

# System Testing, Test Automation Challenges, and What Testing is All About in the Digitalization Era

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**Abstract**— System Testing is hard in systems dependent on complex test environments e.g. embedded, time related, hardware related or in our Telecommunication case, in addition to the previous, the pure scale of things. As most software development now has moved to more agile approaches, great test automation has become a key factor for success. More mature software producing industries, especially those with safety-critical or near-critical software have long focused on model based test case generation as their means of test automation. Industries and Software Companies in Agile – purely think of test automation as a test execution matter, where e.g. test results (test verdicts, and the oracle) pose difficult problems in the system testing. This keynote will focus on these three pillars: difficulties in System Test Automation, what challenges we have in Test Automation Execution (as a result of the agile transformation) and some of the main caveats in testing reflecting on the digitalization era we are now entering.

**Short Biography**— Dr. Sigrid Eldh is a researcher and senior specialist at Ericsson Radio System & Technology, located in Stockholm Sweden. At Ericsson, she leads the Ericsson research on software test, debugging and product quality. She is an Adjunct Professor at Carleton University in Ottawa, Canada, and a Senior Lecturer at Mälardalens University, Västerås, where she also earned her PhD “On Test Design”. Sigrid has more than 30 years of practical experience from the IT-Industry, with more than 20 years from the Telecom industry specifically. She has started, and chaired some large software testing organizations for practitioners, like SAST, ISTQB, and SSTB. She is now leading the TESTOMAT project, and ITEA3 EU research project on the next level of Test Automation.