The Conrad Foundation honors the legacy of Apollo 12 astronaut, Charles “Pete” Conrad, Jr., and his four-decade passion for innovation and entrepreneurship. Pete spent 20 years as a U.S. Navy test pilot and NASA astronaut. In November 1969, he became the third man to walk on the Moon. After many years as an aerospace explorer, Pete's entrepreneurial spirit took flight. He founded four companies devoted to the commercialization of space travel. Unfortunately, Pete's pursuits were cut short with his passing in 1999.

Pete's wife, Nancy Conrad, shared his passion for inspiring future explorers. After his passing, Nancy wanted to keep Pete's spirit for innovation and entrepreneurship alive while targeting the next generation of explorers. As a result, this former high school teacher launched the Conrad Foundation with its flagship program, the Conrad Challenge. Since then, she has become a recognized leader in transformative education, testifying before Congress and speaking at global conferences. She is dedicated to energizing and engaging students in STEM fields through unique entrepreneurial opportunities.

The Conrad Foundation is the only organization of its kind whose programs combine science and technology-based education, innovation and entrepreneurship to inspire solutions for achieving global sustainability.
WHEN IT COMES TO INNOVATION, WHO NEEDS A BOX? It is commonly believed there are two fundamental ways to think: inside the box and outside the box. At the Conrad Challenge, we encourage students to enjoy the freedom of thinking as if there is no box at all.

The Conrad Challenge is an annual, virtual, innovation and entrepreneurial competition that encourages participants (ages 13-18) to change the world. Each year, teams of 2-5 students from around the world create products and/or services that address some of the most pressing global challenges. You are able to take direct control of your learning experience extending well beyond the bounds of the school day. Leave the title of “student” and become entrepreneurial problem-solvers, addressing social, scientific and societal issues through creativity and critical thinking.

The Conrad Challenge is unlike any STEM competition out there. This isn’t a science fair. It’s an innovation competition that is creating the next generation of entrepreneurs who are going to change the world and make it more sustainable for future generations.... and that’s YOU!

DESIGN THE FUTURE

WATCH OUR CONRAD CHALLENGE IS DIFFERENT VIDEO
In this virtual competition, students are encouraged to step out of their comfort zones and collaborate without physical or geographic borders. Researching global issues within the Challenge categories and determining where they can influence sustainability and change, students complete two simple steps to begin their innovation journey: 1) register their team, and 2) develop an Investor Pitch to explain their product/service concept and how it creates a solution to a real-world challenge.

Teams learn the language of business as they develop a strategic Business Plan to support their product/service. Within this round, teams collaborate and use their critical thinking skills to present a business prospectus, technical concept report and graphic representation of their solution.

All Business Plans are scored by top professionals in industry, government, research and academia. Students who complete this round will be recognized as Conrad Innovators. These students will be invited to join the Conrad Alumni Network and are encouraged to share this distinction on their college applications. The top five teams in each category advance to the final round of the competition.

Students from around the world have continued extraordinary collaboration without borders, proving that nothing will slow down this next generation of innovators and entrepreneurs. This year, the Conrad Challenge is thrilled to announce its return to an in-person Conrad Challenge Innovation Summit experience! All Finalists, Judges, Alumni, and other members of the Conrad Community will come together for a four-day event full of dynamic workshops, tours, community sessions, speakers, and of course, innovation pitching to a live panel of judges!

We know that the world continues to adapt to the effects of the global pandemic, teams unable to attend the in-person event due to COVID-19 travel restrictions, scheduling conflicts, financial reasons or other reasons beyond their control will be invited to the Virtual Finals Showcase.

The Conrad Challenge is just the beginning of the Foundation’s engagement with students. Our board, partners, judges and subject matter experts often continue mentoring our students after the competition. Additionally, many of our students return to Summit after graduation to speak to our Finalists, and even join Conrad’s Alumni Leadership Council to continue an active role within the Challenge.
ROUND 1: THE INVESTOR PITCH

SUBMIT YOUR ROUND 1: INVESTOR PITCH ANYTIME BETWEEN AUGUST 20 - NOVEMBER 19, 2021, BY 11:59 P.M. EDT

We review every Investor Pitch submission to ensure the team and their invention is ready to enter Round 2: The Business Plan. If you submit your Investor Pitch early, we’ll review it right away, and your team will have more time to work on the Business Plan and all required materials for submission. We like to call this “bonus time!”

IT STARTS HERE.

This is your time to collaborate and innovate with others, create long-lasting connections, have some fun, and establish yourself as an innovator and problem-solver... and you may just change the world in the process.

STEP 1: GATHER YOUR CREW

• Create a team of 2-5 students. Collaborate without borders by inviting students from other schools, cities, states or countries.

• Recruit a teacher/educator, parent, subject-matter expert, businessperson or other qualified mentor over the age of 18.

STEP 2: REGISTER YOUR TEAM

• All team members must register through the Conrad Portal, including the coach/mentor. As part of registration, you must review the Student Guide and the Rules and Regulations and Terms and Conditions which apply to all participants.

HTTPS://CONRADCHALLENGE.AWARDSPLATFORM.COM/
JOIN CONRAD CHALLENGE ON CANOPY LAB:
WWW.CONRADCHALLENGE.CANOPYLAB.COM

Want some guidance during your journey?

Follow the Conrad Challenge on CanopyLAB for step-by-step instructions and additional resources to guide your Challenge experience. Through our interactive platform, teams work their way through the Challenge steps with helpful tools and resources developed to engage and complement the team's research and work. Participants also have access to tips for brainstorming and instructional videos along with direct access to a network of educators, Conrad Challenge Alumni Network and industry-specific experts.
NEW PARTICIPANTS:

- Once you fill in all fields underneath the “Register” section found on the left hand side, click the “Register” button at the bottom of the page. Once you’ve hit this button, you will see a warning message.

- Go to your email address that you used to register and you will find an email from the Conrad Challenge that asks you to confirm your account. Open the email and click on the blue link in the message to confirm your account.

- Clicking the confirmation link is a very important step. Without completing this step, you are unable to gain access to the inside of our Conrad Portal.

RETURNING PARTICIPANTS:

- Teams from previous years may compete again as long as they meet the age criteria. In addition, teams may also submit past innovations, as long as significant advances or changes have been made since their most recent participation in the Challenge.

- If you created an account for your team on this platform previously, enter the username and password under the “Log in” section on the right-hand side.

- If you forgot your password, click “reset password”. If you forgot your username, email info@conradchallenge.org.
WELCOME TO THE TEAM DASHBOARD!

Once you have confirmed your account, all information will be stored moving forward. This allows your team to edit and update the entry throughout the Challenge process. Continue working through the remaining tabs as time permits.

The following steps are completed through the same account. We recommend all team members share the log in information.

BEGIN YOUR SUBMISSION BY CLICKING “START NEW ENTRY”
This year, we have two additional chapters of the competition: Conrad Challenge China and Conrad Challenge Nigeria. If you are participating in one of these chapters, please select the chapter from the drop down menu. At least 1 team member must be a resident of those regions to participate in the Conrad Challenge on a chapter level. Teams participating in a chapter are also encouraged to enter the Global Challenge as well.

Participants not from a chapter region should select Global.

Select your team’s category... We know you might change your category once you begin innovating... that’s OK. You can go back and edit until you’re ready to submit fully.

Your team’s ‘Entry Name’ should be the name of your team / company (example: Apple). Your product/service could have a different name (example: iPhone). We recommend you keep product marketing in mind when naming your company and innovation.

Enter all information within the Basic Project Info tab, then click “Save+Next”
AEROSPACE & AVIATION

Student solutions have included:
- improving storage efficiency onboard the International Space Station and warehouses via sustainable RFID technology;
- an autonomous magnetic take-off and landing system.

CYBER-TECHNOLOGY & SECURITY

Student solutions have included:
- a three-device platform to connect people with high-functioning autism to local businesses that are hiring;
- a mini blackbox allowing people to access high-performance computing in difficult operating and/or harsh environments.

HEALTH & NUTRITION

Student solutions have included:
- a cloud-based web and mobile app that generates insights about cancer mutations from biomedical literature;
- a novel rehabilitative medical device to improve joint health;
- a nutrition bar used as a meal supplement for astronauts.

ENERGY & ENVIRONMENT

Student solutions have included:
- a low-cost potable water filtration system to help people in underserved areas;
- an unmanned surface vehicle (USV) to regularly monitor the water quality of lakes and ponds.

2021-2022 SPECIAL CATEGORIES

In addition to the four traditional categories, the Foundation partners with various organizations each year to present special categories.

We challenge you to develop 21st century (on and off farm) agricultural technology solutions to increase smallholder agriculture efficiency and productivity to either re-purpose tobacco farmlands for a different farm enterprise, or to utilize the tobacco plant and or its byproducts for a different purpose. LEARN MORE HERE.

SELECTING YOUR CATEGORY

Research and identify a specific challenge within your chosen category, and then start brainstorming a solution.
Team Member Registration

- Each team member will fill out their assigned tab located in the dashboard. Your application will be returned as incomplete unless all of the information requested is provided for each team member.

- All names will be utilized on certificates, website listings, etc. as entered, so double check to ensure they are spelled correctly. Please use the SAME full name you register with in ALL communications and Conrad Challenge additional accounts.

- Email accounts are critical for Conrad Challenge ongoing communications so be sure to register with an email account you regularly check. And of course, double check to make sure you enter it correctly.

- As part of the registration, every team member must certify their legal guardians are aware of their participation in the Conrad Challenge. Your guardian will receive a notification email confirming your entry.

- Then click “Save+Next” to continue through each team member’s “tab”.

CLICK HERE TO READ RULES & REGULATIONS

CLICK HERE TO TERMS & CONDITIONS
TEAM COACH REGISTRATION

Team Coach Information

• If you have not recruited a coach yet, please share our coaches page with your favorite teachers, mentors and fun adults. Most educators are extremely excited to participate - so there is nothing to worry about!

• Meet with your coach and discuss the Conrad Challenge.

• Once they agree to be your team’s coach, enter their full name and email address into the system.

• The coach will then receive an email confirming their participation.

• Then click “Save+Next” to continue your entry.
To complete this round, teams must effectively explain their real-world solution by completing the Conrad Challenge Investor Pitch form. This form details their idea, while also explaining and defending its viability as an innovative solution that is unique to the market. When completing the form, remember to be clear, short and concise.

Investor Pitch

- Complete all 4 questions.
- TIP: To enable collaboration and review among your teammates, draft your Investor Pitch as a standalone document before finalizing it to submit it to the Challenge.
- Include a team photo. If you are in different locations, get creative and screen capture a Zoom meeting.
READY TO SUBMIT ROUND 1?

CLICK “PREVIEW” TO REVIEW YOUR ENTIRE SUBMISSION. MAKE SURE YOUR ENTIRE TEAM REVIEWS AND APPROVES THE ENTRY. WHEN YOU’RE READY, CLICK “SUBMIT ENTRY” AT THE BOTTOM OF THE PAGE.

The system will flag and alert you of any errors that need to be corrected.

THE ENTRY FEE FOR ROUND 1 IS FREE!
However, our system will still process you through a few “payment” screens.

Once you submit your FREE payment, you will be brought back to our system!

This screen confirms your payment is complete. Here you can download your invoice receipt.

In your dashboard, you will see a $ symbol.
CONGRATULATIONS! YOUR TEAM HAS ADVANCED TO ROUND 2: THE BUSINESS PLAN!

Your account profile may look a little different now. Please continue to review this guide for next steps.

This marks the end of Registration & Round 1: The Investor Pitch. Good luck to all teams!
CONGRATULATIONS! YOU’VE ADVANCED TO ROUND 2: THE BUSINESS PLAN

STEP 1: PAY TEAM ROUND 2 ENTRY FEE

Log into the portal, select your team’s entry, and click the green button underneath the title of your project that says “Pay Round 2 Entry Fee”.

- The Entry Fee for Round 2 is $499 USD per team
- Registration discounts are offered to teams who have financial constraints and to coaches or schools who are bringing multiple teams to the Challenge. If you would like to request a fee discount or waiver, please email info@conradchallenge.org.
Next, you will be prompted to complete the billing address associated with the debit/credit card being used. Once complete, click “Proceed to Payment.”

Finally, you will be redirected to PayPal to finish processing your payment. All payments will be processed through PayPal, however, you do not need a PayPal account to complete this step.

- If you or someone on your team has a PayPal account, you can log in. Setting up a team PayPal account is another great way to collect funds from each team member and store raised money from fundraisers as well.

- If your team DOES NOT have a PayPal account, click the grey box “Pay with Debit or Credit Card” to continue to the check out screen.

- If your team IS UNABLE to utilize PayPal due to country restrictions, please email info@conradchallenge.org.

- If your school is processing your payment or combining multiple teams payments into one, please have your coach email info@conradchallenge.org.
Once you submit your payment, you will be brought back to our system!

This screen confirms your payment is complete. Here you can download your invoice receipt.

In your dashboard, the green payment button will no longer appear and your status will show as paid.

ALL PAYMENTS need to be completed prior to submitting the Round 2: The Business Plan. Deadline for payment is January 7, 2022 by 11:59 p.m. EST.

Entries submitted without payment will not be submitted for judging.
The Business Plan describes your innovation and the product or services to be offered and presents a plan for its development and implementation. The plan describes the benefits to customers and stakeholders, marketing strategy and financial projections, the team’s capabilities, and how the company will play in the industry ecosystem as either competitors or in partnership. It will be critical to explaining the team’s mission and vision for the innovation’s technology and impact.

By completing this plan, your team will look to the future and set goals for your product and business. You will explain how those goals are attainable and how your business proposes to meet those goals.
We recommend that your team works on all fields of the Business Plan in a separate document to allow for team collaboration prior to submitting online. Once your team is ready to submit, you can copy and paste responses into the system easily. If you choose to work in the system, all progress will be saved and available the next time you login.

Remember, scoring criteria include points for creativity. Please share your visual elements such as team photos, pitch video and graphics to showcase your creative skills!
BUSINESS PROSPECTUS

An explanation of the innovation’s market, expected development costs and sales strategy. Required fields include:

1. **Business Description** – Describe your product/service and what makes your concept different from existing offerings. Describe the industry in which your concept fits and demonstrate knowledge of the industry practices for similar businesses. Describe the factors you think will make your business successful. *(750 words maximum)*

2. **Civic Engagement (Optional)** – Civic Engagement: Describe how your product or service will combine purpose and profit. How will it benefit the welfare of others, help the world, serve humanity, or serve a public good? Are there civic engagement aspects of your business plan, for example, employing underserved people, contributing to specific causes, creating a public good or other forms of civic engagement? *(250 words maximum)* *This section is optional. Teams who excel in incorporating Civil Engagement into their business will be considered for a special award.*

3. **Market Analysis** – Explain the market your business will serve. Do you plan to sell products or services to businesses, consumers, government or NGOs, or some combination or other sales channel? Who are the buyers? *(500 words maximum)*

4. **Competitive Analysis** – Describe similar product/services already on the market or in development. Why is your concept better than those already in existence? All teams are required to provide at least three companies in this analysis including patent searches. *(750 words maximum)*

5. **Cost, Price and Profit** – Estimate the expenses in creating, operating and marketing the business and its product/service. Examples include: showing project price or price range, margin per unit and overall projection. You will need to include the proposed team budget for attending the Innovation Summit should your team advance to the final round. *(750 words maximum)*

6. **Funding Sources** – How will you gather funding needed to create your product (i.e., government research and development grants, venture capital, private investors, etc.)? You will need to include your proposed method of raising the funds to attend the Innovation Summit should your team advance to the final round. *(750 words maximum)*
TECHNICAL CONCEPT REPORT

An explanation of the innovation’s technical and scientific details. Sections must include:

1. **Technical Summary** – Outline key technical and scientific principles your concept utilizes in its design and functionality. *(1,000 words maximum)*

2. **Need Statement** – Describe the challenge your concept will address. Provide information and resources on why the concept is important and how it will be used in the selected industry. *(1,000 words maximum)*

3. **Background Technology** – State existing technology upon which the concept is built. Note any competing technologies or relevant patents and explain how your proposed concept is innovative and better than existing technologies that produce similar results. *(1,000 words maximum)*

4. **Concept Details** – Describe in detail the concept’s conceived function, operations, proposed development and any other information about the technical or scientific merits that will make this product successful. Show that the component technologies or combination is realistic and plausible within a reasonable development timeframe. You can refer to similar uses, research expert testimony, prototype or demonstration and other research. *(2,000 words maximum)*
GRAPHIC CONCEPT REPRESENTATION

Develop a graphic depiction of your concept that will help the judges understand your innovation. This could be a computer program drawing (e.g., Photoshop), a 3-D computer model (CAD), or a photograph(s) of an actual prototype or model. If your team builds a prototype, make sure you showcase it in your product video. (Accepted files include JPEG, PNG, GIF, TIFF or PDF. URL links from third party solutions like TinkerCad.com are also welcome)

*NOTE: Working prototypes and models are not a requirement of the Challenge.

PRODUCT VIDEO

Create a video (8 minutes or less) detailing your team’s innovation. This video serves as your team’s final pitch to advance to Round 3: The Innovation Summit. You will be asked to explain why your concept is needed today, how is it unique, and how your team is going to bring this concept to market. Accepted formats include a direct URL link from YouTube/Vimeo or uploaded MP4 video files.

ADDITIONAL ATTACHMENTS

We welcome additional attachments to further explain any aspect of the Business Plan. Examples could include cost analysis spreadsheets, charts, graphs, or graphics showcasing comparisons and/or additional information.

NOTE: All attachment files must be clearly named as Team Name_File Name. You should also reference attachments within the written fields to encourage judges to review with corresponding points.

Example: Innovative Robot will raise $3 million in capital over the next 3 years through multiple avenues (reference attachment titled: InnovativeRobot_FundingBudget).

SYSTEM NOTE: Large files may take time to upload. If the system says “Processing,” please wait patiently for the upload to complete.
Business Plans will be reviewed by the Conrad team to ensure all requirements have been met. Teams who successfully meet the requirements listed above will be recognized as Conrad Innovators and their plans will be shared with expert judges for official scoring.

Judging of the submitted Business Plans will be conducted online by a panel of subject matter experts from industry and academia.

Each team entry will be reviewed by 3-5 judges who will score and provide feedback that teams may consider after judging concludes.
Judges will score each Business Plan based on the following criteria totaling 100 points:

**Technical Innovation: How new or unique is the idea? How Impactful?** (25 Points)
- The technology must either be innovative or combine existing technologies in a unique way to create a new product.
- Does the product or service include innovative technology or business concept(s) that would either transform an industry sector or create meaningful impact for humankind?

**Technical Practicality: Will this product work technically?** (20 Points)
- Is the technology employed realistic and is the innovation attainable within a reasonable development time?
- Does the team give proof of concept for new technologies or combinations? Proof of concept can be demonstrated by including one or more of the following: existing applications of component technologies, expert testimony, other research verifying feasibility, convincing graphic representation of the solution, optional partial or full prototype or demonstration, or describing further research or experiments likely to verify feasibility.

**Marketability: Does the team demonstrate understanding of the key markets for their product?** (20 Points)
- Does the team understand its potential customers? Is there data showing how similar products have been successful?
- Does the team have a market entry and adoption strategy?
- Does the team understand the industry ecosystem and how to become part of it?
- Has the team appropriately considered licensing, partners, sponsors, etc.?
- Does the team perform a competitive analysis of their market? Does the team explain the differentiators between their innovation and current products/services in the market?

**Finances: Does the team demonstrate understanding of the product development costs and funding?** (20 Points)
- The team must estimate costs needed to take their innovation to market, including costs to participate during the Innovation Summit. Cost includes material and component estimates, R&D including grants, licenses, market studies and labor costs.
- Has the team addressed raising funds for product development and rollout?
- Is the budget reasonable or too high or low?

**Team Creativity & Professionalism: Does the team successfully present their concept to potential investors?** (15 Points)
- Does the company introduction tell a story?
- Does the team present high-quality visuals, graphics, product video and other supporting graphics?
- Would the appearance, writing and organization be credible to a professional investor?
Once your team is ready, click the green “Submit this Entry” button.

- Remember, no changes can be made to your Business Plan once you have submitted. There will be no exceptions.

- The Conrad Challenge team will review all submissions and pass them on to the judging phase. During this time, keep a close eye on your account and the all team members email accounts, just in case we need additional information.

- We strongly urge you to submit earlier than the deadline. Please note we expect a high number of entries submitting on January 7th, which could cause site delay.

Once your team has submitted, you will receive a confirmation email to the team captain’s email.
ANNOUNCEMENT OF CONRAD INNOVATORS: JANUARY 21, 2022
Conrad Innovators are teams who complete the Business Plan requirements and have excelled in the development of their product. As this round is very competitive, it is important to the Conrad Foundation that we recognize all of the hard work done by each of the Conrad Innovator teams. We hope teams take pride in this recognition, as it is not an easy feat! With this distinction, you are afforded special opportunities with our partners and are considered part of the Conrad Alumni community… and our alumni have told us this made their resumes and college applications stand out!

ONLINE JUDGING: JANUARY 21 - FEBRUARY 11, 2022
Now it’s time for our amazing online judges get to work! All Conrad Innovator Business Plans will be reviewed and scored by an esteemed panel of judges including the best in industry and academia. Each team will receive written feedback from this round to utilize as they move forward with their innovations.

FINALISTS ANNOUNCED: FEBRUARY 25, 2022 BY 3:00 P.M. ET
Based on judge scores, the top teams in each category will be named Conrad Finalists. The top five Finalists will be invited to Round 3: The Innovation Summit and pre-summit virtual experiences. Our Finalists list will be posted on our website and Conrad Finalists will be notified by email.
Students from around the world have continued extraordinary collaboration without borders, proving that nothing will slow down this next generation of innovators and entrepreneurs. This year, the Conrad Challenge is thrilled to announce its return to an in-person Conrad Challenge Innovation Summit experience! All Finalists, Judges, Alumni, and other members of the Conrad Community will come together for a four-day event full of dynamic workshops, tours, community sessions, speakers, and of course, innovation pitching to a live panel of judges!
THANK YOU TO OUR SPONSORS!