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# Towards Zero Touch Configuration of 5G Non-Public Networks for Time Sensitive Networking

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**Abstract**

The need to increase mobility and remove cables in industrial environments is pushing 5G as a valuable communication system to connect traditional deterministic Ethernet-based devices. One alternative is the adoption of Time Sensitive Networking (TSN) standards over 5G Non-Public Networks (5G NPN) deployed in the company premises. This scenario presents several challenges, the most relevant being the configuration of the 5G part to provide latency, reliability and throughput balance suitable to ensure that all the TSN traffic can be delivered on time. Our research work addresses this problem from the perspective of automata learning. Our aim is to learn from the live network to build a smart controller that can dynamically predict and apply a suitable configuration of the 5G NPN to satisfy the requirements of the current TSN traffic. The article presents the main ideas of this novel approach. This presentation is published in [1]

*Keywords:* 5G mobile communication, Learning automata, TSN

## References

[1] F. Luque-Schempp, L. Panizo, M.-d.-M. Gallardo, P. Merino, J. Rivas, Toward Zero Touch Configuration of 5G Non-Public Networks for Time Sensitive Networking, IEEE Network 36 (2) (2022) 50–56. doi:10.1109/MNET.006.2100442.