



THE IAMTS APPROACH TO AUTOMOTIVE CYBER SECURITY TESTING

Hermann Brand

Member Technical Lead Committee, IAMTS
European Standards Affairs Director, IEEE Standards Association

Eddie Lazebnik

Cyber Security Study Group Lead, IAMTS
Global Partnerships Director, Cybellum



TRANSFORMATION OF MOBILITY

from driver to operator to passenger

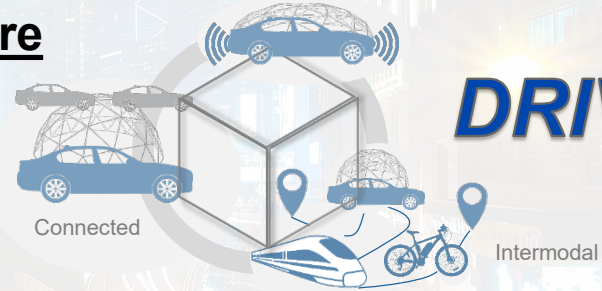
Past

DRIVE



- Individually owned, stand alone car
- Mainly mechanical, some electronics
- Driver assistance systems (DAS)
- Vehicle safety – HW oriented
- Periodical (homologation & inspection)

Future



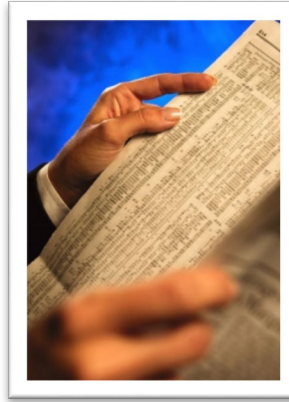
- Shared Mobility-as-a-Service (MaaS), connected, intermodal
- More (micro)-electronics, more and more SW defined
- Automated Driving Systems (ADS)
- Secured safety – HW, SW, data, updates
- Continuous (digital & remote)

MISMATCH: FAST TECHNOLOGY DEVELOPMENT– REGULATION LAGS BEHIND



Technology

Rapid development of enabling technologies for Autonomous Vehicles



Business/Markets

Many new business opportunities, and markets

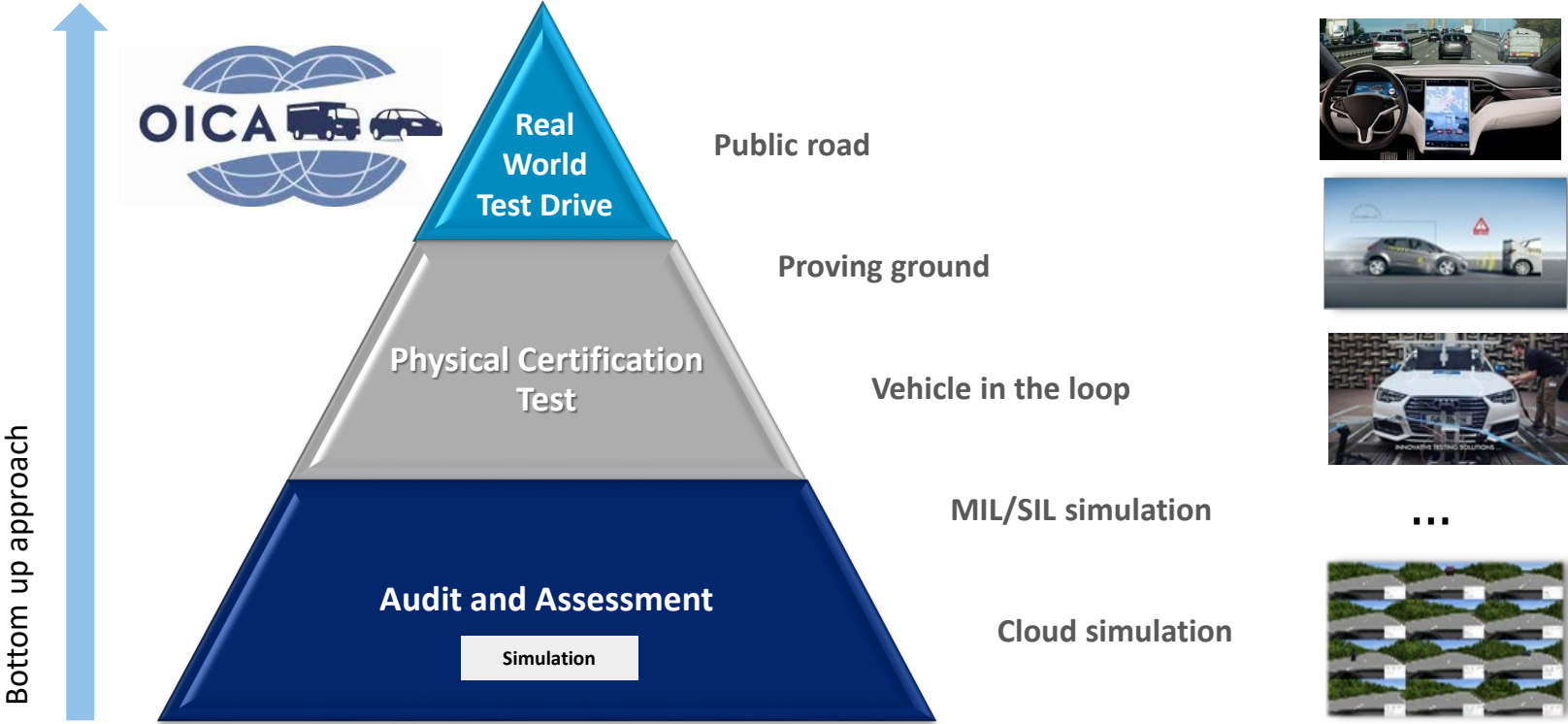


Policy/Society

Regionally different regulatory requirements evolve slowly

How to manage **time-to-market of much more complex products/services** while meeting the **moving target of different regulatory requirements?**

INTEGRATED APPROACH FOR AV VALIDATION – 3-PILLARS



CHALLENGES TO REGIONAL SPECIFIC TESTING

What to test/validate?

- Specific traffic rules
- Specific road types
- Specific environmental conditions
- Specific agent behavior
- Specific infrastructure
- As much as possible?
- Etc.



How to test/validate?

- Testing license, test area accessibility
- Test- & reporting rules
- Data analysis & reporting, recording, data privacy
- Simulation fidelity
- Test data portability and compatibility
- Comparability, replicability of tests across testbeds

... needs **global approaches** and **global collaborations**

WHAT IS IAMTS

INTERNATIONAL ALLIANCE FOR MOBILITY TESTING AND STANDARDIZATION



VISION

Create a **global community** comprised of advanced mobility testing service providers and companies, organizations and agencies in need of such services.

Develop and **share best-practices** to ensure consistent, replicable and reliable testing.

Maintain a **global directory** of physical, virtual and cyber-physical testbeds and service providers and their audited capabilities.

Support **global harmonization** of standards and certifications to ensure the timely deployment of advanced mobility systems and services.

CURRENT IAMTS MEMBERSHIP – GROWING FAST



** : permanent observing seat on Executive Committee as strategy partner

IAMTS STRUCTURE

- Executive Committee (EC)
- Technical Leadership Committee (TLC)



Working Group 1

Test scenarios
definition and
harmonization



Working Group 2

Testbed capabilities
and assessment



Working Group 3

Integrated
physical/virtual
testing

CURRENT FOCUS OF WORKING GROUPS

WG1-Motivation & Challenge

- ! Knowledge of **WHAT** and **HOW** to test for validation and certification.
- ! Driving behavior and regulations are globally different !
- ? What can be done virtually, what has to be done physically ?



WG2-Motivation & Challenge

- ! Physical Testing in ADAS/AD will remain very important and you will need special proving grounds for these tests.
- ? Which proving ground offers the features which are needed for my tests ?
- ? Whom to contact at the proving ground?



WG3-Motivation & Challenge

- ! Virtual Testing in ADAS/AD will not only increase the efficiency in development, it will be **MANDATORY FOR APPROVAL** and Validation!
- ! How to validate the virtual testing toolchain and models?
- ? How to know what needs to be covered in the virtual world?



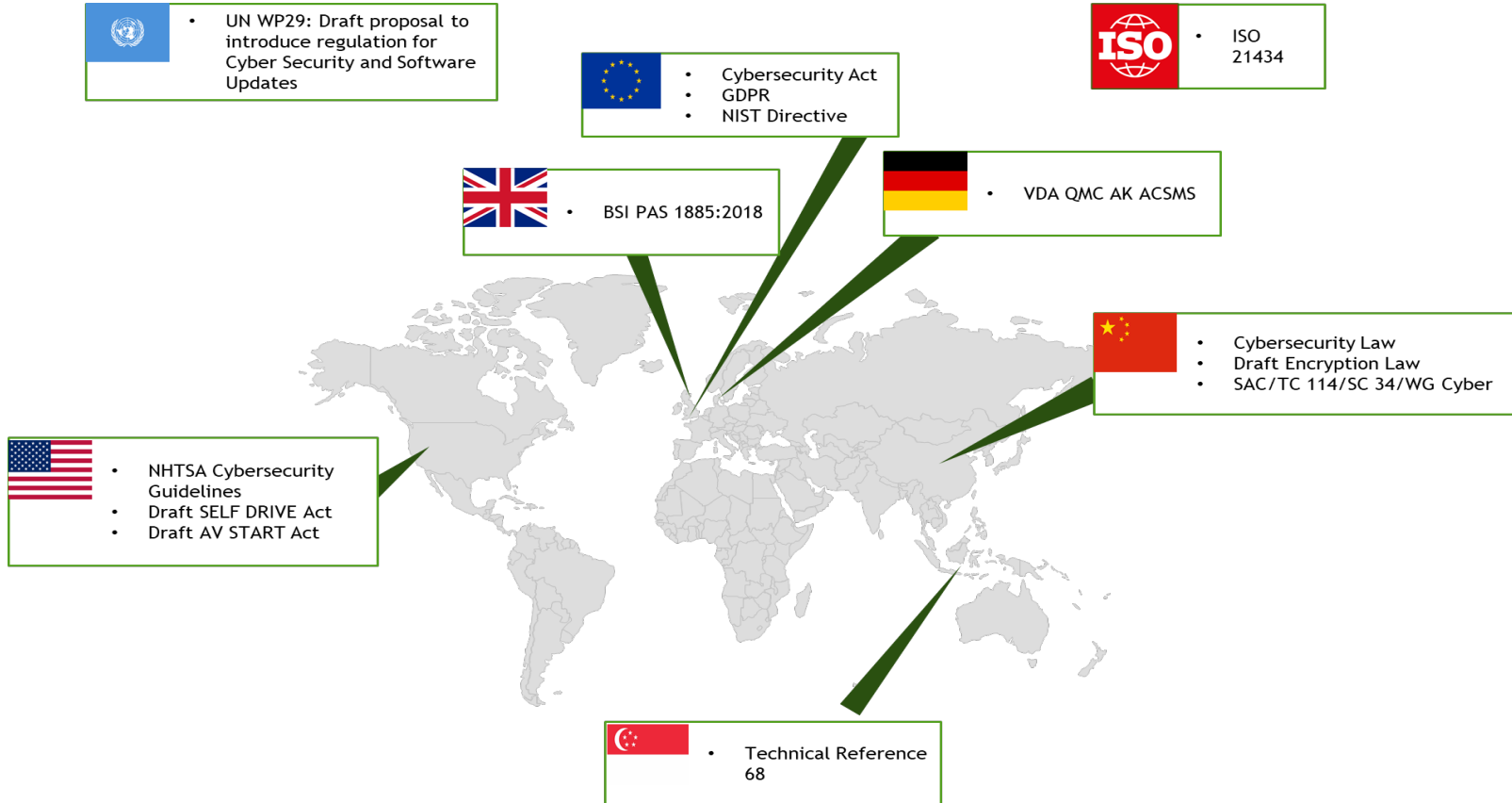
AUTOMOTIVE CYBERSECURITY TESTING

NEW WORKING GROUP

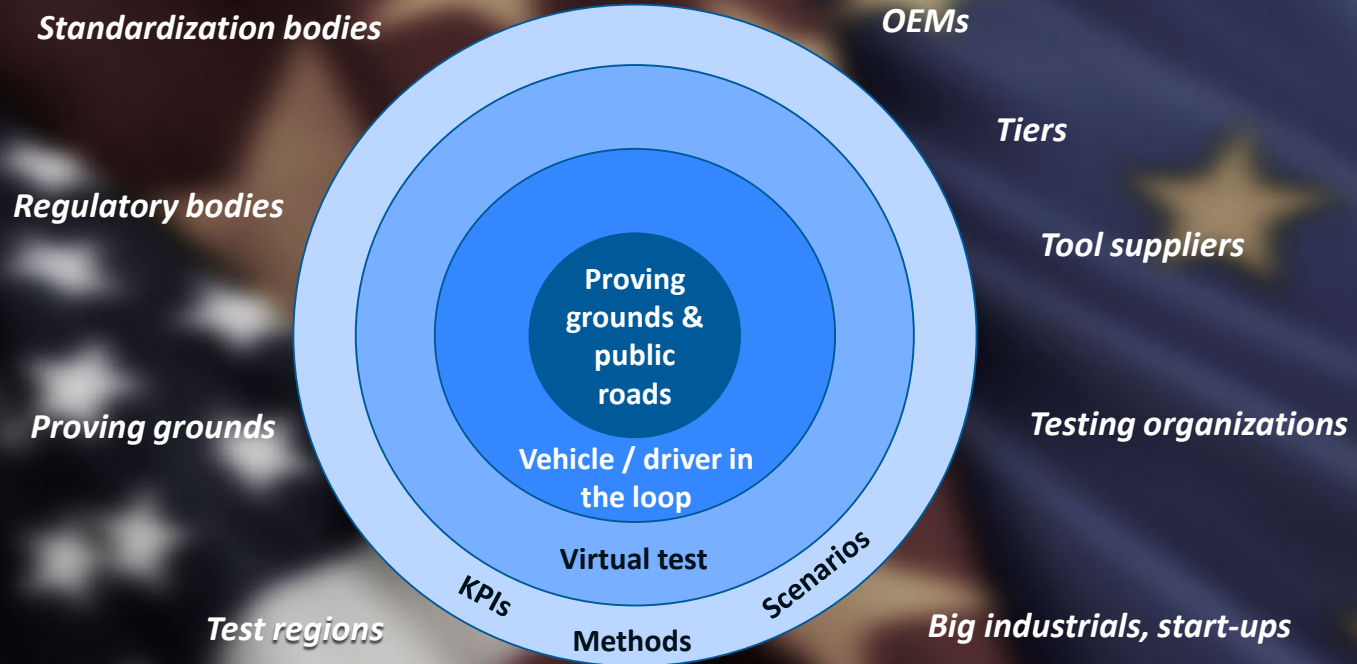
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THE LEGALIZATION LANDSCAPE / THE CHALLENGE 1



TESTING STAKEHOLDERS MAPPING / THE CHALLENGE 2



IAMTS UNIQUENESS

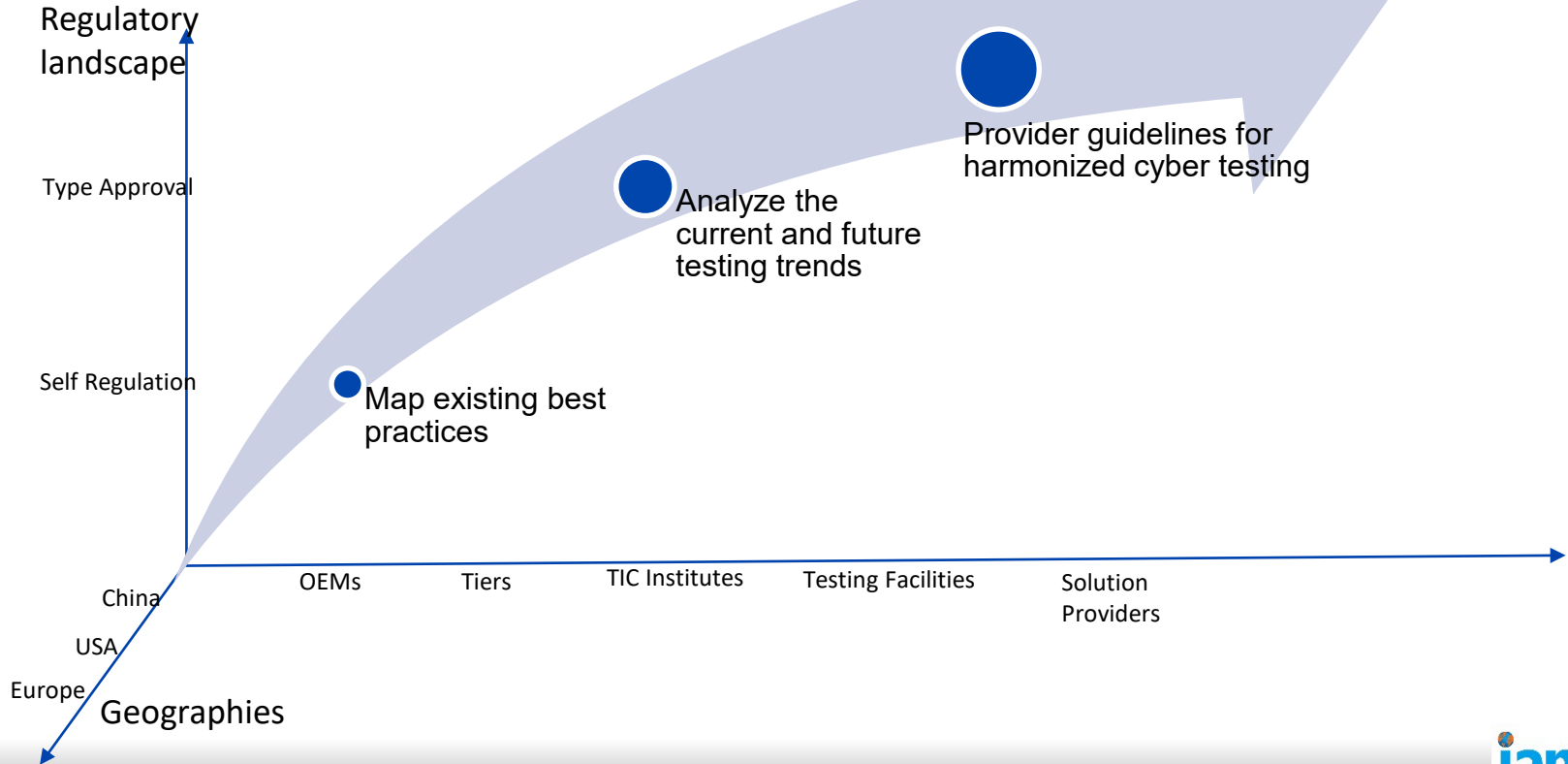


A high jumper is captured in mid-air, performing a Fosbury Flop over a yellow bar. The athlete is upside down, with their back to the ground. They are wearing a dark blue and white athletic top and dark shorts. Their blonde hair is tied in a ponytail. The background is a blurred crowd of spectators under bright, warm lighting, suggesting an outdoor stadium at dusk or dawn.

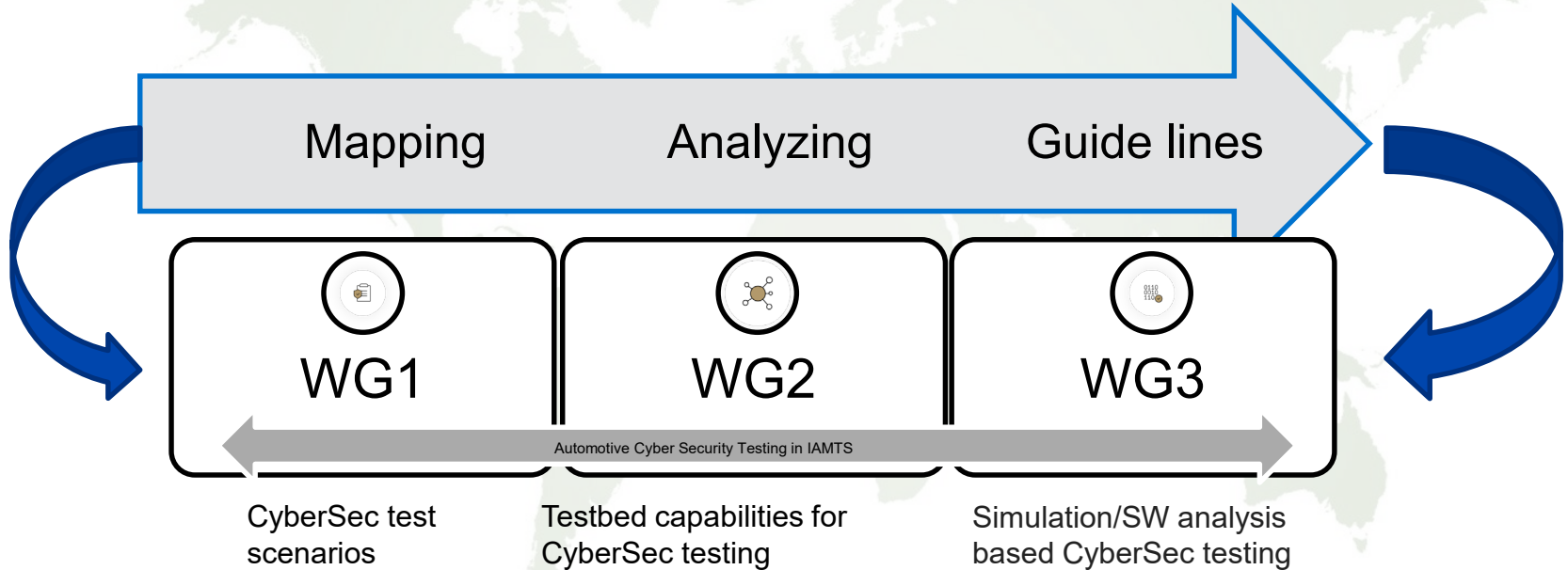
THE OPPORTUNITY

Setting the benchmark for
Cybersecurity Testing...

THE PROJECT – COMPREHENSIVE BEST PRACTICES



CROSS WG-PROJECT



Let's create safety and trust in
tomorrow's world of smart mobility together.

sustainable. integrated. leading.





Q & A

For further information please contact
eddie@cybellum.com



International Alliance for Mobility Testing and Standardization