Executive Summary

I am a Principal Engineer with 12 years of experience in embedded systems, IoT, and autonomous vehicle technologies, including over 6 years of project management involvement across Horizon Europe, H2020, and national R&I projects. My expertise spans the full innovation cycle, proposal development, system architecture, hands-on prototyping, integration, and deployment of advanced solutions for mobility, energy, and smart infrastructure.

My technical foundation includes deep knowledge of V2X communications, sensor integration, real-time embedded software, and system-level design, complemented by substantial experience in C, C++, Python, PCB design, and Linux-based development. I have strong specialization in AI and autonomous driving technologies, including neural network development (MLP, LSTM, RNN), TensorFlow/TensorFlow Lite deployment on embedded platforms (Raspberry Pi 4 & 5, C++), model optimization (quantization, pruning, SWA, distillation), LiDAR-based perception, OpenCV camera pipelines, sensor fusion (LiDAR, Camera, RTK–IMU), and real-time decision-making for autonomous navigation.

As Principal Engineer of AUTONAVIS R&D, I have led all phases of innovation projects, from resource planning and budgeting to stakeholder engagement and technical reporting, demonstrating strong organizational capabilities and consistent delivery of high-quality results. My leadership on the GoCAV platform resulted in a fully documented, notarized autonomous vehicle implementation that integrated custom AI steering-control algorithms, GPS-RTK dead-reckoning, dataset engineering workflows, and real-world evaluation at the DRIVE PARK proving ground. I have also conceptualized five new R&D project ideas rooted in GoCAV and actively contribute to the AUTONAVIS website to communicate technical achievements and research opportunities.

Beyond implementation, I have contributed to numerous Horizon Europe proposals, supporting technical content, shaping work packages, forming consortia, and, in one case, authoring an entire proposal. I have also held key technical management roles in Horizon Europe, H2020, and national initiatives, including a contribution to the SAFE STRIP project that resulted in a granted patent.

Project management has become central to my work, complementing my engineering background and enabling me to deliver complex, multidisciplinary R&D activities with confidence. I am now seeking to expand my responsibilities as an R&D Project Manager within larger international consortia, where I can apply my technical expertise, leadership skills, and strategic perspective to drive impactful innovation aligned with European research priorities.

CHRISTOS SOUGLES - PORTFOLIO

PERSONAL INFORMATION

LOCATION:	Thessaloniki, Greece
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E-MAIL:	c.sougles@autonavis.com
LinkedIn:	http://lnkd.in/b-CxryD
Website:	https://autonavis.com/

PROJECT MANAGEMENT EXPERIENCE & ACHIEVEMENTS

- Led and coordinated technical work packages (WPs) and deliverables in Horizon Europe, H2020, and national research projects (SAFE STRIP, FLEXIndustries, ODOS 2020, etc.), accumulating more than **6 years of hands-on project management** experience, including:
  - **FLEXIndustries (Horizon Europe):** Technical Manager, WP5 - led the design and deployment of a Decision Support System (DSS) for seven industrial pilot sites; coordinated teams, tracked milestones, reported to project coordinators, and participated in meetings with the European Commission.
  - **AE3vAO (National Project):** Overall Project Management - supervised technical and administrative implementation of an intelligent bin monitoring system; managed coordination, milestone achievement, and reporting.
  - **SAFE STRIP (Horizon Project):** Led architecture and implementation of V2X-enabled roadside units; managed pilot testing, deliverable writing, and compliance with Horizon 2020 standards.
  - **GoCAV Project:** Led the development and deployment of the GoCAV autonomous vehicle platform, overseeing all stages from concept to field validation. Established strategic partnerships, coordinated EU project proposals, managed project timelines, and devised exploitation plans for technology transfer to full-scale electric vehicles.
- Oversaw progress tracking, risk management, and quality assurance for multiple large-scale projects.
- Coordinated international, multidisciplinary teams, organized meetings, prepared reports, and maintained stakeholder communication.
- Contributed to proposal writing, budgeting, and consortium formation for European-funded projects.
- Supported business model development, exploitation, and dissemination (including IPR, commercialization, and technology transfer).
- Mentored junior engineers and onboarded new project partners within multicultural, interdisciplinary environments.

WORK EXPERIENCE & PROJECTS IMPLEMENTATION

Freelancer (AUTONAVIS R&D)

(Jun 2015 – Present)

- **Principal Engineer (AUTONAVIS R&D, GoCAV Platform)**

  Feb 2021 – Present

  The GoCAV platform is a fully re-engineered autonomous go-kart designed as a modular, real-world research and validation environment for autonomous driving systems. Featuring LiDAR, high-definition camera, advanced AI algorithms, and RTK GPS, GoCAV enables comprehensive testing, bridging the gap between simulation and live operation while prioritizing safety and robustness. The platform has undergone significant evolution through efficiency improvements, CAN network integration, and the development of custom microcontroller firmware. GoCAV continues to serve as a flexible benchmark for field testing and the rapid growth of next-generation autonomous mobility solutions.

  (*Explore GoCAV in Action**: https://autonavis.com/gocav/***)

  *(Visual documentation available at Photo Gallery – **GoCAV PLATFORM**)*

  Key Contributions:

  - *Managed the full development of GoCAV: system architecture design, hardware integration, embedded firmware development, and field testing.*
  - *Integrated and optimized sensors (LiDAR, camera, RTK GPS) and real-time data processing pipelines for perception and navigation.*
  - *Designed and implemented safety-focused control strategies to minimize risk during real-world trials.*
  - *Led the integration of CAN networks and coordinated the development of microcontroller-based control modules.*
  - *Built collaborative networks with partners in embedded systems, autonomous vehicles, and V2X communications.*
  - *Authored technical documentation, managed reporting, and ensured proper notarization of project outcomes to facilitate future scaling and seamless integration into new applications.*
  - *Prepared proposals for European R&D projects, supporting consortium formation and multi-partner collaboration.*
  - *Initiated plans for transferring GoCAV technology to full-scale electric vehicles, with further applications for accessible mobility and emergency response.*

- **Senior Embedded Systems Engineer (CERTH, FLEXIndustries – Horizon)**

  Jan 2023 – Dec 2024

  The FLEXIndustries project focuses on developing and implementing energy efficiency measures and process flexibility methods across seven industrial sectors. It aims to ensure the seamless integration of these solutions with electrical and thermal networks. The project aims to develop a methodology for assessing flexibility in industrial environments and enhance connectivity between the IT and technology sectors within the energy domain. FLEXIndustries will deliver a secure platform for dynamic energy and process management, supporting process flexibility while promoting clustering methods to enhance the local renewable energy capacity and increase industrial flexibility. Additionally, the project will demonstrate and validate its solutions in seven real-world industrial environments, designing sustainable business

models to enable the energy transition in energy-intensive industries. FLEXIndustries aims to improve energy efficiency and enhance flexibility in industries, contributing to more sustainable and efficient energy use.

Key Contributions:

- *Technical management of WP5*
- *Decision Support System (DSS) design for each of the seven pilot trials*

- **Senior Embedded Systems Engineer (CERTH, AE3vAO – National)**

Oct 2022 – Dec 2024

The AE3vAO project focuses on creating a digital platform for the efficient management and optimal utilization of food waste. Globally, one-third of the food produced is lost or wasted, resulting in inefficient resource utilization and adverse economic and environmental consequences. The project aims to decompose organic matter and enhance biowaste management through the use of innovative technologies, such as intelligent recycling bins.

The project aims to develop an intelligent platform that monitors the filling levels and operational status of anaerobic digestion bins in real-time, while engaging users in rational waste management. The platform will utilize machine learning and deep learning techniques for data analysis and inference. A multi-user recognition system will also be developed, using Bluetooth or NFC tags, to promote personalized usage and track recycling performance.

The platform's architecture is based on a Raspberry Pi microcomputer, which is connected to sensors that monitor the bins. Data is stored in a database and can be accessed via the internet or a mobile app. The project will be validated at key city locations to assess its effectiveness, aiming to promote circular economy practices, reduce costs, and foster ecological awareness.

Key Contributions:

- *Technical management of the bin monitoring system*
- *Overall project management*

- **Senior Embedded Systems Engineer (CERTH, SELAS – National)**

Feb 2022 – Oct 2022

The ΣΕΛΑΣ project aims to study and leverage new photovoltaic system technologies in existing highway infrastructure (e.g., guardrails, toll booth structures, parking areas) to cover part of their energy needs. Its innovative photovoltaic systems generate electricity 24/7, utilizing ambient light from other sources (e.g., car headlights, highway lighting) during nighttime.

*(Visual documentation available at Photo Gallery – **SELAS NATIONAL PROJECT**)*

Key Contributions:

- *Programming, constructing, and installing the pilot system on-site.*
- *System connection to the platform via a 4G/LTE network.*
- *The writing of the project deliverables*

- **Senior Embedded Systems Engineer (CERTH, Renaissance – Horizon)**

  Oct 2021 - Oct 2022

  The Renaissance project is an Innovation Action (IA) that provides a community-based, scalable, and replicable approach for implementing new business models and technologies that support clean energy production and shared energy distribution within local communities.

- **Senior Embedded Systems Engineer (CERTH, IoTAC – Horizon)**

  May 2021 – Oct 2021

  The IoTAC project aims to provide an innovative, secure, and privacy-friendly architecture for the Internet of Things (IoT) that facilitates the development and operation of more attack-resilient services through (a) monitoring and assessing security throughout the broader lifecycle and development of software, (b) creating an advanced access control mechanism based on an innovative interaction model using integrated cards and private key technology, (c) detailed logging of system execution processes, and (d) providing relevant mechanisms to certify the security of produced applications and systems, based on international security standards, best practices, and the project's research findings.

  The results will be demonstrated by implementing four use cases in IoT environments where fully functional applications will be developed in a laboratory setting. Finally, one of the project's priorities is establishing certification mechanisms in the field of IoT system security.

- **Senior Embedded Systems Engineer (CERTH, ODOS 2020 – National)**

  Apr 2020 – Apr 2021

  ODOS 2020 aims to introduce an innovative technological solution that, through the use of the "Internet of Things" (IoT) and infrastructure-to-vehicle communication technologies, implements collaborative applications in the field of Intelligent Transportation Systems without significant or costly interventions on the roadway, significantly contributing to increased road safety and the safe maintenance of infrastructure. The integrated technological solution will be aimed at all types of vehicles (passenger cars, trucks, motorcycles) and will require minimal to no equipment from the vehicles.

  (*Explore ODOS 2020 website**:*** **https://odos2020.iti.gr/**)

  *(Visual documentation available at Photo Gallery – **ODOS 2020 NATIONAL PROJECT**)*

  Key Contributions:

  - *The design of the system architecture*
  - *The design and construction of the power supply unit (autonomous system – use of batteries and photovoltaic) for the RSU (Road Side Unit)*
  - *The writing of the project deliverables*

- **Senior Embedded Systems Engineer (CERTH, EXA2PRO – Horizon)**

  May 2020 – Apr 2021

  The goal of the EXA2PRO project is to develop a programming environment that facilitates the improved development of parallel algorithms for solving complex scientific problems on exascale computing systems (1,018 operations per second). It is expected to support a range of scientific applications by providing programming tools to improve the quality of numerical codes, assist in the more efficient and rational management of the heterogeneous structure of modern computing systems at the hardware level, and provide tools for optimizing memory management.

- **Senior Embedded Systems Engineer (CERTH, SAFESTRIP – Horizon)**

  Jul 2017 – Aug 2020

  SAFE STRIP aims to introduce a disruptive technology that will enable the embedding of C-ITS applications in existing road infrastructure, including novel I2V (Infrastructure-to-Vehicle) and V2I (Vehicle-to-Infrastructure) functions, as well as VMS (Variable Message Sign) and VSL (Variable Speed Limit) functions, into low-cost, integrated strip markers on the road.

  (*Explore SAFESTRIP website:* **http://safestrip.eu/**)

  (Visual documentation available at Photo Gallery – ***SAFESTRIP HORIZON PROJECT****)*

  Key Contributions:

  - *The design of the system architecture*
  - *The operation of the RSU (Road Side Unit)*
  - *The implementation of communication protocols ITS-G5, LTE, BLE*
  - *The PCB design of the RSU (Road Side Unit)*
  - *The operation and installation of the RSU on the road during pilot tests*
  - *The writing of the project deliverables*

- **Embedded Systems Engineer (CERTH, myAirCoach – Horizon)**

  Jun 2015 – Jun 2017

  The goal of **myAirCoach** is to develop an integrated mobile health system to support people with asthma and COPD in better managing their condition. The platform combined smart inhaler adapters, portable spirometers, indoor air-quality sensors, activity trackers, and a user-friendly mobile app to provide continuous monitoring, personalized feedback, and actionable insights. By linking clinical data with environmental and behavioral factors, myAirCoach enabled patients to improve treatment adherence, optimize inhaler use, and gain a clearer understanding of how daily habits and surroundings affect their respiratory health. Clinical studies demonstrated significant improvements in asthma control, reduced exacerbations, and higher quality of life, highlighting the potential of connected health technologies for chronic disease management.

  Key Contributions:

  - *Writing Firmware (Embedded C Programming) for TI Microcontroller MSP430 (My Air Coach Project)*

- **Embedded Systems Engineer (CERTH, Cross-Project Contributions)**

  (Jun 2015 – Jun 2017)

  Contribute to research and industrial projects through electronic circuit and PCB design *(WATT+VOLT "1-phase" & "3-phases" Energy Meters)*, object-oriented C++ programming, database design, and system integration. Support proposal preparation, including specifications for the SAFE STRIP project.

Embedded Systems Engineer (Peripheral Device Libraries with Atmel 89C51AC2)

Jan 2015 - Aug 2015

Design and implement a microcontroller-based system that features a graphical LCD, keypad, external RAM, and an RS-232 interface. Develop firmware for data display, keypad input, serial data logging, and memory management, while ensuring modular expansion with digital, analog, and interrupt I/Os for future sensor integration.

*(Visual documentation available at Photo Gallery – **ATMEL MICROCONTROLLER 89C51AC2 & PERIPHERAL DEVICES**)*

Technical Manager (Brainbox Informatics)

Nov 2012 - Oct 2013

Supervisor of the Installation and Maintenance of the automated bike sharing–parking system

Key Achievements:

- *Deployed automated bike-sharing systems in Ioannina, Didymoteicho, Komotini, Kavala, Karditsa, Keratsini-Drapetsona, Nafpaktos, and Thessaloniki (~500 bikes, 30+ stations).*
- *Delivered automated bike parking system for OTE–COSMOTE (80 locks across high-traffic Athens sites).*
- *Oversaw procurement, installer training, and remote/on-site technical support; proposed system improvements to international supplier.*

*(Visual documentation available at Photo Gallery – **AUTOMATED BIKE SHARING & PARKING SYSTEM**)*

Military Service (Technical Corps)

Feb 2010 – Nov 2010

Embedded Systems Engineer (Telemetry System)

Sep 2007 - Aug 2008

Design and implement a remote temperature monitoring system for industrial refrigerators using Atmel T89C51AC2 microcontrollers, RS-485, and GSM (Wavecom) communication. Develop master/slave devices with backup power, a custom RS485 data link layer, and SMS-based bidirectional control for alarms, status queries, and configuration. Enable flexible user and installation engineer setup through built-in keypads, supporting up to nine monitored units per master device.

*(Visual documentation available at Photo Gallery – **AUTOMATED BIKE SHARING & PARKING SYSTEM**)*

Automation Engineer (Digintel)

Apr 2006 - Sep 2006

Design and develop embedded and automation solutions by programming microcontrollers and PLCs, integrating hardware, firmware, and communication interfaces to deliver reliable industrial and agricultural systems.

Key Achievements:

- ***Elevator Floor Indicator Lights Controller:*** *Program ATtiny13 (AVR) to control floor indicator lights.*
- ***Remote Watering System Supervisor:*** *Design and implement an ATmega32-based device that monitors and supervises agricultural watering systems consisting of a tractor and hose reel. Develop custom PCB and firmware to calculate hose length, completion time, and instantaneous velocity, with real-time data provided to the user via GSM modem. Implement missed-call/SMS interaction for remote status queries, backup power support, and*

parameter configuration through an embedded keypad, allowing both installers and end-users to tailor the system to specific field requirements.

- ***Canvas Stretching Machine:*** *Design and build the electrical panel and program the PLC controlling the whole system.*

(Visual documentation available at Photo Gallery – ***CANVAS STRETCHING MACHINE FOR PAINTING FRAMES****)*

PATENTS

- **Collaborative Non-Invasive Road Safety Layout for Smart Road Infrastructures**
  Greek Patent No. 1010371, Issued Jan 16, 2023
  (ΣΥΝΕΡΓΑΤΙΚΗ ΜΗ ΠΑΡΕΜΒΑΤΙΚΗ ΔΙΑΤΑΞΗ ΟΔΙΚΗΣ ΑΣΦΑΛΕΙΑΣ ΓΙΑ ΕΥΦΥΕΙΣ ΟΔΙΚΕΣ ΥΠΟΔΟΜΕΣ)

  This invention introduces a groundbreaking, low-cost, and energy-independent technology for road safety enhancement on motorways, without the need for extensive modifications to the road surface. It features a modular pavement layout with encapsulated sensors, communication units, and energy elements, as well as an auxiliary communication portal equipped with advanced wireless connectivity (BLE, LTE, ITS-G5). I focused on the construction, installation, and validation of the auxiliary communication portal, contributing to the system's deployment and validation.

PUBLICATIONS

- A. Dimara, **C. Sougles**, S. Athanasiou, K. Grigoropoulos, P. Sfakianou, A. Papaioannou, S. Krinidis, D. Triantafyllidis, I. Tzitzios, C. N. Anagnostopoulos, A. Karamanidis, V. Saltagianni, D. Ioannidis, D. Tzovaras. *Holistic plug-n-play autonomous solar system integration: a real-life small-scale demonstration—a practical approach.* **Electrical Engineering**, 105, 2715–2733 (2023). https://doi.org/10.1007/s00202-023-01830-6
- A. Lalas, S. Nousias, D. Kikidis, A. Lalos, G. Arvanitis, **C. Sougles**, K. Moustakas, K. Votis, S. Verbanck, O. Usmani, D. Tzovaras. *Substance deposition assessment in obstructed pulmonary system through numerical characterization of airflow and inhaled particles attributes.* **BMC Medical Informatics and Decision Making**, 17 (Suppl 3): 173 (2017). https://doi.org/10.1186/s12911-017-0561-y

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CERTIFICATIONS & TRAINING

- **The Complete Self-Driving Car Course – Applied Deep Learning**

  Udemy, April 2024

  (18 total hours; instructors: Rayan Slim, Amer Abdulkader, Jad Slim, Sarmad Tanveer)

  Covered advanced topics in neural networks, computer vision, and AI for autonomous vehicles with hands-on projects.

EDUCATION

- **MSc, Advanced Microelectronic Systems Engineering** – University of Bristol, UK (Oct 2009, Scholar)

  ***DISSERTATION* (Controller Area Network – Performance and Traffic Management)**

  The project aimed to evaluate the performance of Event-Triggered CAN (ETCAN) and Time-Triggered CAN (TTCAN). Using two LPC2378 microcontrollers and a CAN analyzer, we implemented various transmission scenarios under different bus loads.

  Results showed that ETCAN response time to asynchronous events depends on message priorities and transmission order. At the same time, TTCAN performance is largely unaffected by bus load, relying instead on the matrix cycle structure.

  A key finding was that measuring transmission times directly on the microcontrollers provided accuracy comparable to, and in some cases superior to, that of the CAN analyzer—highlighting a cost-effective advantage given the analyzer's high price.

  *(Visual documentation available at Photo Gallery – **BRISTOL DISSERTATION**)*

- **BSc, Automation Engineering** – ATEI Thessaloniki, Greece (Jun 2007, Highest GPA)

  ***THESIS (*Telemetry through 8051 and GSM / GPRS Modem)**

  The project focused on designing, building, and programming a remote-control device with the Atmel AT89C51AC2 microcontroller. It controlled eight digital outputs, provided real-time status updates for eight digital inputs, and issued alarms as needed.

  I designed and built the circuit board and developed the firmware to enable bidirectional SMS communication between the user and the GSM modem. The device recognized a unique SMS format, allowing configuration of a single user defined by their mobile number during the device's setup process.

  Developed as my thesis, the system was showcased at the 21st International Technology, Telecommunications, and Digital Technology Exhibition in Thessaloniki (October 2007).

  *(Visual documentation available at Photo Gallery – **AUTOMATION THESIS**)*

SOFTWARE - HARDWARE KNOWLEDGE & SKILLS

- **AI & Autonomous Driving Technologies**
  - Neural Network Development (MLP, LSTM, RNN)
  - TensorFlow Lite (C++ deployment on Raspberry Pi 4 & 5)
  - TensorFlow / Keras (model training & optimization)
  - Edge AI model compression (quantization, pruning, SWA, distillation)
  - Real-time inference pipelines (C++ embedded integration)
  - Custom AI steering-control algorithms (GoCAV platform)
  - LiDAR-based perception & real-time decision-making
  - OpenCV pipelines (camera processing, calibration, feature extraction)
  - Sensor fusion (LiDAR, Camera, RTK-GPS, IMU)
  - GPS-RTK Dead Reckoning (SparkFun ZED-F9R)
  - Dataset engineering for autonomous mobility
  - Sequence modeling for navigation logic
  - Autonomous vehicle behavior logic (stuck detection, recovery maneuvers)
  - Real-world field testing & AI model evaluation (Drive Park proving ground)

- **Software (Applications & Tools):**

  Visio, Altium, Corel, Proteus (Professional 7), Cadence, Wireshark, MS Office, Windows, AutoCAD (basic), Linux (Debian/Ubuntu/Raspberry Pi OS)

- **Software (Programming):**

  Assembly, Embedded C, Object-Oriented C++, Python, Linux Shell Scripting, Verilog, VHDL

- **Hardware (Microcontrollers):**
  - **Programmed in C:**
    - ***AVR:*** ATtiny13, ATmega 8/16/32/328P
    - ***NXP (PHILIPS):*** LPC2378
    - ***MOTOROLA:*** 68HC12
    - ***TI:*** MSP430F5438A
  - **Programmed in C & Assembly:**
    - ***ATMEL:*** AT89C51RD2, AT89C51AC2, AT89C51CC03

- **Hardware (Development Boards)**
  - Raspberry Pi 5
  - Arduino Nano και Mega V3.0
  - i.MX 7Dual SABRE (MCIMX7SABRE) - NXP Semiconductors

- **Hardware (FPGA):**
  - **Programmed in VHDL (*Basic Knowledge*):**
    - ***MicroBlaze Development Board:*** Kit Spartan-3E 1600E

- **Communication Protocols:**
  - ITS-G5, LTE, BLE, CAN, RS-485, GSM

- **Designing Embedded Systems User Interface**

- **PCB Construction:**
  - UV Exposure and Etching Devices

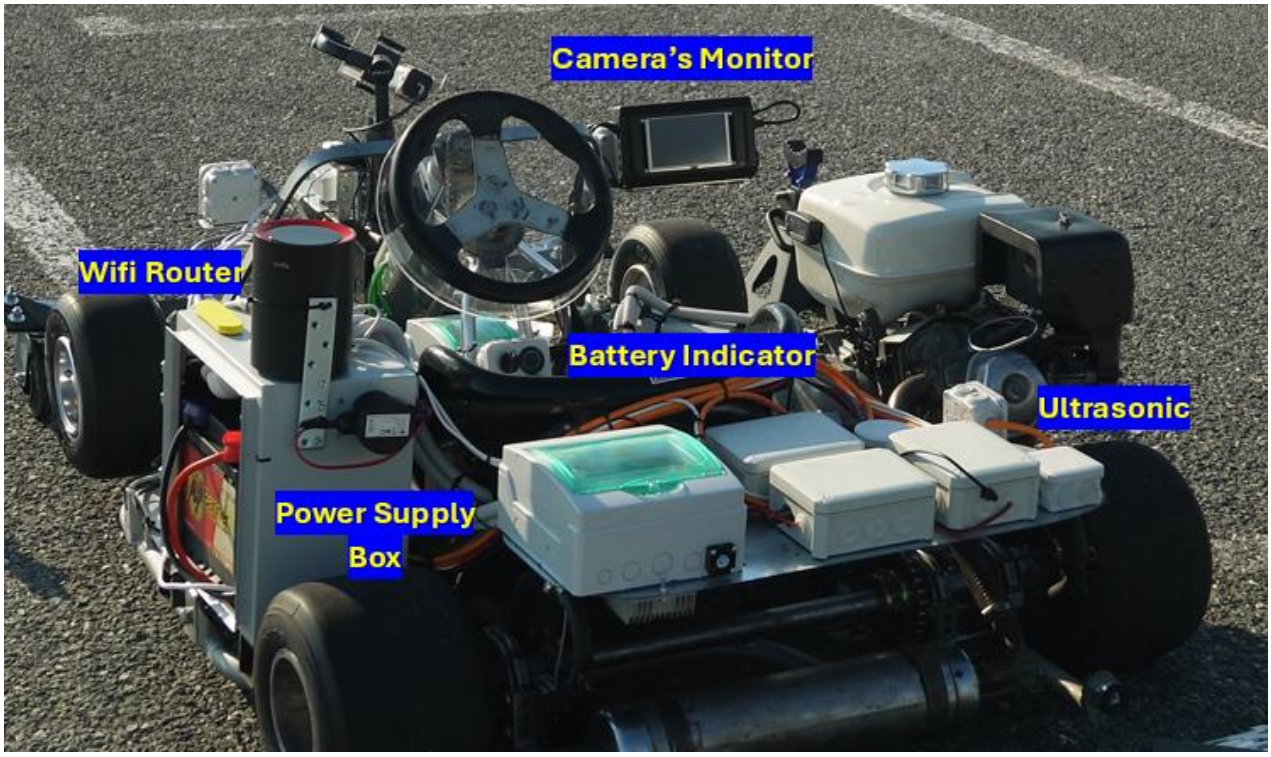
- **Hardware Tools**
  - CAN-Bus Analyzer

LANGUAGES

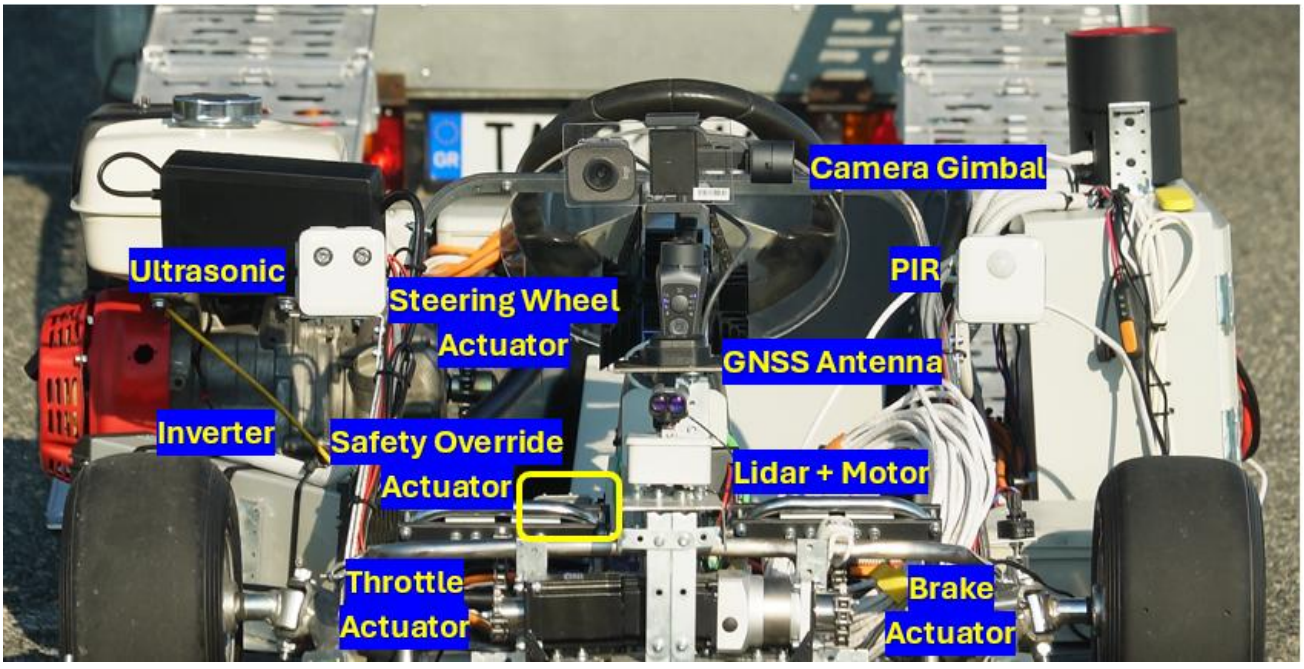
- **English:**
  - IELTS (July 2008): Reading 7.5, Listening 6.5, Writing 6.5, Speaking 6
  - MSc studies in the UK (University of Bristol, 2008 - 2009)
  - Daily use in both professional (Horizon Europe and international projects) and personal life (family communication)
- **Greek:**
  - Native speaker

PHOTO GALLERY

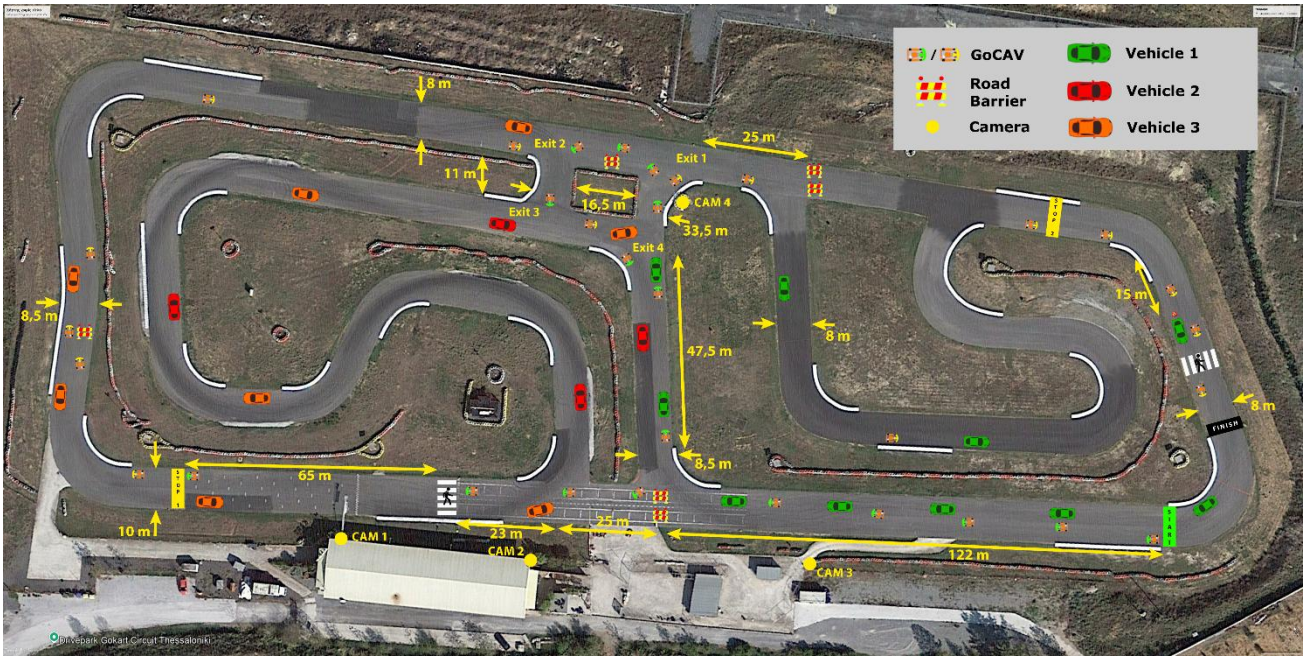
GoCAV PLATFORM



GoCAV Rear View



GoCAV Front View

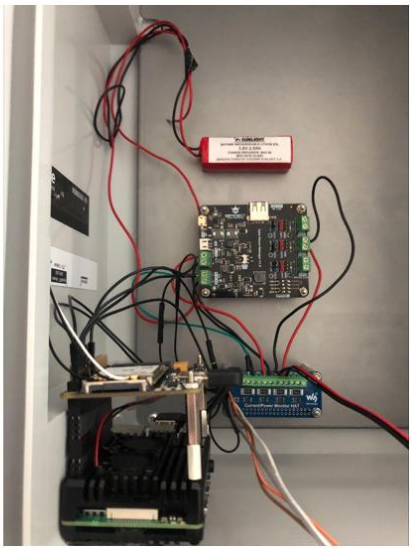


GoCAV Basic Evaluation Scenarios – Drive Park Test Track Layout

SELAS NATIONAL PROJECT

External View

Internal View



Under Construction Control Panel for DSSC Photovoltaics

Control Panel of DSSC Photovoltaics – Laboratory Tests

DSSC PV - Night Operation of the System

Conventional PV System Installation

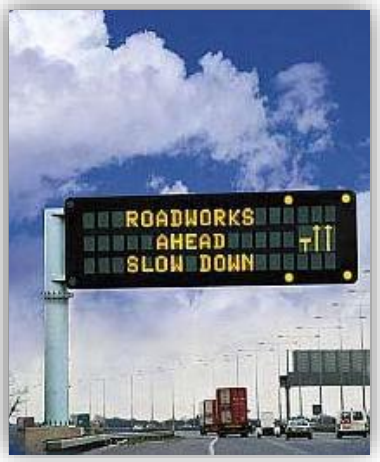
DSSC PV System Installation

RSU Power Supply Control Panel

SAFESTRIP HORIZON PROJECT

EXISTING TECHNOLOGY

Information Provided to Vehicles by Road Infrastructure



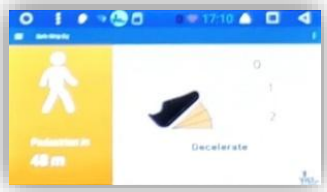
SAFE STRIP Proposal

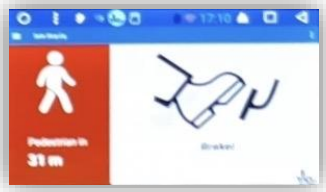
Installation

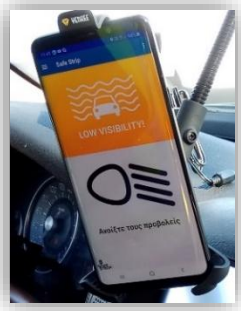
- Reduces the size and cost of the infrastructure
- Reduces installation time
- The system can be installed on the existing road infrastructure

System Operation

- Information is provided by sensors located on the roadway
- Personalized messages (on the vehicle's screen or mobile device) based on the vehicle's position on the roadway



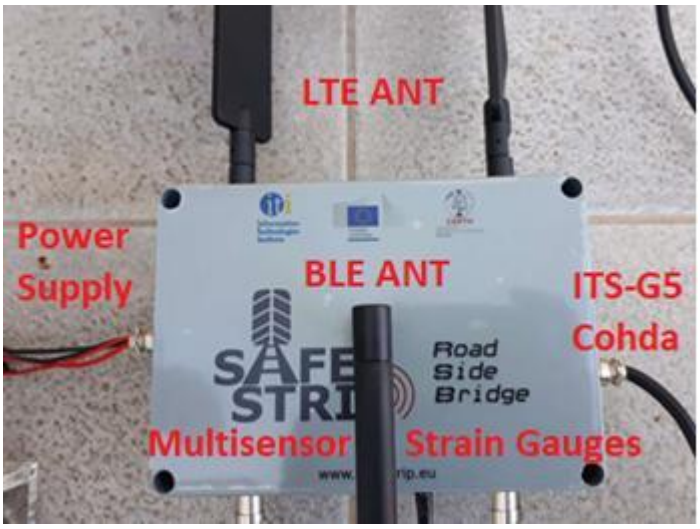




Scenarios Implemented

- Notification about the presence of a pedestrian on the roadway
- Notification about current road surface conditions
- Notification about road surface wear
- Notification about a vehicle moving in the opposite direction of traffic
- Notification about a stationary vehicle on the road due to a breakdown
- Notification about low visibility conditions
- Notification about ongoing roadworks
- Collision avoidance at intersections
- Notification about the presence of an unguarded railway crossing
- Transmission of information to autonomous vehicles
- Notification about approaching an area with virtual tolls
- Parking space management

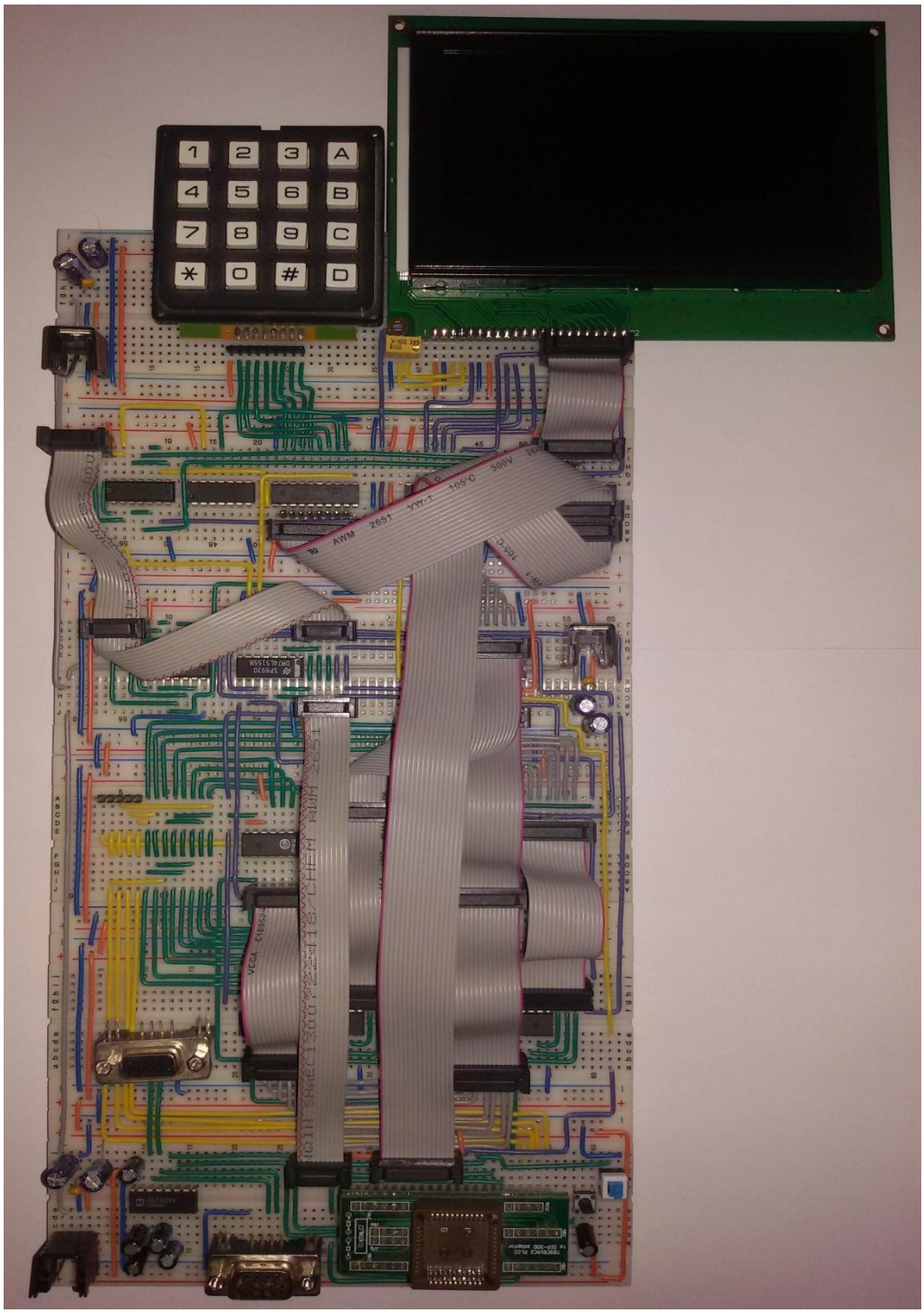
RSB Components



RSB Central Control Unit

RSB Operational Test

ATMEL MICROCONTROLLER 89C51AC2 & Peripheral Devices



Development Board

AUTOMATED BIKE SHARING & PARKING SYSTEM

Automated Bicycle Rental System of Ioannina

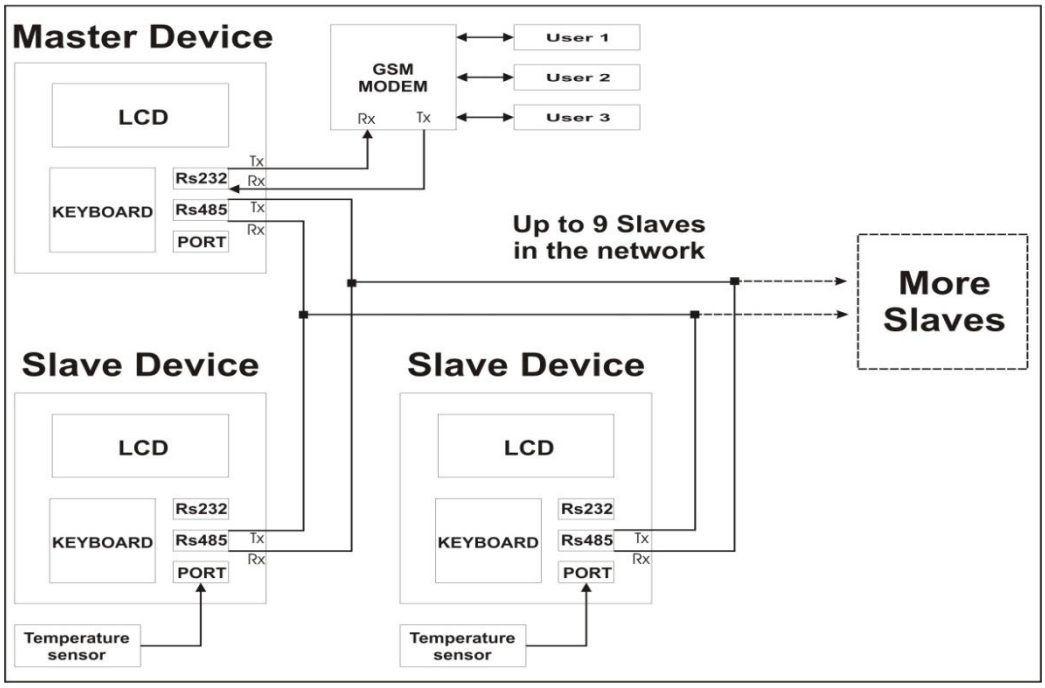
Automated Bicycle Rental System of Didymoteicho

Automated Bicycle Rental System of Karditsa

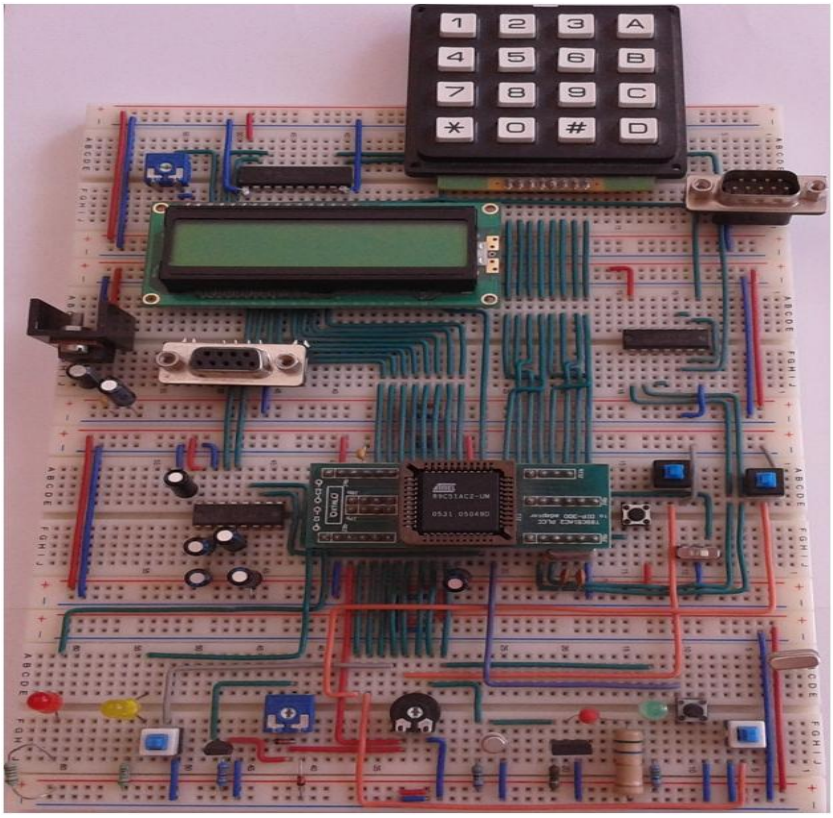
Automated Bicycle Rental System of Karditsa

Automated Bicycle Rental System of Thessaloniki

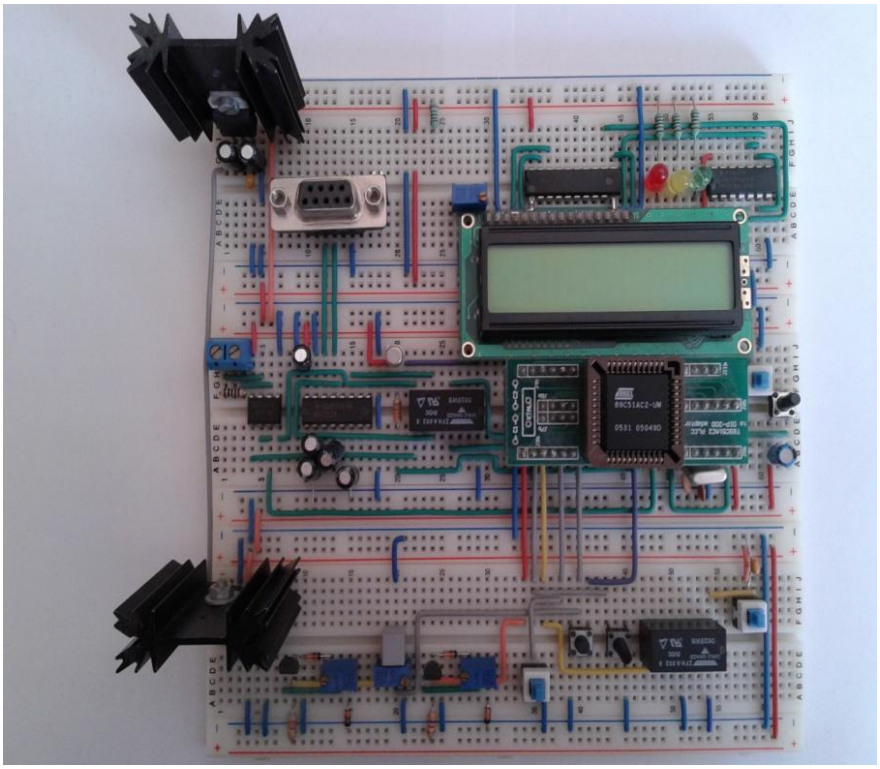
TELEMETRY SYSTEM



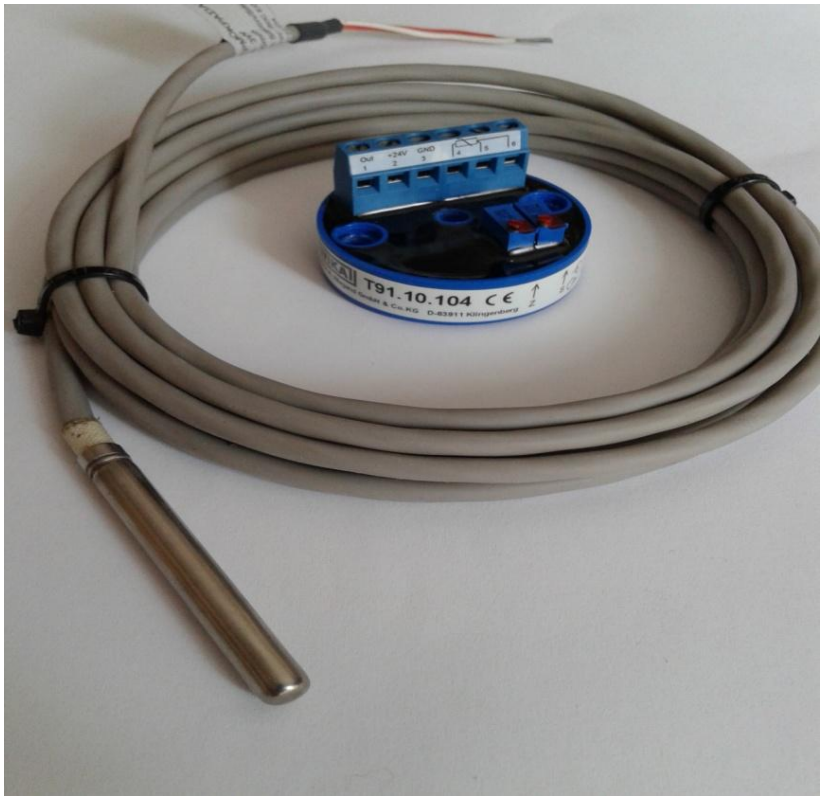
System Architecture



Development Board 1

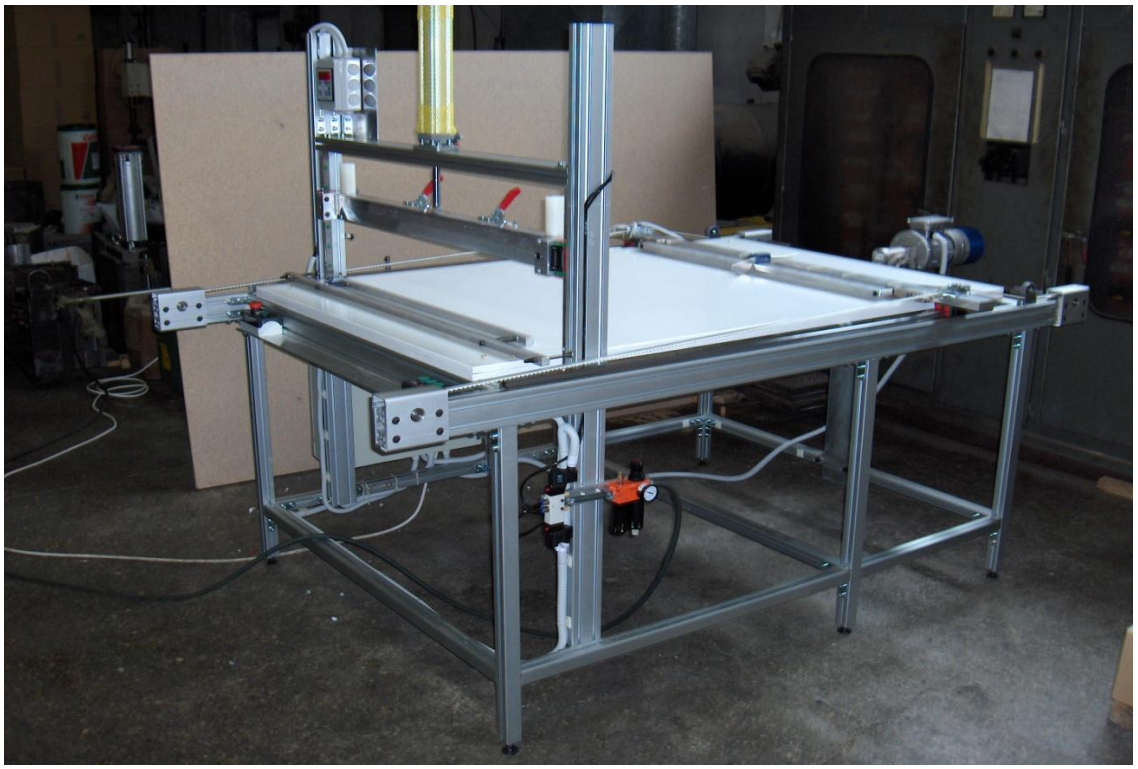


Development Board 2

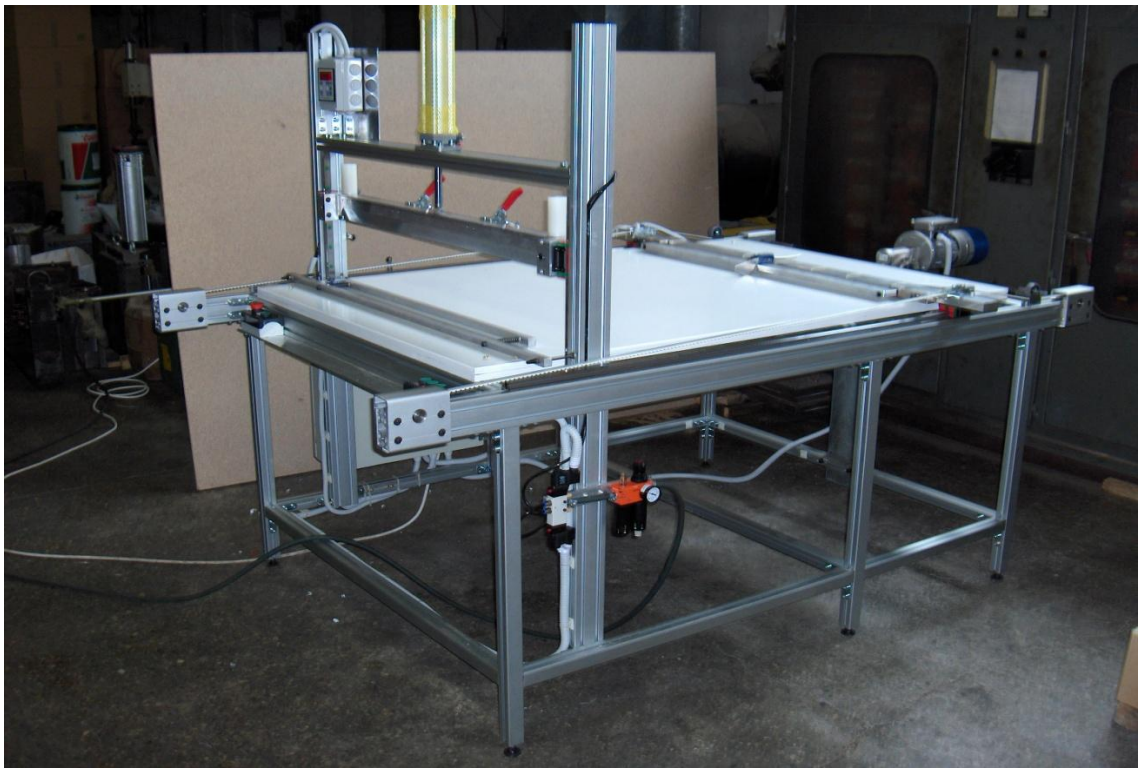


Analog Temperature Transmitter and Temperature Sensor

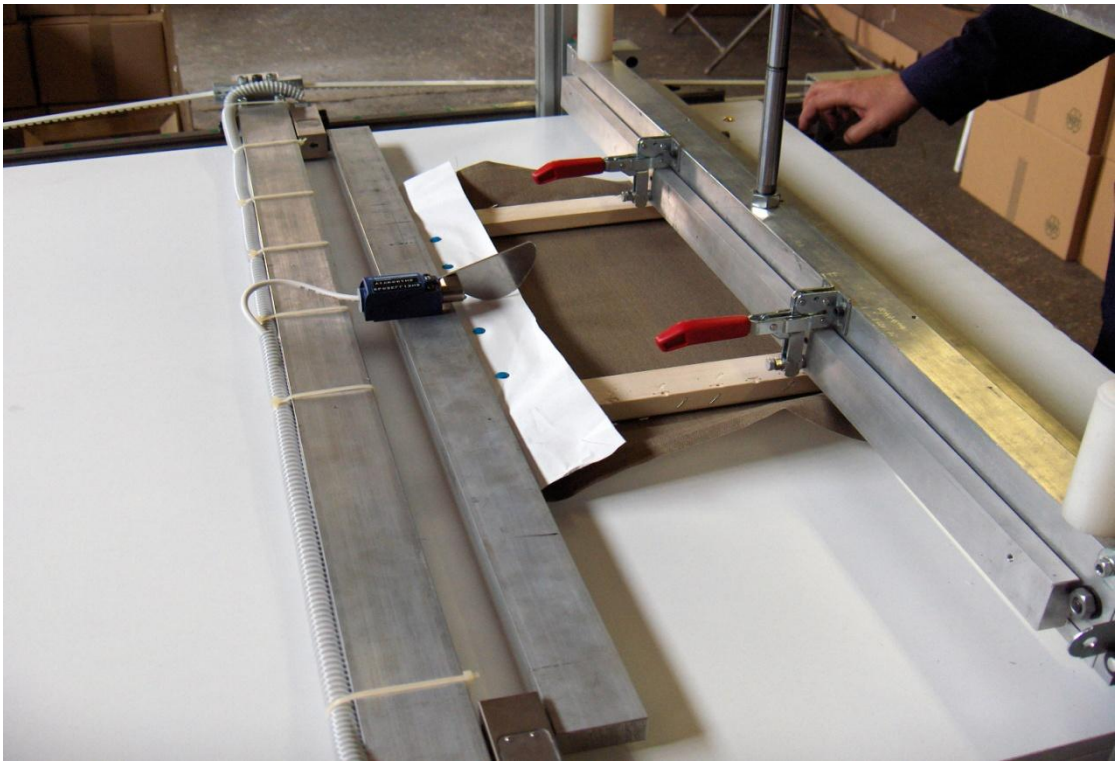
CANVAS STRETCHING MACHINE FOR PAINTING FRAMES



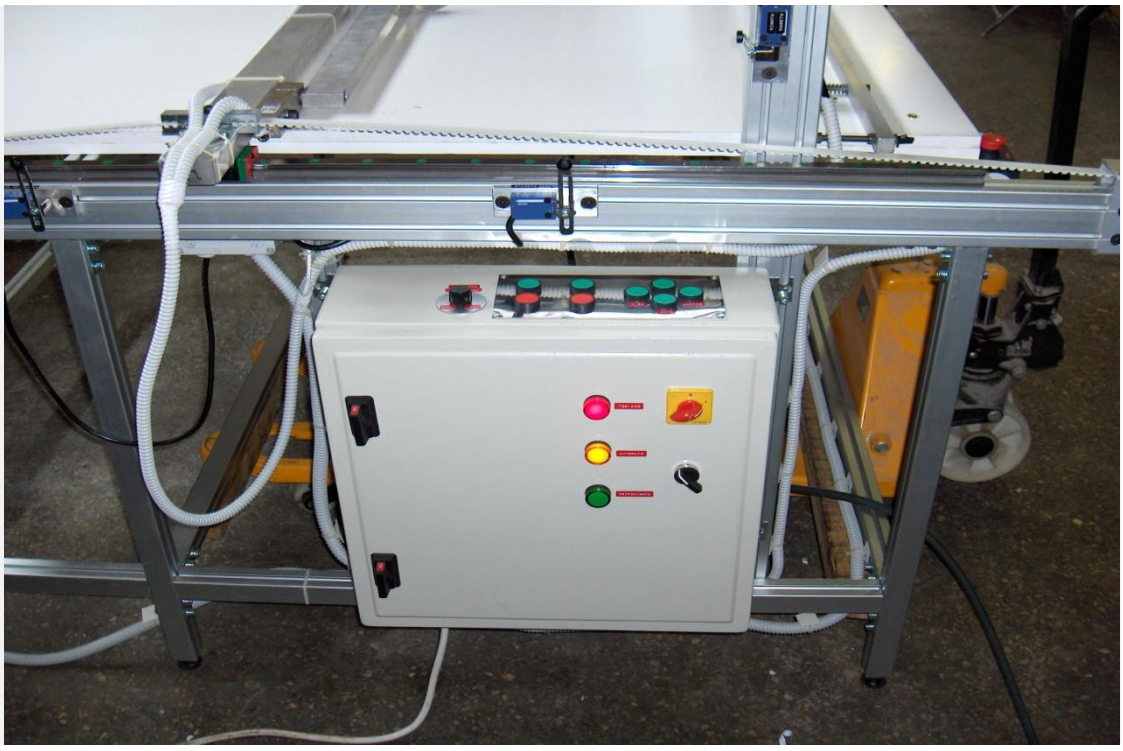
Canvas Stretching Machine for Painting Frames – View 1



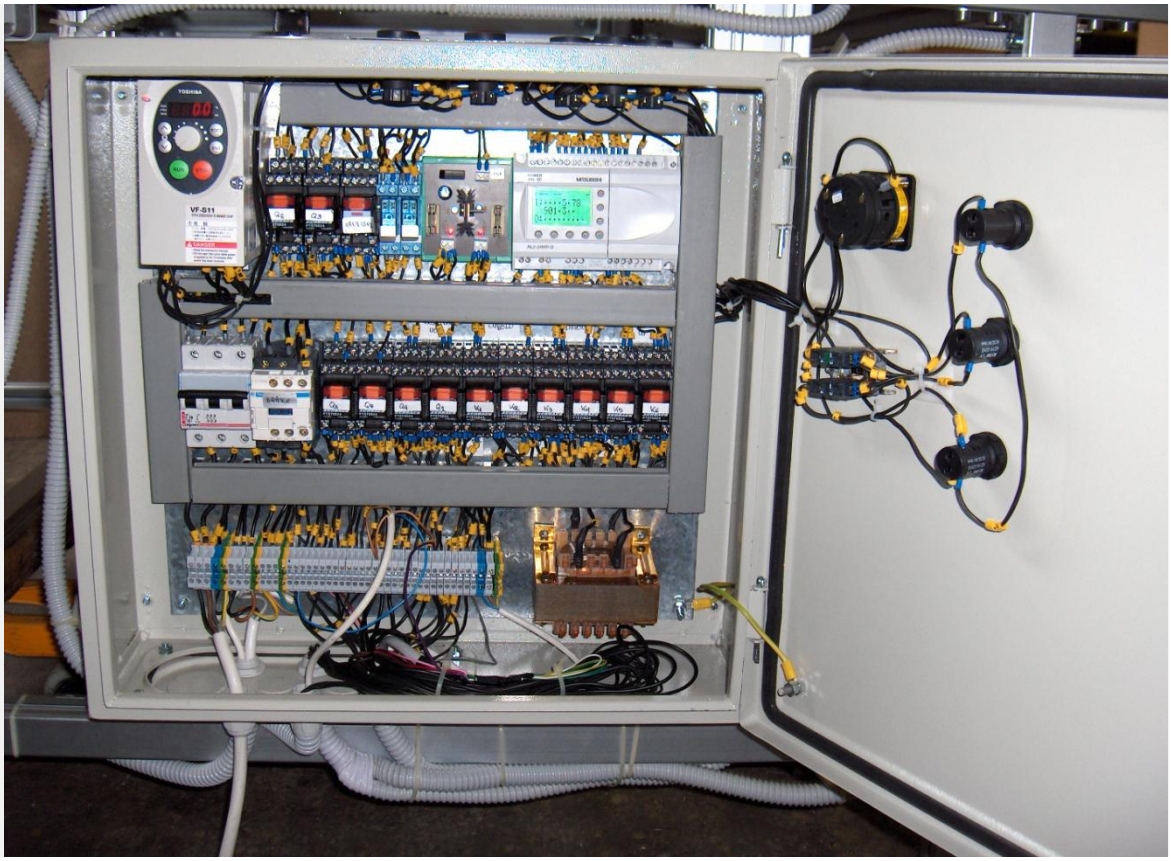
Canvas Stretching Machine for Painting Frames – View 2



Canvas Stretching Machine for Painting Frames – In Operation



External View of Electrical Panel



Electrical Panel Construction

IAR LPC2378-SK Development Board

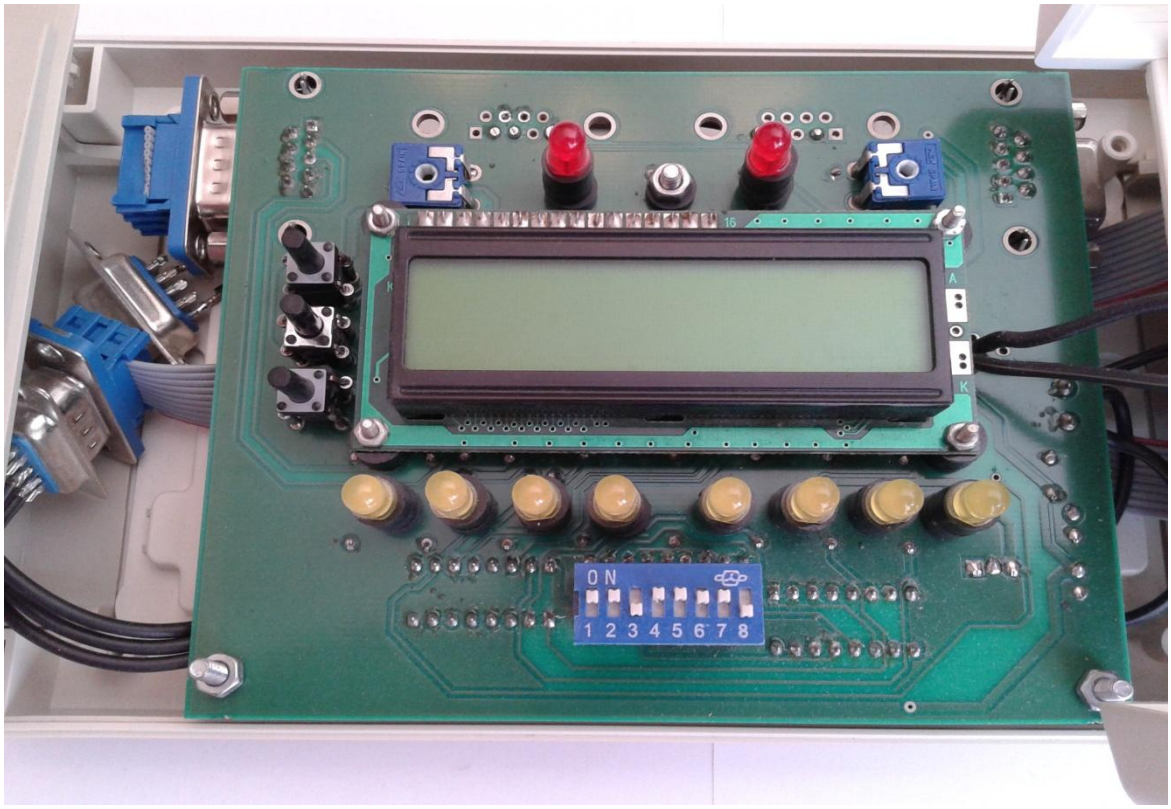
CAN Analyser

AUTOMATION THESIS

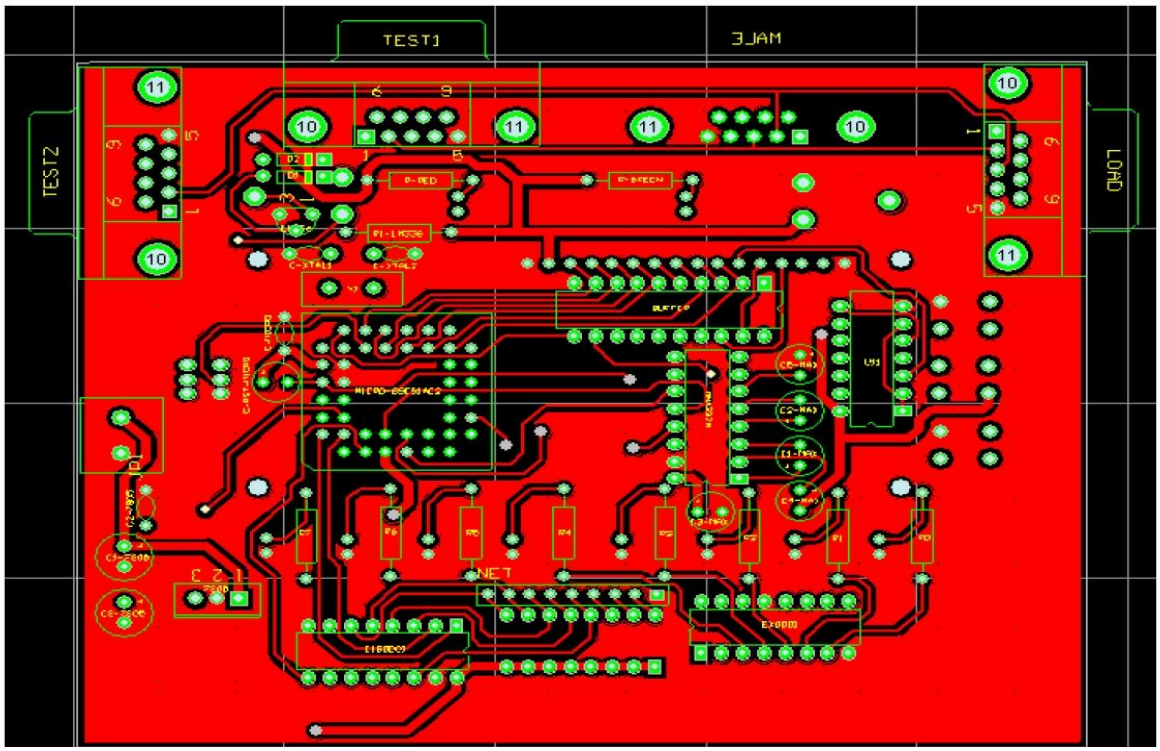
Remote Control Device - Front View

Remote Control Device - Side View

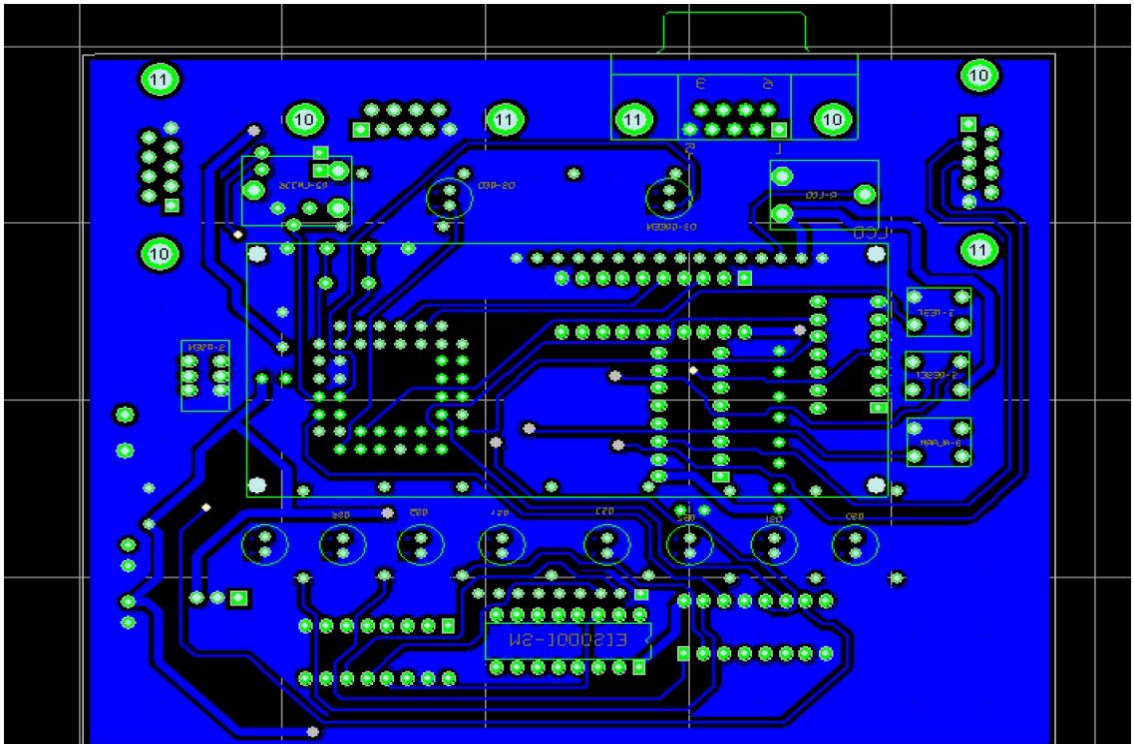
GSM MODEM



Remote Control Device PCB



PCB (TOP LAYER)



PCB (BOTTOM LAYER)