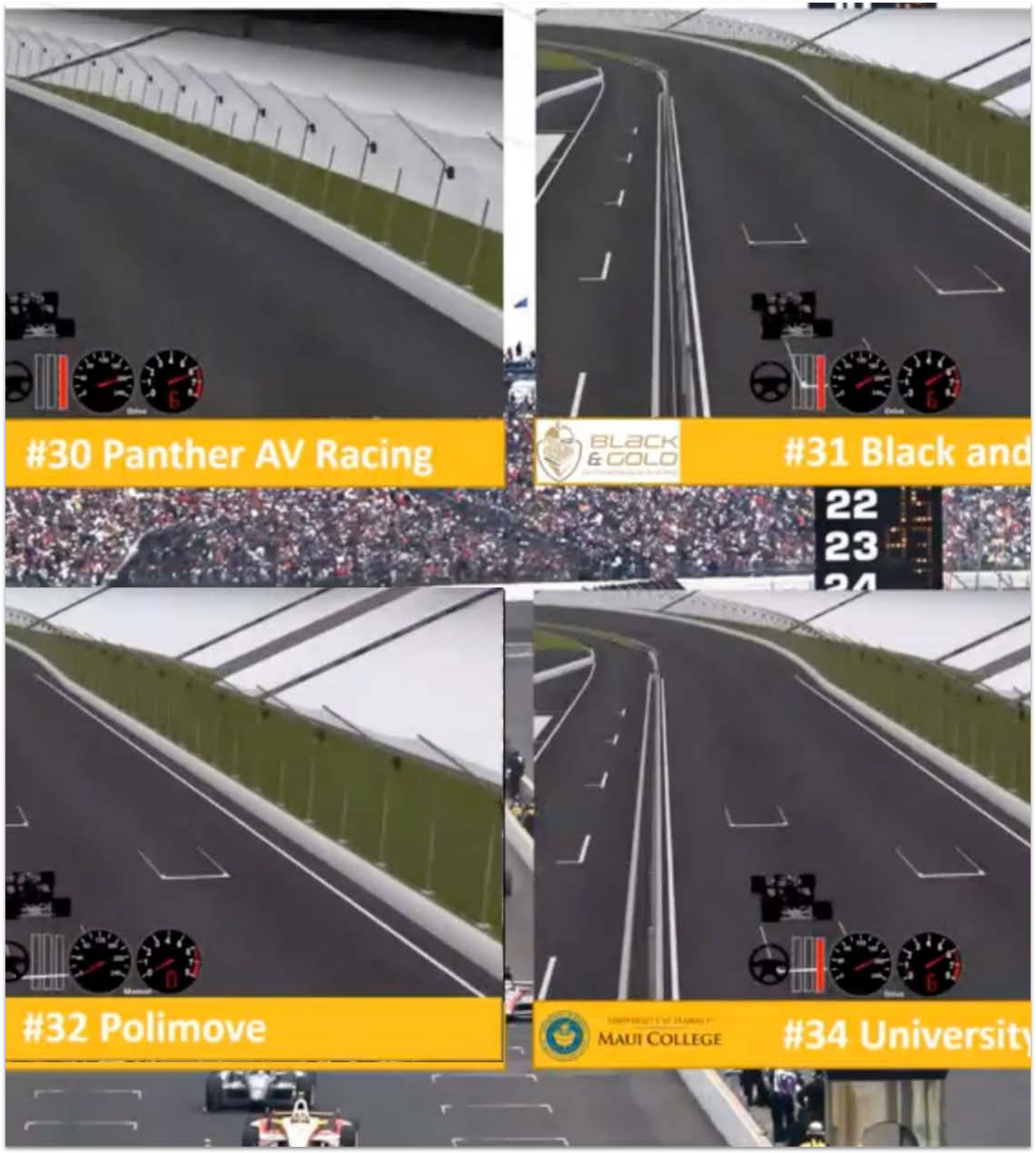
#30 Panther AV Racing
#31 Black and
#32 Polimove
#34 University
MAUI COLLEGE