

About us

We are a team consisting of students from ETH Zurich, competing in 1:10 scaled autonomous racing for international F1TENTH competitions. Since 2021, our goal has been to push the boundaries in autonomous robotics, give students the opportunity to work on hands-on robotics projects and to promote education in this field.

What sets F1TENTH apart is the possibility of head-to-head racing, a format rarely seen in full-scale autonomous racing due to the risks and corresponding high costs involved. Furthermore, many of the lessons learned at the 1:10 scale are also applicable to full-sized vehicles.

Why Autonomous Racing?

Autonomous racing exposes autonomous locomotion technology to cases that are only rarely happening in normal driving but benefit safety, efficiency and robustness in the unsolved problem of fully autonomous driving, as they push the limits of the hard- and software.



**The team celebrating its race victory
at ICRA 2023**

Competitions



Participating in autonomous racing competitions, such as those at IROS 2024 in Abu Dhabi and ICRA 2024 in Japan, presents an ongoing challenge. While we rely on thorough planning, previous experience, and extensive simulations to prepare, real-world conditions often diverge from expectations, requiring our systems to remain flexible, adaptive, and responsive in the face of uncertainty.



ForzaETH placing 3rd at the F1TENTH Competition at ICRA 2024 in Yokohama, Japan.

At any given event, we must be ready to quickly adjust our racing strategies based on a variety of factors. Track size, surface friction, and technical features all contribute to the dynamic nature of the race. For example, at ICRA 2024, we were faced with an unexpectedly slippery surface, which necessitated changes to our original strategy. On top of that, a particularly poor internet connection compounded the difficulties, making communication and real-time data analysis challenging. Despite these obstacles, the team was able to quickly pivot and adjust the algorithms to compensate for the changing conditions, gaining valuable insights in the process.

Research & Education

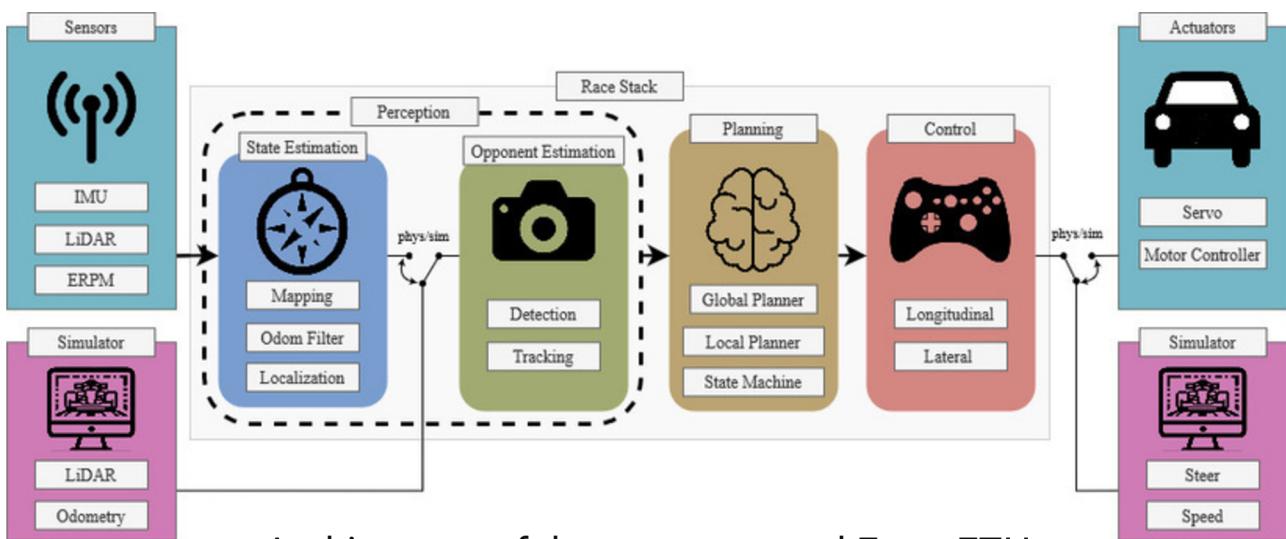
ForzaETH drives innovation in research and education, providing an accessible robot for students and researchers while igniting passion for STEM in the next generation.



ForzaETH at the "Scientifica" exhibition

Our engagement in research has multiple dimensions. Students get the opportunity to focus on specific topics in form of a thesis, while we also develop and publish new algorithms for autonomous racing. Some led to published peer-reviewed papers, with the open-source release of our software stack, detailed in a paper published in the *Journal of Field Robotics*, being a notable highlight.

ForzaETH also tries to fascinate the youth for STEM and robotics by hosting live demonstrations in school classes as well as at exhibitions such as the Scientifica, the largest science festival in Switzerland with over 20,000 visitors.



Architecture of the open sourced ForzaETH software stack

Sponsoring

For the continued development of our autonomous racing system and our participation at F1TENTH competitions, financial and material support are essential for our team. Depending on the level of financial support, we are happy to offer you a variety benefits, which can be found in the table below.

Additionally, customized benefits can be arranged upon request.

Logo Presence



Website	✓	✓	✓
T-Shirt	✓	✓	✓
Racecar	✓	✓	X

Promotion

Social Media Post	✓	✓	✓
Website Post	✓	✓	✓
Demonstration of the racecar at your location	✓	X	X

Sponsoring Contributions	5000 CHF	2500 CHF	1000 CHF
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