# Title: Regression Testing solution based on Virtual Prototyping

# Speaker: Simone Longo, Virtual modeling & environment Workgroup leader, Virtualization & Testing, PUNCH Torino

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# Abstract: Embedded Software complexity keeps on growing in the automotive domain. Sophisticated functionalities, connectivity and active safety are key features of modern vehicle architectures. Therefore, all related testing activities play a central and significant role within the software development process. Since testing must be done in the early stages to catch issues prior to production release, this typically has a non-negligible impact on hardware resource availability, in terms of both target embedded controllers and Hardware-In-the-Loop (HIL) benches, with related costs. To be effective and efficient in this challenging contest, as PUNCH we introduced Virtual Hardware Prototyping as innovative technology, on top of the Continuous Integration/Continuous Delivery (CI/CD), to maximize the testing capability at different levels. During the development phase, this solution helps finding issues both at unit testing level as at system integration level, by replicating the real testing environment with virtual prototypes. This increases the number of testing platforms and improves related availability (HA) and stability in a semi/full automated fashion. The proposed solution is highly scalable, due to the efficient parallelization based on a grid of virtual nodes. The improved software quality, the cost saving, and the reduction of time to market, are just three of the tangible outcomes obtained by adopting this approach.

# Speaker Bio: Simone Longo studied at the Polytechnical University of Turin in Italy and graduated with a master’s degree in computer science and embedded digital system. Simone works in the automotive SW field since 2007, starting with a strategic automotive company on the territory before joining GM in 2013. Since 2016 he supports the Virtual Prototyping in GM, pioneering the technology in several possible fields in the SW development process, and just recently acts as technical reference for Virtual modeling in PUNCH Torino.

# Speaker Headshot: