OCTOBER 2026

LHRS

SOLAR NEWSLETTER



Ravi (Team Captain) talking to guests at the Dron8 Summit

FUNDRAISING INITIATIVES

Help power our next solar car! LHRs is raising funds to support the materials, equipment, and competition travel that turn our designs into reality. Every contribution supports hands-on engineering experience and brings us closer to our competition goals.

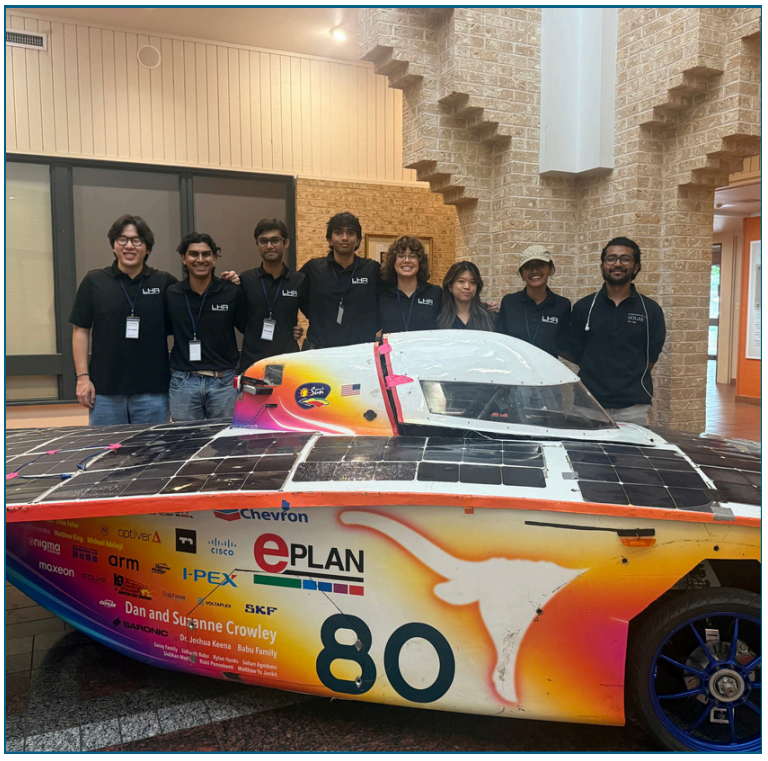
Scan the QR code or visit donate.lhrsolar.org to support our team. Thank you for helping drive us forward!

TEAMWIDE UPDATES

Longhorn Racing Solar has been hard at work since competition, kicking off designs for our 2028 vehicle, running drive days to collect efficiency and performance data, and beginning a refresh of High Noon's battery and electrical system. **Our goal this year is to place in the Top 10 at Formula Sun Grand Prix 2027 and accumulate enough laps to prove we can qualify for the American Solar Challenge in 2028.**

In September, we welcomed 48 new members to the team, and they've hit the ground running on impactful projects. We recently hosted our electrical design reviews and received feedback from alumni and industry advisors, driving significant improvements. Now, our mechanical systems are commencing preliminary design reviews for our 2028 vehicle, our first composite chassis design in team history. With our most accelerated timeline in years, we plan to begin manufacturing by the end of the school year.

Thank you for being a part of the LHRs family — we're excited to share what we've been working on!



LHRs members and High Noon at Dron8 Summit

SYSTEM UPDATES

OPERATIONS

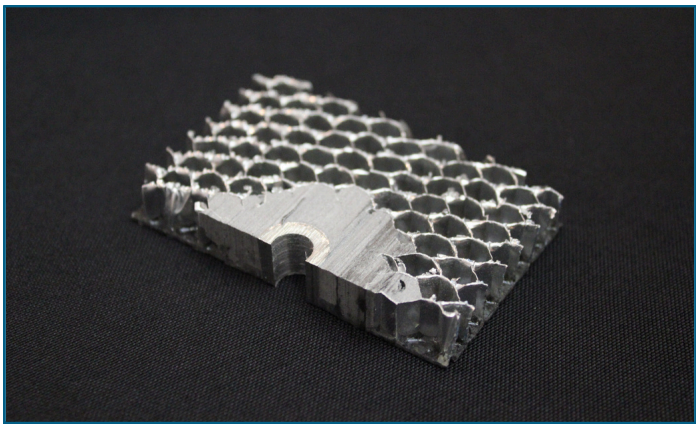
Operations has been making great strides! Public Relations designed new flight tags and stickers and has increased our posting cadence, boosting views and media engagement. Corporate Relations has broken fundraising records by raising over $94,000 so far through monetary and material donations. Treasury is working on financial reports for accurate internal tracking year-over-year. Overall, each team has been staying active and making progress toward our goals.

AERODYNAMICS

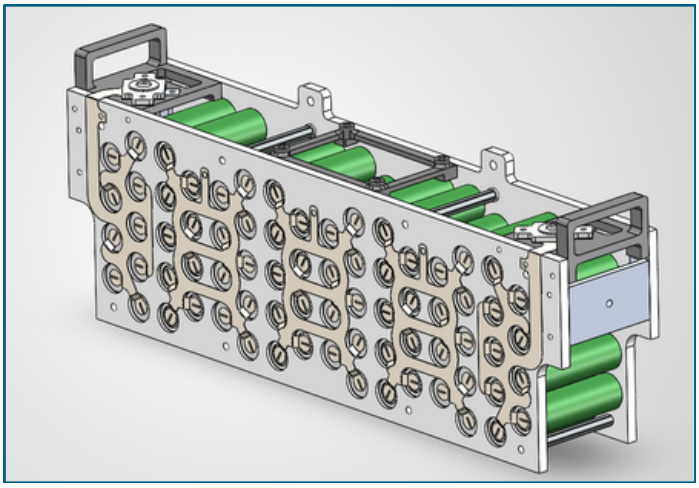
Aerodynamics has implemented a new learning curriculum for new members and made preliminary development plans for this year. The team is redesigning High Noon's top-shell-to-frame attachment, researching simulation improvements, and working on the aeroshell design for our 2028 vehicle.

COMPOSITES

Composites has decided to fully commit to a carbon-fiber chassis after a year of research and discussions with other teams. The team is working with professors on material testing and coupon validation to improve model accuracy. A dedicated team is also working on the solar array, addressing current encapsulation issues and researching improvements to its durability and finish.



Z-cross-section of carbon-fiber-aluminum-honeycomb sandwich panel



Battery pack segment initial design

DYNAMICS

Dynamics is redesigning High Noon's rear suspension to improve efficiency for FSGP 2027. The team is also starting our new vehicle part designs across suspension and unsprung systems. Our six new members are contributing significantly to CAD modeling and FEA simulation, and our new partnership with a tire testing lab is allowing us to make data-driven decisions and construct an accurate tire model.

ERGONOMICS

Ergonomics is developing a new pedal box and steering wheel, shifting these parts to an annual design-and-build cycle. They are designing a driver jig to collect measurements for frame and component development, creating a custom handbrake calculator, and conducting static analyses of two pedal box configurations.

POWER SYSTEMS

Power Systems is testing new circuit boards, advancing motor integration, and designing High Noon's new wiring harness with cutting-edge software. The team recently completed acceptance testing of Revision A battery management system boards and is on track for our earliest system integration in recent years. Three new members have also designed their first printed circuit boards and are preparing to learn firmware development.

POWERTRAIN

Powertrain is focused on improving design efficiency this year by reducing weight and lowering manufacturing and assembly costs. The team is also preparing for its first preliminary design review in several years to evaluate and refine the system before production. Five new engineers have joined the team and completed onboarding, gaining hands-on experience. The team is also focusing on stronger testing, frequent reviews, and well-informed engineering decisions.

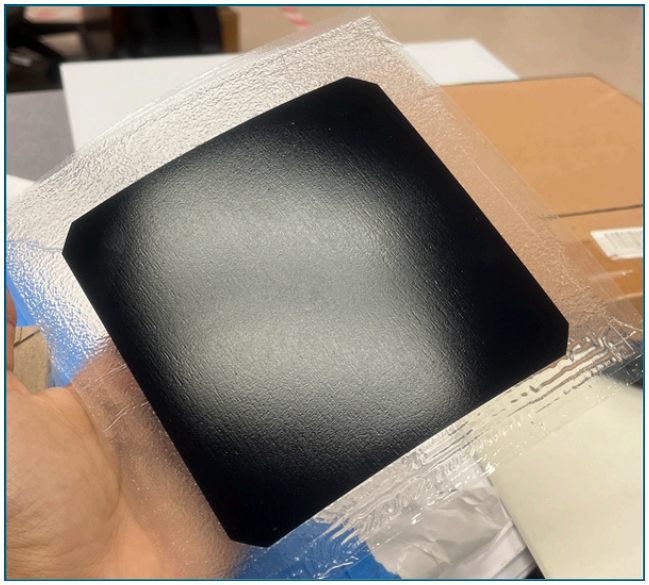
SYSTEM UPDATES CONT.

TRACK SIMULATION

The team is developing its first physics-based vehicle simulation to improve design accuracy and optimization. They are also teaching aerodynamics and CFD fundamentals, partnering with FKA for tire testing and modeling, and designing a custom motor dynamometer to improve simulation and acceleration tuning.

VEHICLE CONTROLS AND TELEMETRY

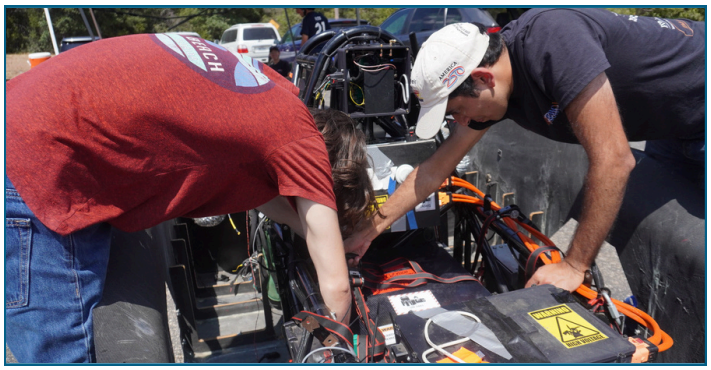
The team deployed its first complete vehicle telemetry system, collecting approximately 40 GB of competition data through 11 custom sensor boards and introducing live onboard video streaming. These insights are guiding improvements in reliability and data accessibility, alongside the development of a low-power aggregation system integrating dashboard controls, CAN data, and video compression.



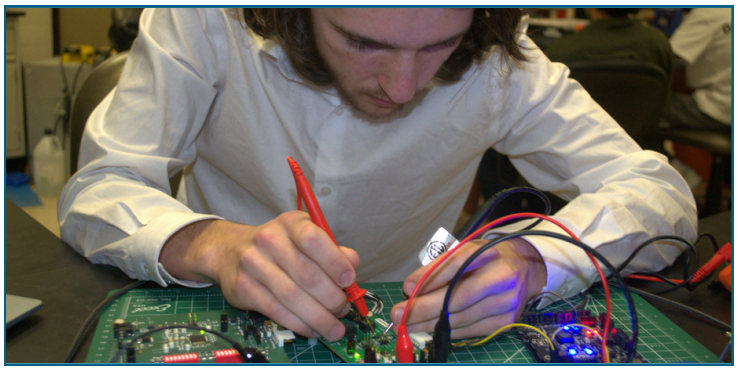
Recent encapsulation result of a single solar cell



VCARB x LHR speaker event at Yugo Waterloo and sticker designed by our PR team!



Mounting the battery at our first drive day this year



Debugging battery management system firmware

THANK YOU TO OUR PARTNERS!

TITLE

Santander

PLATINUM

ambrosia

GOLD

fka, annapurnalabs an amazon company, Relativity, SUNRAYCER, ePLAN, ABOUT:ENERGY, T1, YOKOGAWA

Advait Joshi

SILVER

cadence, Optiver, OKLO, sigmatex material innovation

Anand Joshi

BRONZE

PartsBox, VENKEL LTD., Liberty technology solutions, Bay Area CIRCUITS, AIRTECH ADVANCED MATERIALS GROUP

Babu Family

BASE

YAN ENGINES, Jane Street, General Matter, AOI, HAKKO, MOUSER ELECTRONICS, RIGOL, The University of Texas at Austin Kay Bailey Hutchison Energy Center

Lakshay Gupta | Steven Williams | Andrew Pacheco | Das-Narayanan Family
Fengxian Chen | Linda Golden | Lee Family

LHRS