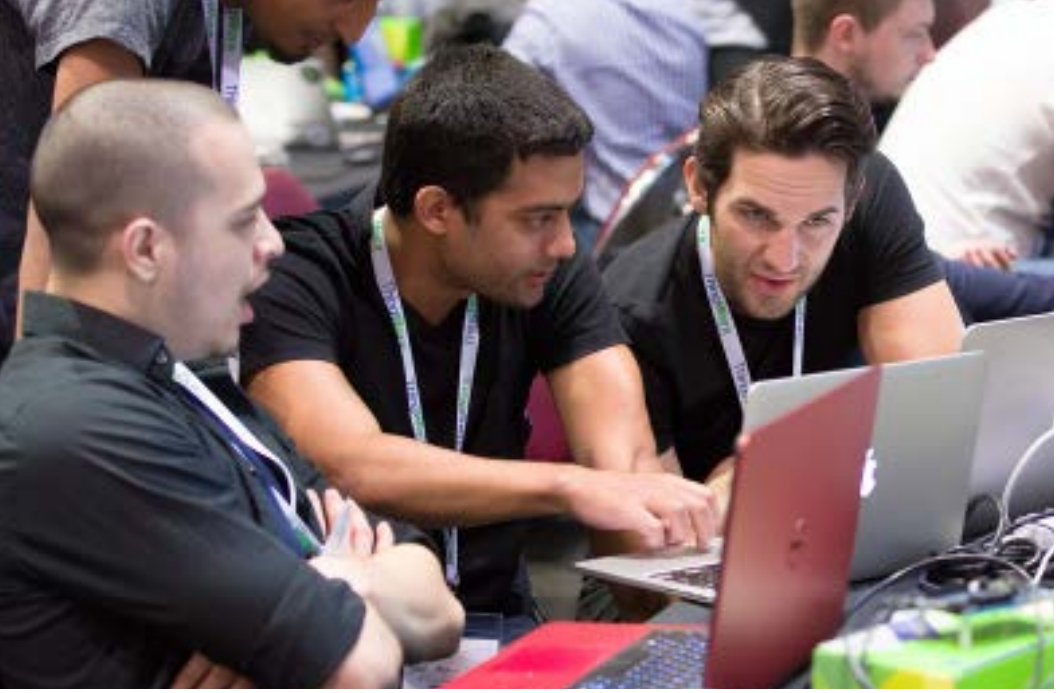
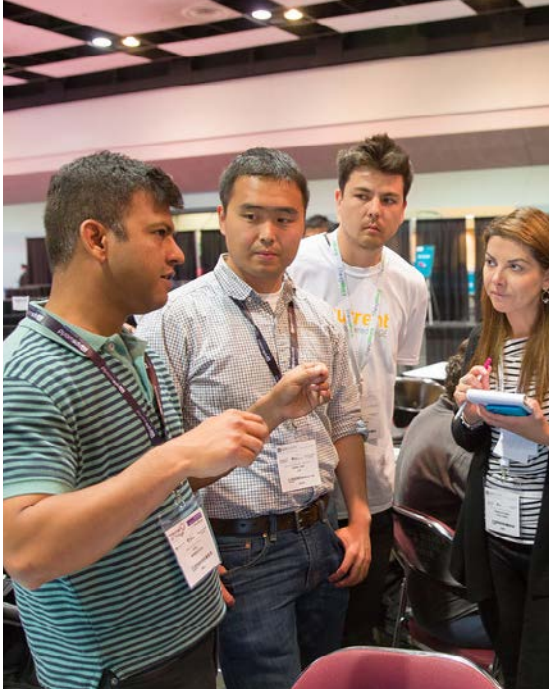




Smart Cities Hackathon at CES®

PRESENTED BY amazon alexa

IN PARTERSHIP WITH CES Consumer Technology Association™

HOSTED BY readwrite

HACKATHON DEVELOPER'S PACKET

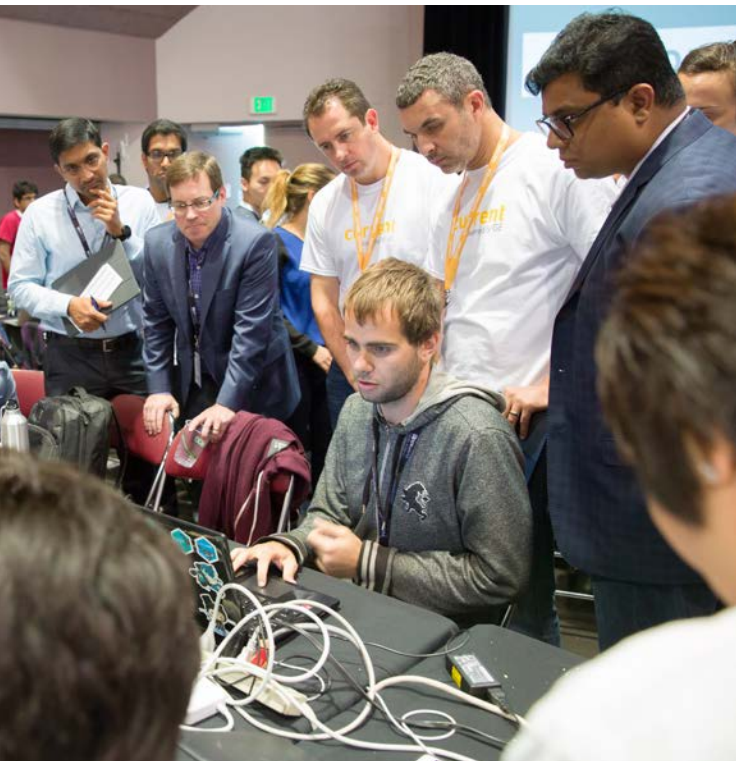


Table of Contents

Agenda

SATURDAY, JANUARY 7TH:

8:00am Check-in, team set-up
9:00am Welcome!
9:10am Introduce Sponsors and technology
9:30am Start Hacking!
9:30pm Tech tutorials provided by sponsors
12:00pm Break for Lunch
1:00pm Smart Cities Hackathon Panel
6:00pm Break for Dinner

Hack through the night!

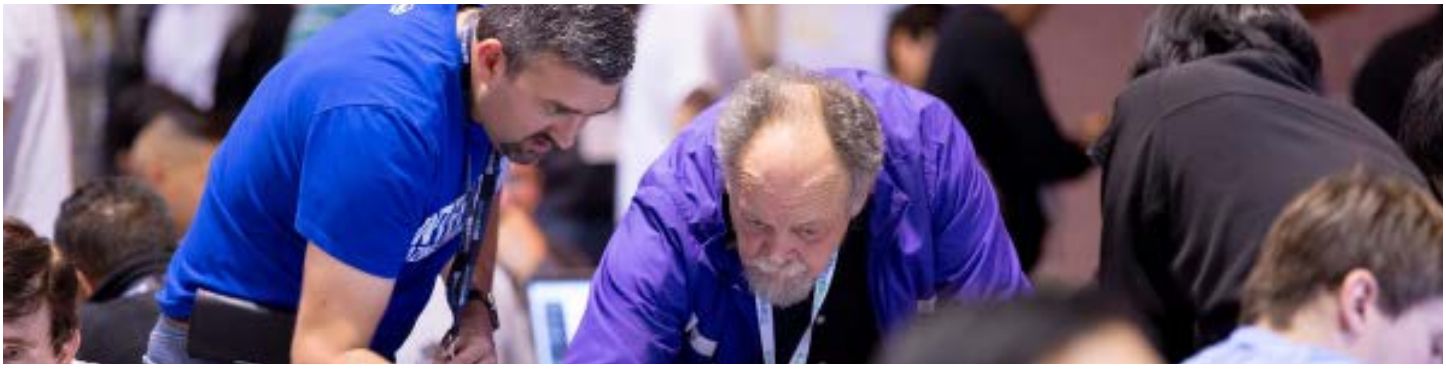
SUNDAY, JANUARY 8TH:

8:00am Coffee & Breakfast items available
8:00am - 12:00pm Hacking!
10:00am Start submitting solutions to Hackster.io
12:00pm Break for Lunch
- First round of judging through Hackster.io
- Sponsors select Top 5
- GP Judging Panel selects top 5

1:00pm Top Teams pitch to sponsors + GP judging panel
- Sponsors pick their winners

3:00pm Pitches + Prizes
- Sponsors' winning teams awarded prizes
- Final 5 for Grand Prize pitch on stage

3:45pm Judges Deliberate
4:00pm Grand Prize Awarded!



Logistics

Venue Information (see Venue Map Here)

- Venue Directions & Parking Info Here and reference our Shuttle Service Schedule Here. ** Parking is complimentary in the Venetian and Palazzo parking garages.
- Tables/Space for Developers: first come, first serves, however there will be room for a maximum of 450 developers participating
- NOTE: No outside hardware is allowed for the event as it could present an unfair advantage. The only outside software and API's allowed are those that are open to the public and easily accessible.

LOCATION: VENETIAN LEVEL 2, BALLROOM B & C

Floor Plan: Use the floor plan here

Submission Process

All teams will submit their solutions on the Hackster.io Page for Judging on Day 2.
Form your team / project on Hackster.io here:
https://www.hackster.io/hackathons/smart-cities/readwrite-ces/projects

Judging Run-of-Show

For the Judging Process:

- Each sponsor will be able to judge for individual sponsor challenge (ex: "Best Use of Technology")
- A Grand Prize Judging Panel will determine the finalists and winning team for the Grand Prize

First Round of Judging

- Projects must be posted on Hackster.io for the first round of judging, online.
- Sponsors will narrow down the top 5 teams
- Grand Prize Judging Panel will narrow down top 5 teams
- Sponsor and Grand Prize Judging Panel will go around Science-Fair-Style to hear top teams pitch
- Sponsor Judges will deliberate and select Winning Team to Pitch on Stage and collect prize.

Top 5 teams pitch on stage

- Grand Prize Juding

Hackathon Challenges, Juding Criteria & Prizes

GRAND PRIZE CHALLENGE: Best Overall Smart Cities Solution

JUDGING CRITERIA:

Submissions will be judged based on the following 5 criteria:

Originality: Is it something new, or a copy of something else?
Technology: Uses multiple technologies to create solution?
Business Case: Does it solve a real Industrial IoT problem effectively, sustainably, efficiently?
Presentation: How well did the team present?

PRIZES:

- Amazon Echos for each member of the winning team
- $10,000 in cash from ReadWrite + Hackster.io
- Meeting with the City of Las Vegas' Innovation team
- Eyeris Emotion AI (EAI) Dev Kits for each member of the winning team ($3,250 value)

GRAND PRIZE JUDGING PANEL:

- Betsy, Fretwell, City Manager of Las Vegas
- Adam Benzion, CEO, Hackster.io
- Jason Nelson, Executive Director, Smart Cities Council
- Trevor Curwin, Editor-in-Chief, ReadWrite

AMAZON ALEXA CHALLENGE: Best Voice User Experience Using Amazon Alexa

JUDGING CRITERIA:

Submissions will be judged based on the following 3 criteria:

- Conversational User Experience
- Creativity
- Scenario Polish

PRIZES:

- Amazon Echos for each member of the winning team

INTEL CHALLENGE: Best use of Intel Technology

JUDGING CRITERIA:

1. How effectively does the Project Submission maximize and innovate upon the Dev Kit?
2. How effectively does the Project Submission make use of the following hardware and software components of the Dev Kit? 40%
    - Cloud connectivity
    - Sensor utilization
    - Overall Dev Kit utilization
    - Other technical aspects
3. How effectively does the Project Submission present a compelling solution and show potential for market viability one fully developed?

PRIZES:

- $5,000 in giftcards to winning team

IBM CHALLENGE: Best Use of Watson Cognitive IoT and Bluemix

Leverage the power of cognitive computing and connect your IoT sensors to the the Watson IoT Platform in awe inspiring ways. The IBM Watson Cognitive IoT Challenge will award the winning team for the best use of Watson Cognitive and Bluemix APIs.

JUDGING CRITERIA:

Submissions will be judged based on the following criteria:

- **Originality:** Is it something new, or a copy of something else?
- **Technology:** Uses multiple technologies to create solution?
- **Business Case:** Does it solve a real Industrial IoT problem effectively, sustainably, efficiently?
- **Presentation:** How well did the team present?

PRIZES:

- Beats Solo3 Wireless On-Ear Headphones for each memebr of the winning team

UL CHALLENGE: Address One or More Safety Hazards Found in Urban Environments

The concept of the '*smart and safe city*' has yet to be fully developed. UL, an independent Safety Science organization, has an active role in the types of technology that are coming to market to advance global cities and promote safe adoption of these evolutionary solutions. **UL challenges developers to leverage the capabilities of Smart Cities to address one or more safety hazards that are found in urban environments.**

Submissions may take many forms. Below are several ideas to fuel the creative process:

- Utilize IOT, sensors, data, etc. to determine if deployment of smart city technology is realizing safety benefits
- Develop apps, algorithms or visualizations to motivate citizens to become engaged in improving safety in their neighborhoods and cities.
- Develop apps, algorithms or visualizations to better assess how to build in safety mechanisms into a smart city.
- Aggregate and analyze open data to develop insights into emerging safety challenges or unintended consequences, unsafe products or systems and behaviors or new hazards.

REQUIREMENTS:

- Address one or more safety hazards that are present in an urban environment
- Identify the process in which a smart city may mitigate or solve the safety challenge
- Clearly define the expected outcome of the solution: enhanced awareness, more engaged citizens, reduced hazards, improved response to safety hazards, etc.
- Use publically available data sources, including data from IoT devices, sensors, cameras, incidents, etc.
- Teams or individuals may submit more than one project, providing they are substantially different from one another
- Must be reasonably practical with today's technology, whether currently deployed on a widespread basis or not
- Must be differentiated from existing solutions in the market; must be the original work/IP of the submitters
- Developers must be authorized to use any data, APIs, SDKs, etc. used in their submission
- Apps, visualizations or other materials must be in English or translated for evaluation
- Apps, visualizations or other materials must be provided free of charge for evaluation

JUDGING CRITERIA:

Submissions will be judged based on the following criteria:

- Addresses a significant hazard to people in an urban environment. A significant hazard is one that may result in an injury requiring medical attention, significant loss of property or disruption to city services.
- Feasibility of the solution to achieve the stated outcome.
- Innovativeness of the solution; addresses a hazard in a new or unique way.
- Clarity of presentation

PRIZES:

- Apple 2 Watches for each member of the winning team

Honeywell

HONEYWELL CHALLENGE: Make your city smarter, one home at a time.

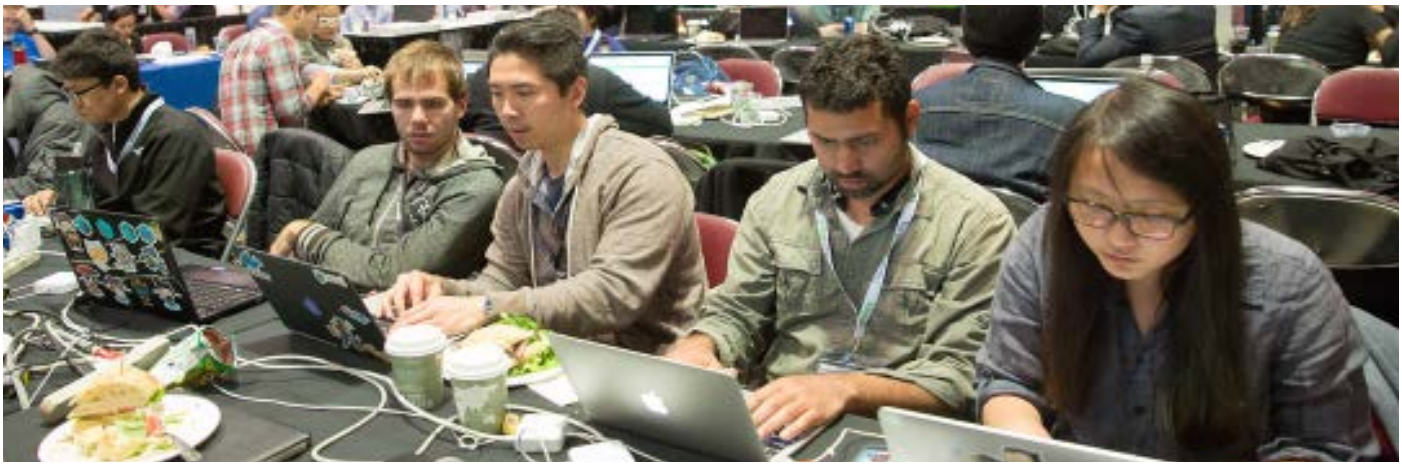
JUDGING CRITERIA:

Submissions will be judged on the following criteria:

NOTE: Developers must use at least 1 piece of supplied Honeywell technology (either the thermostat or water leak detector or both) and public Honeywell APIs located at (https://developer.honeywell.com) in their solution.

- **Innovative:** Does it add or extend functionality as opposed to something already being done?
- **Technology:** How well is the technology/integration used to improve the home and the city?
- **Consumer Focus:** Will the integration overly disrupt the comfort level of the end user (balance between savings and comfort)?
- **Implementation/Feasibility:** Can the project be scaled to millions of homes/ multiple cities.
- **Presentation:** Did the team clearly communicate their idea/project?

PRIZES: $1000 Amazon Giftcard



Technology at Hackathon

AMAZON ALEXA TECHNOLOGY

Alexa, the voice service that powers Amazon Echo, provides capabilities, or skills, that enable customers to interact with devices in a more intuitive way using voice. Examples of capabilities through the Alexa Voice Service include the ability to play music, answer general questions, set an alarm or timer, and more.

The Alexa Skills Kit is a collection of self-service APIs, tools, documentation and code samples that make it fast and easy for you to add skills to Alexa. If you want to learn about Alexa on your own, try the tutorials at http://bit.ly/alexaquickstart

Amazon Alexa is also bringing 20 Raspberry Pi kits to give to teams planning on using Raspberry Pi in their solutions!

INTEL TECHNOLOGY

Intel will be provide teams with The Grove IOT Commercial Developer Kit that includes: Intel® NUC (DE3915TYKE)—a small desktop computer, Intel® IoT Gateway Software Suite (preinstalled) & Grove* modules
https://software.intel.com/en-us/iot/hardware/gateways/dev-kit



IBM TECHNOLOGY

Watson Cognitive and Bluemix APIs

HONEYWELL TECHNOLOGY

Honeywell Connected Home open API program which features our Lyric Round and Water Leak & Freeze Detector. http://developer.honeywell.com/

UL TECHNOLOGY

Background on UL Safety Index: One way that UL is moving safety forward on a global scale is through the UL Safety Index – an algorithm-based data science initiative designed to help people and organizations explore safety, inform policy and investment choices and make science-based decisions for a better world. The UL Safety Index allows change agents to understand what forces drive better safety outcomes in countries around the world. They can use this knowledge to share successful infrastructure programs with others or inquire about specific interventions to improve their own communities.

The Safety Index leverages publicly available data to quantify the indicators and drivers of safety on a national scale:

- Institutional drivers (economics, education, etc.)
- Safety frameworks (current regulations and safety infrastructures)
- Safety outcomes (unintentional injuries)

The data is combined using simple algorithms to produce a value measuring the relative state of safety for 187 nations around the world.
Learn more about the UL Safety Index at www.ulsafetyindex.org.
Learn more about UL: www.ul.com, www.ul.com/connect.

Potential Resources

- UL Safety Index
- US Government Open Data Portal
- Real time traffic API's – Google Maps
- Social media feeds
- IoT data from Smoke/CO/Fire detectors
- IoT data from environmental sensors
    - City of Chicago Array of Things Project
    - CityPulse DataSet Collection
- Emergency response service (911) data
- Fire Data

- Product safety and/or recall data
  - US Government Recall Portal
  - European Union Rapid Alert System for Dangerous Products (RAPEX)
  - US Consumer Product Safety Commission
    - Recall API
    - Injury Data
  - US National Highway Transportation Administration
    - Recall Data
    - Injury Data

EYERIS TECHNOLOGY

AI for Human Emotions. A deep learning-based emotion recognition AI software that reads facial expressions. 25+ metrics from each face. Any camera, Any hardware, Any OS. During the 2-day Hackathon, Eyeris will open up full access to its entire suite of face analytics to all developers:

- Local processing SDKs: Android, Windows, Linux
- Cloud processing APIs: EmoVu Cloud API
- Sample app for integration with Amazon Alexa

PRIZES:

Eyeris is contributing to the Grand Prize an award of up to 6 (Emotion AI) EAI Dev Kits. Each EAI Dev Kit (a $3,250 value) will include:

- One (1) RASPBERRY PI 3 MODEL B
- One (1) Microsoft LifeCam HD-3000 USB Webcam
- One (1) EAI Embedded SDK + a 1-year developer license key - One (1) year developer license key
- One (1) sample app and documentation

CITY OF LAS VEGAS DATA

Supporting with real city data: A large (1 million rows) dataset of streetlight energy information usage has been added to the City's open data portal: https://opendata.lasvegasnevada.gov/browse?limitTo=datasets *

*The dataset is currently private, but it will be made public prior to the hackathon.

Hackathon Rules & Participation Agreement

*By participating in this hackathon, you agree to the following:

ReadWrite ("ReadWrite") is organizing the Smart Cities Hackathon ("Hackathon") in partnership with CES ("CES") and with our sponsors ("Sponsors"). The Hackathon is governed by this Hackathon Participation Agreement ("Agreement"). By entering the Hackathon, you ("Participant") agree to abide by the Agreement which is a binding legal agreement between the Participant and ReadWrite with respect to the Hackathon.

PARTICIPATION IN THE HACKATHON

Participant must have registered to participate in the Hackathon. Residents of jurisdictions, including domestic or foreign, where competi-tions of this type are restricted by law are prohibited from entry. ReadWrite has the right, at its sole discretion, to disqualify any Participant for breach of the Agreement. ReadWrite has the right to cancel or suspend the Hackathon with or without notice and for any or no reason. ReadWrite is not responsible for any damage or inconvenience caused by a cancellation or suspension of the Hackathon.

CODE OF CONDUCT

All attendees, sponsors, partners, volunteers and staff at our hackathon are required to agree with the following code of conduct. Organizers will enforce this code throughout the event. We expect cooperation from all participants to ensure a safe environment for everybody. Our hackathon is dedicated to providing a harassment-free experience for everyone, regardless of gender, gender identity and expression, age, sexual orien-tation, disability, physical appearance, body size, race, ethnicity, nationality, religion, previous hackathon attendance or computing experience (or lack of any of the afore-mentioned). We do not tolerate harassment of hackathon participants in any form. Sexual language and imagery is not appropriate at any hackathon venue, including hacks, talks, workshops, parties, social media and other online media. Hackathon participants violating these rules may be sanctioned or expelled from the hackathon without a re-fund (if applicable) at the discretion of the hackathon organizers.

TEAMS

Participants are expected to form teams. Team size will be a minimum of 2 participants and a maximum of 5 participants unless otherwise stated.

SUBMISSION

Teams of Participants are expected to provide submissions for the Internet of Things as it relates to Smart Cities. Teams of Participants should provide the submission in source code form and strive towards a working demonstration. By providing a submission in the Hackathon, each Participant represents and warrants that the submission does no violate any applicable law or any third party intellectual property rights. Submission

Guidelines: Submissions that do not meet the following criteria are subject to disqualification and/or removal: Submission must be: 1) original work of the Participant; 2) must not have been previously published; 3) must not infringe upon the copyrights, trademarks, rights of privacy, publicity or other intellectual property or other rights of any person or entity; and 4) must incorporate the technology provided by the Smart Cities Hackathon Sponsors.

JUDGING

The Hackathon winners will be chosen from the teams of Participants by a panel of judges selected by ReadWrite and our Sponsors. The judges' decisions are final, binding and uncontestable. Judgment for each challenge will be specified by the Sponsor of that challenge.

PRIZES

The prizes will be divided evenly amongst Participant team members unless otherwise noted. ReadWrite reserves the right not to award a prize in the event of an insufficient number of eligible entries meeting the minimum judging criteria as determined in ReadWrite's sole discretion. ReadWrite is not responsible for any dispute among teams of team Participants related to prizes. Participant is solely responsible for any applicable taxes for any prize.

PUBLICITY

Participant understands that the Hackathon may be photographed, videotaped, recorded, etc. and hereby grants ReadWrite, CES, and/or Sponsors the right to use or refrain from using Participant's name and/or likeness any and all footage about Participant's participation in the Hackathon and Participant's Hackathon submission in any manner or media that ReadWrite, CES, and Sponsors sees fit without Participant's review of approval and without compensation.

CONFIDENTIALITY

Participants agree and acknowledge that submissions will be not be treated as confidential and may be made available to the public, including but not limited to posting on the Internet. Sponsor does not guarantee any confidentiality with respect to any submission. Submissions and ideas contained therein should not contain any confidential information or trade secrets.

OPEN EXCHANGE OF IDEAS

BY PARTICIPATING IN THIS COMPETITION AS AN ELIGIBLE ENTRANT, YOU ACKNOWLEDGE AND AGREE THAT IF YOU SHARE AN IDEA, SUGGESTION, OR DISCUSS AN APPLICATION OR CONCEPT THAT OTHERS MAY USE YOUR IDEA, SUGGESTION AND/OR CONCEPT

AND INCORPORATE IT INTO AN APPLICATION THAT THEY ARE WORKING ON NOW OR IN THE FUTURE, AND YOU WAIVE ANY AND ALL RIGHTS, CLAIMS AND LAWSUITS THAT YOU MAY HAVE AGAINST ANYONE PARTICIPATING IN THIS COMPETITION AND THE COMPETITION'S SPONSOR (INCLUDING, THEIR AGENTS, CO-SPONSORS AND VENDORS). IN ADDITION, ANY PERSON PARTICIPATING IN THIS COMPETITION AND THE COMPETITION SPONSORS (INCLUDING, THEIR AGENTS, CO-SPONSORS AND VENDORS) MAY USE OR INCORPORATE INTO AN APPLICATION OR OTHER SERVICE OR PRODUCT, ANY IDEA, SUGGESTION, OR CONCEPT THAT YOU DISCLOSE AT THE COMPETITION. YOU ALSO REPRESENT AND WARRANT THAT YOU HAVE SUFFICIENT RIGHT TO SHARE AND/OR DISCLOSE ANY SUCH IDEAS, SUGGESTIONS, APPLICATIONS AND/OR CONCEPTS DURING THE COMPETITION AND/OR THE EVENT. IF YOU CANNOT AGREE TO THE CONDITIONS IN THIS AGREEMENT, YOU CANNOT PARTICIPATE IN THIS COMPETITION.

LIABILITY RELEASE AND INDEMNITY

UNDER NO CIRCUMSTANCES WILL READWRITE BE LIABLE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH, ARISING OUT OF OR RELATING IN ANY WAY TO THE HACKATHON AND/OR THIS AGREEMENT.
Participant shall indemnify and hold ReadWrite and its officers, directors, employees, successors, and assigns harmless against any claims, losses, damages, liabilities and expenses (including reasonable attorneys' and other professionals' fees) incurred by ReadWrite in connection with, arising out of or relating in any way to the Hackathon and/or this Agreement.

GOVERNING LAW AND SEVERABILITY

All disputes, claims and causes of action arising out of or in connection with the Hackathon, prizes or the Agreement shall be resolved individually, without resort to any form of class action, and exclusively by the state courts of the State of California for the County of San Francisco or the United States District Court for the Northern District of California and each of the Participants submit to the exclusive jurisdiction and venue of such courts for the purpose of any such action. This Agreement shall be governed by and construed in accordance with the laws of the State of California without regard to any conflict of laws, rules and principles. If for any reason any provision of this Agreement is adjudicated to be unenforceable, that provision of the Agreement will be enforced to the maximum extent permissible so as to effect the intent of the parties, and the remainder of this Agreement will continue in full force and effect.

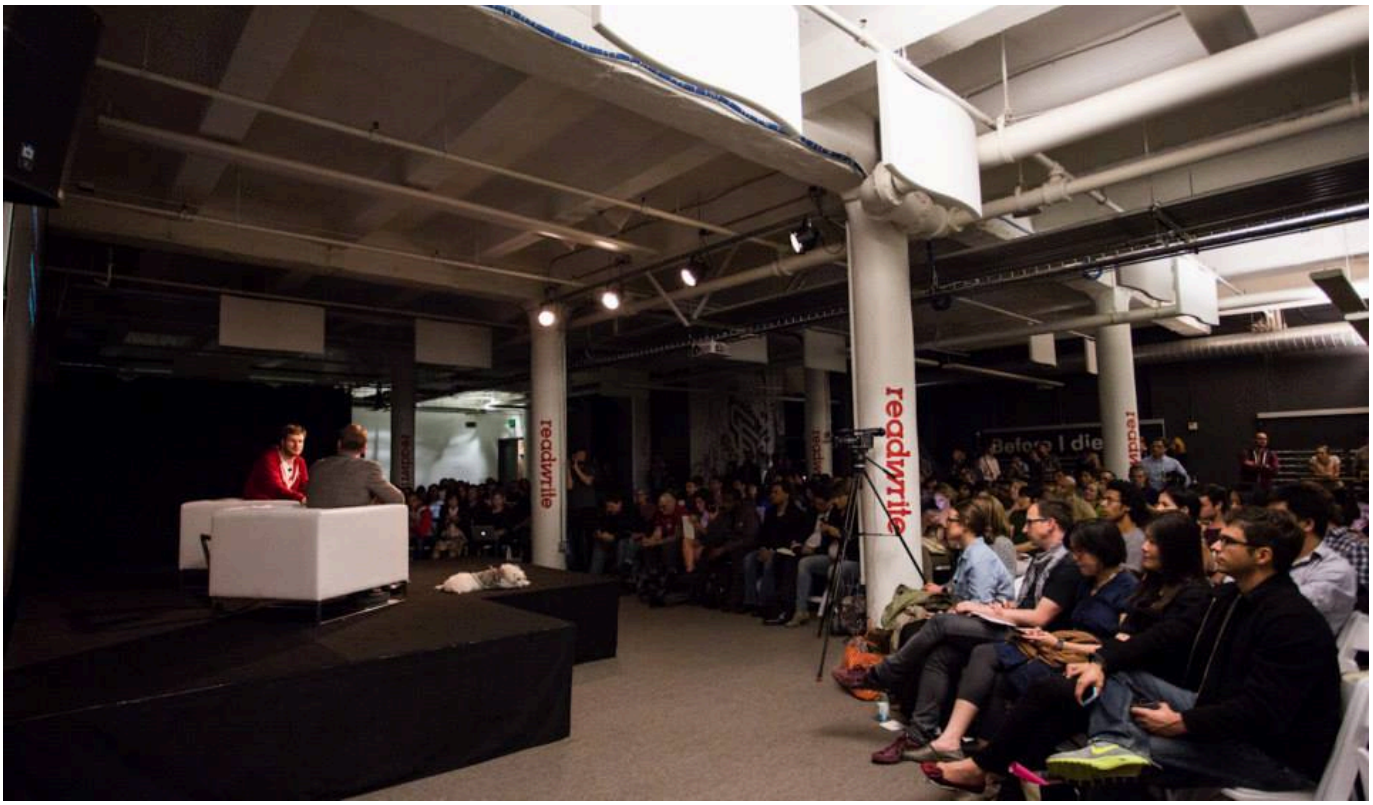
Organizers & Contact Info

Contact us with questions.

Lauren Marinaro
Director Smart Cities
ReadWrite
lauren@readwrite.com

ABOUT READWRITE

At our core, we engage interactions to drive business decisions in the Connected World. We do this by providing context for startups and enterprises with thought leadership and timely content, and then deliver this into the largest global audience engaged at the leading edge of this world. ReadWrite Connect is about connecting and showcasing our partners in IoT. Join us in conversation, startup showcase, panel discussion, and developer workshops shaping the future of IoT and the Connected World.



Hackathon Sponsors

CHALLENGE SPONSORS

amazon alexa

UL

hackster.io

Honeywell

intel

IBM

TECHNOLOGY SPONSORS

eyeris

GO PUCK

WEARABLE POWER™

PARTNERS

CITY OF Las Vegas