2024-2025
Student Guide

About The Conrad Challenge

Students between the ages of 13 and 18 are eligible to join and must participate as a member of a team of 2-5 students. Teams may compete from anywhere in the world. Teams can be assembled by siblings, classmates and students from other institutions. If challengers have competed in a previous year, they may compete again as long as they still meet the age criteria and other requirements.

Over the course of the year, teams will go step-by-step through the entrepreneurial process and design an innovation that solves an important problem. The 2024-2025 competition is comprised of four stages:

1 Activation
Aug - November 1, 2024 | Gather Your Team
- Assemble teams of 2-5 students
- Select a coach
- Complete registration

2 Lean Canvas
Deadline November 1, 2024 | Brainstorm and Select Innovation
- Brainstorm ideas
- Select Innovation and Category
- Prepare a Lean Canvas

3 Innovation
Deadline January 10, 2025 | Develop Innovation and Business Plan
- Write an Innovation Brief
- Record an Innovation Video
- Create a website

4 Power Pitch
April 22-25, 2025 | Present at the Innovation Summit
- Top teams are named Finalists and are invited to pitch at the Innovation Summit
- Participate in workshops, take tours, join community sessions and hear speakers
- Compete to earn scholarships, entrepreneurial support and the title of Pete Conrad Scholar

For any questions, email
info@conradchallenge.org

Activation Stage

Embark on a journey to collaborate, to innovate, and to change the world.

Overview

1 **Gather Your Crew**

- Create a team of 2-5 students. Invite students from other schools, cities, states or even countries to collaborate without borders. Having the right team members is a key ingredient for successful teams.
- Recruit a coach. This can be a teacher, parent, subject-matter expert or other qualified mentor over the age of 18.

2 **Register Team**

All team members and the coach must register through the Conrad Portal under one account. As part of registration, team members and their legal guardian must review this Student Guide, Rules and Regulations and Terms and Conditions which apply to all participants.

Activation Stage

Deadline
November 1, 2024 by 11:59PM ET

Checklist

1 ☐ Ensure all team members and their legal guardians read the [Rules and Regulations](#) and the [Terms and Conditions](#) to confirm that the eligibility requirements are met.

2 ☐
- Confirm coach selection.
- Discuss with team on goals, team member roles, and communication plans.

3 ☐
- Complete the Getting Started and Activation Stage tabs in the Conrad Portal
- Registered all teammates and the coach

4 → Once these steps are completed, move on to the Lean Stage phase.
After saving, continue to the next tab in the portal.

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Lean Canvas Stage

Brainstorm ideas, select an innovation, lay out the details and take an invaluable first step on the entrepreneurial journey.

Overview

1 **Ideate**

As a team, brainstorm different challenges and explore innovative solutions. Resources on how to come up with viable ideas are available in the Student Resources Library.

2 **Complete the Canvas**

A lean canvas is a widely adopted tool used by founders to quickly map out the fundamentals of a new venture in the early stages of the idea. Share early thoughts to 12 questions that outline the innovation, the market and the business model.

3 **Name and Category**

Finalize a name for the innovation and a Challenge category in the Conrad Portal. If the team has changed its name since the Activation Stage, go back to the "Getting Started" tab and revise it. Both tabs should feature the same name.

Since submissions are approved on a rolling basis, it is best to submit projects as soon as they are ready. The sooner projects are submitted, the sooner a team can advance to the Innovation Stage and utilize the extra time to prepare for the Innovation Stage submission. Lean Canvases will be reviewed and teams will be notified if they can move ahead to the Innovation Stage within 5 business days of submission. There is no entry fee for this stage.

12 Lean Canvas Questions

Briefly answer these essential questions about the innovation, the market and business model. Make a lean canvas for different ideas and analyze what stands out.

1. Problem
What is the customer need the innovation will address? Is there a social or environmental challenge the team aims to take on? (40 words)

2. Existing Alternatives
How is this problem solved today? Consider other products in the market. (40 words)

3. Solution
What are the key characteristics of the innovation? (40 words)

4. Key Metrics
What are the most important numbers that track the innovation's success? (40 words)

5. Unique Value Proposition
What makes the innovation different from what's already in the market? (40 words)

6. High Level Concept
What is the tagline of the innovation? (10 words or less)

7. Sustainable Advantage
Why will it be difficult for others to copy this innovation? (40 words)

8. Channels
How will the innovation be sold to customers? How will it be delivered? (40 words)

9. Customer Segments
Who is the target audience that is served by the innovation? Describe them. (40 words)

10. Early Adopters
Who will be the very first customers? Describe them. (40 words)

11. Early Adopters
What are the most significant costs? (40 words)

12. Revenue Streams
How will the innovation make money to fund the operations on an ongoing basis? (40 words)

Challenge Categories

After selecting the best Lean Canvas, pick the category that best fits the innovation.

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

Cyber-Technology and Security
Student solutions have included: a mini-blackbox allowing people to access high-performance computing in harsh environments.

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

Health and Nutrition
Student solutions have included: a cloud-based web and mobile app that generates insights about cancer mutations from biomedical literature; a nutrition bar used as a meal supplement for astronauts.
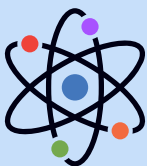
Currents of Change: The Water Challenge
Only around 3% of water is fit for human consumption, but everyone deserves fair and free flowing water. This year, teams can address this deep area of need: helping communities worldwide secure safe and sustainable water sources. Student solutions should include: innovations to improve water equity, efficiency, and purity.

Lean Canvas Stage

Deadline
November 1, 2024 by 11:59PM ET

Checklist

1 ☐
- Generate a creative and catchy name for the innovation
- Update name in the Getting Started tab too.

2 ☐
- Choose the Challenge Category that best fits the innovation

3 ☐
- Answer the 12 Lean Canvas questions within the word limit
- Complete the Lean Canvas Stage in the Conrad Portal

4 →

Once these steps are completed, the Lean Canvas will be reviewed for completeness and feasibility within 5 business days. During this time, teams may begin designing the innovation.

For any questions, email info@conradchallenge.org

Innovation Stage

Teams will begin designing, creating and sharing their plan for success.

Overview

1 **Write Brief**

The Innovation Brief is the most important submission item reviewed by the Judges in this stage. Answer 10 essential questions that tell the story, describe the innovation and its impact, detail progress, explain the market and propose the business model.

2 **Complete Video**

The Innovation Video is a 3-5 minute demonstration of the innovation. In the video, teams will give a tour of an Innovation Model. Teams may use sketches, 3D models, storyboards, wireframes, physical prototypes or any other visual artifact to achieve this.

3 **Name and Category**

All teams must create a website that describes their team, innovation and intended impact to the general public.

Submit and complete payment by January 10, 2025, 11:59pm ET

The entry fee is $499 USD.
Discounts are offered to teams who have financial constraints. Please email info@conradchallenge.org.

Once submitted, a group of judges will score each submission in the Conrad Portal according to the Scoring Guide and provide each team with feedback for their innovation. In February 2025, judge feedback will be released and Conrad Innovator and Finalist teams will be announced.

Innovation Stage Brief

Share concise explanations about the team's story, innovation, progress, market and business model. The brief is a combined maximum of 3,000 words.

1. Elevator Pitch (150 words)
   Pitch the innovation, along with its impact, customers and business potential.

2. Team (150 words)
   - How did the team form?
   - What role will each team member play?
   - What motivated the team to create the innovation?
   - What special capabilities, resources or experiences does the team members bring?

3. Opportunity (300 words)
   What issue or pain point does the innovation address?

4. Key Metrics (750 words)
   - Describe the innovation, its design and its technology. How does it work?
   - What is new or proprietary about the innovation?
   - How does it meet needs and resolve pain points?
   - What impact does the innovation create for individual users and humankind? Describe this qualitatively and quantitatively.
   - How can new or proprietary aspects be protected and made valuable by one or more methods such as a patent, trade secret, copyright or otherwise competitively defensible configuration?

5. Validation/Progress (450 words)
   - How have you validated the innovation, technology, or processes?
   - What progress has the team made in developing the innovation?

6. Market (300 words)
   - Describe the customer and the target segments.
   - What is important to them?
   - What is the size of the opportunity?
   - Is the buyer or payer different from the customer in this market?
   - Describe the industry ecosystem.

7. Competition (300 words)
   - What competes with the innovation and how does the innovation compare?
   - What are the advantages and disadvantages of the innovation?
   - What is the positioning?

8. Go-To-Market (150 words)
   - How will the team attract and sell to customers?
   - Who are the best initial or pilot customers?
   - Is the market best served through direct sales, distribution, licensing, strategic partnerships or other strategies?

9. Business Model (300 words)
   - What are the key revenues and costs?
   - What are the pricing and costs to deliver one product or service unit?

10. Fundraising (150 words)
   - What funds are needed to get started and how will those funds be used?
   - How much will it cost to develop the product and roll out?
   - What different sources will be pursued for funding and why are these a fit?

Reference Attachment
Add a list of the references cited throughout the Innovation Brief. Research sources may include websites, videos, news sources, scientific papers, interviews and other citable sources.

Additional Attachments
Include up to two optional attachments that provide additional context to the Judges. These visual aids or resources should supplement the responses above.

Innovation Stage Video

Overview

In a 3 to 5 minute Innovation Video, teams will demonstrate the innovation and how it works. Models, prototypes or graphics can be used to explain its technology, use, features and impact. Teams may introduce themselves, discuss their motivation or founding story, customers, partners, impact and vision. Teams are encouraged to tell a convincing and credible story. Judges will watch the video to understand the innovation and evaluate its potential.

Requirements

1 **Model**
Feature a model of the innovation, such as a sketch, 3D model, storyboard, wireframe, physical prototype or other visual artifact

2 **Video**
Create a video no more than 5-minutes in length

3 **Video Link**
Upload a direct link to the video in YouTube or Vimeo. The link must be accessible; either "unlisted" so that those with the link can view it, or "public".

4 **Video File**
Upload the video in the MP4 file format, which should be smaller than 800 MB.

Innovation Stage Website

Overview

With a website, teams will broadcast to the public what they are working on, including its feasibility and potential impact. The Judges will review each website to understand not only the team's vision and technology, but also how they plan to communicate the idea to the world.

Requirements

1 **Story**

Tell the team's story to the public, explaining its mission, vision and values.

2 **Model**

Display a model of the innovation with imagery that explains its benefits.

3 **Brand**

Communicate the team's brand, which is comprised of the name, logo, color scheme, voice, design, and more.

4 **Link to Site**

Make the site accessible by direct link so the Judges can see it. Teams may choose to hide the site from being findable on search engines.

Innovation Stage Scoring Guide

Theme	Description
30% **Innovation**	How new or unique? How impactful? Is the technology innovative or does it combine existing technologies to create new results? Judges may perform an online search to verify originality of the approach or innovation. Is the innovation and originality incremental, strong or audacious when compared with existing solutions and technologies? Would the innovative technology or business either transform an industry or create meaningful impact for customers or humankind? Is the Intellectual Property protectable and made valuable through one or more patent, legally valid trade secret, copyright or otherwise competitively defensible?
20% **Storytelling and Professionalism**	Would a reasonable investor be motivated to learn more? Has the team described the opportunity, its interests and motivations well? Is it inspiring? Does the Innovation Video & Website enhance credibility, present a logical story and show expertise? Would the appearance, writing and organization in all sections be credible to a reasonable investor?
20% **Practicality**	Will it work? Is the technology employed realistic and attainable within a reasonable development time and budget? Consider the Innovation Video and other submissions. Does the team give proof of concept for new technologies or combinations? Proof of concept may include one or more of: existing applications of component technologies, expert testimony, research verifying feasibility, convincing graphic representation, partial or full prototype or demonstration, or describing further research/experiments likely to verify feasibility.
20% **Marketing Strategy**	Does the team understand key markets? Does the team understand potential customers and the industry ecosystem? Does the team have a realistic market entry and adoption strategy? Has the team considered licensing or partners, if appropriate? How well does the team explain differentiators between their innovation and current products/services? How effective is the website to demonstrate product value, tell a convincing story, explain technology credibly and engage potential customers and/or buyers?
10% **Finances**	Does the team understand costs and funding? Has the team presented reasonable revenues and costs for the company overall? For one unit of product? Has the team estimated the costs needed to take their innovation to market? Cost includes material and component estimates and 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?

Innovation Stage Submission

Deadline
January 10, 2025 by 11:59PM ET

Checklist

1 ☐ Followed the Innovation Brief word limit and video length limits The Conrad Portal will show a warning about missing requirements.

2 ☐ Prepare and attach a list of references cited in the Innovation Brief in the attachment section

3 ☐ Validate, publish and set viewing permissions for website and video links in the Conrad Portal

4 → Monitor email inboxes, since the Conrad Staff may be in touch with questions. Conrad Innovators and Finalists are announced in February.

For any questions, email info@conradchallenge.org

The Conrad Challenge Innovation Summit

Space Center Houston and NASA Johnson Space Center
Houston, Texas | April 22-25, 2025

At the Conrad Challenge Innovation Summit, top teams from the Innovation Stage are named Finalists and invited to pitch their innovations at Summit to live panels of Judges. In addition, during Summit Finalists, Judges, alumni and other members of the Conrad Community come together for a multi-day event full of dynamic workshops, tours, community sessions and speakers. The highest scoring teams are named Pete Conrad Scholars and receive prizes such as scholarships, pro-bono legal and consulting services and more!

"Whoopee!"