

We are hiring! Check the positions currently open [here!](#)

The **Software/Hardware Integration Lab (LISHA)** was founded in 1985 to promote research in the frontiers between hardware and software. Since then, it has dedicated considerable efforts to research in areas such as *computer architecture, operating systems, computer networks* and the related *applications*. Currently, the laboratory focuses on innovative techniques and tools to support the development of *embedded systems*.

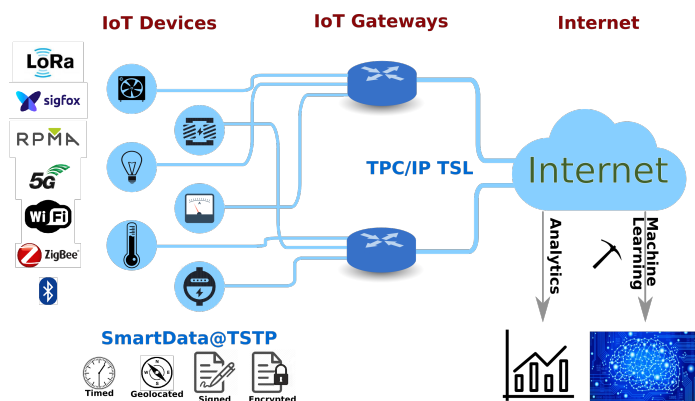
Check out our newest achievements in Autonomous Vehicles research with [SmartData on Wheels](#):

 LISHA is part of the recently created [EMBRAPII Institute for Mobility Technologies \(MOVE\)](#).

LISHA is part of [EMBRAPII MOVE](#). A new version of [OpenEPOS](#) has been released! Check the [new features](#).
OpenEPOS 2.2 SmartData and IoT

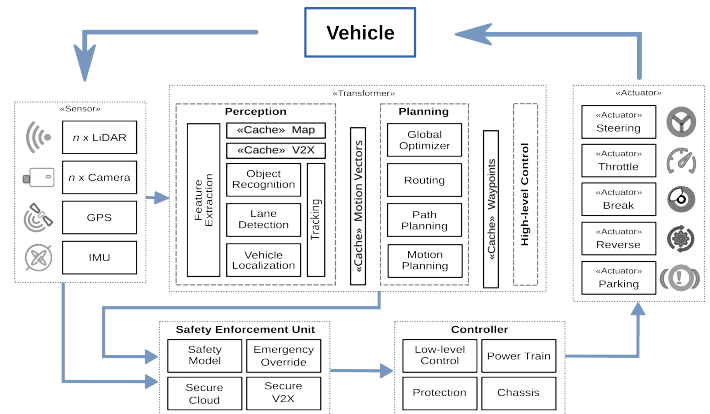
A new version of [LISHA's IoT Platform](#) based on SmartData and the Trustfull Space-Time Protocol(TSTP) is now available!

[LISHA's IoT Platform](#) now supports dozens of research projects. For further information about how to join it, please check [this link](#).



Rota 2030 with Renault

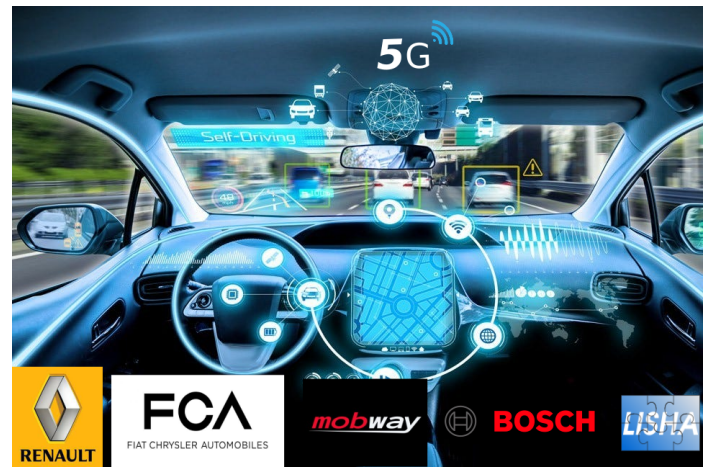
LISHA and [Renault](#) are joining forces to develop innovative solutions for the automotive industry in the realm of [Program Rota 2030](#). [Prof. Giovanni Gracioli](#) will lead a team of experts at LISHA on the pursuit of an Intelligent Data Acquisition and Analysis System for Automotive Controllers. Check the [project page](#) for more.



LISHA is a founding member of UFSC's [Research Center for Cyber-physical Systems Security \(SecCPS\)](#).

LISHA, mobway, Bosch, Renault, and Stellantis for Automotive Big Data

LISHA, [mobway](#), [Bosch](#), [Renault](#), and [Stellantis](#) are working together in the area of secure Automotive Big Data infrastructures to aggregate and process large volumes of data from various sources related to connected vehicles and supporting application scenarios involving Artificial Intelligence and data analysis tools. Check the [project page](#) for more info.



LISHA, Intelbras, and Yak for Vehicles@5G

LISHA, [Intelbras](#), and [Yak](#) are working together on the utilization of low-level 5G protocols for vehicular telemetry and supervision within the paradigm of the Internet of Things (IoT). Access the [project page](#) for more info.

OBNZip

LISHA and [LVA](#) are working together to make Ocean Bottom Nodes more intelligent. We will build a multidisciplinary team to develop advanced compression algorithms and machine learning models to handle submarine seismic signals. Check the [open positions](#) and join us on this journey.

SmartX

[LISHA's CPS Management Platform](#) is now fully integrated with the [IoT Platform](#), adding features such as defect tracking, logging, geolocation, and service ticketing.

MCTIC's IA² Program

LISHA is now part of [MCTIC's IA² Program](#). [Prof. Gustavo Medeiros de Araújo](#) will be working together with accelerators [HARDS](#) and [DARWIN](#) and [SOFTEX](#) to support startups while innovating with AI solutions to real problems.