FEI SPORTS FORUM
FIA SAFETY RESEARCH PRESENTATION

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A WORLD IN MOTION
RETURN TO COMPETITION PROCEDURE

A WORLD IN MOTION
Health incident can happen in 2 situations

- **Accident**
  - Physical disorder
  - Health problem

- **Health problem**
  - **IN-COMPETITION**
  - **OUT-OF-COMPETITION**
    - (training, domestic accidents..)

Appendix L – Art 2.2
RETURN TO COMPETITION PROCEDURE

IN-COMPETITION ACCIDENT

DRIVER’S RESPONSIBILITY
Inform the Chief Medical Officer (CMO), the championship’s doctor and the ASN

REINTEGRATION EXAMINATION
Before taking part to any competition of the FIA International Calendar
Follow-up by:
- CMO of the current competition
- ASN of the driver
- CMO of the next competition

AUTHORISATION to continue the competition

*ASN: National Sporting Authority

REFUSAL
Forbid driver from continuing the competition
OUT-OF-COMPETITION ACCIDENT

DRIVER’S RESPONSIBILITY
The driver has to inform his ASN* of any health problem

REINTEGRATION EXAMINATION
Before taking part to any competition of the FIA International Calendar
Follow-up by:
- ASN* of the driver
- CMO of the next competition

AUTHORISATION
to resume competition

REFUSAL
Forbid driver from resuming competition

*ASN: National Sporting Authority
CONCUSSION RESEARCH PROJECT

A WORLD IN MOTION
TARGET: development of a 2-Step concussion protocol

1. Motorsport-specific Concussion Diagnosis
Design a track-side test protocol for drivers who are potential sufferers of concussion

PASS
No concussion

FAIL
Concussion suspected
TARGET: development of a 2-Step concussion protocol

1. Motorsport-specific Concussion Diagnosis
   Design a track-side test protocol for drivers who are potential sufferers of concussion
   - PASS: No concussion
   - FAIL: Concussion suspected

2. Return to competition procedure
   Ensure a safe reintegration on the track by evaluating the driver recovery after concussion
   - PASS: Driver recovered
   - FAIL: Driver not recovered yet
Key points of the project

Benchmark
the use of IPAS goggles system by drivers, against other systems and protocols such as IMPACT

Create a database
of pre & post-concussion cases in motorsport

Drivers from FIA World Championships and BTCC drivers

Definition of the concussion protocol and of the pass/fail criteria
PASS
FAIL

IMPACT
IPAS
MRI
Ear accelerometer
ADR…
Project stakeholders

IPAS goggles system

Test validation for motorsport

IP AGREEMENT

Potential 3rd party agreement

IP AGREEMENT

(in discussion)
ACCIDENT MEASUREMENT SYSTEMS
Motorsport accident investigations rely on a number of data sources:

- Accident Data Recorder
- Ear Plug Accelerometers
- High Speed Camera
- Biometric gloves
- GPS & Car data
Accident Data Recorder (ADR)

- ADRs are small electronic devices that are mounted in the car.
- Records G-force data in the event of a crash.
- Can also record other data including car speed, braking, steering etc. by connecting to the car’s data logger.
Ear Plug Accelerometers

During a crash, the Ear Accelerometers help us to better understand:

• Severity of head acceleration during engagement with the headrest
• Precise kinematic (including rotation) of the head
• Timing of the head movement
The High Speed Camera helps us to better understand:

- Forces on the head to a given displacement
- Elongation of the neck
- Headrest performance
The Biometric gloves have been newly introduced in 2018:

- They record the vital signs of the driver (blood oxygen, pulse, motion)
- During any incidents, the Medical Car and Race Control will have a live view of data
Data from ADR and Ear plug accelerometers
Data combined with videos
Accident analyses bring a double safety improvement

Improve rescue with an effective and proper medical response

Improve research objectives designing the next generation of safety equipment
THANK YOU

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