VisLab s.r.l.
a Parma University spin-off company
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ViSLAB.it
Extend Your Vision

Company profile: After being for many years one of the key laboratories worldwide providing top-notch theoretical and applied research on Intelligent Vehicles and perception in general, in 2009 the University of Parma started a spin-off named VisLab. VisLab is specialized in environmental perception in many different fields.
Thanks to its tight cooperation with top level companies in Europe, America, and Asia, VisLab has developed its own vision on products for the automotive market and offers a wide variety of perception and safety system.

The expertise gained after 20+ years of research on perception systems led VisLab to apply its technology to different fields.

Automotive: autonomous driving on different prototypes: cars, vans, trucks, …even boats, ADAS: lane departure warning, pedestrian detection, traffic sign recognition, night vision, collision avoidance, …

Agricultural: autonomous driving and assisted operations, trailer filling monitoring, 3D terrain mapping, safety

Industrial: UGV for shelf automation, floor cleaning, quality control, perimetric monitoring for machine tool security, perception for industrial plants

Mining and construction: autonomous driving and procedure automation, obstacle and pedestrian detection, terrain mapping, safety

Defense: autonomous driving, off-road path detection, pedestrian detection, obstacle detection, patrolling, path planning, sensor fusion

Surveillance: video surveillance, people counting and tracking, traffic monitoring, traffic statistics computation, rivers and waterways monitoring, in-tunnel smoke detection

Thanks to the several robotics milestones reached, VisLab's director and team members are usually invited to give keynotes at the major conferences in the field.

The Research Group: The VisLab research team is composed by faculty members of the University of Parma, postdocs and researchers, all deeply committed to bringing artificial vision technologies to the robotics world. Thanks to an excellent and highly motivated team work, VisLab is providing research to many projects from all over the world: North America, Asia, Africa, and indeed Europe.

The Expertise: One of the most distinctive features that explains VisLab's continuous and proactive presence in projects with car manufacturers, automotive suppliers, and vehicle-based companies is the very specific experience developed throughout the years. The application of vision systems on board of vehicles not only requires to fully dominate the latest vision technologies, but also to have a deep knowledge of the key issues of this environment, such as calibration, illumination, noise, temperature, power consumption, as well as cost and installation requirements. Besides its renowned expertise, the key to VisLab's quick application prototyping is the proprietary software that has been developed in the last 10+ years and that constitutes the basis of each application developed by VisLab. VisLab was one of the first laboratories to invest on vision technologies on board of vehicles, and its efforts are still contributing to shape the history of vehicular robotics.
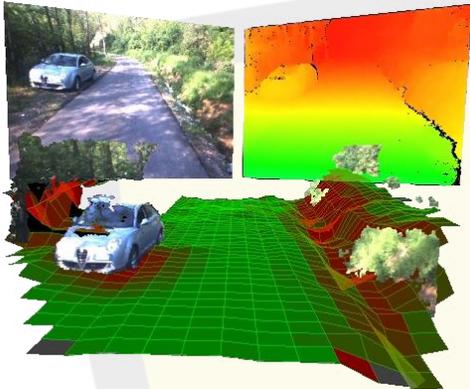
Moreover the sensing technologies developed along the years proved to be applicable to many different fields since **perception is the common layer of most of intelligent systems**.

Year		Year	
2013	**Public ROad Urban Driverles:** BRAiVE, VisLab's most advanced autonomous car, drove in downtown Parma, negotiating two-way narrow rural roads, pedestrian crossings, traffic lights, artificial bumps, pedestrian areas, and tight roundabouts. With no human intervention for the first time ever!	**2014**	**DEEVA:** the new driverless vehicle prototype designed and realized by VisLab was presented to the media. DEEVA is a breakthrough in autonomous driving design since it integrates 20+ cameras and 4 laserscanners, while still looking like a normal vehicle.
2010	**The VisLab Intercontinental Autonomous Challenge:** 13.000 km, 3 month of trip... and no one driving! VisLab team set up a huge test for their technology: a trip between Italy and China in autonomous mode that ended in Shanghai on the 28th October 2010 at the World Expo.	**2012**	**ERC PoC:** Prof. Broggi receives a second grant from the European Research Council. The Proof of Concept grant will be used to develop a 3D embedded vision system to be employed on all VisLab application fields.
2008	**ERC Grant:** Prof. Broggi received a grant from the European Research Council, as one of the best European researchers and will continue and strengthen VisLab research in the field of enhancing road safety by means of innovative driving assistance systems and automatic driving.	**2009**	**VisLab spin-off company:** after 18 years of worldwide renowned activities, the research team decides to mark its presence in the industrial market: the VisLab spin-off company focuses on enhancing automotive safety.
2005	**VisLab's vision systems drive TerraMax to the finishing line of the DARPA Grand Challenge:** in total autonomy, TerraMax completes the DARPA Grand Challenge: a 132 miles long unknown off-road course, traversing mountains and deserts. TerraMax is the only vehicle completing the race using vision as main perception technology.	**2007**	**TerraMax is qualified for the DARPA Urban Challenge:** TerraMax is one of 11 vehicles to pass the qualifications and attend the DARPA Urban Challenge; TerraMax perceives the 3D world thanks to 11 cameras, providing all-round vision in a urban environment.
2001	**VisLab eyes in the South Pole:** RAS (Surface Antarctic Robot) is equipped by VisLab with cameras that provide vision-based sensing of the South Pole icy environment. It demonstrates to be able to provide a leader-follower functionality in extreme off-road conditions.	**2004**	**IEEE Trans on ITS is edited by Alberto Broggi:** For the term 2004/2009, VisLab's director serves as the Editor-in-Chief to the major IEEE publication in the field of Intelligent Transportation System.
1994	**The Mob-Lab vehicle:** after 4 years of research activities together with the main European car makers, the first vision system for intelligent road perception is demonstrated on board of MobLab (MOBile LABoratory) at the final meeting of the PROMETHEUS European Project.	**1998**	**ARGO and the MilleMiglia in Automatico:** completely designed and implement-ed by VisLab, the ARGO prototype vehicle is the first autonomous passenger car exhaustively tested for more than 2000 km (94% in autonomous mode) on Italian highways, together with regular traffic. ARGO is considered one of the milestones of vehicular robotics worldwide