

**2022 MATE INTERNATIONAL COMPETITION
BONUS MISSION**

We invite MATE teams to dive in and celebrate our 20th World Championship of the MATE ROV Competition!

For over twenty years, we have inspired future generations to believe in our ocean. It is time, once again, to bring together our global community and challenge our participants to become the blue tech heroes of tomorrow.

This year, the MATE ROV Competition resoundingly accepted the invitation from the United Nations Decade of Ocean Science for Sustainable Development to explore solutions to problems that impact all of us.



It will take hard work and determination – as well as collaboration – to achieve the future we want. But that is MATE’s mission, to inspire and challenge students to learn and creatively apply science, technology, engineering, and math to solving real-world problems in a way that strengthens critical thinking, collaboration, entrepreneurship, and innovation.

And now we challenge YOU to work in collaboration with your fellow competitors to piece together the 20th MATE World Championship!

This is your BONUS MISSION, if you choose to accept it...

MISSION NOTES

Each company will receive a 30 cm square puzzle piece made out of coroplast sheeting with a section of the overall image of the 20th MATE World Championship logo printed on it. Companies will receive

their puzzle piece and an overall diagram of the 20th MATE World Championship logo puzzle during competition check in. Companies can then examine their puzzle piece and the overall diagram to determine where their piece fits into the puzzle.

On Saturday morning, companies will have one chance to place their puzzle piece into the 20 Year celebration image puzzle. Three companies (a mix of RANGER, PIONEER, and EXPLORER class) will be attempting to place their puzzle pieces simultaneously into one puzzle. Companies will have 10 minutes to place their piece. Companies will have 5 minutes to set up and 3 minutes to demobilize their ROV.

Companies must provide a method to transport the puzzle piece to the bottom of the pool and place it into the puzzle. The MATE ROV Competition will have [rope](#) available for companies to attach to their puzzle piece, but companies can choose to bring and attach their own method for transporting and placing the puzzle piece. This could be a U-bolt, a screw hook, etc. Alternatively, companies can choose not to attach anything and transport the coroplast square down using their ROVs gripper, for example. If the method to transport the piece is attached to the coroplast, it must not protrude outside the edges of the 30 cm square.

Companies may only place their own puzzle piece; they cannot place another company's piece into the puzzle. However, companies may assist other companies by providing directions and guidance or returning a dropped puzzle piece to the surface (only if asked). Companies may also have another team pilot their ROV in order to place the other team's puzzle piece. However, companies should not interfere with another company placing their own puzzle piece.

Companies will receive 10 points for placing their puzzle piece. Orientation of the puzzle piece matters! It must be oriented correctly to match the overall image.

Companies will receive additional points depending on the total number of puzzle pieces placed in their image. Points will be awarded as follows:

- 0 to 4 pieces placed: 0 points
- 5 to 12 pieces placed: 5 points
- 13 to 23 pieces placed: 10 points
- All 23 pieces placed: 15 points

So, each company can receive up to a total of 25 bonus points. These points will be added to each company's total, overall score.