



SAFERIDER Project: objectives and target

Advanced telematics for enhancing the safety and comfort for motorcycle riders



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SAFERIDER Consortium



- 20 partners from 9 European Countries:



CERTH/HIT Greece



PIAGGIO Italy



UNIMORE Italy



UNIPD Italy



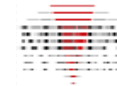
INRETS France



CIDAUT Spain



MIRA United Kingdom



Metasystem Italy



BAST Germany



AvMap Italy



FhG / IAO Germany



UNIFI Italy



CS Switzerland



IBEO Germany



FEMA Belgium



Yamaha Netherlands



PERCRO Italy



NZI Spain



UNITN Italy



ERT France

UNIMORE

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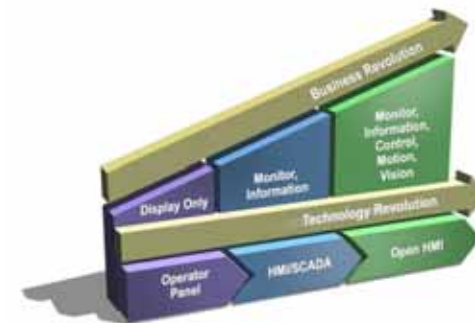
The principal SAFERIDER aims are:

- To study the potential of ADAS/IVIS integration on motorcycles for the most crucial functionalities regarding safety and on-board information
- To develop efficient and rider-friendly interfaces and interaction elements for riders comfort and

Project major topics



- User Needs and Use Cases Objectives
- ADAS/IVIS System Architecture
- ADAS & IVIS development
- Human Machine Interaction
- Integration
- Verification and test



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User Needs and Use Cases

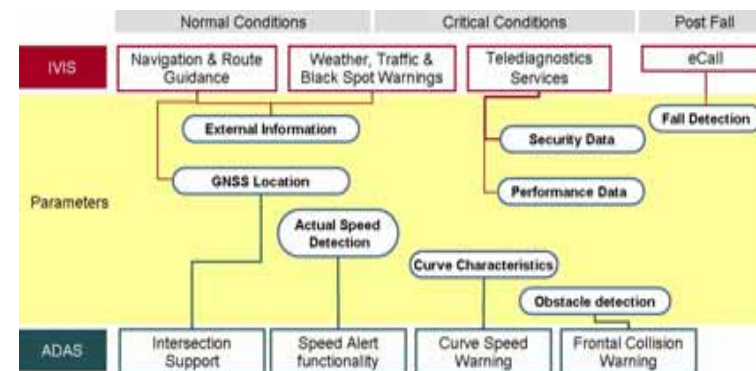
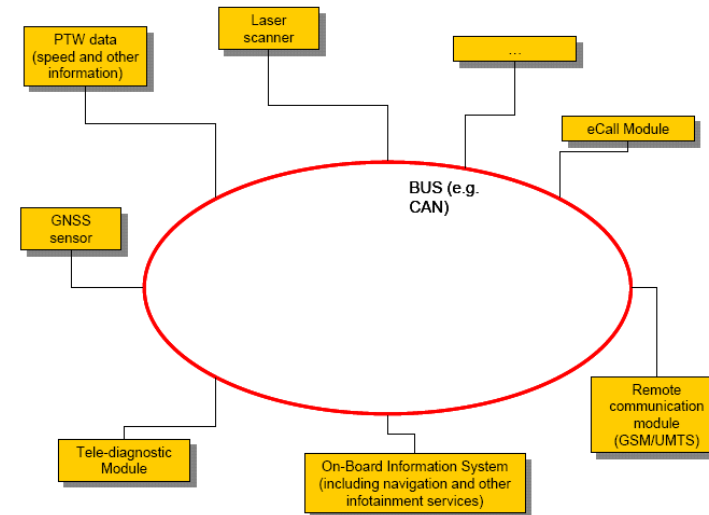


- To investigate various accident databases, prioritizing ADAS/IVIS with maximum potential impact to traffic safety
- To review and evaluate applications for PTWs, through:
 - ergonomic inspection and literature survey (existing and emerging ADAS/IVIS)
 - riders' needs
 - technological benchmarking and most promising components
- To define the project priority use cases:
 - in terms of type of PTW
 - road type and scenarios of vehicle interactions
 - ADAS/IVIS
 - other equipment used (i.e. type of helmet), number of occupants and other environmental factors (i.e. weather, time of day, etc.).

System Architecture



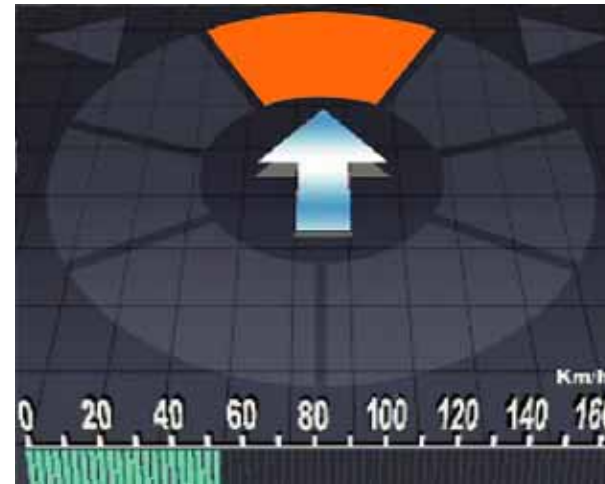
- To develop a modular, flexible and open to multiple ADAS/IVIS System Architecture:
- To perform an a priori Risk Analysis of system, subsystems and applications.





To design and develop four ADAS applications for motorcycles with high traffic safety impact potential:

- Speed Alerts
- Curve Speed Warning
- Frontal Collision Warning
- Intersection Support



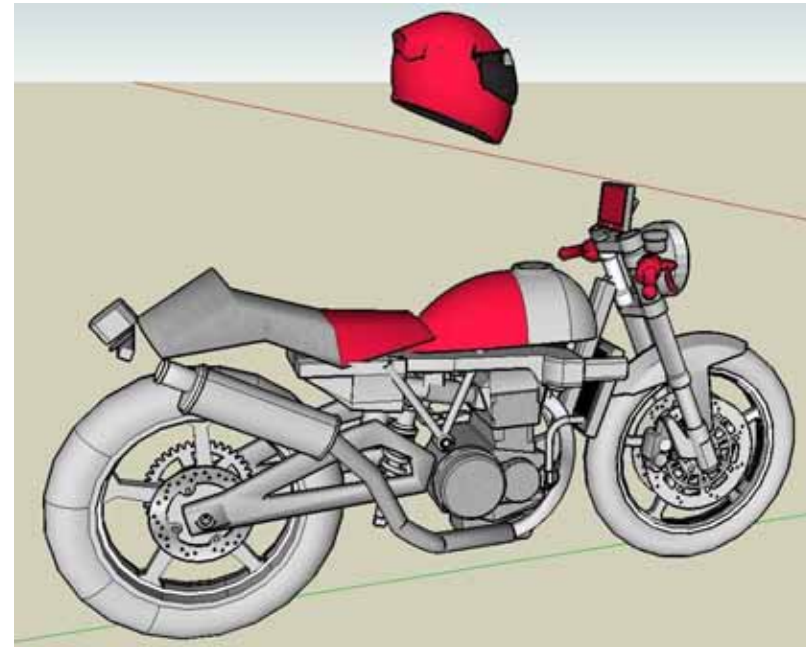
To design and develop four IVIS applications for of high added value to riders comfort and potential impact to traffic safety:

- eCall
- Telediagnostic Service
- Navigation and Route Guidance
- Weather, Traffic & Black Spot Warning





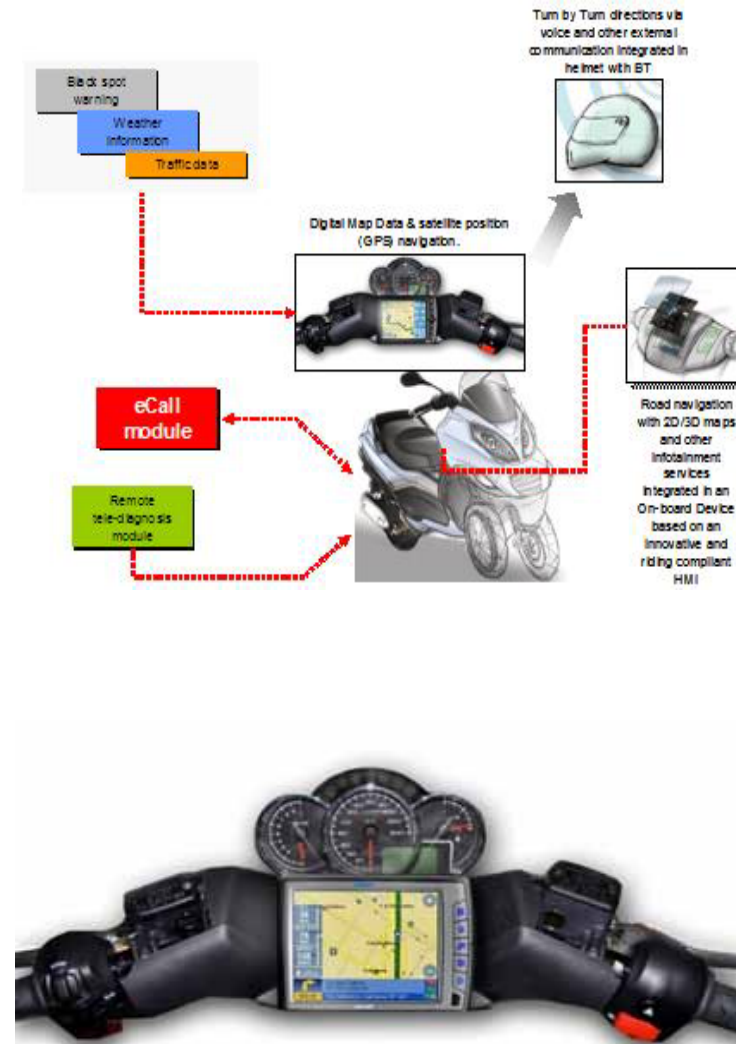
- To develop an integrated and modular HMI solution for all applications, tailored towards motorcyclists' and riders' requirements.
- To warn the cyclist in time and safely about possible hazards in the near future.
- To achieve high acceptance for rider warnings with high levels of perceived usefulness and satisfaction.
- To keep distraction as low as possible by developing highly intuitive warning stimuli.



Integration



- To integrate ADAS & IVIS applications in 3 simulators and 9 PTW demonstrators
- To perform technical verification of all integrated functions (as stand-alone and in combinations)





- To test all project developments, through the use of common and appropriate subjective and objective evaluation tools.
- To iteratively test and optimise ADAS & IVIS functionalities and HMI concepts, algorithms and elements through rider simulator tests.
- To verify the developed functionalities and HMI usability and estimate their traffic safety impact through pilot tests with:
 - rider simulators and PTW demonstrators
 - in 5 European countries
 - including different PTW types
 - and different riders-riding experience, cultural and sociological background.



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