>>> RALLY SAFETY SYSTEM

Rally Safety System

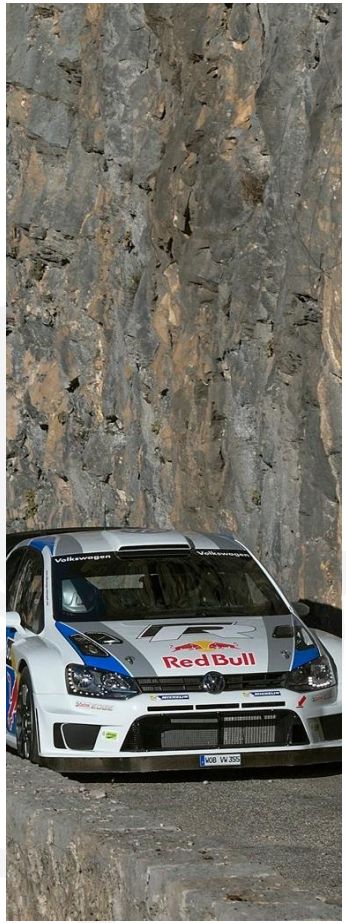
• Complete rally monitoring system based on GPS and GLONASS satellite positioning technology, GPRS data transfer and advanced cloud server data processing.

• Online solutions for rally control and interactive dispatch of services.

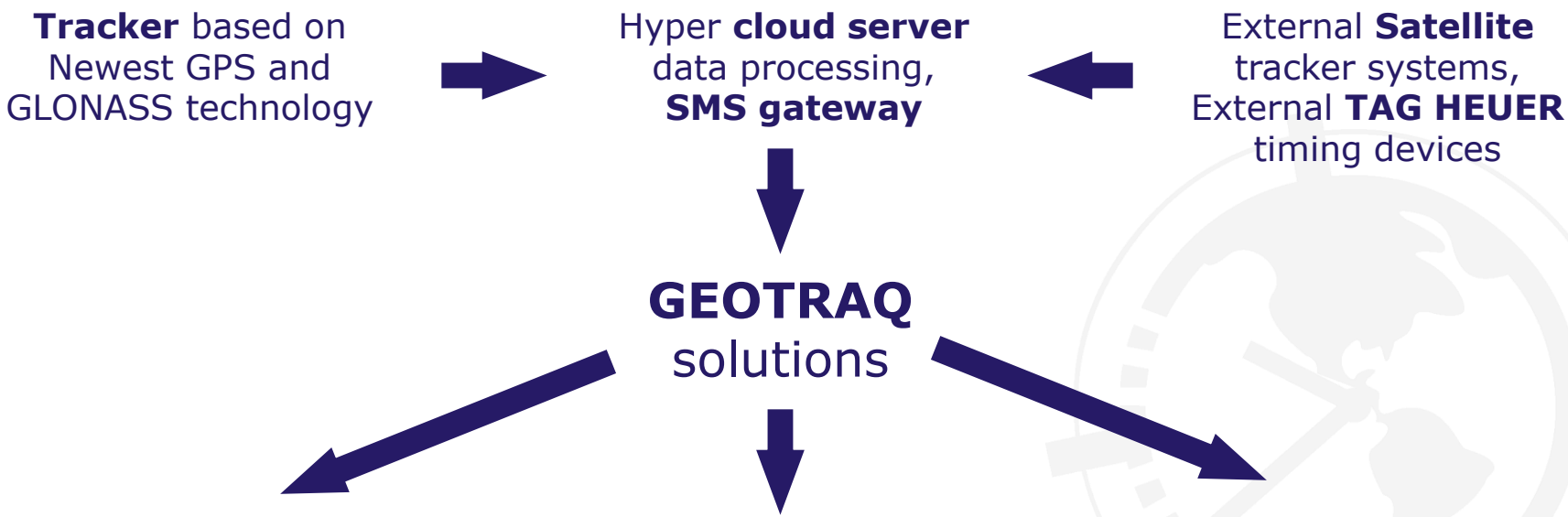
• The GEOTRAQ system is developed, maintained and operated by active rally drivers and co-drivers.

• Over 5 years of experience in rally monitoring and interactive timekeeping.

• „From racing seat to code-base in five minutes“. Fastest response in market.



Overview of the system



Tracker device

- GPS and GLONASS navigation systems
  - maximum of precision, even in the harshest enviroments
- GPRS class 10 communication
  - Fast and reliable 3G speed for data transfer
- High sensitivity internal antenna
  - No need of external cables and antennas
- Li-Po internal rechargeable battery
  - Self-sufficient up to 12 hours with back up power
- Build-in accelerometer
  - G-force data for direct accident assessment
- Internal flash memory
  - 100’000 records storage capability
- Compact size and light weight
  - 70x70x27mm – no need of special mounting brackets
- Waterproof IP67
  - Function guarantied in worse environmental conditions.

Alarm box

- SOS button
  - Distress call directly to Rally Control via SMS and GPRS communication
- Recovery button
  - Request to Rally Control for vehicle recovery
- OK button
  - Confirmation button for status, request, alarm call-off
- Red flag
  - Bright LED light when red flag conditions are activated by Rally Control
- Accident alarm
  - Bright LED light triggered when alarm is received from another competitor
- Overtaking request
  - Bright LED light triggered when overtaking request is received
- Buzzer
  - Alarm scenarios allow the use of a buzzer sound

Other geodata-sources

- Easy to integrate
  - External devices like SPOT satellite trackers are ready to be integrated into the system
- External SOS / Alert function
  - All functions of other geodata-sources work seamless
- Track data back up
  - All the records are stored on a back up server for later use and analysis

Other timing sources

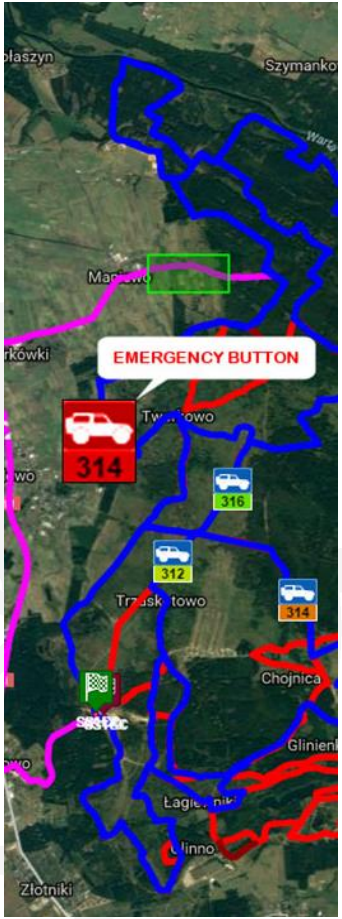
- TAG Heuer
  - The system is already developed to use the latest TAG Heuer stopwatches

Safety features

- SOS button
  - Fast and accurate dispatch of medical crews over road and air
- Crash analyzing algorithm
  - Immediate alarm based on movement-profiling and G-force vector calculation
- Speed control
  - Monitoring of speed limits and record of speeding in selective and road sections
- Recovery button
  - Fast and accurate dispatch of recovery crews
- Temperature monitoring
  - Data for temperature in the cockpit allow for faster understanding of situations
- GSM coverage
  - Optimization of rally personnel on stages and proper positioning of marshals
- Overview of all vehicles in rally
  - Live tracking of rally vehicles, safety cars, ambulances, tow trucks etc.

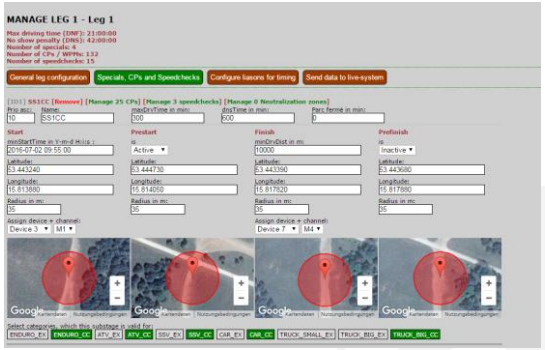
Race control Module

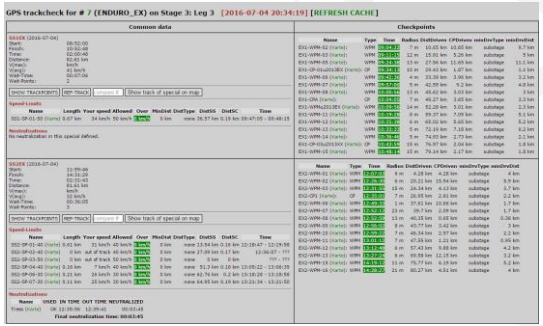
- Overview of all vehicles in rally
  - Live tracking of rally vehicles, safety cars, ambulances, tow trucks etc.
  - Complete dossier details and direct SMS texting to crew and rally service
  - Active map with rally route (itinerary, control zones, spectators zones, etc.)
  - Refresh of position every 5 seconds when minimum network coverage is available
  - Selective red flag and accident alarm activation for vehicles in stage
- Alarm pop-up on screen
  - Manual SOS alarm activation by crew
  - Alarm if unplanned STOP in selective section
  - Accident detection via G-force accelerometer/temperature sensor
  - Accident report log integrated in the Rally Control module
  - Recovery alarms with process integration – services on the way, ETA times, etc.
- Dispatch interface
  - Fast and easy communication between dispatchers, marshals and competitors
  - Easy to use “touch screen system” to dispatch help to emergency location
  - Automated dispatcher report log with response times data collected by trackers
- Marshals’ lists
  - Paperless lists for each control zone dynamically updated by the data tracker



Timekeeping module

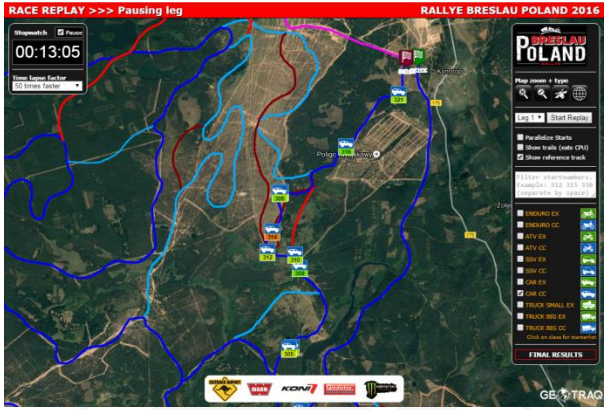
- Real time data interception
  - TAG Heuer stopwatches with SMS function
  - Active data from tracker devices
  - Data from other geodata-sources
- Automatic data analysis
  - Speed checks
  - Passage controls checks
  - Waypoints visible/masked
  - Time bonus in case of first aid, track blockage, etc.
- Live results
  - Split times selective sections and legs
  - Preliminary results with implemented penalties
- Competitor dossier
  - Complete details for each leg
  - Speed control and passage control checks
  - Penalties report
  - Leg replay
  - Comparison between competitors

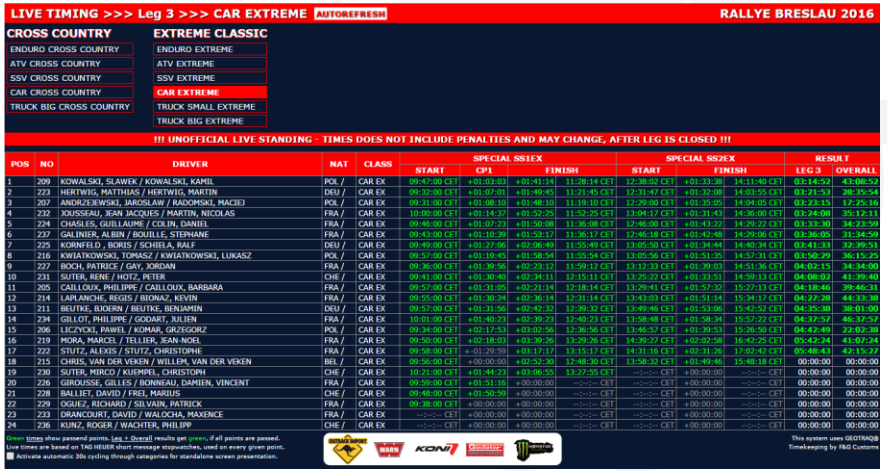




Live module

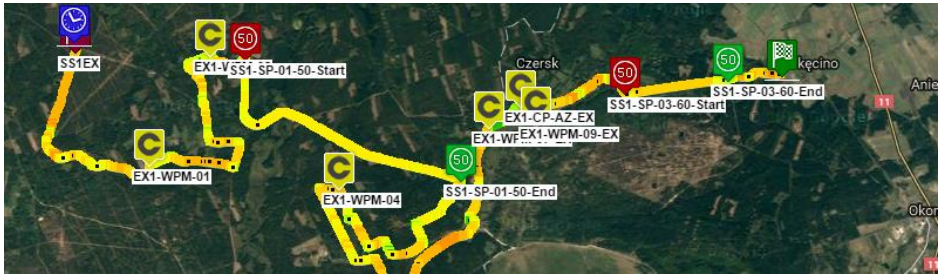
- Live tracking
  - Easy embedment of the Live tracking window in rally websites
  - Easy sponsors and promoters access for logo placement
  - Time delay in tracking window for no-cheat purposes
  - Online counters
- Live results
  - Split times on stages
  - Preliminary results with implemented penalties
  - Sponsors boxes
- Race replay
  - After Leg closure all track data is published
  - Review the Legs again to optimize strategy
  - Simulate parallel starts
  - Compare driving between competitors
  - Show trails to look for not allowed shortcuts
  - “Everything is transparent to everyone”

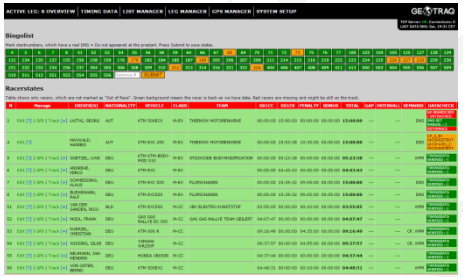




Debug module

- Device status
  - Features on managing each of the tracker devices
  - Manual “online reset” and reconfiguration
  - Status monitor
  - Easy to find faulty devices
- Network coverage
  - Measuring the quality of the GSM signal for safety
  - GSM reconnaissance map
  - Ensuring more marshals in “dead zones”
  - Better safety, optimized rally personal
  - No extra device measurement of the GSM signal





Features list

- Very flexible system with fast integration
- On site software-upgrades possible
- Export and import of data in different formats (XML, PDF, GPX, KML)
- Makes the race transparent and fair
- Supports many data sources
- Compatible with PC, tab, smartphone
- Requires only browser + internet
- Provides own hardware with GPS and GLONASS support, which gives unmatched coverage and precision
- Used and devolped for most complex conditions, like marathon cross country rallies
- Can handle more than 500 competitors in 50 classes
- Track and speed comparison for disputes or complaints
- 100% automatic speeding penalty via GPS-data, nobody can slip through the speed control zone.
- Works redundant and allows standalone message triggers as crashes or emergency
- Provides a complete rally control solution for rallies, cross country bajas, rallies and marathons
- Livetiming, Livemap and Rally-Replay
- Pre-run mobile network coverage tool
- Developed and supported by active rally drivers, who know the demands. „From racing seat to code-base in five minutes". Fastest response in market.
- Visual first-aid-times filter for precise time bonus gratification (cross country rallies)
- Can neutralize an area of problems (cross country rally)
- Automatic distribution of lists (entry, starter, results) to partners, foreign sytems and websites
- Advanced SMS communication module for fast and guaranteed message delivery to selected groups or individuals, registered in the event.

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