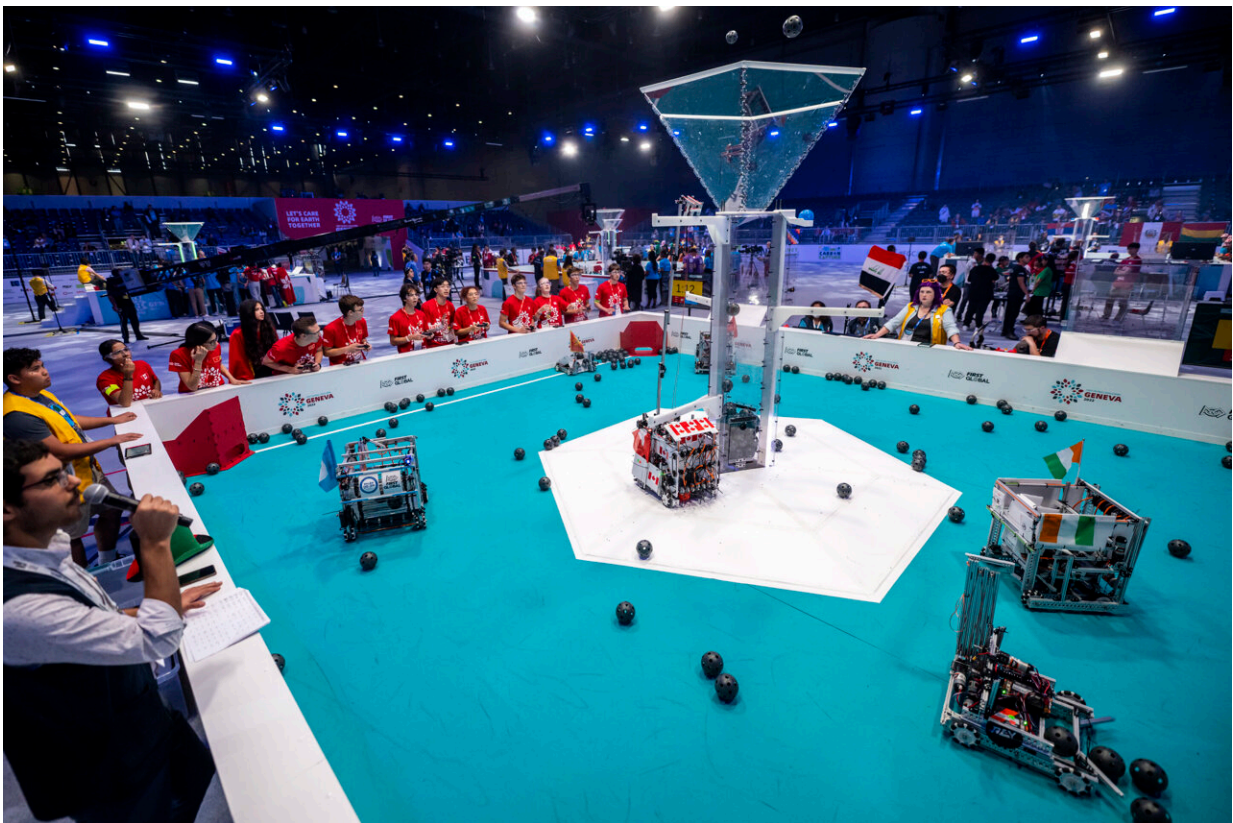


# Teens tackle 21st-century challenges at robotics contest

October 16 2022, by Jamey Keaten



Robots from different teams compete during the 6th edition of the First Global Robotics Challenge in Geneva, Switzerland, Saturday, Oct. 15, 2022. Credit: Martial Trezzini/Keystone via AP

For their first trip to a celebrated robotics contest for high school

students from scores of countries, a team of Ukrainian teens had a problem.

With shipments of goods to Ukraine uncertain, and Ukrainian customs officers careful about incoming merchandise, the group only received a base kit of gadgetry on the day they were set to leave for the event in Geneva.

That set off a mad scramble to assemble their robot for the latest edition of the "First Global" contest, a three-day affair that opened Friday, in-person for the first time since the pandemic. Nearly all the 180-odd teams, from countries across the world, had had months to prepare their robots.

"We couldn't back down because we were really determined to compete here and to give our country a good result—because it really needs it right now," said Danylo Gladkyi, a member of Ukraine's team. He and his teammates are too young to be eligible for Ukraine's national call-up of all men over 18 to take part in the war effort.

Gladkyi said an international package delivery company wasn't delivering into Ukraine, and reliance on a smaller private company to ship the kit from Poland into Ukraine got tangled up with customs officials. That logjam got cleared last Sunday, forcing the team to dash to get their robot ready with adaptations they had planned—only days before the contest began.



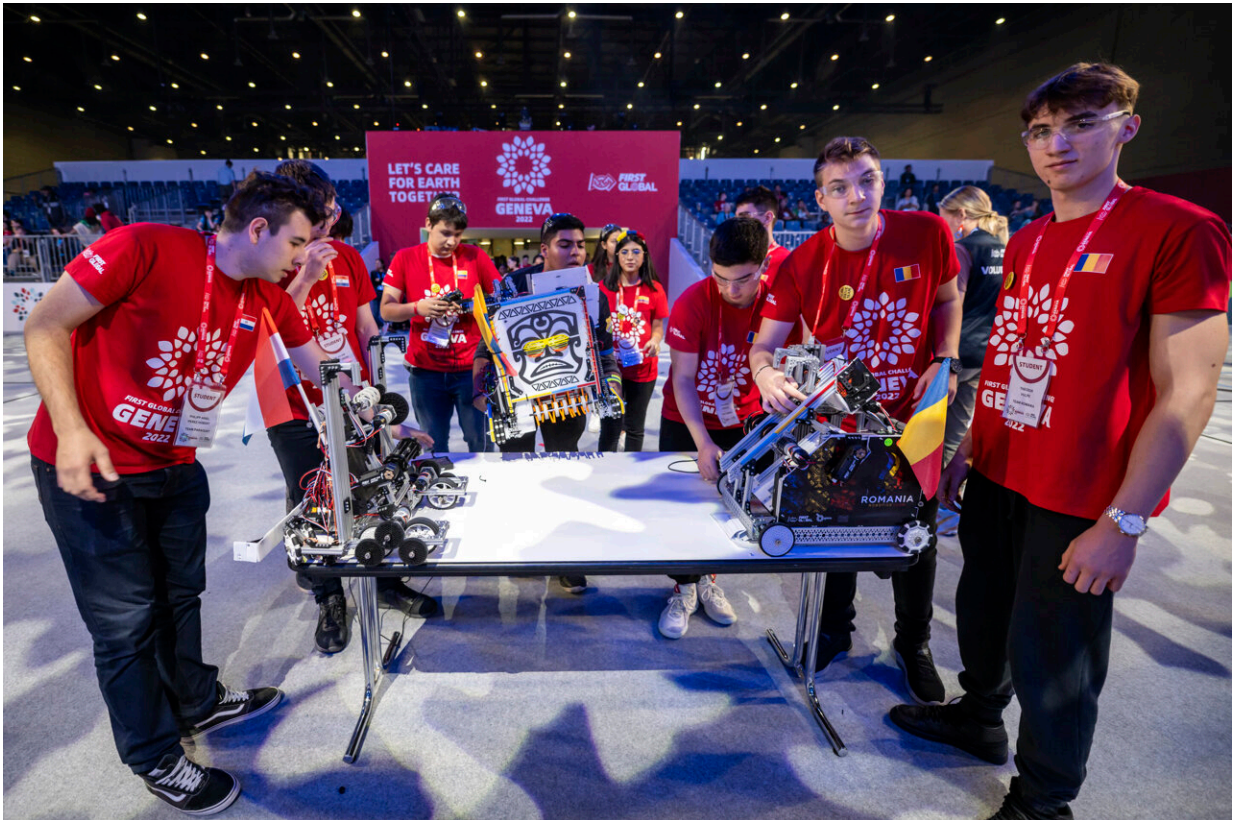
Robots from different teams compete during the 6th edition of the First Global Robotics Challenge in Geneva, Switzerland, Saturday, Oct. 15, 2022. Credit: Martial Trezzini/Keystone via AP

The event, launched in 2017 with backing from American innovator Dean Kamen, encourages young people from all corners of the globe to put their technical smarts and mechanical knowhow to challenges that represent symbolic solutions to global problems.

This year's theme is carbon capture, a nascent technology in which excess heat-trapping CO<sub>2</sub> in the atmosphere is sucked out of the skies and sequestered, often underground, to help fight global warming.

Teams use game controllers like those attached to consoles in millions of

households worldwide to direct their self-designed robots to zip around pits, or "fields," to scoop up hollow plastic balls with holes in them that symbolically represent carbon. Each round starts by emptying a clear rectangular box filled with the balls into the field, prompting a whirring, hissing scramble to pick them up.



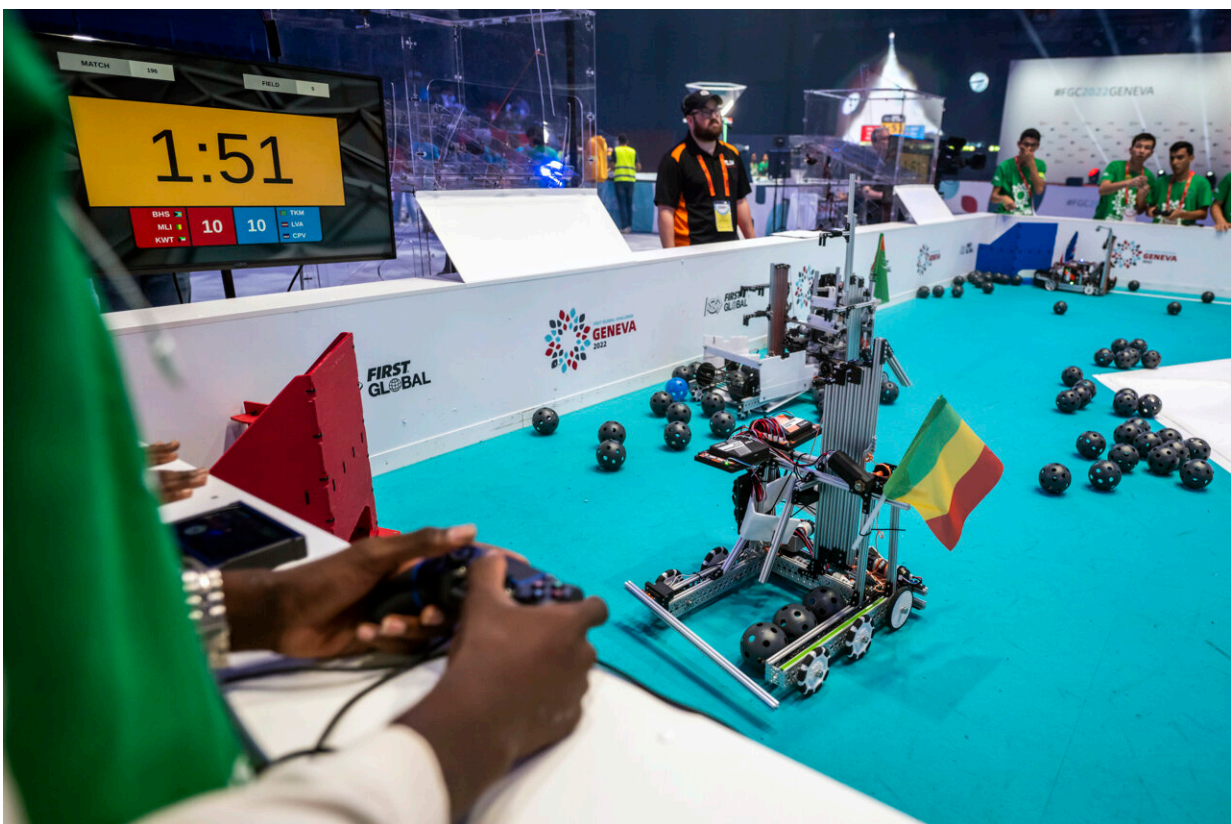
Teams from different countries present their robots before the competition, during the 6th edition of the First Global Robotics Challenge in Geneva, Switzerland, Saturday, Oct. 15, 2022. Credit: Martial Trezzini/Keystone via AP

The initial goal is to fill a tower topped by a funnel in the center of the field with as many balls as possible. Teams can do that in one of two ways: either by directing the robots to feed the balls into corner pockets,

where team members can pluck them out and toss them by hand into the funnel or by having the robots catapult the balls up into the funnels themselves.

Every team has an interest in filling the funnel: the more collected, the more everyone benefits.

But in the final 30 seconds of each session, after the frenetic quest to collect the balls, a second, cutthroat challenge awaits: Along the stem of each tower are short branches, or bars, at varying levels that the teams—choosing the mechanism of their choice such as hooks, winches or extendable arms—try to direct their robots to ascend.



Robots from different teams compete during the 6th edition of the First Global Robotics Challenge in Geneva, Switzerland, Saturday, Oct. 15, 2022. Credit:

Martial Trezzini/Keystone via AP

The higher the level reached, the greater the "multiplier" of the total point value of the balls they will receive. Success is getting as high as possible, and with six teams on the field, it's a dash for the highest perch.

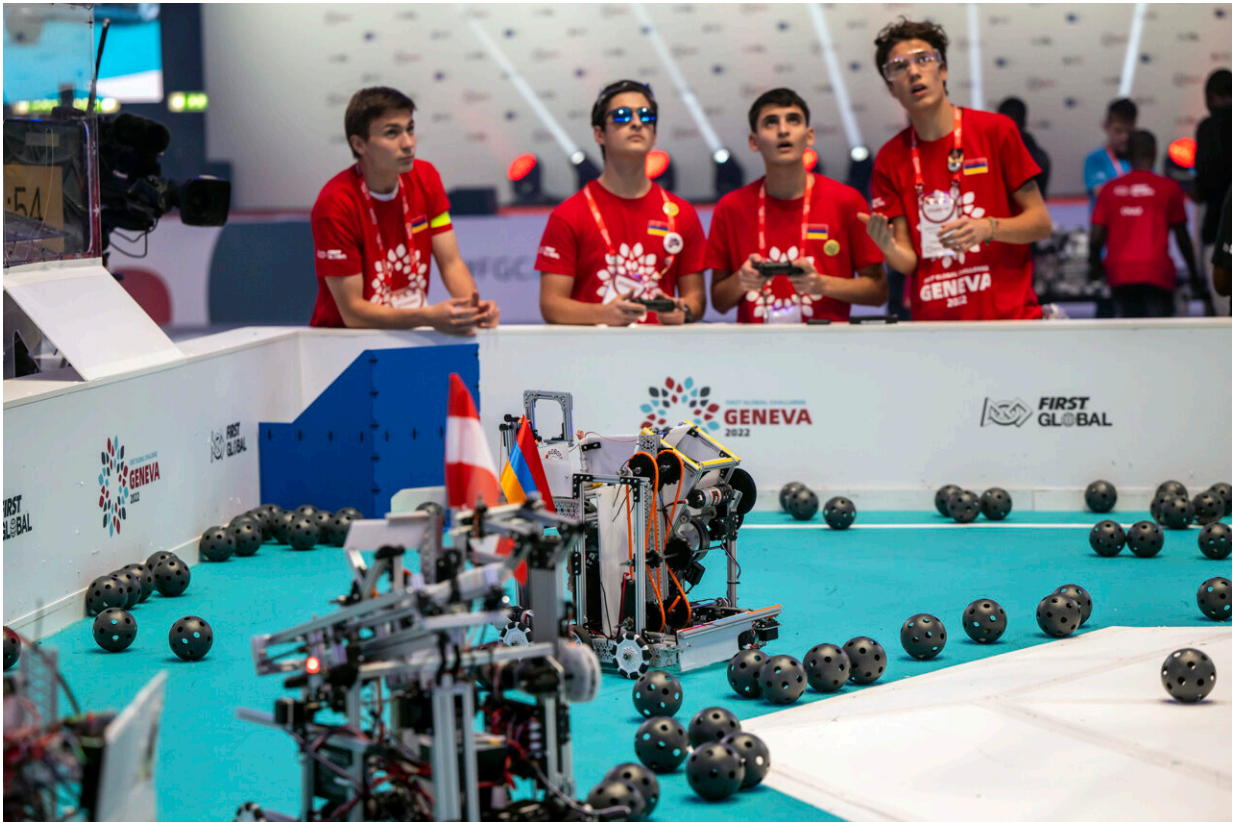
By meshing competition with common interest, the "First Global" initiative aims to offer a tonic to a troubled world, where kids look past politics to help solve problems that face everybody.

The opening-day ceremony had an Olympic vibe, with teams parading in behind their national flags, and short bars of national anthems playing, but the young people made it clear this was about a new kind of global high school sport, in an industrial domain that promises to leave a large footprint in the 21st century.

The competition takes many minds off troubles in the world, from Russia's invasion of Ukraine to the fallout from Syria's lingering war, to famine in the Horn of Africa, and recent upheaval in Iran.



The Ukraine team, Danylo, Zakhar, Artem, from left to right, compete during the 6th edition of the First Global Robotics Challenge in Geneva, Switzerland, Saturday, Oct. 15, 2022. Credit: Martial Trezzini/Keystone via AP



Robots from different teams compete during the 6th edition of the First Global Robotics Challenge in Geneva, Switzerland, Saturday, Oct. 15, 2022. Credit: Martial Trezzini/Keystone via AP

While most of the world's countries were taking part, some were not: Russia, in particular, has been left out.

Past winners of such robotics competitions include "Team Hope"—refugees and stateless others—and a team of Afghan girls.

© 2022 The Associated Press. All rights reserved. This material may not be published, broadcast, rewritten or redistributed without permission.



Citation: Teens tackle 21st-century challenges at robotics contest (2022, October 16) retrieved 27 April 2024 from

<https://techxplore.com/news/2022-10-teens-tackle-21st-century-robotics-contest.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.