

FUTURE RIDER

A SHELL ECO-MARATHON CHALLENGE



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FUTURE RIDER: A SHELL ECO-MARATHON CHALLENGE

OVERVIEW

The world last saw K.I.T.T. fighting crime in NBC's 1980s television series Knight Rider. This year, the car of the future comes back to kickstart Future Rider: A Shell Eco-marathon Challenge. STEM students from around the world will be on a mission to make a sustainable, energy-efficient car designed for the modern world. With imagination as the only limit, how will an iconic car of the '80s inspire the car of the future once again?

Note that the rules provided herein for Future Rider: A Shell Eco-marathon Challenge should be read in conjunction with the [Shell Eco-marathon 2022 Official Rules, Chapter I](#), and all other rules and instructions of the Organiser.

OBJECTIVE

K.I.T.T. was designed to be the car of the future. Engineered to be the fastest, safest, strongest car in the world. Using that as inspiration, imagine your own vehicle of the future, proposing innovative upgrades and new features that address at least three key aspects:

- i. Physical design – what would the car of the future look like? Create 3D models or renderings of your concept.
- ii. Powertrain – think beyond solutions commercially available today or specific to your geographical area. How would you incorporate energy efficiency aspects to the fullest? What type of powertrain is it, how does it work and how does it integrate with other features of the car? What is the energy source?
- iii. User interface – the AI system, e.g. the voice-activated interactions, was the heart and soul of K.I.T.T. How can you make the car user interface even more user-friendly, versatile and in tune with the modern driver's wants and needs? With today's connectivity and AI systems, how could the new and improved car use data to achieve even greater energy efficiency, performance and functionality while minimising its propulsion carbon footprint?

HOW TO PARTICIPATE

Your submission should consist of three main parts: a motivation video, an entry video and a written section.

*Important: Due to IP laws, please ensure that K.I.T.T. is used for inspiration only. Elements unique to K.I.T.T. (such as K.I.T.T.'s oscillating red headlamp, a soundalike voice actor, or the KNIGHT license plate) and any Knight Rider-related marks and logos may **not** be used, copied or included in your designs. Do not use or refer to any original equipment manufacturers or their associated marks or logos in your designs.*



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For both videos, the following specifications must be followed:

- The video needs to be uploaded on YouTube or Youku, with the privacy setting set to 'unlisted' or the equivalent.
- Only registered team members can appear in the video.
- The video must be filmed in landscape 16:9 orientation with a minimum resolution of 720p in MP4, MOV or MPEG-4 format.

1. 60-SECOND MOTIVATION VIDEO

Introduce your team and share why this competition is important to you. Some ideas of what you can cover in your video:

- Tell us who your team is, where you're from and something unique about you and your team
- Talk to the camera, and if possible, talk to each other (if in person)
- Tell us why you're inspired by this competition (energy efficiency, mobility, sustainability, etc.)
- Tell us how K.I.T.T. inspired you

2. 60-SECOND SUBMISSION VIDEO

Framing it as message from the future (while keeping the timeline to within the decade, i.e. before 2030), creatively present your K.I.T.T.-inspired car. Explain how the automotive industry has changed and the vision for your creation. You may also your vehicle's backstory, such as its purpose, what challenges it is designed to solve and what makes its "personality" unique. For example, K.I.T.T.'s AI was known to have a dryly humorous personality.

Some key pointers below for how to structure your explanation of your K.I.T.T.-inspired designs:

- State the future year
- Visually demonstrate your version of the new "car of the future" and its main innovative features, demonstrating what the user experience and functionality will look like. Visuals are required and can include:
 - 3D images or CAD renderings of the car
 - Diagrams, sketches or graphics to represent functionality
- Explain how your car of the future and the innovations you designed are a solution to solve real-world problems of the present or future.
- Mention the energy source, powertrain technologies, and highlight key features, which could include: AI system, vehicle to vehicle communications, utilisation of real-time energy data, safety technologies, functionality to drive energy efficiency and carbon footprint reduction.
- Describe/visually demonstrate how connectivity and data will be used to achieve the results.
- Describe the car's "personality" and voice.



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- Describe at least one scenario where the new technologies are used to meet the modern driver's wants and needs.

NOTE: The video should be creative, compelling and relevant for a wider audience. Teams shortlisted in stage one will have their submission videos posted for public vote in stage two.

3. WRITTEN SECTION

(i) Written report

Submit a PDF with a maximum of eight pages and 2,500 words. Images, drawings or other supporting visual content do not count as words but must still respect the maximum number of pages. Images provided in the PDF should also be uploaded separately as attachments in higher resolution. Consider the following:

1. Explain the assumptions you made for your proposed solution.
2. Elaborate on the technical aspects of the three key points required: physical design, powertrain and user interface. Explain any additional features that you presented (3D CAD models or other graphical images are required)
3. Show the integration of the different features and what makes it a unique, energy efficient "car of the future." Describe the car's "personality" and voice.

NOTE: This document should be technically sound, with a clear, logical development of your core innovative solutions.

(ii) Brief Descriptions

Summarise (in 200 characters, including spaces) the unique approach you took to your car for both the *Design & Innovation* and *Creativity* categories as defined in the scorecard.

JUDGING PROCESS

The judging process will take place in two stages.

Please note that throughout this document "score" refers to the judges' evaluation based on a scorecard, and "point" refers to the points assigned at the end of each judging stage that will make up the team's final result in the competition.

- **Judging stage one:** A select panel of judges, made up of Shell, Altair and Google, will review and score the written report and video submissions based on predefined criteria as described on the competition scorecard shown in the next section.

Each judges' scorecards will be averaged to determine the shortlisted teams. In the event of a tie, the lead judge has the tie-breaking vote.



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In each region, the team with the highest score will receive 30 points, the second highest will receive 20 points and the third highest will receive 10 points. Only these three shortlisted teams per region will advance to the next judging stage.

The judges' points from stage one will make up 50% of the total final result, i.e. 30 out of 60 points.

- **Judging stage two:** The three best entries per region (a total of nine entries) as selected by the judging panel will be available for public vote on www.makethefuture.shell/FutureRider, where the submission videos will be featured. Each voter will be allowed one vote per region.

The Organisers reserve the right to disqualify a team if it has reasonable grounds to suspect that fraudulent voting has occurred or if it considers there has been any attempt to rig the voting.

In each region, the entry with the highest number of public votes will receive 30 points, the second highest will receive 20 points and the least voted entry will receive 10 points. The points from stage two will be added to the judges' points from stage one and make up the final 50% of the result

Final result = judges' points (max 30 points) + public vote points (max 30 points)

REGIONAL WINNERS

From the three shortlisted entries per region, the regional winner is the team with the highest overall points out of the maximum 60 points. In the event of a tie, the team that received the highest judges' points will be awarded the regional winner.

GLOBAL WINNER

From the three regional winners, the global winner is the team with the highest overall points out of the maximum 60 points. In the event of a tie, the team that received the highest judges' points will be awarded the global winner. If the tie remains, the lead judge will select the global winner.

COMPETITION SCORECARD

Judges will be looking for teams who best demonstrate the criteria defined in the scorecard below.

CATEGORY	CRITERIA	SCORE
DESIGN & INNOVATION 65 POINTS	<ul style="list-style-type: none">■ Physical design<ul style="list-style-type: none">■ Overall aesthetics of the project■ Quality of visual aids used■ Practicality	20 5 5 5



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	<ul style="list-style-type: none"> Uniqueness 	5
	■ Powertrain <ul style="list-style-type: none"> Completeness of technical explanation Novelty Impact on energy efficiency Interactions with other car features 	20 5 5 5 5
	■ User interface <ul style="list-style-type: none"> User-friendliness of the system Versatility of functions Creative use of voice activation capabilities Smart and innovative use of data connectivity Impact on minimisation of carbon footprint 	25 5 5 5 5 5
	■ Blue-sky thinking <ul style="list-style-type: none"> Out-of-the-box features increasing coolness and usability Development of compelling backstory Fun, personable character traits of the car 	25 10 5 10
	■ Execution of the videos <ul style="list-style-type: none"> Quality of production (look and feel, music, animations...) Clarity of storytelling and rationale of the video Creativity Effectiveness in engaging external audiences Expression of inspiration via application video 	10 2 2 2 2 2
	CREATIVITY	
	35 POINTS	
	Total score	100

For each region, the teams with the three highest scores based on the scorecard above will receive 30, 20 and 10 points respectively and advance to the public voting stage to receive the final points.

AWARDS AND PRIZES

There will be three regional winners (one per region) and one overall global winner. Second to third places in each region will also be recognised and receive the following prizes and Virtual League points.



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Future Rider	Prizes & Points
Regional 1 st place	\$1,000 and 100 Virtual League Points
Regional 2 nd place	\$750 and 85 Virtual League Points
Regional 3 rd place	\$500 and 70 Virtual League Points
Global winner	Addtl. \$500 and 50 Virtual League Points

EXCLUSIVE GLOBAL WINNER PRIZE

In addition to the prizes and points listed above, the Future Rider global winning team will also be invited for an exciting money-can't-buy motorsports experience with exclusive behind-the-scenes access. More details to be announced soon.

No substitution or transfer of prizes to other Teams or other Participants is allowed. The Organisers reserve the right to award alternate prizes in the event a prize is unavailable, or that extenuating circumstances, as determined by the Organisers, prevent fulfilment of the prizes.

PERSONAL DATA

Terms as set out in the [Shell Eco-marathon Privacy Notice](#) governs and covers the Organisers' processing of any personal data collected by the Organiser and/or shared by the Participant as part of the Competition and on the Shell Eco-marathon registration platforms. Any personal information processed by the Organiser is for the purpose of facilitating participation in and association with the Competition.

Note that any photo, film, audio and video recordings taken throughout the Competition, or in any such materials that you submit to the Organisers during and after the event, are considered as personal data. Accordingly, the Organiser will apply your voluntary consent as provided in the Film and Photography Marketing Consent form in order to use, process and share (if necessary) such materials.

INTELLECTUAL PROPERTY

Any work performed or created for use in the Competition may result in the creation of intellectual property. Participants/Teams are encouraged to consider all such intellectual property created as valuable assets, and to seek professional advice about its protections prior to any submission to the Organisers, publication or public usage.

Universal Pictures, a division of Universal City Studios LLC, and its parents, subsidiaries and affiliates (collectively, the "Universal Parties") are not responsible for the administration of the Competition, collection of entries,



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selection of winners, or the fulfilment of prizeing. Any questions you have regarding the Competition should be directed to the Organisers and not to the Universal Parties.

The NBC Knight Rider series and K.I.T.T. are copyrights of Universal City Studios LLC and are being used in connection with this Competition under license. Entering the Competition does not create or confer any license, right or ownership interest under any Intellectual Property laws in or to any intellectual property owned and/or controlled by the Universal Parties. Due to Intellectual Property laws, K.I.T.T. must be used for inspiration only and not used, copied or included in the Team's designs. Teams must not refer to any original equipment manufacturers in their designs.

By entering, each Participant warrants and represents on their own behalf, and on behalf of their Team, that their entry does not infringe, defame or otherwise violate the rights and/or property of any third party; does not violate any laws or regulations; and does not utilise, use or infringe the property of any third party including the property and rights of another team without express written permission to do so.

Each Participant on their own behalf, and on behalf of their Team, further warrants that the possession, exploitation, use or distribution by the Organisers of the Team's entry, including any intellectual property included in their entry (including without limitation patents, copyrights, designs, trade or service marks, whether registered or not), shall not infringe or misappropriate the intellectual property right of any third party.

Each Participant shall indemnify the Organisers, Universal Parties, and each of their parents, affiliates and subsidiary companies against any costs, loss or damage suffered or incurred by the Organisers, the Universal Parties, and any of their parents, affiliates and subsidiary companies as a result of any claim that the use of a Team's entry thereof infringes the intellectual property right of any third party.

Without limiting the generality of the foregoing, by entering the Competition each Participant further agrees to indemnify, release, defend and hold the Universal Parties harmless from any and all claims, injuries, damages, expenses, or losses to person or property and/or liabilities of any nature whatsoever that in any way arise from Participant's participation in or attempt to participate in the Competition or acceptance or use or misuse of a prize or parts thereof.

To the extent permitted by the laws of participant's jurisdiction, in no event will any of the Universal Parties be liable for any direct, special, incidental, exemplary, punitive or consequential damages (including loss of use, data, business or profits) arising out of or in connection with participation in the competition, whether such liability arises from any claim based upon contract, warranty, tort (including negligence), strict liability or otherwise, and whether or not such party has been advised of the possibility of such loss or damage.

Subject to the consent of a participant for the use of photography, film, audio and video included in the Team's entry, each Participant grants the Organisers, the Shell group and the Organisers' partners (Altair Engineering,



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Inc and Google LLC), an exclusive licence to freely use their Team's entry for general publicity concerning Shell Eco-marathon and related events, including paid advertising, at events and through any form of media, including but not limited to print media, online media and television media. Notwithstanding the foregoing, the Participant may freely use their entry provided (i) all incidences of Organisers' and/or Shell's trademarks are removed, and, (ii) no individuals other than the Participant appear in such entry.

By entering the Competition, to the extent that an entry constitutes a derivative work of the Universal Parties' proprietary Intellectual Property rights under Intellectual Property laws, each Participant further grants the Universal Parties a perpetual, non-exclusive, royalty-free and irrevocable license to use, reproduce, copy, publish, display, distribute, perform, translate, adapt, modify, and otherwise exploit such entry insofar as such derivative work is concerned, in any manner, in any media, at any time, in its sole discretion, including in a commercial manner and in advertising and promotions, and Participant forever releases and discharges the Universal Parties from any liability associated with any such usage.

The Participant undertakes to not use the Organisers' name or trademark in any material or medium, and not to present themselves or their Team as being connected with the Organisers in any way.

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HSSE

The Health and Safety of our participants is of paramount importance to Shell.

When planning and filming your videos, as you would on the track, always consider safety as the highest priority. This may include, but is not limited to; the selection of your filming location, use of vehicles or tools, potential impact on others around you. Compliance with any country or location specific legal requirements or restrictions is essential.

Any video showing or appearing to show what the judges deem to be unsafe behaviour will be disqualified.

COVID-19 REGULATIONS

Due to the ongoing Covid-19 pandemic please observe the following guidelines while making your videos.

Anyone visible in your videos must either:

- Appear alone;



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- Appear with others ONLY if everyone is wearing a face mask.

All team members involved in the filming and editing of your videos:

- Must wear a face mask at all times when working together.



Shell Eco-marathon • 2022

BRILLIANT MINDS COMING TOGETHER TO BUILD A LOWER-CARBON WORLD

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APPENDIX: VIDEO PRODUCTION GUIDELINES

Attention: HSSE guidances must be followed at all times and in all stages of your submission process, from ideation to the planning and execution of your entry to Future Rider. Please note that the safety rules in [Shell Eco-marathon 2022 Global Rules, Chapter I](#) still apply to virtual competitions in Shell Eco-marathon, as well as the additional considerations included in the present document.

TIPS FOR YOUR MOTIVATION VIDEO

Click here for a tutorial video on tips and tricks for filming and producing a quality video:
<https://sstrk.co/36y727z>

Consider these guidelines when developing your motivation video:

- **Outfit**
 - Don't wear clothing with any logos or words, except your own team or school logos if you have the rights to them.
 - Don't wear stripes, noisy patterns, or bright colors
 - Wear appropriate clothing
- **Filming environment**
 - Ensure you are in a safe location.
 - Ensure you are in a quiet environment.
 - Don't have a busy backdrop. A blank wall would be best.
 - Shoot horizontal and waist up.
 - Center yourself in the frame. Leave head room.
- **Presentation**
 - Speak clearly to the camera.
 - If more than one person is featured on the video, in addition to observing the Covid-19 related guidance regarding face masks, make sure to speak one at a time, avoid having multiple people talking at the same time.
 - Share imagery and explain ideas clearly.
 - Have fun!

TIPS FOR YOUR CONCEPT SUBMISSION VIDEO

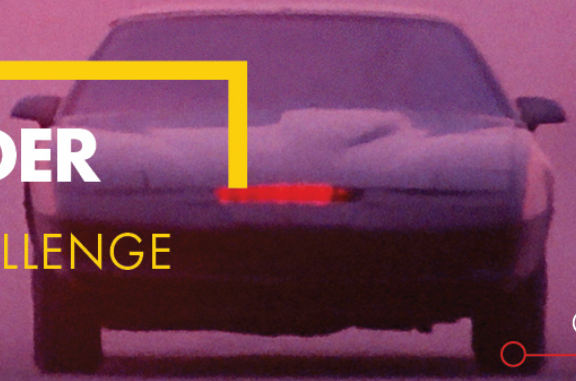
✓ DO:

- Plan in advance



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- Take into account all the previously detailed safety considerations required for your participation.
- Consider creating a storyboard for your video, think about each shot and how it all fits together in a cohesive narrative.
- **Think about your audience**
 - Be creative in your visual approach! You are free to use both digital and physical visual resources.
 - Consider adding subtitles to help communicate your message clearly.
- **Enjoy the process!**
 - K.I.T.T. is known for its witty humor, futuristic technology and unconventional features. Get your ideas flowing and have fun making your K.I.T.T.-inspired car of the future!

✗ DON'T:

- **Make this a purely technical presentation**
 - Although it is important to demonstrate the technical solutions developed, remember this video will be seen not only by the expert judges but also by a wider audience on the public voting phase if your team is shortlisted. How can you entertain, inspire and earn their vote for your entry?
- **Use your Shell Eco-marathon vehicle in your entry**
 - We want to see new designs in this challenge!

