![SICK Sensor Intelligence.]

TiM$10K Challenge

September 15th 2022 – March 31st 2023

Summary of the contest:

SICK is a leading global manufacturer of factory, logistics and process automation technology worldwide. With more than 1,000 patents for its products, SICK continues to lead the industry in new product innovations.

SICK Inc., is excited to announce a challenge for universities across the nation to support innovation and student achievement in automation and technology. Twenty teams will be selected to participate in the challenge and the chosen teams will be supplied with a SICK 270° lidar (TiM) and accessories, as well as a license to AppSpace, an eco-system where an individualized SensorApp can be developed for the TiM-P LiDAR. The teams will be challenged to solve a problem, create a solution, and bring a new application that utilizes the SICK scanner in any industry. This can be part of the curriculum for a senior design project or capstone project for students.

The TiM-P is a fully programmable lidar that electro-sensitively scans the perimeter of its surroundings at a single plane with the aid of laser pulses. It measures the surroundings using 2-D polar coordinates and using a unique HDDM (High-Definition Distance Measurement) method, a measured value is formed by the average value for several individual pulses. Using this data, area monitoring of a scanned surface can be performed, including the size and shape of objects within a defined field. This makes the TiM invaluable in a variety of industrial applications, building automation, stationary or mobile applications. The integrated Ethernet interface allows for remote monitoring, measurement, and navigation with a ton of creative possibilities!

More information on the TiM-P is on our website:

https://www.sick.com/us/en/detection-and-ranging-solutions/2d-lidar-sensors/tim-p/c/g568273

AppSpace is an eco-system where individualized SensorApps for certain sensors are developed. These SensorApps are created on the basis of our intelligent software tools and algorithms. Existing solutions for industrialized LiDAR products (like the TiM) can be adapted to individual applications, or completely new SensorApps can be created in line with specific requirements.

More information on AppSpace can be found on our website:

https://www.sick.com/us/en/sick-appspace/c/g555725?q=:Def_Type:ProductFamily

Of course, student teams are encouraged to use their creativity and technical knowledge to incorporate the SICK lidar in any application for any industry. Advisors/Professors are allowed to guide student teams as and when required.

Timeline

1. Register your team at https://s.sick.com/us-en-tim10k-registration prior to Sept 15, 2022, including an abstract of your project proposal.

2. All registered teams will receive a TiM-P and one (1) AppSpace developer license from SICK. The twenty selected teams will receive the TiM-P and accessories as a product donation by Sept 30, 2022. The selection of these 20 teams for the 2022-2023 challenge will be based on the winning criteria.

3. Check in #1 with the SICK TiM10K program team during the week of Nov 7, 2022 (Project Update #1)

4. Check in #2 with the SICK TiM10K program team during the week of Feb 6, 2023 (Project Update #2)

5. Final paper and video submission by March 31, 2023 in your folder on box.com

6. Winners Announced the week of April 17, 2023.

7. Summer 2023 – Winning team and Advisor travel to SICK Germany, located in Waldkirch

Awards

A panel of judges will adjudicate the final submission outlining the working prototype of the invention in April 2023. The criteria used to award the winners are:

- Creativity and Innovation
- Ability to solve a customer problem
- Commercial potential to productize and market the application
- Entrepreneurship of the team
- Reporting

The 3 winning teams will win a cash award of

1st Place - $10K
2nd Place - $5K
3rd place - $3K

In addition to bragging rights and the cash prize, the 1st place winning team, along with the advising professor, will be offered an all-expenses paid trip to SICK Germany to visit the SICK headquarters and manufacturing facility in late spring/early summer 2023!

Rules of the contest

1. The competition is organized by SICK Inc., 6900 West 110th St, Minneapolis, MN 55348 and supported by PMMI. Contest managed by Bryan Sellars (bryan.sellars@sick.com)

2. The contest will span most of the 2022-23 school year.

3. The contest is aimed at technical students, and it is a team contest. 20 teams will be admitted to the contest. The teams may consist of 4 students. Up to 6 students per team may participate if the contest manager is notified.

4. Excluded from the challenge are any SICK employees or their relatives, members of the panel of judges, representatives of potential partners or other individuals that are part of the organizing team.

5. By registering for the challenge, the participants agree and commit to the competition rules.

6. Participating teams agree to grant permission to SICK for all media (such as drawings, illustrations, pictures, videos and screen shots) to use and publish in both print and digital format, with or without names of the participating students and institutions for any lawful purpose, including purposes such as publicity, illustration, advertising, press releases and web content.

7. It is mandatory for the entries to be a new application of the SICK TiM-P lidar scanner with AppSpace. The challenge will accept only ideas that are unique, not yet known, commoditized, or placed on the market. The existing laser scanner solutions can be found on the SICK website. We recommend that you highlight the objective, benefits, design, uniqueness, and operation of your application. Pictures, videos, drawings, or any other illustrations are more than welcome!

8. The best teams will be awarded by the panel of judges and results are final and binding. Teams that do not meet the deadline will be considered disqualified. The panel of judges reserve the right to ask for additional information or submit questions to participating teams.

9. The participating teams are responsible for originality, concept, and design of the idea. In addition, it must not be the property of a third party. By registering for the challenge, the participants state in to SICK their entry will not violate any confidentiality clauses or third-party intellectual property rights or other associated rights.

10. SICK will assume intellectual property rights if participating teams fail to identify any IP restrictions in their final submission

11. The participating teams will agree to be subject to the laws of the city, county, and state that they are located and are legal in the United States.

12. Regarding autonomous (driverless) vehicles: All submissions that use lidar for the control of a moving vehicle must be tested and demonstrated only in controlled off-road environments and not on public roads. Submissions that fail to meet this requirement will be removed from the competition.

Contact information

Technical Questions: techhelp@sick.com
Program Manager: Bryan Sellars, bryan.sellars@sick.com

Links:

SICK, Inc: www.sick.com

Product information of the TiM-P scanners:
https://cdn.sick.com/media/familyoverview/3/73/273/familyOverview_TiM-P_g568273_en.pdf

Information on AppSpace: https://www.sick.com/us/en/sick-appspace/c/g555725?q=:Def_Type:ProductFamily

Technical information:
https://cdn.sick.com/media/docs/2/02/102/operating_instructions_tim8xxp_2d_lidar_sensors_en_im0098102.pdf