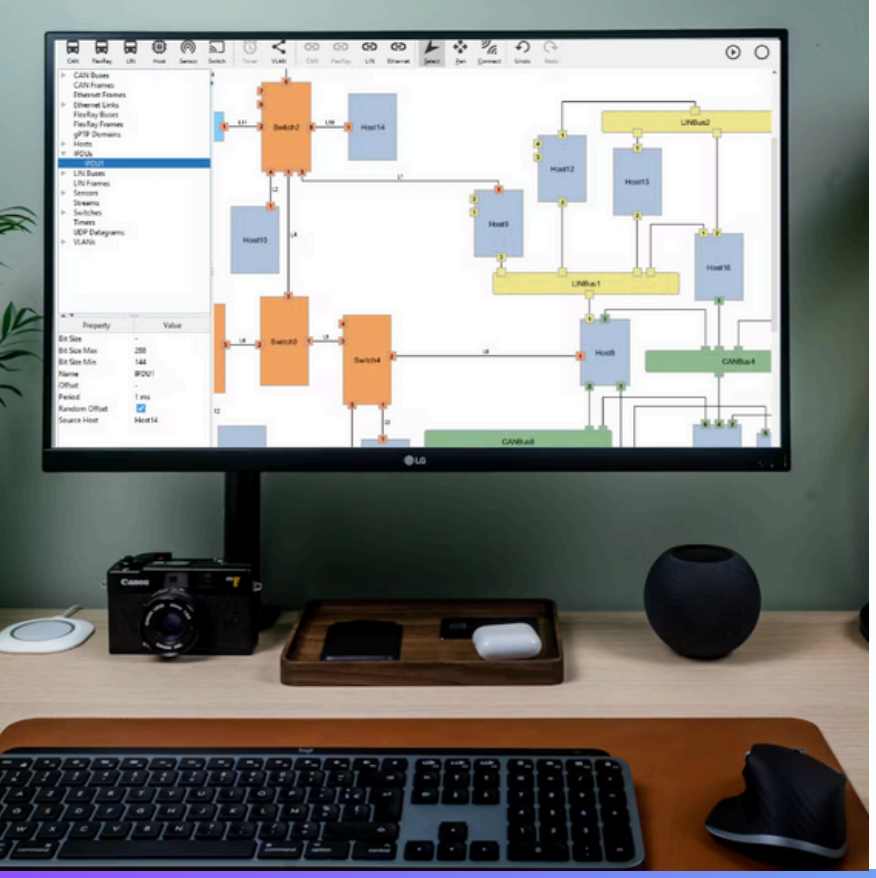
TIME CRITICAL NETWORKS



Network design made easy

Revolutionize your design process. Easily create digital twins for network and automotive electrical architectures, enabling seamless architecture exploration and what-if analysis through simulation.

About Us

We aspire to offer a unique software tool for tackling the challenges of adopting both the latest hardware technologies for in-vehicle networking, like Ethernet Time-Sensitive Networking (TSN), as well as 5G/6G for V2X by supporting both network simulation and connecting to telematic data logging systems for an efficient holistic network digital twin solution.

The software behind TCN TimeAnalysis™ is continuously being evolved to support simulation of an ever wider range of bus- and network technologies, protocols, hardware traffic-shaping mechanisms etc.

DIGITAL TWINS

By creating virtual replicas of physical systems, we provide real-time insights, drive efficiencies, and unlock the true potential of your infrastructure.

NEW TECHNOLOGIES

Cutting-edge 5G and 6G protocols can potentially revolutionize e.g. the next generation ADAS by ensuring faster, more reliable, highly efficient V2V and V2X connectivity. However, improved tools are needed to support the efficient design, and testing of such new services.

PREDICT USING SIMULATION

During the simulation, statistical data is recorded in a database file. After the simulation ends, the data can be analyzed for valuable insights.

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V2X COMMUNICATION

Our platform solution enhances the efficient design, development, testing, and monitoring of cutting-edge, time-sensitive services such as Autonomous Emergency Braking (AEB) for improved traffic safety.

By supporting the latest network technologies, including Ethernet Time-Sensitive Networking (TSN) and 5G, it ensures state-of-the-art performance and reliability.

TECHNOLOGIES WE SUPPORT

- LIN, CAN and FlexRay
- Ethernet and UDP:
  - Unicast / Multicast / Broadcast
  - VLANs
  - Priorities
  - IP Fragmentation
- Time-Sensitive Networking (TSN):
  - IEEE 802.1Qav Forwarding and Queuing Enhancements for Time-Sensitive Streams
  - IEEE 802.1Qbv Enhancements to Traffic Scheduling: Time-Aware Shaper (TAS)
  - IEEE 802.3br and 802.1Qbu Interspersing Express Traffic (IET) and Frame Preemption
  - IEEE 802.1CB Frame Replication and Elimination for Reliability (FRER)
  - IEEE 802.1AS Timing and Synchronization for Time-Sensitive Applications
  - IEEE 802.1Qci Per-Stream Filtering and Policing (PSFP)
- Disable Ethernet Links during running simulation to investigate behaviour of .e.g. FRER
- Playback of recorded Ethernet traffic stored in PCAP file during simulation
- ECU RTOS Task scheduling (OSEK)
- Gateway PDU router
- Collect delay or latency statistics for individual Ethernet packets or IPDUs

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