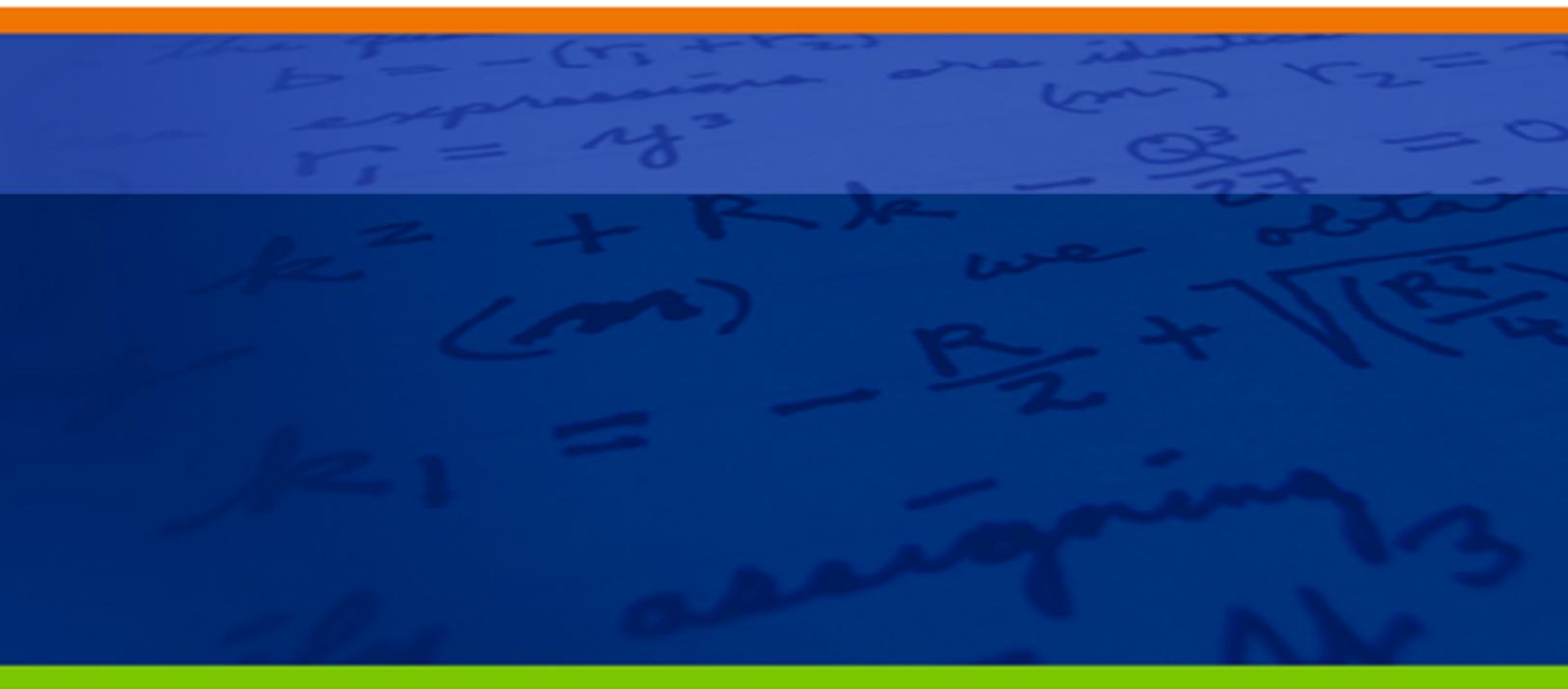




2015-2016

# Conrad Spirit of Innovation Challenge Team Handbook



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## **Conrad Spirit of Innovation Challenge**

Welcome to the Conrad Challenge Community! The Conrad Spirit of Innovation Challenge brings together a dynamic community of innovators and entrepreneurs driving a collaborative movement to develop extraordinary and viable solutions to benefit our world in one of four areas: Aerospace & Aviation, Cyber Technology & Security, Energy & Environment, and Health & Nutrition.

This annual competition challenges teams to use science, technology, engineering and math (STEM) innovation, entrepreneurship, and 21<sup>st</sup> century skills to create a more sustainable world for this and future generations. Along the way, coaches and mentors from the best in business, industry, research and academia worldwide will be there to help you turn your ideas into reality.

Congratulations on taking your first step to becoming an innovator and entrepreneur! Are you ready to take your creativity to new heights as you develop your innovative idea into a commercial product to benefit humanity? Then the Conrad Spirit of Innovation Challenge is for you!

You are the solution! Get Your Genius On® and design things that matter!

## **Questions? Contact us!**

- Email: [info@conradawards.org](mailto:info@conradawards.org)
- Phone: 832-864-7223

# **Conrad Spirit of Innovation Challenge Overview**

## **Who**

The Conrad Spirit of Innovation Challenge invites students ages 13-18 to work together in teams of 2 to 5 to use science, technology, engineering, math (STEM), innovation, and entrepreneurship to develop world-changing solutions to create a more sustainable world for this and future generations. Teams work with coaches from the best in business, industry, research and academia worldwide to help teams turn their ideas into reality.

## **What**

The Conrad Spirit of Innovation Challenge is an annual, multi-phase innovation and entrepreneurial competition that brings together a dynamic community of innovators and entrepreneurs driving a collaborative movement to develop extraordinary and viable solutions to benefit our world in one of four categories: Aerospace & Aviation, Cyber Technology & Security, Energy & Environment, and Health & Nutrition. Nancy Conrad founded the Conrad Challenge in honor of her late husband, naval aviator and Apollo 12 astronaut, Charles “Pete” Conrad Jr. and his passion for education, entrepreneurship and innovation.

## **When**

The 2015 Conrad Spirit of Innovation Challenge is held from September, 2015 through April 2016.

## **Where**

Investor Pitch (entry level) and Innovation Portfolio (semi-final) rounds of the competition are conducted completely online. Student teams’ projects are submitted and judged via the Project Lead The Way Innovation Portal. The final round invites qualifying students to present their innovations in person to a panel of expert judges. The final round, the Innovation Summit, is hosted at Kennedy Space Center Visitor’s Complex in Florida. The Innovation Summit will be April 20-24, 2016.

## **Why**

Conrad Challenge teams learn they can make a difference in their world through innovation and entrepreneurship while applying science, technology, engineering, math, leadership, collaboration, creative thinking, critical thinking and problem solving. In the process, they create an Innovation Portfolio that creates a lasting, on-line, shareable record of their hard work. And, they compete for the opportunity to be recognized as Pete Conrad Scholars and Power Pitch Winners in addition to awards such as seed funding grants, patent support, business services and scholarships (all as provided by our partners & sponsors) to grow their solutions into a real business.

# **Conrad Spirit of Innovation Challenge Timeline**

## **Step 1: Form a Team and Develop an Idea**

High School students ages 13-18 form teams of 2-5 students and find a coach or supervisor age 18 or older to help them along the way. Students can be from the same or different schools, and come from anywhere in the world.

Teams choose one of four categories in which they will compete: Aerospace & Aviation, Energy & Environment, Cyber Technology and Security, and Health & Nutrition. After selecting a category, teams research a current problem facing that industry and begin to develop their innovative solutions.

Teams must select a Team Name that will transfer appropriately to a company name, and a different name for their innovative product or service. Students who have competed in the past may compete again, so long as they still meet the age and other entrance criteria. They must have made significant advancements or changes to a product, if they opt to submit an innovation similar to what was submitted in a previous year

To develop their innovative idea, a Team should prepare answers of 100 words or less to each of the following questions:

1. What is your innovative product/service?
2. What problems is your product/service designed to solve?
3. What are the key features of your product/service that make it special?
4. How is your product/service innovative and different from other product/services intended to solve the same problems?

In addition, each team should create a short video (3 minutes or less) that can be shared publicly introducing your team, your product/service, and highlighting its benefits.

## **Step 2: Initial Entry Round: Team Registration and Submission of The Investor Pitch**

*Submission Deadline: 11:59 p.m. EDT on October 19, 2015*

The Investor Pitch entry round is conducted completely online. Teams answer a set of questions and submit a short video about their idea to explain its viability as an innovative solution to a real-world problem. The teams with promising Investor Pitches will advance to the semi-final round. The Semi-Finalists will be named **December 1, 2015**.

## **Step 3: Semi-Final Round Part I - The Innovation Portfolio**

*Submission Deadline: January 19, 2016*

The Innovation Portfolio semi-final round is conducted completely online. Take your team's Investor Pitch to the next level by completing parts A-F of your Innovation Portfolio, in which you put meat on the bones of your Innovation Pitch. Teams with top-scoring Innovation Portfolios

will be named as Summit Diplomats. Summit Diplomat teams are eligible to advance to the Conrad Challenge Finals and are invited to the Innovation Summit to be held April 20-24, 2016. Summit Diplomat teams will be announced on **February 22, 2016**.

**Step 4A: Semi-Final Round Part II: Proof of Concept**

*Submission Deadline: March 18, 2016*

Teams with top-scoring Innovation Portfolios are invited to compete for recognition as a Conrad Challenge Finalist team and Pete Conrad Scholar by completing Parts G-I of their Innovation Portfolio. These parts invite students to submit evidence of a prototype or other experimental proof of concept.

**Step 4B: The Innovation Summit**

*April 20-24, 2016 at Kennedy Space Center Visitors Complex*

The Innovation Summit is a unique experience available only to teams that have qualified as Summit Diplomats by demonstrating a high level of innovation in the Semi-Final round. At the Summit, each Summit Diplomat team will have the opportunity to present their innovations through 6 minute Power Pitches to a panel of judges from relevant industry, government and academia leaders, and compete to be named Power Pitch Winners. In addition, winners of the Innovation Portfolio online judging are honored as Pete Conrad Scholars and are eligible to receive prizes and to apply for scholarships, patent support, business services and other opportunities as provided by our partners and sponsors.

## **Step 1: Form a Team & Develop an Idea & Investor Pitch**

The Conrad Spirit of Innovation Challenge gives teams the chance to develop products or innovations in four different categories: Aerospace and Aviation, Cyber-Technology and Security, Energy and Environment, and Health and Nutrition. These categories are intentionally broad to allow students a wide range of opportunities to innovate new ideas. The descriptions below are a guide for determining in which Conrad Challenge category your team's solution would best fit.

### **Four Main Categories:**

**Aerospace & Aviation:** describe the human effort in science, engineering and business to fly in the Earth's atmosphere and surrounding space. Aerospace organizations research, design, manufacture, operate, or maintain aircraft and/or spacecraft. Examples include: avionics, aerodynamics, human factors/cockpit design, and propulsion systems.

**Cyber-Technology & Security:** includes information technology and security as applied to computing devices such as computers and smartphones, as well as computer networks such as private and public networks, including the Internet as a whole. The field covers all the processes and mechanisms by which computer-based equipment, information and services are protected from unintended or unauthorized access, change or destruction. The field also includes protection from unplanned events and natural disasters. Examples include: artificial intelligence applications, network defense systems, counter intelligence technologies for government, data-driven energy management technologies, smart security technologies, and database models to track, predict, and categorize natural disasters.

**Energy & Environment:** includes all fields that study the human use of natural resources and the impact of human activity on the environment. Examples include: Energy storage, energy efficiency, renewable resources, sustainable land use, recycling solutions, environmental health, water resources, biodiversity, climate change, waste management, and other clean technology innovations.

**Health & Nutrition:** encompasses fields of study regarding the human body and behavior as they relate to wellness and medicine. Examples include: prosthetics, nutrition science, exercise science, medical technology, hunger solutions, mental health, assistive technology, healthcare services, healthcare safety, and biomedical engineering.

### **Prepare Your Team's Investor Pitch:**

The Investor Pitch is the first communication tool for your innovative idea to help you raise interest, support and money with a potential investor. The content of the pitch, along with your presentation, can help an investor determine whether or not to continue evaluating your business opportunity. For the purposes of the Conrad Challenge, the answers to four questions and a short video about the team's idea serve as the Investor Pitch:

1. What is your innovation product/service?
2. What problem is your product/service designed to solve?
3. What are the key features of your product/service that make it special?
4. How is your product/service innovative and different from other product/services intended to solve the same problems?

In addition, each team should produce a short video (3 minutes or less) in which your team introduces its members and presents its innovative idea. Your presentation should briefly include your responses to the four questions from the Investor Pitch as well as include a creative presentation of your product idea.

1. The video must be no longer than 3 minutes in length.
2. The video must be in English.
3. Your video must begin with the phrase “This is the (Team Name) Investor Pitch submission for (Product Name) for the 2016 Conrad Spirit of Innovation Challenge.”
4. Your video must be available via a public YouTube or Vimeo link.

## **Step 2: Initial Entry Round – Team Registration and Submission of the Investor Pitch**

Complete an online form available in the registration portal in the Conrad Challenge website by filling in your Team Name, Product or Service Name, Category, Team and Coach information and by responding to the four Investor Pitch questions and providing a public link to your Investor Pitch video.

There is a \$95 registration fee per team, to defray some of the costs of the Conrad Challenge. Teams should develop answers to the required Investor Pitch questions together in a Word document prior to copying them into the registration portal.

## **Steps 3 and 4A: Semi-Final Round – The Innovation Portfolio**

The Conrad Challenge uses Project Lead The Way’s Innovation Portal as the framework for its **Semi-Final Round Parts I and II**. The Innovation Portfolio follows an embedded Engineering Design Process Portfolio Scoring Rubric. The Portal permits students to develop great engineering and design thinking skills while creating a permanent, shareable record of their work. The students own their Innovation Portfolio and the intellectual property they create in developing their innovation. Please see [innovationportal.org](http://innovationportal.org) for more information and to explore parts A-I of an Innovation Portfolio, which are judged in the two parts of the Semi-Final Round.

## **Step 4B: Final Round – Innovation Summit**

The Innovation Summit is an out-of-this-world experience only selected Summit Diplomats are invited to attend. It is like Shark Tank meets the Academy Awards.

Just as entrepreneurs pitch their startups to investors, the Summit Diplomat teams will present their concepts to a panel of experts. The Innovation Summit gives teams the opportunity to present in-person their innovation through Power Pitches to a panel of expert judges from industry, government and academia. Top Teams are honored as Pete Conrad Scholars and Power Pitch Winners and are eligible to apply for awards that are expected to include seed funding grants, patent support, business services, scholarships and other opportunities provided by our partners and sponsors.

Teams should plan to pay their own travel and lodging costs to attend Summit. In addition, a registration fee of approximately \$200 per person will be charged to offset the cost of food and event space. You should consider raising the funds to attend the Innovation Summit to be part of the Conrad Challenge – an opportunity to use your entrepreneurial skills. You can find supporters in local businesses, family, friends, and other angel investors. We understand, however, that your fundraising efforts may fall short or your resources may be limited and so expect to have limited travel grants available for teams that qualify.

## **Coach Information**

### **About Our Coaches**

The Conrad Spirit of Innovation Challenge is a dynamic way for teachers, parents and after-school coordinators to provide context and depth to their curriculum by integrating STEM education, innovation and entrepreneurship with 21<sup>st</sup> century skills. As adult participants in the Conrad Challenge, coaches receive access to peer mentors and worldwide experts who can provide unique perspectives.

### **Why Coach a Team?**

- Help your students excel in comprehending STEM principles
- Engage students by combining STEM principles with entrepreneurship to enhance classroom curriculum
- Create an interdisciplinary environment for learning through innovation, creativity and design
- Provide a real-world context to curriculum
- Incorporate 21<sup>st</sup> century skills including leadership, collaboration, creativity, problem solving, patience, persistence and team building into the classroom
- Participate in an online community dedicated to STEM, entrepreneurship and innovation
- Have FUN teaching and learning with your students

### **A Coach's Responsibility**

- Encourage students to create or join a team and assist them with team registration
- Facilitate and encourage your students to discuss their ideas with mentors in the Online Community
- Ensure students have completed all submission requirements
- Serve as the supervisor for the team by approving competition submissions, managing team travel arrangements and handling any financial awards received by the team
- Ensure completion of all official forms required for the competition
- If selected as a Summit Diplomat, serve as chaperone for your team at the Innovation Summit

### **Time Commitment**

Time commitments are flexible to your situation and the complexity of your team's project. We recommend the following guidelines when planning your schedule:

- Initial Entry: minimum of 1 hour/week to guide your team through the Investor Pitch and Video entry submissions
- Semi-Finals: 2-4 hours/week to support the team in prototype development and submitting their Innovation Portfolio
- Finals – minimum of 1 hour/week to support the team prepare for Innovation Summit Power Pitch presentations. Serve as team chaperone at the Innovation Summit.

## **Competition: Rules and Regulations**

Please read the “Rules & Regulations” in their entirety before beginning the Conrad Spirit of Innovation Challenge:

### **Eligibility**

1. Entrant teams must consist of 2 to 5 students, who must be in high school or equivalent secondary school and age 13-18 when they register for the Challenge.
2. Entrant teams must have one team coach (adult supervisor) 18 years of age or older.
3. Teams must provide a Team Name which could serve as a business name. Teams must select a separate name for their product or service name (For example: Team Name might be Albatross and the product might be Asteroid Capture System).
4. A team may submit one project in one of the four main categories. If a team wishes to compete in a second main category (Aerospace & Aviation, Energy & Environment, Cyber Technology & Security, Health & Nutrition), they must register separately for the second category.
5. The team’s idea must be theirs, developed as a group. Each team member should contribute to the conception of the overall idea. The idea may include elements and components created by others, so long as proper credit is given.
6. Each team member and the team coach must read and understand the terms and conditions set forth in the competition rules & regulations. Registration means that the team and the coach will abide by all rules, include the Code of Civility.
7. The competition is open to international participants.
8. Students who have competed in the past:
  - a. May compete again, so long as they still meet the above criteria.
  - b. Must have made significant advancements or changes to a product, if they opt to submit an innovation similar to what was submitted in a previous year.

The Conrad Spirit of Innovation Challenge reserves the right to disqualify a team at any point in the registration, submission or judging process if the team does not meet one or more of these rules, in the sole judgment of the Conrad Foundation.

### **Submissions**

1. Submissions must be entirely the work of the student team members. Team coaches may guide students, but may not do any writing of the submissions and may not have excessive influence on the concept design.
2. All submissions must be in English.
3. Submissions must not copy or use other materials without properly citing the source.
4. Students and Coaches should follow the Conrad Challenge’s Twitter and like its Facebook page in order to receive announcements and other information and updates about the Challenge.
5. The basic information (name and location(s), and possibly student members) for any team advancing to the Semi-Finals will be posted on the Conrad Challenge website.
6. It is the responsibility of each team to determine how much detail about their concept is publicly viewable. It is advised not to post any proprietary information about your product on your profile. The Conrad Spirit of Innovation Challenge accepts no responsibility for any damages due to publicly posting a team’s concept information.

7. The Conrad Challenge reserves the right to use team information to promote the Conrad Spirit of Innovation Challenge competition. Possible team information for use includes, but is not limited to, the following: concepts, videos, pictures and team member names. The Conrad Challenge will not use such information for any other purpose without team consent.
8. The Conrad Challenge reserves the right to update competition rules at any time for any reason.

# **Conrad Challenge Community Code of Civility**

As part of our commitment to making the Conrad Spirit of Innovation Challenge (Conrad Challenge) and [www.conradchallenge.org](http://www.conradchallenge.org) (the "Site") a great place to meet and interact with others around the world who have a passion and commitment to science, technology, engineering, math, innovation and entrepreneurship, you agree to abide by this Code of Civility. By participating on the Challenge commitment to abide by this Code when contributing to all Conrad Spirit of Innovation Challenge resources and programs, including for example profiles, team pages, forums, chats, posts and comments, emails, social media sources, etc. ("Communication Services"), and when communicating with your Team members, coach, mentors, and others you may meet as part of the Conrad Challenge and to help create a positive experience for all the community's users.

We reserve the right in our sole discretion to eject or ban any user from participating in the Conrad Challenge or the Site who behaves in a manner deemed inappropriate, offensive or who violates guidelines of this Code of Civility. The Conrad Foundation and its partners and service providers are not responsible for any user-created content or other activities. All activity on the Site is also governed by the Site's [Terms of Service](#) ("TOS").

## **Honest Communication**

As a general matter, all contributions are expected to:

- Be in compliance to this Code of Civility
- Be accurate (where they state facts)
- Be genuinely held (where they state opinions)
- Be in compliance with applicable law in the United States and in any country from which they are posted.

## **Respect Yourself and Others**

- We require everyone to treat each other with respect. Any use of the Communication Services or the Conrad Challenge to insult, threaten, harass, stalk or abuse others is unacceptable and is strictly forbidden.
- We reserve the right to remove posts that advocate or encourage expressions of violence, bullying, general cruelty, bigotry, racism, illegal activity, hatred or profanity. This includes postings that are deemed inappropriate, offensive or that violate guidelines in the [Terms of Service](#) or this Code of Civility. You know how bullies work. We'll do our best to spot them and get rid of them.
- Falsely impersonating a Conrad Foundation or Conrad Spirit of Innovation Challenge employee, agent, manager, host, or any other person other than yourself, is forbidden.

## **Protect Your Privacy**

- We caution you against giving out unnecessary personally identifiable information (such as social security numbers, credit card numbers, driver license numbers) online, which may be inadvertently obtained by others or, in rare instances, used for illegal or harmful

purposes. Talk to your coach, parent or the Conrad Challenge staff if you have a question or concern. To read the Site's Privacy Statement please [click here](#).

### **No-Spam Policy**

- Please don't "spam" through our Communication Services, none of our users like it. To spam includes sending identical and irrelevant submissions to many different discussion groups, mailing lists, chats or communities. Usually, such postings have nothing to do with the particular topic of the group or are of no real interest to those on the mailing list. All spam will be deleted and the person who sent it may be ejected from the Online Community and/or the Conrad Challenge.

Thanks for following this Code of Civility and joining the Conrad Spirit of Innovation Challenge!

## A Word About Confidentiality and Patents

When you conceive, design and create an innovative product as part of the Conrad Spirit of Innovation Challenge competition, you are creating intellectual property that belongs to you. When you start work on your product, you should think about whether you want to try and protect your intellectual property through patents or confidentiality agreements. You may want to share your ideas with the public at large and decide not to seek any special legal protections for them. The choice is up to you. You should bear in mind, however, that venture capitalists and other investors usually consider whether the intellectual property in an innovative product has been kept confidential or claimed in a patent application, in deciding whether to invest in efforts to commercialize the product.

For this reason, the Conrad Spirit of Innovation Challenge asks all Judges to keep confidential any technical or business information they learn by reading an Innovation Portfolio submitted by the teams as part of the Semi-Final Round. However, all materials you post to our website, and your entry round Investor Pitch materials, will not be confidential. They are intended to interest the public and potential investors in your ideas!

The Conrad Foundation encourages all teams to consider filing a provisional patent application covering their product and including any important confidential details from their Product Documents **before** submitting any materials that you think may include your unique ideas and inventions. You can find information regarding the process and requirements for filing a patent application at the U.S. Patent and Trademark Office's website, at [www.uspto.gov](http://www.uspto.gov).

If you have any questions about the value or procedures for filing a patent application, we encourage you to consult your own patent attorney or agent who can give you advice tailored to your particular product. Unfortunately, because of the number of submissions, the Conrad Foundation cannot provide you any specific advice regarding whether to file a patent application.