

Offaly County Council

MRTT 122 - Building Resilience & Adaptability in Primary School children through STEM in communities impacted by decarbonisation



Digital

Comhairle Chontae Uíbh Fhailí
Offaly County Council



Why this Programme?

- Offaly County Council (OCC) already do a lot of work with schools - Music Generation, Offaly Sports, Green Flags, Student Enterprise – Now Digital / STEM
- Jobs and employment opportunities are changing, and primary school students are at the perfect age to begin their STEM education
- OCC believes that STEM education is needed to ensure today's students are qualified for Future Jobs and we are helping to shape Offaly's smart future through STEM
- OCC is innovating and transforming through a range of business, community and educational initiatives and the VEX Robotics Competition is just one of these initiatives
- This programme builds on Offaly's strong heritage in science and engineering and it gives students the skills for an exciting and innovative future
- These students will drive Offaly's economy for the next 50 years



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Why VEX Robotics

- VEX is educational robotics for everyone
- A complete STEM program
- Educational & Hands On
- Real world problems to solve
- Entrepreneurial Skills
- Teamwork and leadership
- Competitive and fun
- VEX encourages creativity, teamwork, leadership, and problem solving among groups.





Why VEX Robotics

VEX 123



VEX 123 is an interactive, programmable robot that takes Computer Science and Computational Thinking off of the screen and brings them into the hands of primary students.

[Shop Now](#)

[Learn More](#)

VEX GO



VEX GO is an affordable STEM construction system that taps into children's natural inquisitiveness. VEX GO utilises the VEX IQ plastic construction system and adapts it for primary students.

[Shop Now](#)

[Learn More](#)

VEX IQ



VEX IQ is a snap-together robotics system designed from the ground up to provide novice users the chance to find success quickly, while still being able to constantly challenge more advanced users.

[Shop Now](#)

[Learn More](#)

VEX V5



The VEX V5 system includes versatile elements that take the frustration out of engineering for novice users, while still providing experienced users with endless design possibilities.

[Shop Now](#)

[Learn More](#)



STEM Programme

- Shaping Offaly's Smart Future With Primary School Children Through Science, Technology, Engineering And Mathematics (STEM) Using VEX IQ Robotics
- Digital Training & Skills – STEM in Primary / Secondary Schools
- This programme is delivered in collaboration with Munster Technological University. Offaly Local Enterprise Office and Offaly County Council Library Service & Information Technology Department
- Other Partners include:
 - Primary and Post Primary School in Offaly
 - DRCD(Department of Rural and Community Development)
 - DES/PDST(Department of Education and Skills & Professional Development Service for Teachers)
 - OLDC(Offaly Local Development Company)
 - Athlone & Laois Education Centre



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Story so far

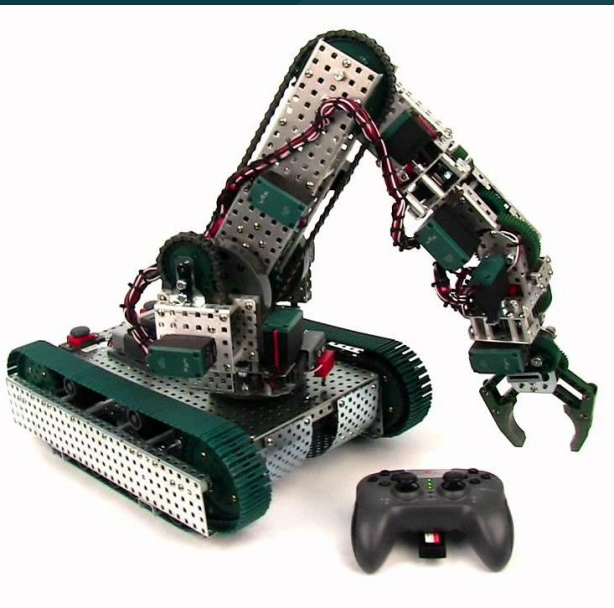
- Programme started in 2018/2019 school year with 16 primary schools – funded by DRCD & OCC
- 2019/2020 – Additional 14 primary schools involved & pilot programme for 6 post primary schools – funded by OCC & schools
- 2020/2021 – All 12 post primary schools involved – funded by OLDC & OCC
- 2021/2022 – Additional 15 primary schools will be involved – funded by Just Transition & OCC – 6 additional primary schools also looking to be involved
- During the 2021/2022 school year we will have 60+ schools involved in the programme





Just Transition – Funding

- 15 Additional Primary School in communities that are most impacted by Just Transition
- Equipment and Training Provided for 3 Years
- STEM Education Officer (3 years) to work with school in Offaly around STEM education

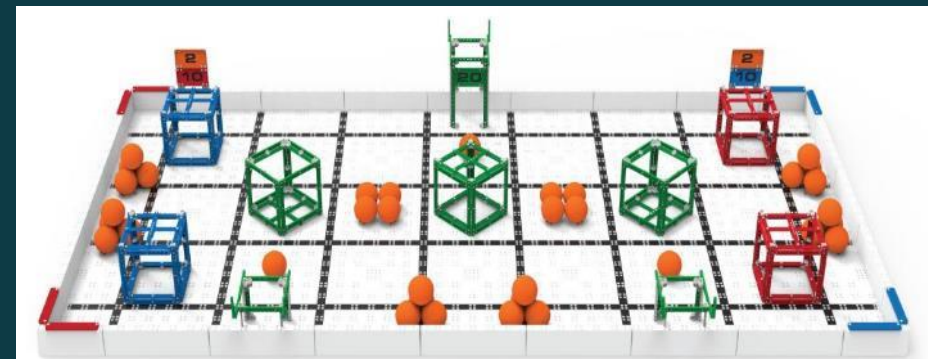
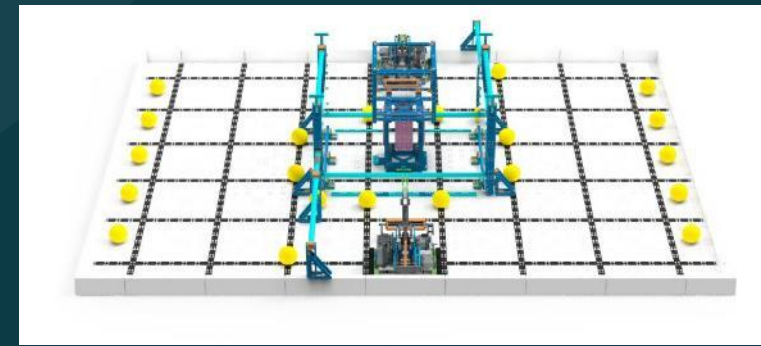


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What does each school get

- VEX IQ Super Kits x 2
- VEX IQ Competition Arena
- VEX IQ Game each year
- VEX Robotics Competition Team Registration each year
- Training and Support provided by Munster Technological University and OCC
- OCC organises Offaly VEX IQ Championships each year, including prize money and costs associated with representing Offaly in the All Ireland Finals in Cork (MTU) each year



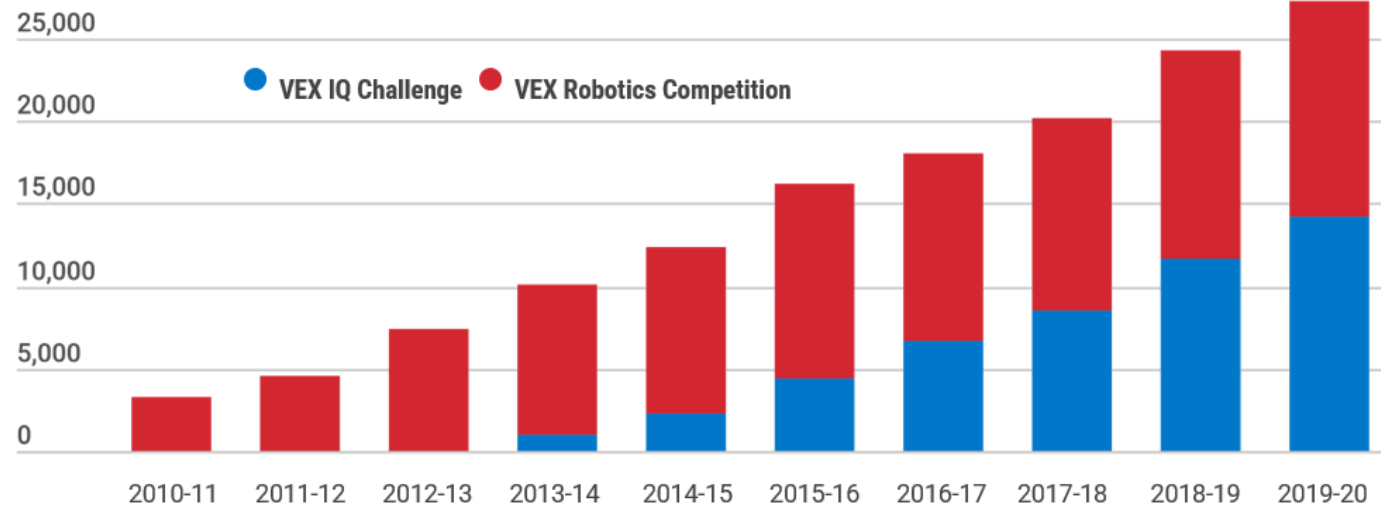


VEX Robotics Team Growth

Robotics Growth

10 Year Team Growth

70 Countries Participating



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Irish Partners





Why Robotics in School

- Don't fear the robots: Robotics and AI(Artificial Intelligence) could lead to higher value jobs – OECD Report
- World Economic Forum predicts that robots will displace 75 million jobs globally by 2022 but create 133 million new ones - a "net positive"
- The robots are coming - The only way that countries such as Ireland can endure in the oncoming age of automation is to invest now in young children's skills and education – RTE Report 2018
- Irish workers face an almost 50pc chance their job will be automated in little more than a decade - Minister Heather Humphreys Dec 2018
- Robot automation will 'take 800 million jobs worldwide by 2030' – BBC
- International research indicates that 85 per cent of the jobs which will exist in 2030 have yet to be created. – Irish Times 2018





Videos of Previous Events

Video : 2020 Offaly Championship Finals

<https://www.facebook.com/1126156604179348/videos/869623153487894>

Contribution by:

- Chief Executive – OCC - Anna Marie Delaney
- TD - Marcella Corcoran Kennedy
- Minister of State - Pippa Hackett
- Cathaoirleach OCC - Peter Ormond
- Industry - Darren Mealiff - Robotics and Drives
- Head of Information Systems / Broadband / Digital – OCC – Ray Bell
- Primary School Teachers & Children in Offaly

Video : 2019 Offaly Championship Finals

<https://www.facebook.com/1126156604179348/videos/1228165660699018>

Contribution by:

- Minister of State: Sean Canney
- Primary School Children in Offaly
- Head of Information Systems / Broadband / Digital - OCC– Ray Bell



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Plan for 2021 / 2022 School Year

- The plan from September 2021 is to have a teacher training day in September 2021 and schools can send as many as they like to this training.
- Offaly County Council will have a STEM Education Officer that will be available to work with schools on STEM Education including VEX from October 2021.
- Offaly VEX IQ Championships will take place in Jan 2022 – Big Event Planned
- All Ireland VEX IQ Championships will take place in Feb 2022 – Offaly plans to send 4 teams to the All Ireland's
- Additional event in May 2022 where additional students will complete. They will work on their robots etc. from Feb – May 2022.
- Boys and Girls to be equally represented on Teams
- Approx. 2500+ Students & 200+ Teachers will be involved





A lot of STEM/STEAM/STREAM already in Offaly

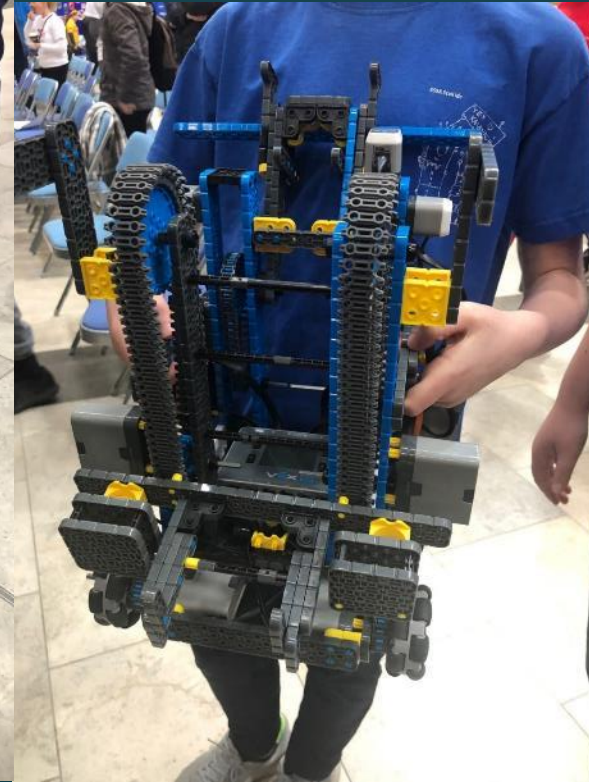
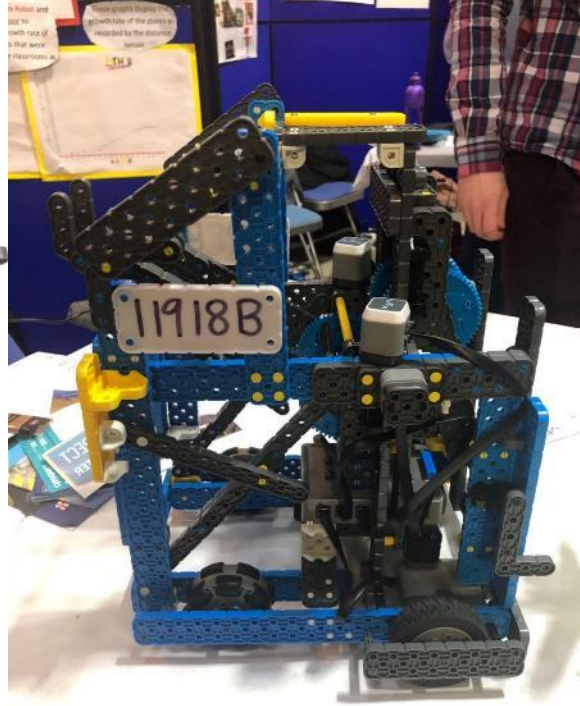
- Robotics is just one of a number of exciting initiatives Offaly County Council is supporting to drive STEM education, research and jobs.
- I-LOFAR (Irish Low Frequency Array) at Birr Castle
 - Exploring the radio universe from Birr
 - I-LOFAR Education Centre - Space STEM
- STREAM Creative Suite in Birr
 - Natural extension to the I-LOFAR Project. The I-LOFAR radio telescope
 - Generating 4 Gbps per second – unique opportunity to access big data in real time
 - Creative Suite will bring together researchers and practitioners in areas such as the visual arts, multi-media, technology and astronomy, who share a common interest in Big Data.
- Birr Castle Science Centre
 - Education Officer working at Birr Castle
- Midland Science - Midlands Science delivers a series of STEAM activities in the midlands
- Local Enterprise Office – Pint of Science(Birr) – Link with Industry very important
- DojoMór is a national coding event for kids aged 7 to 17 years.
- Offaly Libraries - Planet Science Kidz – STEM Education



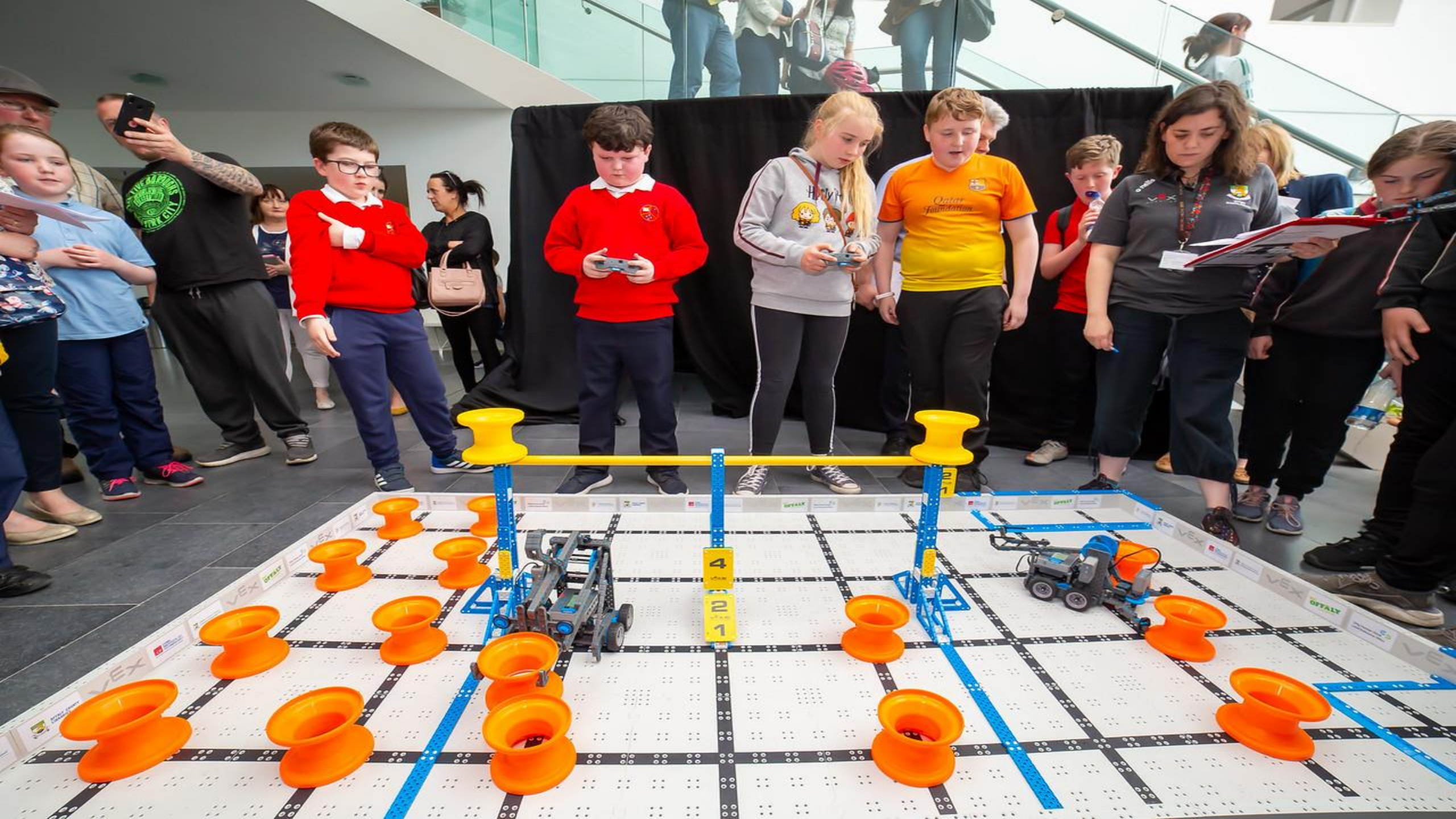
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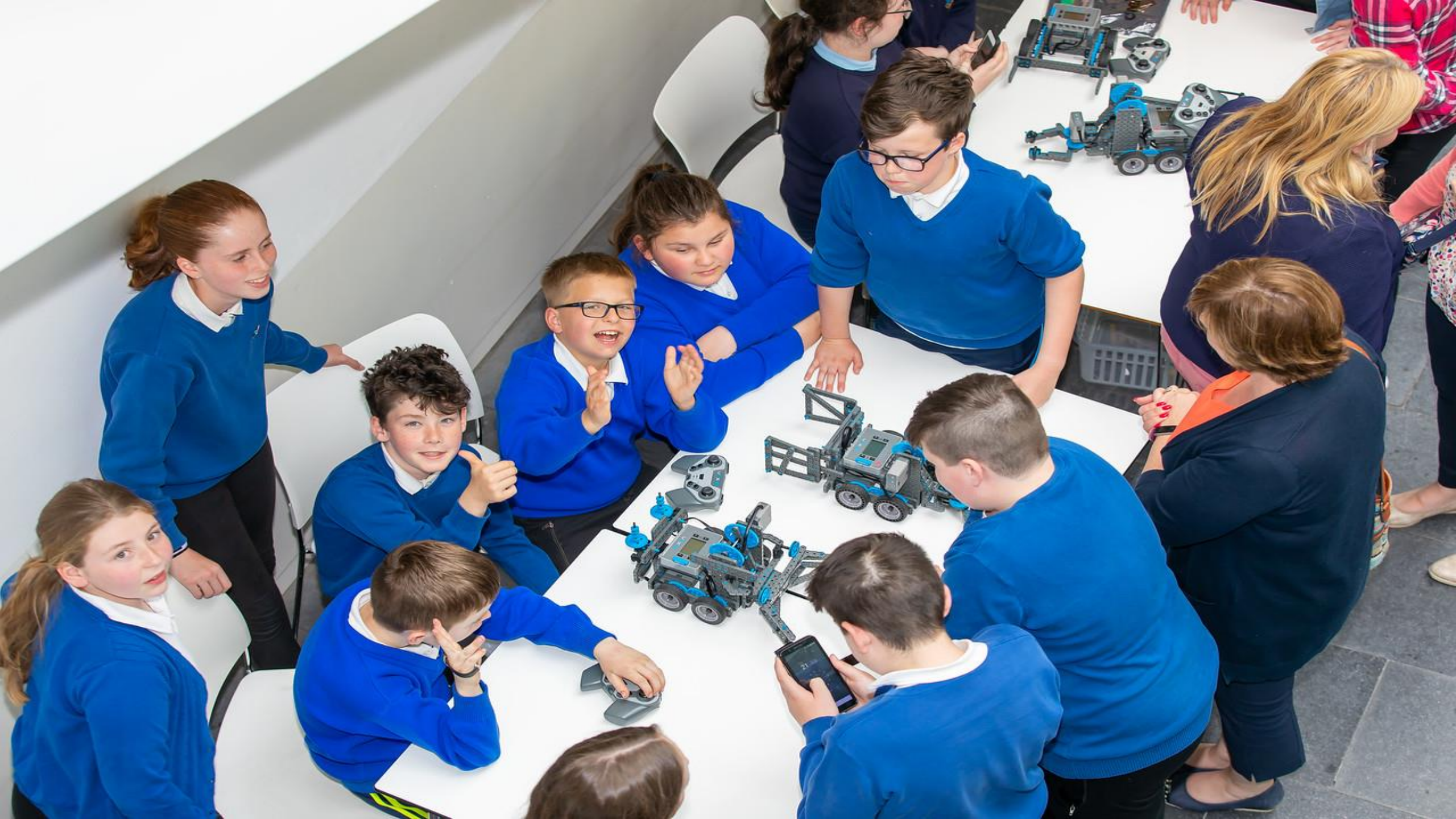
Some Photos of Events so far 😊





















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INNOVATION

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Shaping Offaly's Smart Future With Primary School Children Through Science, Technology, Engineering And Mathematics (STEM) Using VEX IQ Robotics.

VEX IQ

VEX IQ Training

Offaly County Council
Comhairle Contae Uíbh Shíoláin

CIT
CORK INSTITUTE OF TECHNOLOGY
INSTITIÚD TEICNEOLAÍOCHTA CHORCAI

Rialtas na hÉireann
Government of Ireland



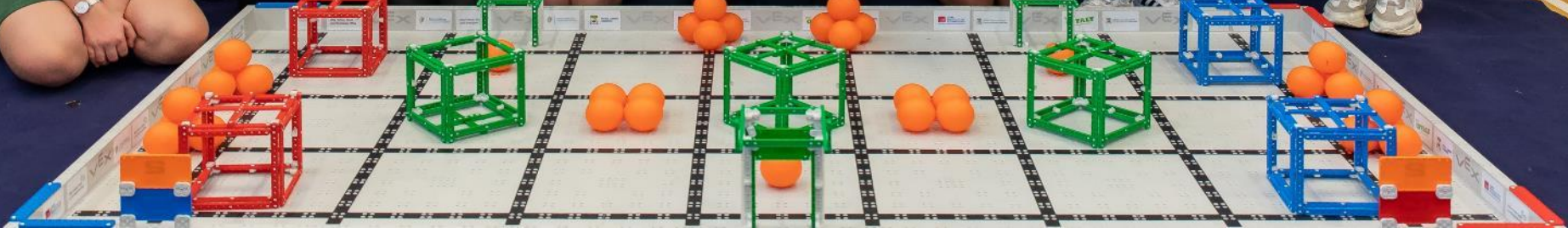


VEX IQ
ROBOTICS

#STEM

#RoboticsOffaly

#YourCouncil





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