

## Why MODUS HISPANICA ?

**MODUS Hispanica S.L.** is the leading service provider for the holistic validation method by, **testing automotive products in the reality of the entire system**, focusing on the European market conditions.

### MAIN ACTIVITY :

Testing by durability runs for

- **SYSTEM VALIDATION** of total vehicle
- **MODULE VALIDATION** of modules & components

### MOTORBIKE VALIDATION EXPERIENCE :

**3,66 mio. km      1993 - 2008**

Spain (Conil, Jerez, Mojacar)	27 %
Canary Islands	14 %
Germany, Austria, Italy	25 %
France	34 %

### Brands tested :

BMW	80 %
Yamaha	8 %
Honda	8 %
KTM	2 %
Rotax	1 %
Harley Davidson	1 %

### STAFF :

Permanent staff of 10 specially trained professional motorbike drivers/evaluators & mechanics :

- min. 25 year old
- 50.000 - 1 mio. km test experience each

## Why motorbike testing ?

**MODUS Hispanica S.L.** is specialized & experienced in validation of durability, reliability & quality monitoring of **motorbike** prototypes, pre- & first production and benchmark vehicles.

- Subjective evaluation
- Objective measurements
- Interactions of components
- Rigidity of bolt & weld connections
- Emissions
- Brakes
- Handling
- Maintenance & service

### CLIENT BENEFIT :

**Anticipatory analysis of product quality & reliability resulting in**

⇒ **increased efficiency & reduced warranty costs ;**

⇒ **increased customer satisfaction.**



## How do we test ?

**MODUS motorbike tests** are performed in a wide range of different driving conditions :

- Race circuits
- Proving ground
- Highway
- Country road
- City
- Mountain / altitude
- Off-road / enduro

Different load conditions are applied:

- With / without luggage
- With / without pillion

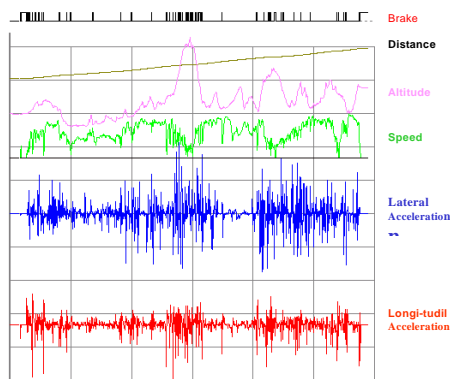
Tests are performed under all weather conditions.



## What do we measure ?

**MODUS Hispanica S.L.** performs measurements & engineering analysis:

- Tyre wear & lifetime
- Brake wear & lifetime
- Body level
- Temperatures
- Brake events
- Stopping distance
- Slalom (time)
- Longitudinal & lateral acceleration
- Fuel consumption
- Oil consumption
- Test run control 100% by GPS



## Why mainly in Spain ?

Motorbike validation tests are mainly performed on public roads in **southern Spain** in the province of Cadiz for its variety of route types and the vicinity of mountains.

- **Climate:** most of the time dry and stable weather conditions for safe & repeatable driving conditions.
- **Few traffic:** for better control of driving conditions
- **Wide variety of road types & surfaces:**
  - highway
  - country good / medium / bad
  - city with cobble stone
  - severe mountain with many curves
  - dust & gravel
  - different levels of  $\mu$
- **Vicinity of proving grounds:** circuits in Jerez, Ronda, Gaudix, Huelva.

Other test locations :

**Tenerife** : quick altitude changes

**Germany** : mixed weather conditions

**Southern France & Italy**



## MOTORBIKE TESTING



## MOTORBIKE DURABILITY VALIDATION



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