



HMP



BAU GmbH.

The Revolution of Obstacle-Simulation



HMP... More Safety.

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- HMP is a company with long time experience in conceptioning, planning and building Road Safety Training Centers (RSTC's) incl. needed technical equipment like irrigation systems, control electronics, water obstacles, mechanical obstacles, speed measurement systems, hydraulic skid plates, etc.
- HMP, by utilizing its network, has access to specialists with up to 25 years of experience in the fields of operational concepts, training programmes, instructor education, business case design, marketing activities
- HMP is also your specialist for:
 - the selection for the optimal **skid coatings** (Epoxy- oder Bitumenbasis)
 - running cost optimized and maintenance friendly **irrigation systems**
 - **maintenance-/service of all kinds. Also of systems installed/supplied from our competitors**
(incl. renovation and/or replacement of out-dated equipment)



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- Through our contacts to many training providers and also directly to instructors we have been asked for an alternative to water obstacles. We accepted this challenge, and the outcome you will experience in this presentation!
- Visit us at www.hmp-bau.com and get information about our product portfolio, but also about our satisfied customers like AUDI, VOLVO, RED BULL and any more.



ADAC

ADAC Westfalen e.V.



BOSCH
Technik fürs Leben



acfc.lu



HMP... Good to Know.

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- To dodge a „suddenly appearing obstacle“ is, since the existence of driver training, an essential element of the training. In the beginning obstacles were simulated using traffic-cones, this was everything but an unexpected event.
- For about 25 years so called „water obstacles“ exist. These „water obstacles“ pop out from the ground either by the push of a button or automatically controlled. A good solution, cost-intensive, but first and foremost expensive and complex to retrofit in an existing handling track. A lot of water is needed and with this, RSTC's have to be equipped with water reservoirs, plumbing, pumps, etc.
- Since approximately 4 years so called „mechanical obstacles“ exist. Meanwhile it is a proven „suddenly appearing obstacle“-simulation which is easy and fast to retrofit. If compared with „water obstacles“ the initial investment is favorable, it can also be used for motorcycle training and on top of it shows a lower operating cost.
- We have talked to many experienced instructors and used their inputs to improve, actually to revolutionize, „mechanical obstacles“!

HMP... At a First Glance.

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This is how the new generation of „mechanical obstacle“ looks like
The following pages contain further and important information



HMP... The Facts.

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Improve proven technology, non-practical becomes practical, more variables for the training – this was our target!



- Activation of the obstacles through light barriers or buried induction loops
- Activation/time ist short and simple to adjust/change. Therefore the difficulty level of the driver training can be changed as quick as a flash
- The major difference: the obstacle „width“ is variable adjustable. For example a single person or a truck can be simulated
- Through this new technology an obstacle „in motion“ is possible. For example an obstacle which „moves“ from one to the other side of the road, it crosses the road. This is essential when teaching observation techniques and subsequently outcoming decisions and actions
- Safe and reliable „disappearing“ obstacle in case of a possible contact with the vehicle
- Recording of theoretical collision speed. This can be actively incorporated in the training

Get more details...

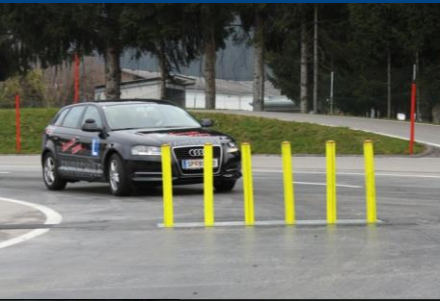
HMP... Technical Details.



A single mechanical obstacle is 2 meters wide, hence a single mechanical obstacle „blocks“ one lane

- *New:* The new design is not sensitive to wind. Therefore, and this differentiates the new design from the old, it will also work during high wind conditions!
- Mechanical obstacles can be integrated in new training tracks but also in existing ones. They can be used on straight areas as well as in turns of the tracks. Single installations as well as side-by-side and/or in series
- It is irrelevant if the training surfaces are fitted with a skid surface, equipped with irrigation (asphalt dynamic area) or simply „dry“ asphalt (handling track)

HMP... Technical Details.



- Due to variable „trigger timing“ (time between the vehicle passes over the induction loop and „appearing“ of the obstacle) combined with an on the fly adjustable difficulty level (how much time the driver has to react?) the mechanical obstacle can be utilized for all sorts of trainings.
- *Safety.* During the desing phase of respective training areas possible trainings, respectively desirable different kind of trainings, are taken into consideration. The maximum entering speed (on asphalt dynamic areas) is approx. 120 km/h. Additional installed burried induction loops avoid a possible collision of a vehicle with an obstacle and parallel valuable information is recorded. E.g. actual speed is measured which can be used for the moderation of the training – it applicable it provides residual- respectively theoretical collision speed at the obstacle
- Unlikely, but possible: Contact of the vehicle with the obstacle. Due to the design and used materials, damage to vehicles are eliminate. A damaged, eventually destroyed, obstacle component is easily, fast and individually replaceable!

HMP... Technical Details.

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- 2 meters wide
- Suddenly appearing
- „lurid“ colors



- Clearly visible
- „solid“ optic
- A „real“ obstacle – psychologically „valuable“

„late disappearing“ –
resulting in realistic driver reactions

HMP... Technical Details.

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- Revolutionary – every single element (6 poles) of the mechanical obstacle is individually controllable!
- Consequently every single element can „appear“ individually and/or one after the other
- A „moving“ obstacle can be simulated. E.g. Single elements appear/disappear from left to the right, as if a vehicle (in an intersection) „crosses“ the road (violating right of way)

HMP... Technical Details.

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By measuring actual speed and appropriate calculation...

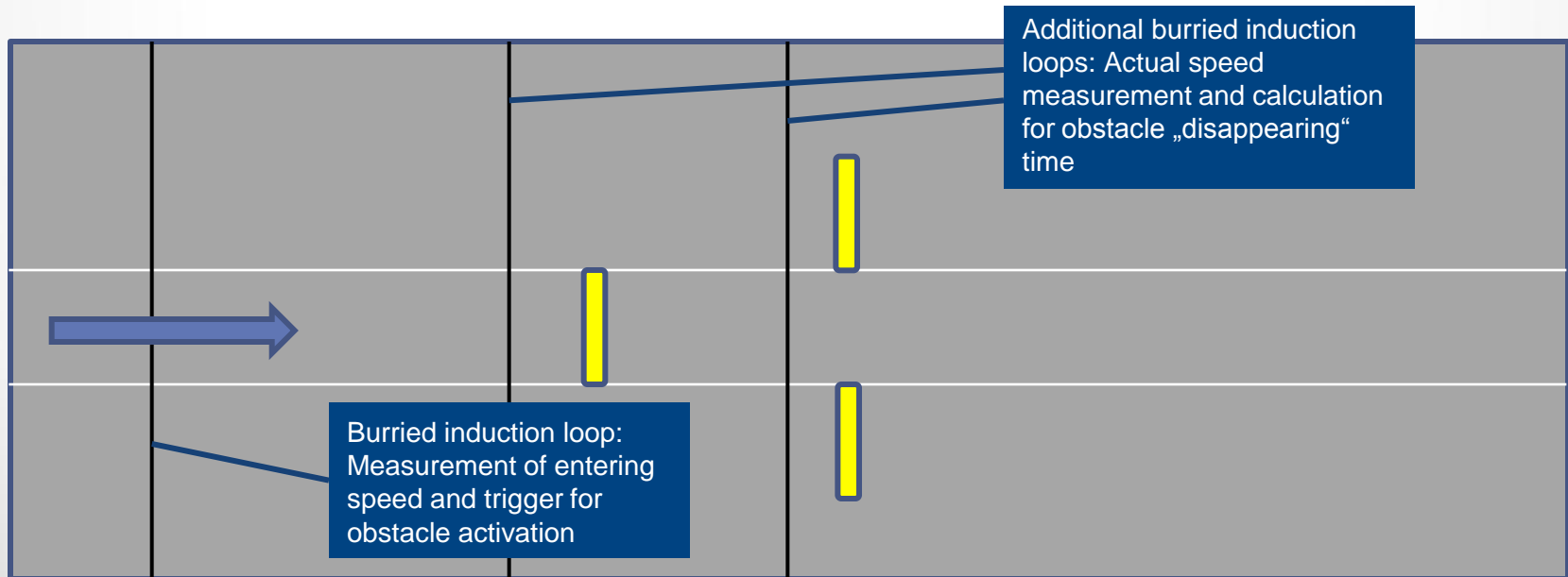


...the obstacle "disappears" just before a collision – all within tenths of a second!



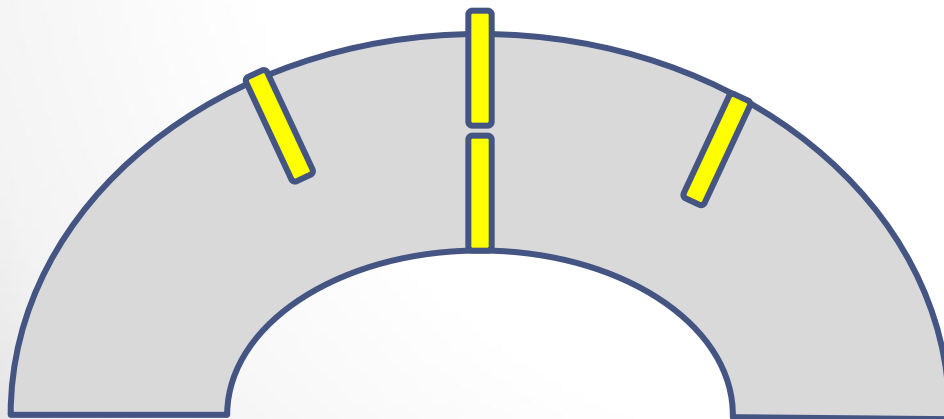
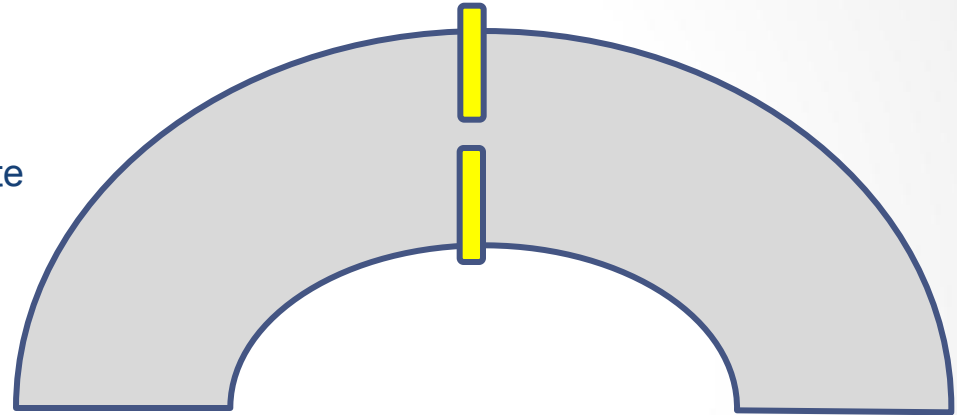
...simultaneously the theoretical speed is measured and displayed!

- Asphalt dynamic area (irrigated or dry)
- Training situatiuon: Emergency braking if needed dodging (1 obstacle on one's own lane) possible doging directions either left or right
- Add-on possibility: Simulation of additional obstacles (left lane = e.g. oncoming traffic) to „force“ the driver to maneuver back to his own lane
- Training speed (entering speed) up to 120 km/h possible. Due to variable „trigger timing“ (time between the vehicle passes over the induction loop and „appearing“ of the obstacle)

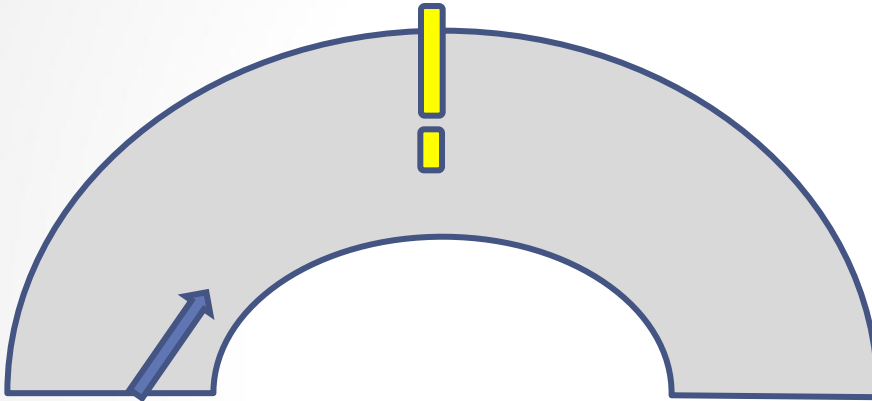


HMP... Exampel.

1. A turn (with or w/o skid surface):
One or two obstacles (at the apex) to simulate a blocked lane, a „complete road closure“ (emergency braking), or to simulate oncoming traffic (observation techniques, understeering)



2. A turn (with or w/o skid surface):
Several obstacles to simulate a variety of traffic situations



- A turn (with or w/o skid surface):
Two obstacles „side-by-side“
- Because every single element is individually controllable only 2 elements appear on the inner-curve obstacle – simulation of an oncoming vehicle (truck, bike etc.) „cutting a corner“
- Through its versatility many traffic situations can be trained very close to reality
- Many of this traffic situations are already „preprogrammed“ and can simply be called up by the trainer



HMP... Summary.

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- The new, revolutionary improved, patented generation of mechanical obstacles is the cost-efficient alternative to water obstacles
- Mechanical obstacles can easily, fast and above all cost-efficiently be retrofitted in existing areas (with considerable low operation interruption !)
- Depending on the amount of mechanical obstacles there is a nearly countless number of possibilities for different realistic traffic simulations. Thus ensuring a diverse and „action-rich“ training!
- We would be pleased to prepare a customized concept, regardless if on a newly build area or add-on to an existing area, which fits your needs. If desired we can also develop the training concept and conduct appropriate trainer trainings

Looking forward to your inquiry !



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For all our products the following applies:

We are pleased to respond to your special request, **custom-builds** are possible at any time.

Contact us – together we will find a solution to every challenge!

Contact.

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