



Desmond College



BD



€10,000



2023/24

STEM STARS

SCIENCE  
TECHNOLOGY  
ENGINEERING  
MATHS

Desmond College

CONTINUOUS IMPROVEMENT BOARD

REAGENTS  
SYSTEMS VIEW

ADMIN. FACILITIES  
FINANCE &  
QUALITY

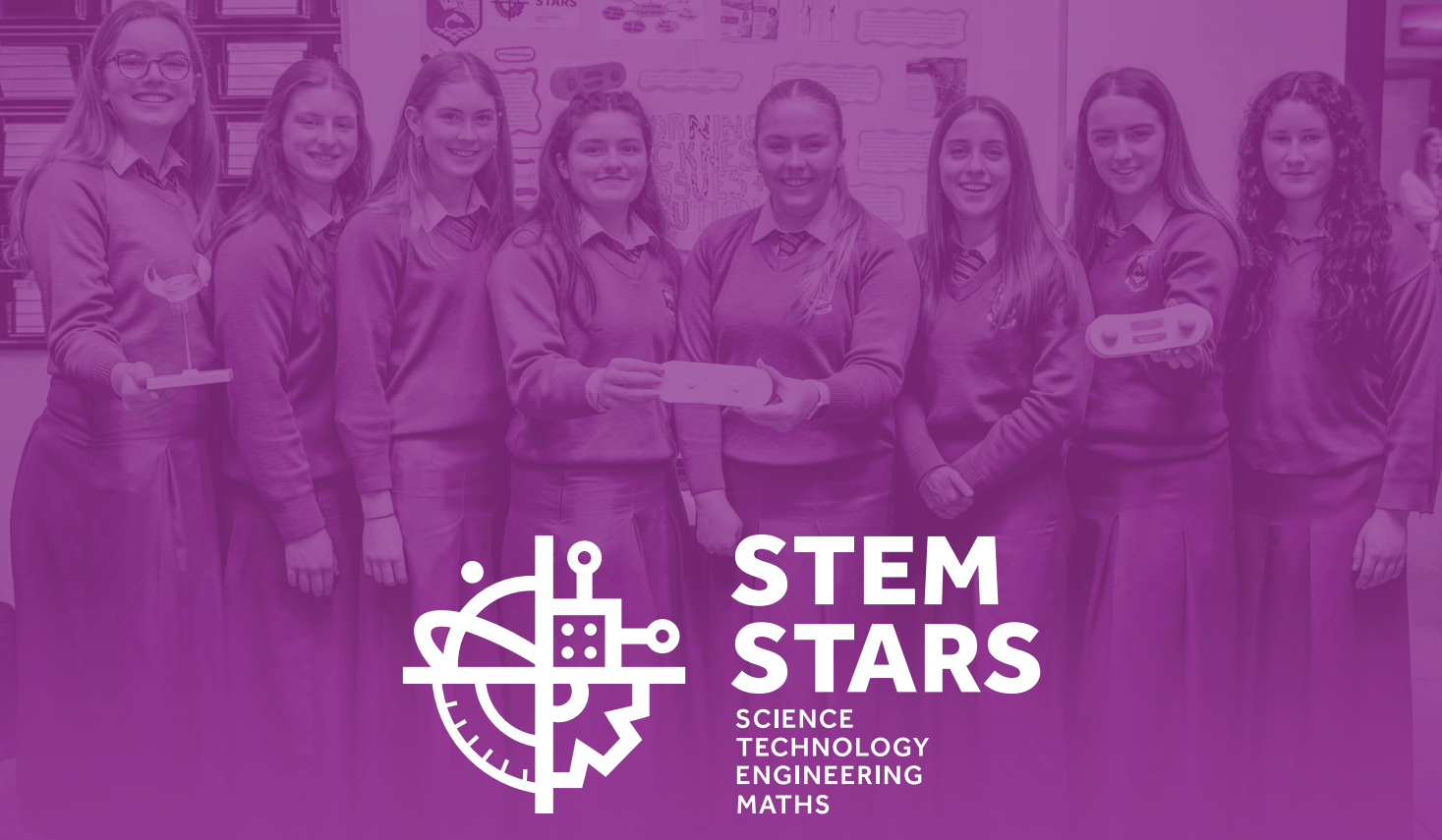
TECHNICAL

SOFTWARE

FOCUS IDEA  
MANAGEMENT  
CHALLENGE



STEM  
STARS



# STEM STARS

SCIENCE  
TECHNOLOGY  
ENGINEERING  
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# ABOUT BD STEM STARS

BD STEM Stars competition is all about advancing the world of health through STEM. We ask student(s) to tackle a healthcare issue that affects them or members of their community and how they propose to solve it using STEM subjects. Submissions should be original and creative and include:

- Why they chose the healthcare issue
- Background research
- Application of STEM subjects in resolving the issue
- Prototypes (if applicable)
- Final conclusions
- Project file capturing the above
- 3-5 minute video talking about their project



The winning entry will receive a prize of **€10,000** for their school to use within STEM education – with student prizes to the value of **€2000**.

## WHO IS IT FOR?

Open to schools in the Munster region.  
*ROI only.*

The competition will promote and encourage participation in STEM subjects for children aged between 13-19 years of age.

The competition is open to individual students or a group (max 8).  
*Max. two entries per school.*



# WHAT THE TEACHERS SAY...



"Through the boundless potential of STEM Stars, you can unlock innovation, creativity and problem solving in your students. Over a short few years we've seen this competition foster passion in students for STEM subjects. Selfishly, we'd prefer to keep it a secret but it's not fair to keep a lid on a good thing! I would urge you to get your school involved"

**DONAL ENRIGHT  
DESMOND COLLEGE**



"BD STEM Stars was an excellent competition allowing students the opportunity to highlight a health issue of importance to them, Mental Health in our society. Students used their creative skills & knowledge across a range of STEM subject areas including Biology, Physics, Computer Coding, Graphics and Maths. They investigated and developed a very interesting solution through Colour Light Therapy. The students were an absolute pleasure to work with and have bright futures ahead of them."

**BERNIE O DRISCOLL  
THOMOND COMMUNITY COLLEGE**

# DO YOU WANT YOUR SCHOOL TO WIN?!

Early registration and additional time can be evident in the standard of projects



2024

**JAN  
12**

Registration  
Deadline

2024

**FEB  
12**

Submission  
Deadline

2024

**MAR  
21**

Showcase & Awards Ceremony

Shortlisted schools will be invited to RCI to showcase their project to the judges. The awards ceremony will take place after final adjudication on the same day.



## HOW TO ENTER

Registration is now open and closes **12th January 2024**.  
Registration details can be found on our website:  
[www.bd.com/en-uk/about-bd/bd-stem-stars](http://www.bd.com/en-uk/about-bd/bd-stem-stars)



REGISTER NOW  
TO GUARANTEE  
YOUR PLACE



# 2023 WINNING PROJECT

## Exercise is Key, Desmond College Madison Saracoglu & Emma Greaney

Madison Saracoglu & Emma Greaney won the 2023 BD STEM Stars competition with their project called 'Rehabilitation Nation'. After extensive research around the issue of shoulder mobility and a review of existing solutions, their idea won them the coveted first place at the STEM Stars finals in BD Research Centre Ireland.

Their solution is a device that assists and tracks patients' progress in regaining shoulder mobility. They tested it in the field with physiotherapists and patients, and have taken it a step further by gaining a patent for their design. These students were passionate and determined and won the judging team over with their knowledge, ambition and execution.



## HEAR FROM THE RCI TEAM

"I really enjoy seeing what the students come up with when given the opportunity to innovate. They are always so creative and it's a real treat to be a part of the process that allows them to build on their ideas."

**SHAUNA HOLDEN  
SCIENTIST  
REAGENTS AND ASSAY  
DEVELOPMENT**

"Working in RCI has opened my eyes to the variety of careers in STEM and what I notice is the huge creativity applied in the med-tech space. As a parent it's a privilege to now advocate for STEM subjects at secondary school level. Who knows what stars we'll uncover!"

**FIONNAGH TSANG  
ENTERPRISE PROJECT  
MANAGEMENT CO-ORDINATOR**

### Internal Judge:

"STEM Stars shows how bright and hopeful the future can be, that it's in the safe hands of the next generation when opportunities are provided to them and creativity is fostered in them".

**OWEN O NEILL  
ASSOCIATE DIRECTOR  
DEVICE AND PRODUCT ENGINEERING  
BD RESEARCH CENTRE  
IRELAND**

"Every year I have been blown away by the capabilities of the students that enter STEM Stars. Their knowledge and enthusiasm is infectious and really highlights why a career in STEM is such an exciting and fulfilling role."

**KEITH MOONEY  
SENIOR ELECTRONIC ENGINEER**

# PROJECT TEMPLATE



## New for 2023/24

Use the project template to guide you through your submission!

**New for 2023/24** is a submission template. This template outlines the necessary components to any project submission; highlighting some potential extras that teams can include. This template is an editable PDF that schools *must* complete as part of their submission.

### School Details

Includes team members and school information.

### Project Introduction

Introduce your project and the inspiration behind it.

### Scope & Project Plan

This is your opportunity to highlight the area of healthcare that your project will impact. Your project has potential to advance the world of health- let us know how. This section has a 1000 word limit.

### Research & Development

There are many ways to research a project. Show us how you did it and how your project evolved from the initial idea to the final design. Include any background information you collected, and surveys carried out. There is no word limit in this section. Blow us away!

### Results & Conclusions

You've put in all the hard work, now show us what it means. What conclusions can you draw from the project? Does it meet the aims you set out in the beginning? Use clear and concise language. Use the appropriate tables, charts or images to convey your data and visualise where applicable. Highlight any changes you would make to the project- scope, data collection, outcome.



# VIDEO ENTRY TIPS!

## Video Length

The video should not exceed 5 minutes in length and the key aspects of your projects should be covered within this timeframe.

## Content

Choosing which approach suits your needs best, focus on either demonstrating your solution to the suggested issue or provide details and descriptions that guide the audience on your project journey

## Audio-Visual

Use a high-quality microphone if possible and ensure sound levels are consistent across the video presentation. Recording on a new Android or iPhone can produce good results as they tend to have good cameras. Also, a simple tripod goes a long way in recording the video to ensure the clips are steady.

## Video Format

Videos should be submitted using a commonly used video format such as MP4, AVI or MOV.

## Communication

Endeavour for clear communication, succinct points and consider amplifying your message using charts, photos, graphs or your prototype in action if you have one. Your video should have a logical story with a conclusion that looks to the future.



A video presentation is an opportunity to showcase your ability to navigate and leverage AV equipment, get creative with your story-telling, practice presentation skills and build experience with editing software.





# WHAT BENEFITS DID STUDENTS GET FROM PARTICIPATING IN STEM STARS?



**Confidence**

**Research**

**Team Building**

**Presentation Skills**

**Self Esteem**

**Recognition For  
Their Work**

**Extra-curricular  
Skills Development**

**Potential Job  
Opportunities**

**Success Stories**

**Communications**



# WHO ARE BD?



BD is one of the largest global medical technology companies in the world and is advancing the world of health by improving medical discovery, diagnostics and the delivery of care. The company develops innovative technology, services and solutions that help advance both clinical therapy for patients and clinical process for health care providers.

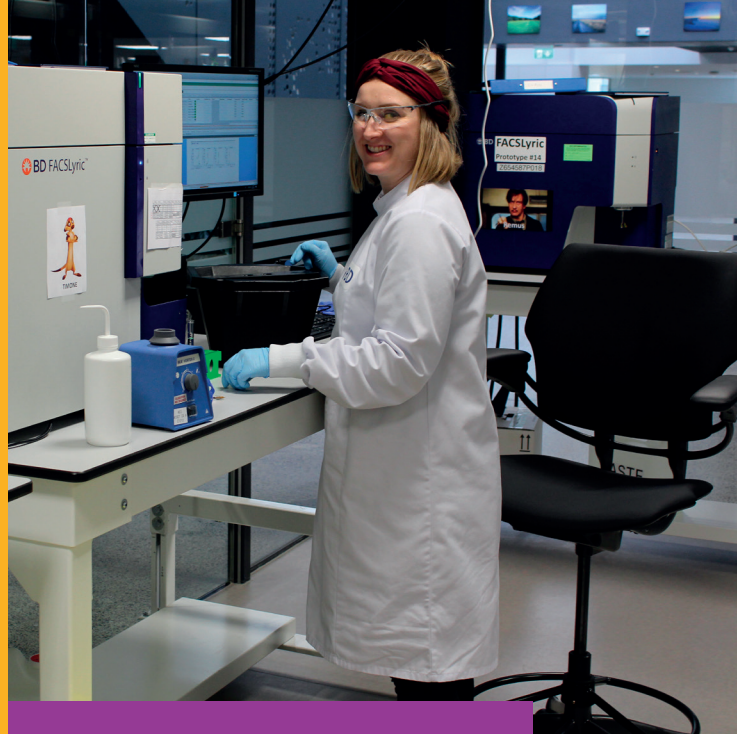
BD has 75,000 employees and a presence in virtually every country around the world to address some of the most challenging global health issues. BD helps customers enhance outcomes, lower costs, increase efficiencies, improve safety and expand access to health care.

[www.bd.com](http://www.bd.com)



# BD RESEARCH CENTRE IRELAND

RCI is a state-of-the-art facility adjacent to the University of Limerick campus. We develop innovative technologies to improve biomedical discovery, clinical diagnosis of disease, and the delivery of care for patients and health care workers.



We currently employ 400 experts in software development, software testing, systems engineering, mechanical and electronic engineering, project management, quality and biosciences including immunology. The diverse, collaborative team brings together people from 27 countries working in multidisciplinary teams to solve problems and advance the world of health.

# FREQUENTLY ASKED QUESTIONS

## **Is there an entry fee?**

No. It's completely free to enter.

## **Can we enter a project previously entered in another competition?**

All submitted entries should be original work and previous STEM-Stars competition topics should not be repeated.

## **Who can participate?**

STEM Stars, is open to secondary school teachers and students (under the age of 19) who are attending school in the Munster region in the Republic of Ireland.

## **Are there different categories?**

The broad umbrella is health, and your project can cover emergency, preventative, rehabilitative, long-term, hospital, diagnostic, primary, palliative, or home-care. We're also interested in technologies that can improve the quality of life for people with long-term disabilities.

## **Is this for Junior Cert or Leaving Cert cycles?**

The competition is open to both Junior Cert and Leaving Cert cycles.

## **How many entries can my school submit?**

Two entries per school.

## **What are the prizes?**

The winning entry will receive a prize of €10,000 for their school to use within STEM education – with student prizes to the value of €2000.

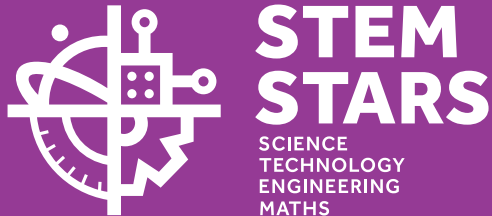
## **How are projects judged?**

Judging takes place over 2 rounds. During round 1, all proposals are screened and selected for finals. At this stage, the video plays an important role in imparting the healthcare challenge and how students approached resolving it. Round 2. Selected schools are invited to spend the day at BD Research Centre Ireland and demo their projects for our panel of internal judges and associates on site. Final adjudication takes place with awards ceremony on the same day.



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TECHNOLOGY  
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## FOR MORE INFORMATION

Email: [STEMStars@bd.com](mailto:STEMStars@bd.com)

[www.bd.com/en-uk/about-bd/bd-stem-stars](http://www.bd.com/en-uk/about-bd/bd-stem-stars)

Alternatively contact your local rep or  
dedicated school's point of contact.

Becton Dickinson Research Centre Ireland  
Limited National Technology Park, Castletroy,  
Co. Limerick V94 V5000

