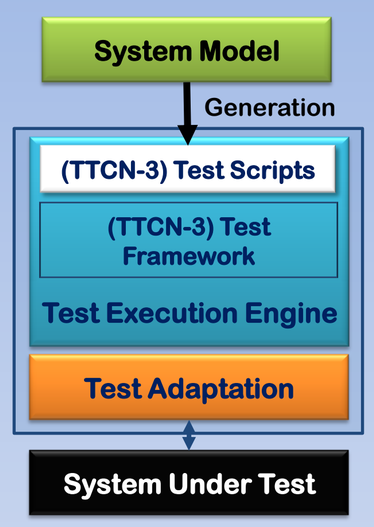
Towards Standardization of Model-Based Testing

An Industrial Initiative by ETSI's Technical Committee Methods for Testing & Specification (TC MTS)

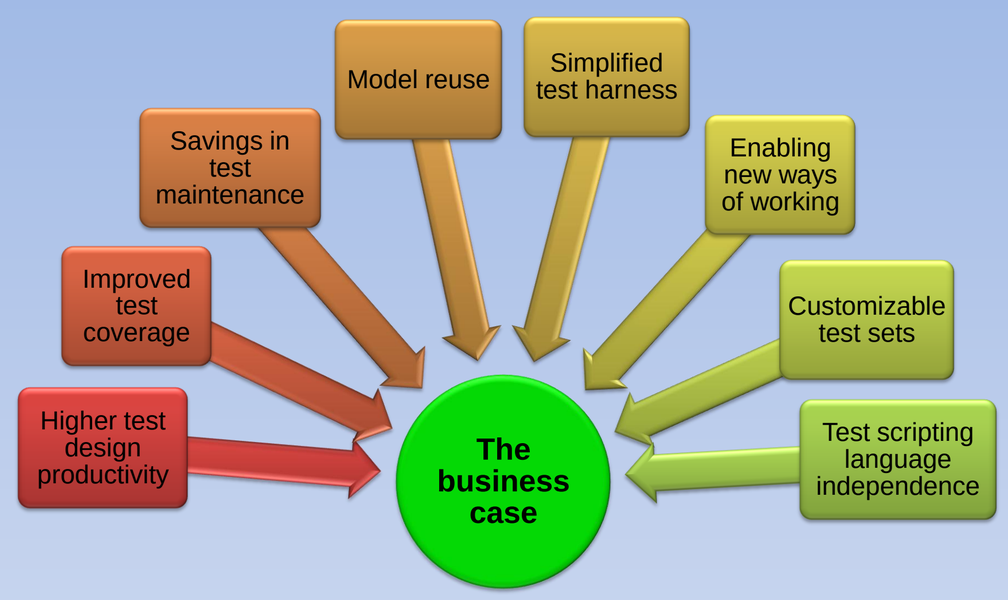
About Model-Based Testing (MBT)

- An umbrella of approaches that generate tests from models
  - In ETSI context: Test generation from *system* models
- MBT is about automating *test design*, i.e., production test scripts and documentation
  - MBT *complements* test execution
- Described already today as industrial best practice in testing[1]
  - Number of commercial tools available



[1] *"The Testing Tools Landscape: 2010. Functional Testing Tools Are Not Enough." by M. Visitacion & M. Gualtieri. Forrester Research, Inc.*

Why is MBT interesting?



Classic vs. MBT Development of Standardized Tests

About this Initiative

- TC MTS has 20 years of experience and a unique reputation in creating global standards on testing
  - Making Better Standards website, TTCN-3, TPLan, automated interoperability testing , SIP & IPv6 TTCN-3 tests, etc
  - Brings together experts of major industrial users, test tool makers, research institutes, test service providers, and ETSI's CTI
- TC MTS has been creating standards on MBT since 2008
  - ETSI TR 102 840 "Model-Based Testing in Standardization"
  - ETSI TR 103 168 "Application of Model-Based Testing in the Telecoms Domain"
- Goal is to strengthen standing of MBT in industry
  - Promote its maturity and industrial deployment
  - Harmonize MBT tools and enable user accountability via standards
  - Create an industrial user community with yearly user conferences
- ETSI's standards development is open and transparent
  - Free download via http://pda.etsi.org/pda/queryform.asp

First ETSI Standards on MBT

- A major milestone was the agreement in March 2010 to start work on a first Technical Specification on MBT
  - Final version expected to be approved in first quarter of 2011
- Standard on requirements for model notations to enable modeling specifically for testing
  - Independent of a specific tool and modeling notation
  - Agreed to by a number of major MBT tool vendors
- Key industrial users, tool vendors, and research institutes active in this field have been supporting this effort
  - Ericsson, Nokia Siemens Networks, Siemens, SAP, Wipro, Telecom Italia, Fraunhofer, IRISA, Software Quality Lab (Uni Paderborn), Microsoft, Conformiq, Elvior, Sepp.Med, Smartesting, etc
- Only a first in a series of ETSI standards on MBT
  - Further work envisioned on test selection, methodology on modeling for testing, case studies, an exchange format for system models, etc

How can I follow or get involved?

- Visit the ETSI TC MTS Portal http://portal.etsi.org/ portal/server.pt/community/MTS/323 to find next meetings and latest standard drafts
- Contact the TC MTS chair via portal to provide feedback to drafts standards and join ETSI's special interest group on MBT
- Attend the next ETSI TC MTS meeting either by attending in person (recommended) or by joining via GOTO meeting