



The Standards People



TC MTS Status Update

Presented by: **Dr. Philip Makedonski**
University of Göttingen

For: **BOARD #143**

Overview of Activities

- ✓ AI and ML Testing WIs
- ✓ TST IoT WIs
- ✓ TTCN-3, TDL, TOP
- ✓ 10th UCAAT 2023 (Timișoara, Romania)
- ✓ Departure of Dirk Tepelmann (Vice Chair, Spirent)
- ✓ EISMEA proposal and potential EU follow-up

MTS-AI

AI and ML Testing WIs

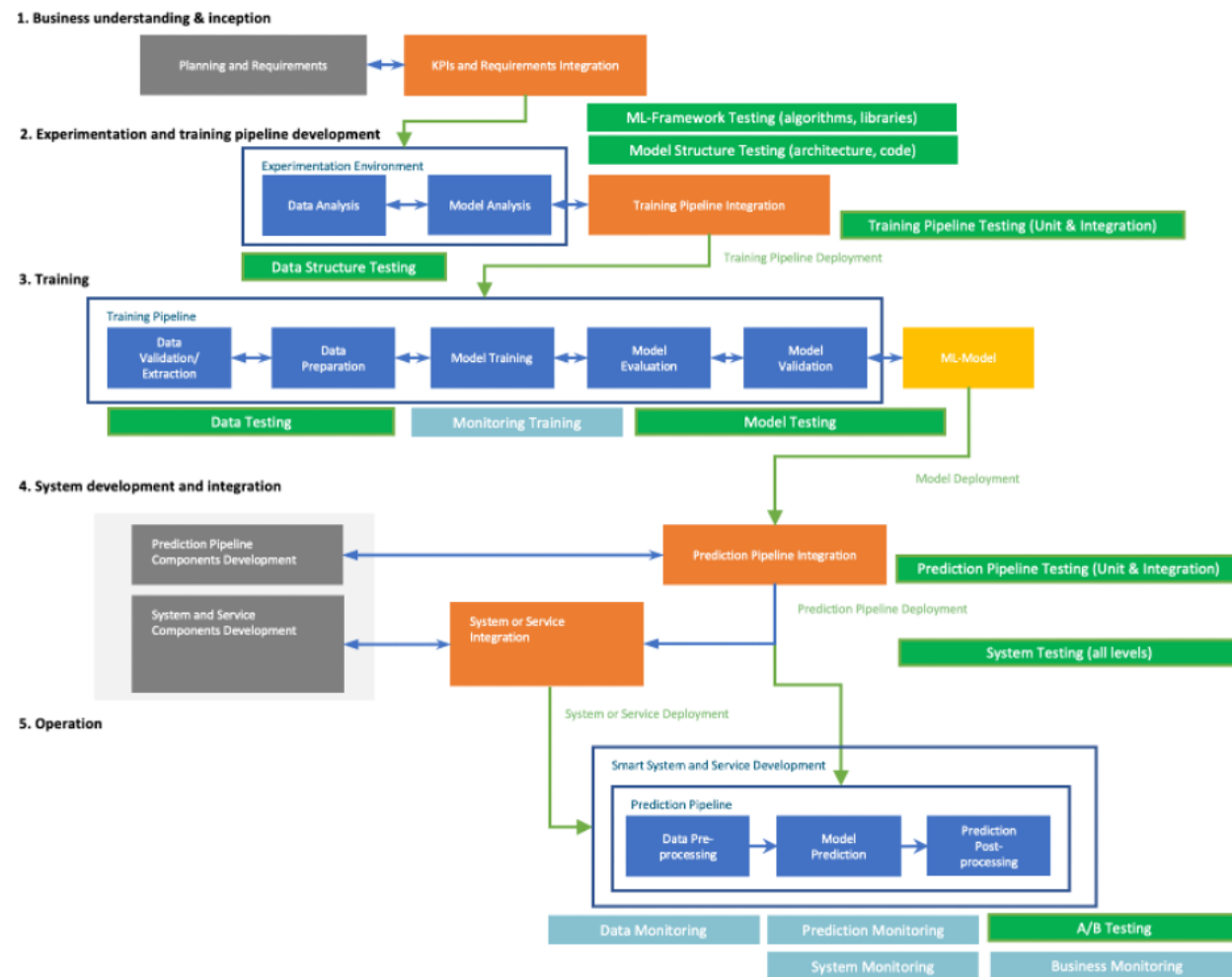
- ✓ Testing Test Methodology and Test Specification for AI-enabled Systems
 - ✓ Testing of AI-enabled systems for the purpose of standardisation
 - ✓ Requirements for testing,
 - ✓ Test methodologies and methods for test specification
 - ✓ Technical aspects of certifying trustworthiness of AI in standardisation
 - ✓ Focus primarily on ML-systems (including DL)
 - ✓ Status: Approaching Stable Draft
 - ✓ See also: IML4E Project, Rapporteur: Jürgen Großmann (Fraunhofer FOKUS)

AI and ML Testing WIs

- ✔ ToC Excerpt
 - ✔ General conditions of testing ML-based systems
 - ✔ Challenges and specifics of testing ML-based systems
 - ✔ Quality attributes addressed by testing ML-based systems
 - ✔ Test items and integration in testing ML-based systems
 - ✔ Test methods for testing ML-based systems
 - ✔ Workflow and process aspects of testing ML-based systems
 - ✔ Testing in the ML Life Cycle

AI and ML Testing WIs

- ✔ Abstract workflow and phases
- ✔ Business understanding
- ✔ Experimentation
- ✔ Training
- ✔ Integration
- ✔ Operation
- ✔ Work products and test items
- ✔ Acceptance criteria
- ✔ Test types and test objectives



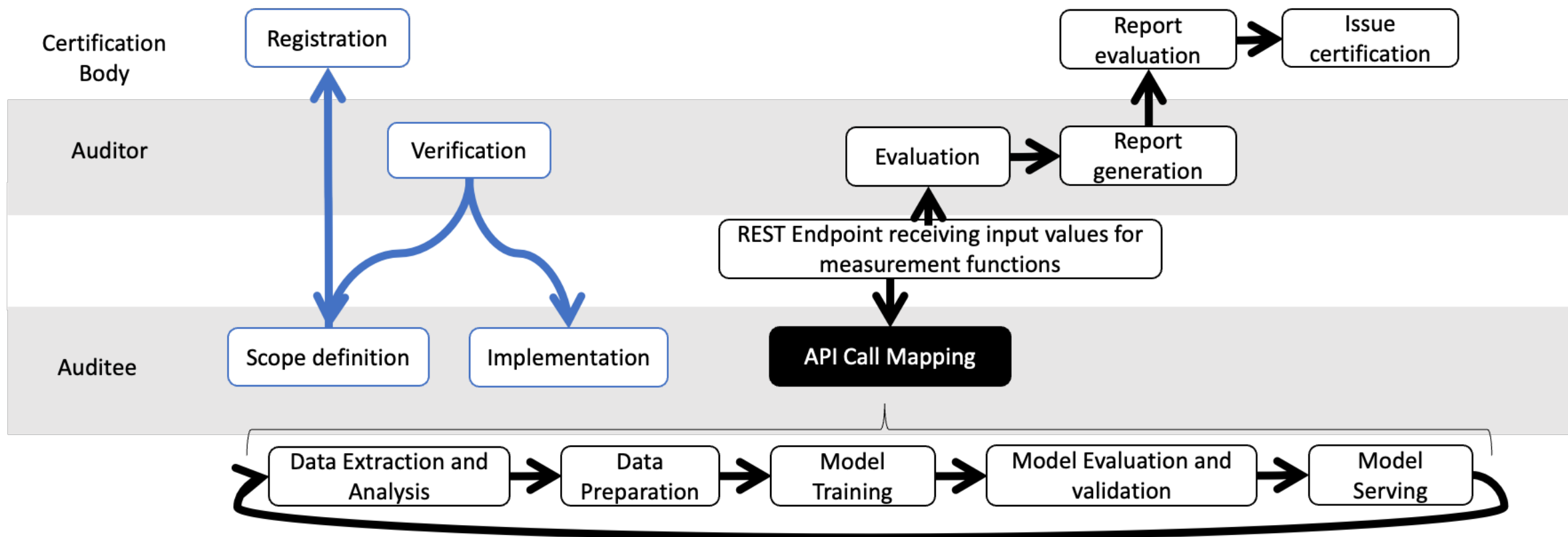
AI and ML Testing WIs

- ✔ Continuous Auditing-Based Conformity Assessment for AI-enabled systems
 - ✔ Definition, principles, tasks
 - ✔ Benefits compared to traditional "point-in-time" certifications
 - ✔ Requirements for testing
 - ✔ Exemplified in an MLOps setup
 - ✔ Assessment of ML artifacts (data sets, model architecture, parameters and metrics)
 - ✔ Status: Early Draft growing towards Stable Draft
 - ✔ See also: IML4E Project, Rapporteur: Dorian Knoblauch (Fraunhofer FOKUS)

AI and ML Testing WIs

- ✓ Principles
 - ✓ Risk-based approach
 - ✓ Automation, detection and response to emerging risks
 - ✓ Product focused, data security and privacy
- ✓ Architecture and Procedures
 - ✓ Evidence collection, assessment, and reporting
 - ✓ Role-based: Auditee, Auditor, Certification Body
 - ✓ Scoping, Measurement Implementation
 - ✓ Transmission of evidence assessment and issuing of certification

AI and ML Testing WIs





MTS-TST

TST IoT WIs

- ✓ IoT Module Security Testing
 - ✓ Assemble sample security related IoT Modules
 - ✓ Access Control, Honeypots, Checkpointing
 - ✓ AI- & ML-based attack detection, Runtime monitoring, Security gateway
 - ✓ Document contents
 - ✓ Specification of the IoT Modules
 - ✓ Relevant Security Test Methods
 - ✓ Detailed list of test purposes (TDL-TO)
 - ✓ See also: IoTAC Project, Rapporteur: Marija Jankovic (CERTH)

TST IoT WIs

- ✓ IoT Application Conformity
 - ✓ Description of a general IoT Security architecture
 - ✓ Testing and assurance approaches for IoT applications using the architecture
 - ✓ Security validation and assurance
 - ✓ Integration and conformity
 - ✓ Experiences with different IoT Application Domains (case study samples)
 - ✓ Smart home, Smart grid
 - ✓ Unmanned air systems, Automated driving
 - ✓ See also: IoTAC Project, Rapporteur: Sascha Hackel (Fraunhofer FOKUS)

TTCN-3, TDL

TTCN-3, TDL, TOP

- ✓ Continued commitment to ongoing maintenance and evolution
- ✓ TTF activities closing, new initiatives to start soon
- ✓ TTCN-3
 - ✓ Major new revision under consideration
 - ✓ Transfer to ETSI Labs / GitLab for better coordination
- ✓ TDL and TOP
 - ✓ Focus on TDL open source project, executability, interfaces, and interoperability
 - ✓ CI/CD integration, faster releases



UCAAT

9th UCAAT 2022 (Munich, Germany)



Submissions to UCAAT 2022

Received submissions

- 34 presentations
- 3 tutorials
- 5 posters

Accepted submissions

- 25 presentations
- 2 tutorials
- 3 posters

15 countries

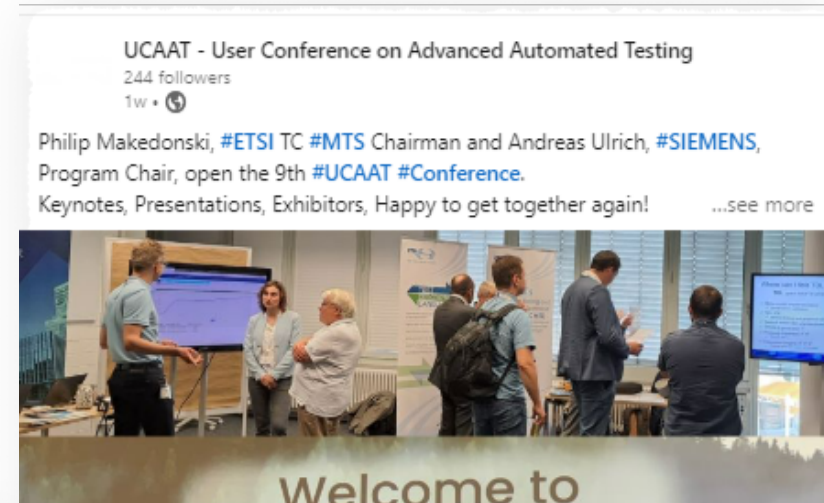
30 organizations

About 25% from research/academia

■ accepted presentations ■ rejected presentations ■ accepted tutorials
■ rejected tutorials ■ accepted posters ■ rejected posters

ETSI *Testing of Trustworthy Systems* #UCAAT

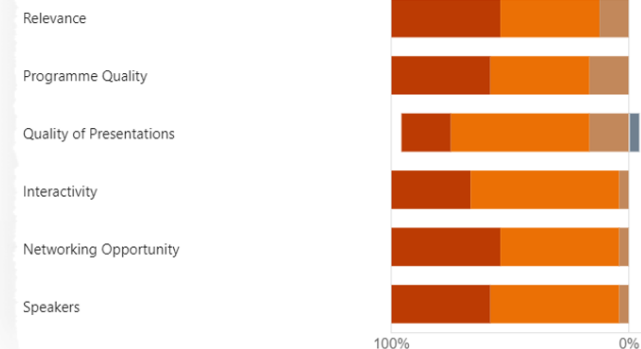
9th UCAAT 2022 (Munich, Germany)



CONFERENCE: Content Assessment

[More Details](#)

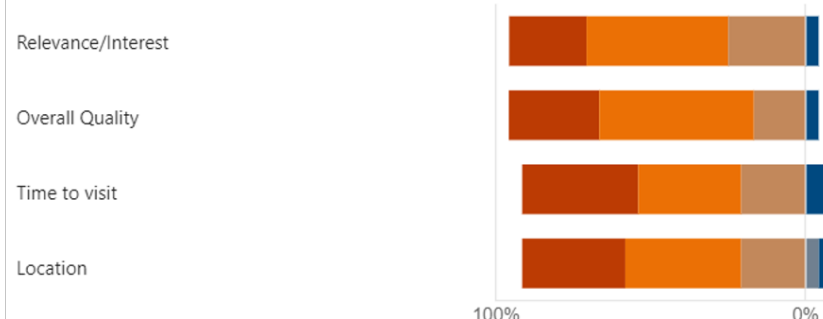
■ 5 (excellent) ■ 4 ■ 3 (good) ■ 2 ■ 1 (poor) ■ n/a



Exhibition: Content Assessment

[More Details](#)

■ 5 (excellent) ■ 4 ■ 3 (good) ■ 2 ■ 1 (poor) ■ n/a



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 - 30 organizations
 - About 25% from research/academia



10th UCAAT 2023 (Timișoara, Romania)

- ✔ 10th User Conference on Advanced Automated Testing
 - ✔ 14-16 November 2023
 - ✔ Theme: Optimising The Value Of Automated Testing
- ✔ Hosted by Nokia in the Polytechnic Timisoara University
 - ✔ Emphasis on academic and industrial cooperation
 - ✔ Outreach to Eastern Europe (many participants and presenters in previous editions)
- ✔ Call for Presentations just closed
 - ✔ Programme Committee chaired by Sergio Borghese (Netresults, Italy)
 - ✔ Programme and registration to be announced in June



Departures

Departure of Dirk Tepelmann (Vice Chair, Spirent)

- ✔ Long-term member of TC MTS, former Chair, current Vice Chair
- ✔ Steered and contributed to the work of MTS immensely over the past decade
- ✔ Spirent (and Testing Technologies before that) has been active contributor to TTCN-3
- ✔ Many thanks to Dirk and best wishes for his future endeavours from all of MTS!

EISMEA Call

EISMEA Topic Proposal (with ENI, not accepted)

- ✔ Test-based conformity assessment, including Policy and Cognitive management for AI-enabled Systems
 - ✔ Test Methodologies And Test Specification For Ai-Enabled Systems
 - ✔ Root-Cause And Cause-Effect Analysis For Failures Of Ml Components
 - ✔ Documentation Scheme For Trustworthy Ai
 - ✔ Continuous Auditing-Based Certification For Trustworthy Ai
- ✔ Intended as a way to boost ongoing and new activities
- ✔ Alternative funding options are being explored



Questions?

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