



Scrutineering

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Introduction and objectives

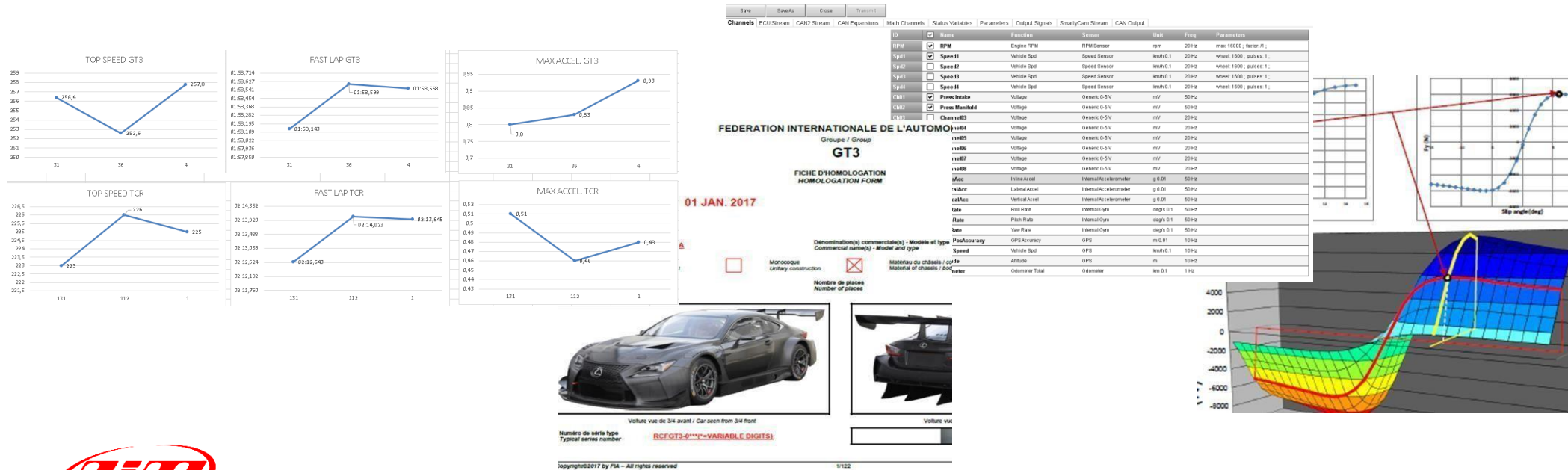
- For the important promoters of FIA International Series.
- Currently, the most important goal for the promoters is to warranty a quality product for all the involved stakeholders, but mainly for drivers, teams and manufacturers.
- One of the key aspects to be considered is the correct BoP between all the cars, and this is becoming more and more important with new technical regulations policy to have a balanced championship.
- It is necessary for brands to trust the appropriate, trained and experienced technical management of their vehicles.



Service Proposal

Technical analysis of the Championships and the vehicles

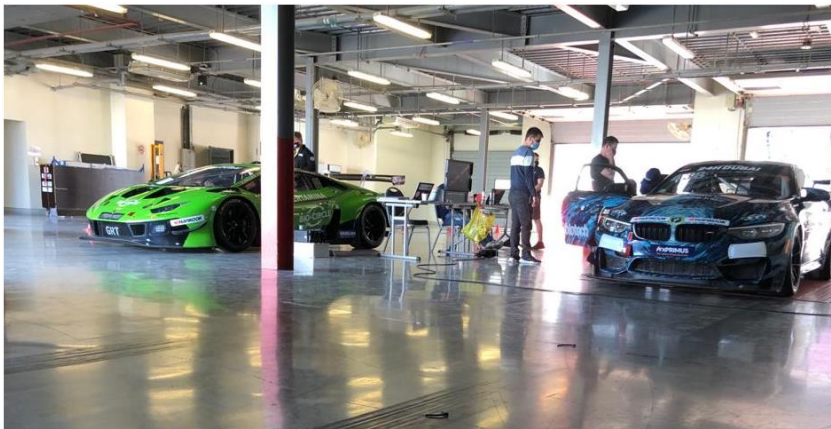
- For sure this is a mainly technical question, but it must consider also some other aspects like driver's categorization, vehicle I+D and evolutions, tire brand of the series, type of track, and more factors.
- So the work to be done is not only related to the on-track activities, but also with pre-event work, analyzing lots of data and information.



Service Proposal

On-track service and support

- To reach a good control level of the cars, teams and performances, it is imperative to have a data logger kit to measure all the important parameters of the car, which needs a good on-track service, to assure the correct functioning of all the systems. We create the protocols of the cars and prepare the configurations to our own tools.
- All the AIM scrutineering staff is good skilled to work with the majority of the data acquisition systems (Magneti Marelli, Motec, Cosworth, Race Technology, AIM, etc.), and have enough knowledge to solve most of the problems immediately.



CAN Protocol: AIM_Scrutineering_Mclaren720s Filter bitmask for

Low to High	Byte 0	Byte 1
<input checked="" type="checkbox"/> CAN ID: 0x180 Team RPM (RPM)	7 6 5 4 3 2 1 0	15 14 13 12 11 10 9 8
<input checked="" type="checkbox"/> CAN ID: 0x181 Team Throttle R (tr)	7 6 5 4 3 2 1 0	15 14 13 12 11 10 9 8
<input checked="" type="checkbox"/> CAN ID: 0x182 Seru WSpeed FL (swfl)	7 6 5 4 3 2 1 0	15 14 13 12 11 10 9 8
<input checked="" type="checkbox"/> CAN ID: 0x183 Team PedalAcc (tpa)	7 6 5 4 3 2 1 0	15 14 13 12 11 10 9 8
<input checked="" type="checkbox"/> CAN ID: 0x184 Team Pbrake F (tpbf)	7 6 5 4 3 2 1 0	15 14 13 12 11 10 9 8
<input checked="" type="checkbox"/> CAN ID: 0x185 Team SteerAngle (tsa)	7 6 5 4 3 2 1 0	15 14 13 12 11 10 9 8
<input checked="" type="checkbox"/> CAN ID: 0x187 Seru Mappos (mp)	7 6 5 4 3 2 1 0	15 14 13 12 11 10 9 8



Scrutineering

Service Proposal

Off-track service and support

- It is very important to really prepare the events before them, to speed up as much as possible all the processes at the Circuits.
- And most of the times, the interaction between the teams, manufacturers and the promoter is imperative to reach the objective.
- Most of the teams require some advise to properly install and maintain the Scrutineering – BoP logging systems (CAN configuration and connection, etc.).



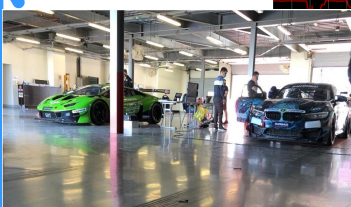
Scrutineering

Service Proposal

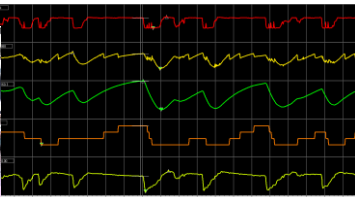
BoP management

- The final and “most important” product that must be obtained from all the process is the correct Balance of Performance.
- This is not the place to completely detail the required procedure to obtain a good BoP, but just to give an idea, the overall scheme is the following.

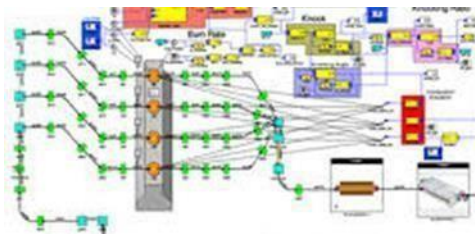
Data Collection



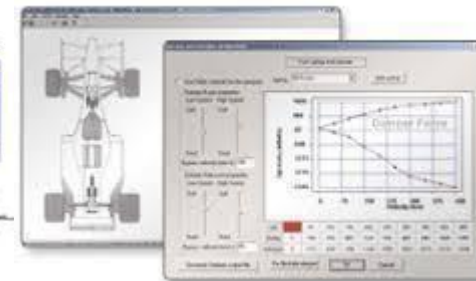
Analysis



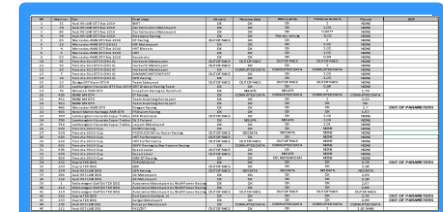
Modeling



Simulation



Conclusions & Decisions



Scrutineering

Why AIM scrutineering?

Introduction

- **AIM scrutineering** is a Spanish engineering company, mainly focused on automotive sector and Motorsport services.
- Always collaborating and capturing talent from the main universities, we try to innovate with research and investigation, but always sticking to our DNA values as high level service provider.
- We really understand the automotive sector and Motorsport activities, not only from a technical and engineering point of view, but also from a management vision.
- All of our staff members, full time and part time ones, are at least MSC, and some of them hold Ph Doctor degrees on Vehicle Dynamics, Simulation or business administration.



Scrutineering

Why AIM scrutineering?

What are we dedicated to?

Our main activity areas are:

- ✓ **Training**: Providing Analysis solutions, from specific Championships with our own devices to have the greatest confidence.
- ✓ **Simulation**: Mainly dedicated to vehicle dynamics, we not only have our own models, but we also work with the main simulation softwares (Lapsim and Chassissim), depending on the needs of our customers.
- ✓ **Design and analysis**: From specific components, to complete systems, and from design to manufacturing.
- ✓ **Data acquisition**: As most of the customers know, the real value about the data acquisition systems is not the system itself. The real value is to know exactly what you need to measure, how are you going to measure it, what valuable conclusions are you obtaining, and what actions (setting, design improvements, driver skills development, etc.) you need to perform.

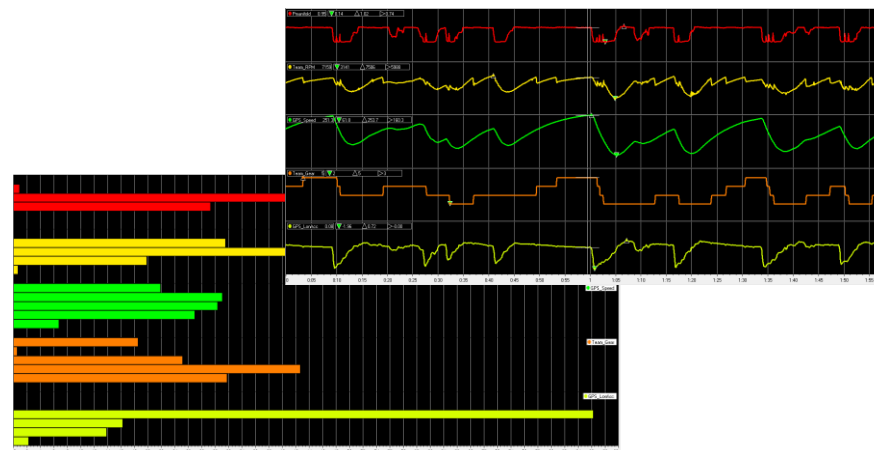
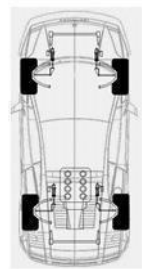


Scrutineering

Why AIM scrutineering?

What are we dedicated to?

- But we also are able to deliver whatever combination of the formerly described areas to really satisfy the customer needs. Some examples are:
 - **BoP**: Combination of simulation, data acquisition design and configuration, on-track service providing, data collection and analysis to fix Balance of performances among several categories and championship.



ID	<input checked="" type="checkbox"/>	Name	Function	Unit	Freq
CC01	<input checked="" type="checkbox"/>	Team RPM	Engine RPM	rpm	10 Hz
CC02	<input checked="" type="checkbox"/>	Team Fuel Cons	Fuel Level	l 0.1	10 Hz
CC03	<input checked="" type="checkbox"/>	Team PressMani	Pressure	bar 0.01	10 Hz
CC04	<input checked="" type="checkbox"/>	Team Throttle R	Pct Throttle Load	% 0.01	10 Hz
CC05	<input checked="" type="checkbox"/>	Team Throttle L	Pct Throttle Load	% 0.01	10 Hz
CC06	<input type="checkbox"/>	Scru Ignition Ad	Angle	deg 0.1	10 Hz
CC07	<input type="checkbox"/>	Scru WSpeed FR	Wheel Spd	kmh 0.1	10 Hz
CC08	<input type="checkbox"/>	Scru WSpeed FL	Wheel Spd	kmh 0.1	10 Hz
CC09	<input type="checkbox"/>	Scru WSpeed RL	Wheel Spd	kmh 0.1	10 Hz
CC10	<input type="checkbox"/>	Scru WSpeed RR	Wheel Spd	kmh 0.1	10 Hz
CC11	<input checked="" type="checkbox"/>	Team PedalAcc	Percent	% 0.01	10 Hz
CC12	<input type="checkbox"/>	Scru Lambda R	Lambda	lambda 0.01	10 Hz
CC13	<input type="checkbox"/>	Scru Lambda L	Lambda	lambda 0.01	10 Hz
CC14	<input checked="" type="checkbox"/>	Team Fuelcons	Fuel Level	l 0.1	10 Hz
CC14	<input checked="" type="checkbox"/>	Team Pbrake F	Brake Press	bar 0.1	10 Hz
CC15	<input checked="" type="checkbox"/>	Team Pbrake R	Brake Press	bar 0.1	10 Hz
CC16	<input type="checkbox"/>	Scru Temp Airbox	Intake Air Temp	C 0.1	10 Hz
CC17	<input type="checkbox"/>	Scru Qty Inject	Fuel Level	l 0.1	10 Hz
CC18	<input checked="" type="checkbox"/>	Team Temp Water	Water Temp	C 0.1	10 Hz
CC19	<input type="checkbox"/>	Scru Temp Fuel	Temperature	C 0.1	10 Hz
CC20	<input type="checkbox"/>	Team Gear	Gear	gear	10 Hz
CC21	<input checked="" type="checkbox"/>	Team SteerAngle	Steering Pos	deg 0.1	10 Hz
CC22	<input checked="" type="checkbox"/>	Team AmbPress	Pressure	bar 0.01	10 Hz
CC22	<input checked="" type="checkbox"/>	Scru Mappos	Number	#	10 Hz
CC25	<input type="checkbox"/>	TPM FL	Pressure	bar 0.01	10 Hz

Why AIM Scrutineering?

Just contact us



Scrutineering

C/ 17, nº1

08757 Corbera de Llobregat

Tel: +34 93 688 2513

eduard@aim-scrutineering.com

www.aim-scrutineering.com