

# Model-based Testing Application in Industry

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Creating Confidence.

## Overview

- Introduction
- Issues with MBT in industry
- Syntax-based testing approach
- Conclusions



## Introduction

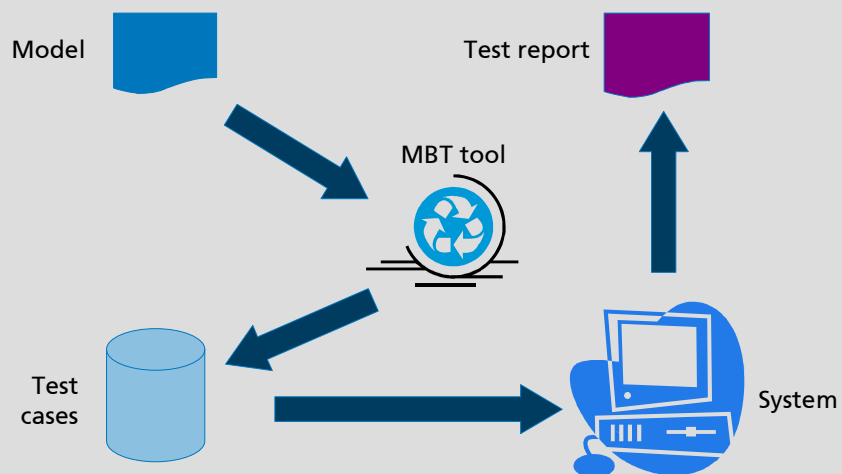
- Test automation has been a topic for many years
- Automatic test execution is commonly applied
- Tests are still specified manually
- Model-based testing is a new hype
- What does it promise?

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## Model-based testing in a Slide



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## Issues with MBT in Industry

- Confusion about test automation and automatic test execution
  - So I bought a testing tool
- Models are hard to come by
- Model building is still laborious and error prone
- MBT tool support is still in its infancy

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## Syntax-based testing approach

- Return to the simple test approach of checking
  - Request
  - Response
- Many request, response pairs can be determined syntactically
- A pure syntax-based approach is efficient
- Can build upon tool support

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## Example: WebServices



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## Test Case Pattern

- Send request with arbitrary but valid values
- Analyze response:
  - Correct type and all expected values with valid values
  - Exception: further investigation
  - Unexpected response: test failed

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**Live demo!**

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## CAN-Bus Message

010010100101000100010101010  
010100010100101000100010001  
010100100010010001010001010  
010010010100101010001010001

Request /  
Reponse  
encoded

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## Conclusions

- A syntax-based test generation approach
  - Is efficiently implemented
  - Can be fully automated
  - Is more often applicable than you might think
  - Can be used as smoke test
  - Can help to verify test start criteria
- A syntax-based approach is no substitute
  - For system testing
- A syntax-based approach can be extended
  - To replace emulators

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**Thank you,**

**Questions?**

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