**Abstract:**

Urban traffic control systems have based their technological infrastructure both on advanced analogical close-circuit television systems (TVCC) and point-to-point links, providing low-scalable and very expensive systems. The main goal of an urban traffic monitoring system is to capture, send, play and distribute video information from the streets of a certain city. Current digitalization process of video networks, and the research carried out in the field of streaming media, has led vendors to present proprietary hardware and software solutions resulting in a strong dependency among their customers. The existence of open standards for video encoding and protocols for streaming media transmission over IP networks has led us to propose this system. The work presents an open urban traffic control system which bases its design on COTS philosophy for hardware and software, as well as open source and standardized protocols. The proposed system is a suitable solution in terms of scalability, cost, interoperability and performance for traffic control systems. Furthermore, its architecture can be easily adapted to other video applications and tools.