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Participants: (as of 01:05 pm CET)

 Martin Oehler (Me)	 JP Johannes Pellenz (Rescue)
 Virts, Ann M. (Fed) (Host)	 K Kolpat.B
 AJ Adam Jacoff	 A Leonardo Barajas
 R Raymond Sheh	 N NITRo_KotaroKanazawa
 V(Vollet (autonOHM)	 N NITRo_Sugita
 Adam Norton	 OD Oberngruber David
 AP Alan Paz Jasso	 PG Peter Gavriel
 AS Aljoscha Schmidt	 S SAFI
 CA Cristian Aimar Mata Garcia	 SG Sergio Gugliandolo - ISAAC
 DL Daniele Latella	 Shahoria Ahmmad Durjoy(BRACU ALTER)
 FV Francesco Volpe	 SI Sven Imhof
 J Jafar	 SS Sören Schwertfeger
	 TK Tetsuya Kimura(Nagaoka Univ. of Tech.)
	 VE Vivien Engl

Topics:

- **Remember to submit your TDP by March 1st, NO LATE SUBMISSIONS**
- RoboCup Rescue Standard League
 - Planned for 2026 and beyond, demonstration in 2025
 - Robot: Wheeled Unitree GO2
 - Own class with more focus on software and less on mechanical design
 - Motivation: Share code, ...
 - Details will follow
- Rule Developments (only changes are listed)
 - See meeting recording [please ann.virts@nist.gov link here]
 - Option for Radio Comms Degradation in every lane to encourage *bounded autonomy*
 - Option for negotiate bars in every lane
 - Tethers
 - Only one cable handler at entrance of arena
 - Cable has to go through the door
 - Cable handler might not walk alongside the robot
 - Best-in-Class awarded during semi-finals only
 - Sufficient number of teams advances to semi-finals
 - BiC winner is usually part of semi-finals
 - Carry-crate
 - Motivation: Carry suspicious object out of scene
 - Gives additional points for mobility (see below)
 - Revised Mobility Scoring (per lap)

- Teleop only: 1 point
 - Teleop + [Crate / Negotiate / Comms]: 2 points (each)
 - Autonomy only: 6 points
 - Autonomy + Crate: extra 2 points
 - Autonomy + Negotiate: extra 4 points
- Mapping
 - Preliminaries: Full 20 minute run (no 10 minutes dexterity)
 - Semi-finals and finals: Separate mission (now in total 4 missions)
 - Preliminaries: Only one map submission
(Semi-)Finals: Up to four maps
 - 2D map mandatory but does not contribute to score
 - 3D point cloud map (scored against ground truth cloud)
 - Global Error: Cloud-to-cloud distance
 - Coverage
 - Bonus multipliers for (sensible) fused RGB and/or heat data
 - Map 0,0 needs to be in start area for alignment
 - Object detections (**autonomous background capability**)
 - Real objects (not just pictures)
 - April tags (lowest score)
 - Hazmat signs (intermediate score)
 - Real objects (high score) → report object COM location
 - High signature (highest score)
 - Each detection object is unique, do not repeat them
 - Score Metrics
 - Localization Error: Distance to ground truth
 - Detection Score: Detections within error threshold
 - Penalty for reporting non-existent objects
 - Total score = average of normalized 3D cloud + object detections score
- Radio comms degradation
 - Will be available in every lane
 - More details soon
- Questions:
 - What are the weight and dimensions of the crate?
 - 30x30x30 unit(?), weight: ? sorry, missed it
 - Will be added to appendix of rules ann.virts@nist.gov
 - A team was told last year that only manipulators could be used to operate e-stops (?) How will it be this year?
 - Adam: It has to be the manipulator
 - Consideration: The apparatus has to survive
 - We will vote in the committee
 - Will autonomous dexterity be scored like last year? It is not in the 2025 rules.
 - General idea: Two modes, autonomous manipulation or autonomous manipulation + autonomous approach
 - Details will be discussed and published by committee

- Can power run over the tether to the robot?
 - We do not care what runs over the cable as long as the rules for cable handlers are obeyed (see above)
- Is the software for cloud alignment available?
 - CloudCompare for alignment
 - It might be sensible to release our tools and procedure so teams can practice
- Is there any official information for robot transport?
 - Generally there is a logistics partner where the robot has to be sent to
 - Details are on official site: <https://2025.robocup.org/cargo/>
- Are there shipping restrictions on components / batteries?
 - That has to be figured out with your own shipping company
 - There is also a contact on the official site (see link above)
- Are there minimum/maximum dimensions for the robot?
 - The robot has to fit inside the lanes, 1.2m wide
 - Moreover, objects are hanging on the walls
 - Maximum weight: 80 kg
- What are the requirements for the TDP?
 - Use the template (provided online)
 - Look at previous years' TDPs of top teams

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