

DAVIDE GASTALDI

Solution Engineer and Technical Project Manager in Intelligent Transport Systems.
R&D in mobility, fleets management, real-time connected technologies, IoT, NFC.
Former UNI Expert in ISO working groups. Passionate about mobility.
Noticeable communication ability in delivering technical material and vision.

PERSONAL INFORMATION



WORK EXPERIENCE

2011 - today: Solution Engineer and Mobility Evangelist in 5T S.r.l. (www.5t.to.it)

Noticeable:

- “ARGO” **Project for integrated, intelligent, metropolitan-wide video-surveillance system for Traffic and Security**: ~1000 video streams in hybrid cloud/on-premise/edge environment, including integration and automation, legacy system integration, AI algorithm for real-time video analysis.
- “CTE-NEXT” program involvement in technologies for future mobility: **Autonomous Driving**, Connected Vehicles (V2X), 5G telemetry, sharing mobility, Intelligent Roads, *what's next*.
- Former Technical Leader in **Piemonte Region Electronic Ticketing System “BIP”** (Biglietto Integrato Piemonte) Program: credit-cards-level secure system (Calypso NFC standard) for public transport; including migration to virtual app-based cards technology on mobiles;
- (2019) Solution Engineer in **Torino Underpasses and Tunnels Platform** SCADA infrastructure and monitoring on highly-integrated optical IP network (pilot project including cameras, sensors, safety).
- (2018) Integration in **metropolitan IoT wireless network** (operated by IREN) based on **LoRaWAN** technology for parking stalls monitoring.
- (2015-2016) **ATM Messina connected vehicle monitoring and telemetry** system (based on open hardware and software platform).
- (2014-2015) Solution Engineer and Technical Leader in **Expo Milano 2015 mobility and parking platform**: fully-integrated solution including real-time fleet management, infomobility, parking automation, e-ticketing and e-commerce, mobile services.
- (2013) **Province of Torino Integrated Traffic Data Platform**.
- (2011) Member of the core-team depicting the “**General Transit Real Time Feed Specification**” (also known as Google Live Transit).
- (various) several European projects:
 - “CORE”: dangerous goods location and cross-borders data exchange;
 - “SETA”: traffic data extraction from legacy traffic cameras;



- “PuMAS”: unified management of logistic vehicles / urban gates / connected stalls.

2011 - 2019: Member of CEN Workgroup TC278/WG3 (www.cen.eu)

ISO Expert in Sub-Group 1 (SG1) for standardization of onboard telematics network in public transport vehicles.

2008 - 2011: 5T S.r.l – Software Engineering Team Leader / Internal Consultant

As head of a small development team caring for overall engineering and development of software solutions, I lead several projects with special attention to integration aspects. I also covered a transversal role of internal consultant for most aspects related to hardware and software architecture in traffic and public transport projects::

- **Onboard telematics network architecture** design for local and regional Public Transport fleets, to integrate multi-vendors hardware (ticketing machines, video surveillance, telemetry, infotainment). In cooperation with Public Transport Authority and Companies.
- Solution Engineer and Technical referral for Torino **Public Transport Fleet Automatic Location and Monitoring System** (1,300 connected vehicles, most operated by the GTT public transport company).
- Technical reference in mapping-data-oriented strategic partnerships (Seat Pagine Gialle, Navteq Discover Cities, TomTom Maps, OpenStreetMap).

2003 - 2008: 5T cons. – Software development team-leader; IT manager; Project Manager.

Joining in 2003, I took care for several tasks and project:

- Deploy of M2M regional network to connect, integrate and harmonize **real-time connected systems** (traffic/weather sensors, streetside displays, cameras etc);
- Deploy of Provincia di Torino (currently known as “Città Metropolitana di Torino”) **snowploughs/salt-spreaders location and telemetry platform.**
- Manager and developer for the 5T **integrated data platform**, to interconnect and harmonize internal systems and external data suppliers (including ANAS, Autostrade etc.) at region-wide level.
- Participation to **GTFS and Google Transit layer** for Piemonte Regional transportation. Contributor to GTFS data format.
- **Project manager and Solution Architect for the XX Winter Olympics Game’s Traffic Operation Centre (TOC)** integrated platform to collect and harmonize real-time mobility data and remote peripheral status from various partners and protocols, including public transport fleets, parking occupation, traffic flows, etc.
- Internal consultant for integration of **wireless video-surveillance system on Torino underground Line 1** and Torino public transport.
- Designer (2004), for integration system to interface, collect and harmonize real-time data from connected parking premises (system still operating in 2022).
- **RDS-TMC Europe Forum Member** (up to 2007) for real-time traffic data broadcasting on FM radio channels.

2001 - 2003: former Alenia Aeronautics (now Leonardo Company – BIT: LDO)

Starting as a C++ and Fortran developer, with growing responsibilities in several projects and learning to operate in an international environment, working in distributed transnational teams:

- project manager (2002) on a development sub-project of **Eurofighter Maintenance Simulator Trainer (MST)**;
- international task-groups leader: “Graphic Task Group” and “Integration & Testing Task Group” across MST and other projects;
- developer for Eurofighter Fuel System and Fuel Dynamics desktop simulator; software analyst and developer in Harrier AV8-B Maintenance Trainer re-hosting project;

2001: Researcher scientist in Politecnico di Torino / IRITI CNR

(National Research Council’s Institute for Research in Computer Science and Telecommunication Engineering)

Developer for performance testing software on **SCADA field networks for industrial automation** (CANbus/CANopen protocol) in critical environments with C++ real-time operating systems programming.

OTHER EXPERIENCE

1999 - 2001: ENEL (Italian/multinational utility – BIT: ENEL)

- **Tourist guide** for technical groups/visitors at the ENEL “Galileo Ferraris” 700MW Power Plant in Trino (VC) - Italy

EDUCATION

Feb 2001	Laurea in Ingegneria Elettronica (5 years MSEE) Politecnico di Torino – II Facoltà di Ingegneria – Turin (Italy) Specific courses in Control Automation, Software Engineering, DBMS, Networks, Computing Systems, Semiconductors, Cryptocoding. Graduated with a thesis in Computer Programming, developing a network socket in C++ to share and synchronize multi-users 3D applications on high-speed networks.
1994	Diploma di maturità di Perito Informatico (CGE~A) ITIS G.C.Faccio Technical High School – Vercelli Italy

OTHER SKILLS/INFORMATION

- Programming: PHP, T-SQL, Java. Dated: C/C++/Visual C++, Actionscript, Matlab (Simulink and Stateflow); experience with RTX (real-time kernel extension for Windows) and Miracl™ libraries; legacy assembly programming;
- Experience with the **AWS platform** (serverless Lambda) and Google tools and libraries (Google Maps SDK, Fusion Table etc.); former member of GTUG (Google Transit Users Group);
- Databases: MySQL, MS SQL Server, various experience with Oracle, Postgres, SQLite, InfluxDB;
- Network architecture, protocols (TCP, UDP, HTTP, OpenDMTP, DNS-SD etc.), tools (Wireshark)
- Application: Office suite (inc. Visio), UML Enterprise Architect, Altova Suite, Corel Draw suite, opensensors, etc.;
- Mapping: OpenStreetMaps (JOSM), Qgis,
- Serial field buses protocols (CanBus and MIL-1553); automation systems (KNX); real-time (ZMQ, MQTT), Modbus-TCP
- Experience with NFC and RFID protocols and applications.
- Basic experience in embedded systems

More

Sports: skiing, sailing, bike. Do-it-yourself and home-automation passionate. Homebrewer. Compulsive reader. Father (9 and 7 years old daughters 🍷). Nerd.