



EDDA+

EARLY DETECTION OF
DANGEROUS AREAS
IN ROAD TRAFFIC
USING SMART DATA

INITIATIVE FÜR
sichere-strassen.org



RWTH AACHEN
UNIVERSITY



funded by:



EDDA+ project presentation

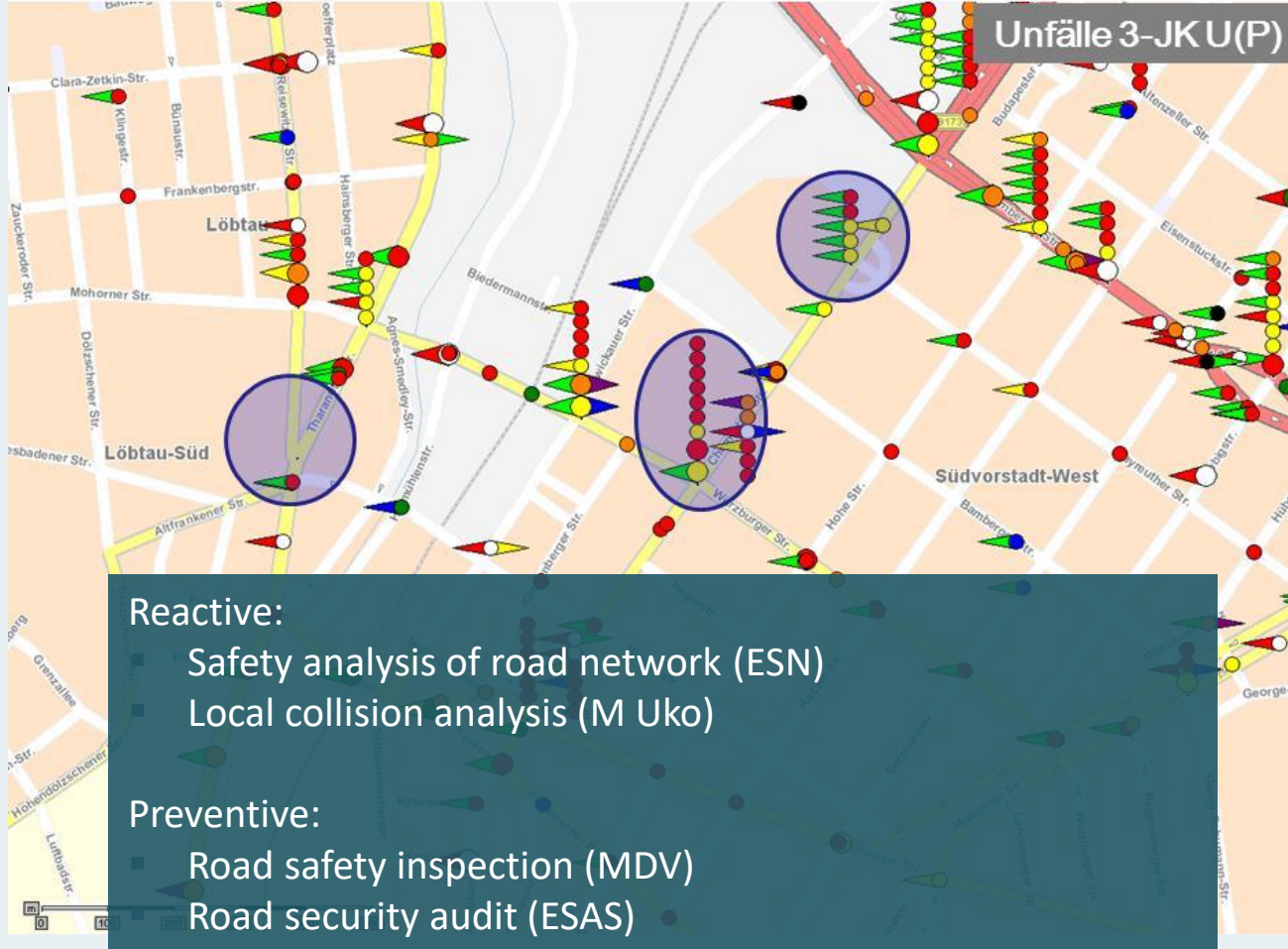
Excellence in Road Safety Awards 2022

Award submission

Platform:

dangerspots!org

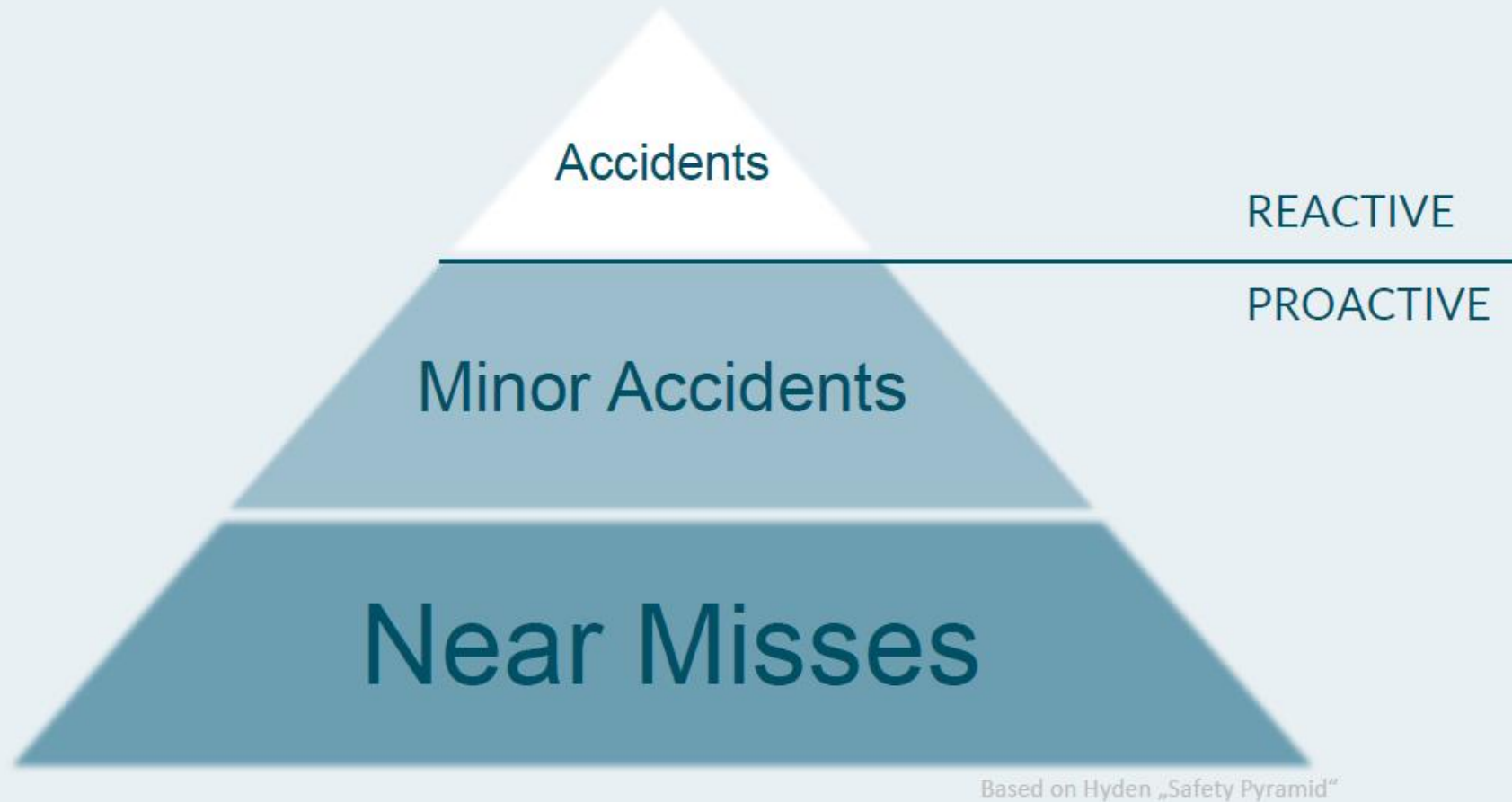
Instruments in road safety work



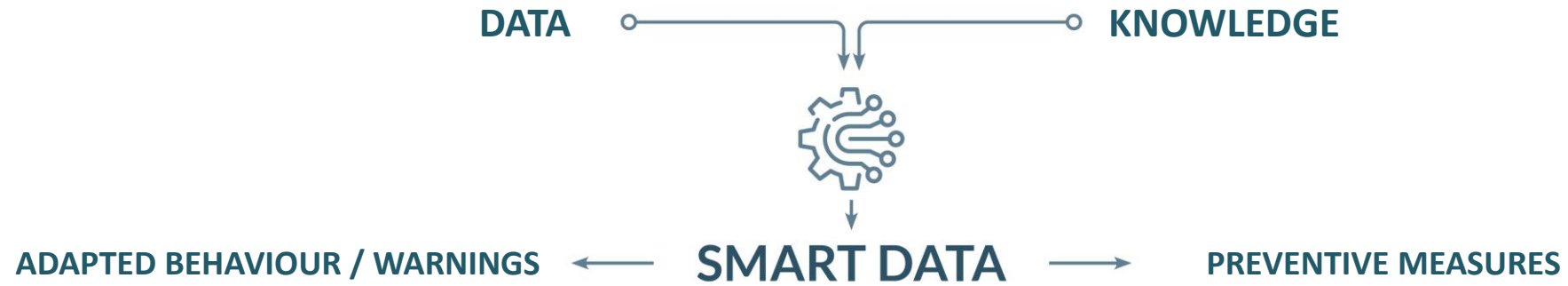
„Why wait for a crash“, Aachener Zeitung (German Newspaper)

- Proactive analysis of “blackspots” (EU)*

EDDA+ = Preventive work



OVERALL GOAL



Road users



Road safety work



Hazard Score Map

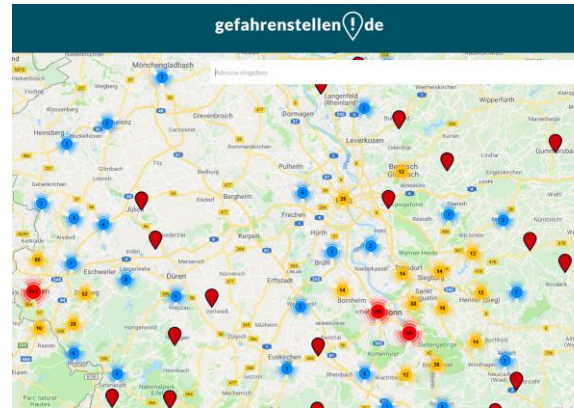
with user reports on www.gefährnenstellen.de



Accident data



Road user reports



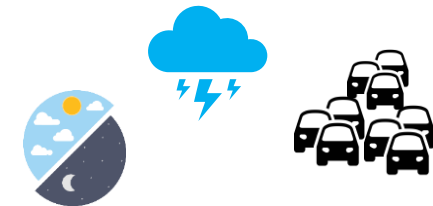
Kinematic data



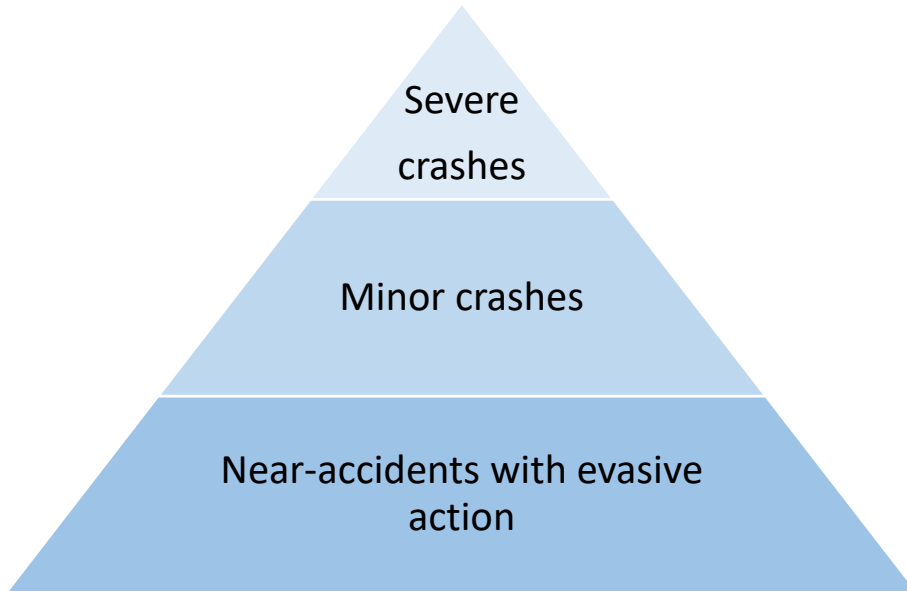
Hazard score



Context factors



METHOD of safety rating



Baseline danger level through

- Crash data
- (Safety critical driving situations)

Increase of danger level depending on

- Number of reports & supports

5 danger levels

SYSTEMATIC RISK MAPPING

via Hazard Score Map



- Road network all over Germany (urban roads, rural roads, highways ...)
- Currently available for 10 out of 16 federal states in Germany, German wide coverage this summer
- Coverage of 2-3 other European countries planned starting in late 2022 / early 2023
- Open for more countries and international collaboration

<https://www.gefahrenstellen.de/>

ADVANTAGES

Unique characteristics

Evidence based hazard score using data sources for validation and cross-referencing

Scientifically validated by RWTH Aachen und Police University incl. site inspections

Granular resolution of road network - 20m or less in urban areas

Context sensitive i.e. taking into account the specific situation of incidents

Type of risk identification showing the issue why an area is dangerous

Road user focus i.e. for whom the danger is the most relevant

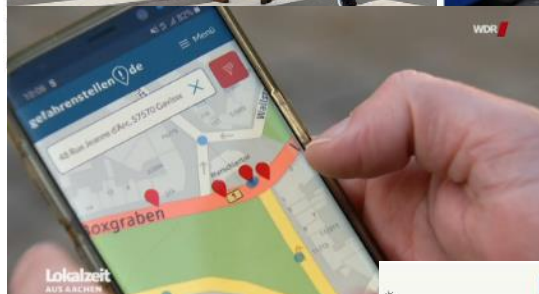
Road user data promotion



General-Anzeiger BONN REGION NEWS SPORT FREIZEIT RATGEBER CORONA
Aachener Nachrichten LOKALES REGIONAL
 Hinweise zu gefährlichen Straßen
Bonner Initiative meldet viele Gefahrenstellen in d Bundesstadt
 3. Dezember 2021 um 20:00 Uhr | Lesedauer: 3 Minuten



Sicherheit im Straßenverkehr
Online-Nutzer id Gefahrenstellen
 26. MÄRZ 2019 UM 19:06 UHR | Lesedauer: 3 Minu



Straßenverkehrstechnik

Software
Jeder warnt jeden – neue App für die Verkehrs
 Schlechte Straßenverhältnisse oder unübersichtliche Stellen
 Verkehrsteilnehmer, die eine Mithras der Deutschen Mobilität
 raten, dass eine Gefahr vorliegt. So können sich Verkehrsteilnehmer
 schneller warnen und so die Sicherheit erhöhen. Die App ist
 kostenlos heruntergeladen und kann über den App Store oder
 Google Play Store heruntergeladen werden. Die App ist
 für Android und iOS verfügbar. Die App ist in der
 App Store und Google Play Store verfügbar.



Wir unterstützen gefahrenstellen.de / FeGiS+



Kirsten Bruhn
 Dreifache Paralympic Goldmedaillengewinnerin,
 Botschafterin für Rehabilitation, Prävention und Sport
 beim Unfallkrankenhaus Berlin

„Hoffentlich geht das gut!“

Weiterlesen/Schließen...



Thorsten Schröder
 Tagesschau-Sprecher und Moderator

„Antennen überall haben“

Weiterlesen/Schließen...



Sebastian Pufpaff
 Kabarettist und Moderator

„Der Zebrastreifen ist zur
 Todeszone geworden“

Weiterlesen/Schließen...



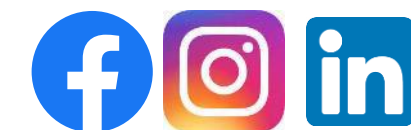
Prof. Dr. Walter Eichendorf
 Präsident des Deutschen Verkehrssicherheitsrats (DVR)



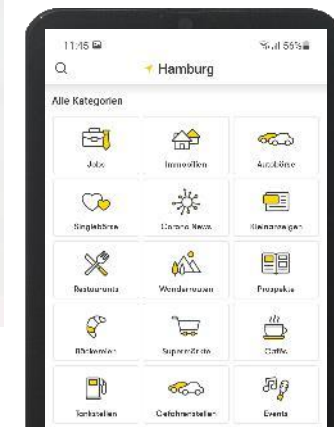
Heinz-Albert Stumpfen
 Gastdozent Deutsche Hochschule der Polizei, ehem.
 stellv. Leiter der Direktion Verkehr bei der Polizei



Claudia Nowak
 Stadt Aachen, Fachbereich für Stadtentwicklung,
 -planung und Mobilitätsinfrastruktur



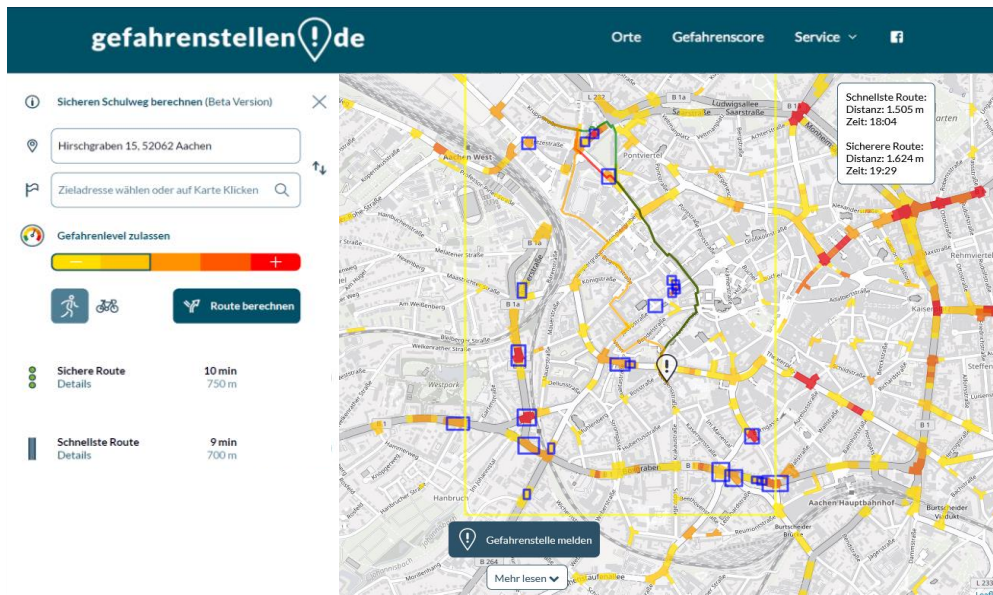
WIKIPEDIA
 Die freie Enzyklopädie



meinestadt.de



USE CASES for Road users



Coming soon: navigation solution for safest way to school

- Intuitive, dynamic **warnings** according to hazard score at danger spots (e.g. acceptable or inappropriate driving behaviour)
- **Suspend** distracting (smartphone-) **notifications** in dangerous areas with higher risk levels
- Investigating **safer routes** for e.g. cyclists, pedestrians / safest way to school
- Autonomous driving: data input for risk analysis (Dynamic Risk Management)
- Apps for **high risk groups**: young drivers, elderly drivers
- **Safety analysis** of aggregated and anonymized data for fleet management

USE CASE

Pro-Portal for municipalities and police authorities

The image displays three screenshots of the dangerspots!org Pro-Portal interface. The top-left screenshot shows a list of hazard locations in Aachen, with details for three specific spots: 52066 Aachen (Kurbrunnenstraße 48), 52072 Aachen (K6 19), and 52064 Aachen (B264 2). Each entry includes activity statistics like supporters, comments, clicks, and a danger level percentage. The top-right screenshot shows a map view of the same area with numerous hazard markers. The bottom screenshot shows a detailed view of a hazard at Chausseestraße 2, 15711 Königs Wusterhausen, including a map, a list of danger types, and a comment section.

Analysis tool with numerous filter functions, communication features and export options.

Best practice project: Königs Wusterhausen

ADVANTAGES

for municipalities and police authorities

- Early detection of new geocoded danger spots
- Additional information for road safety work
- Danger spots can be prioritized according to risk level
- Comparison btw. blackspots vs. public opinion
- Public authorities can get in contact with citizens
- Construction projects in traffic can be published on the platform
- Targeted presence of police at specific danger spots to increase awareness

THE PROJECT CONSORTIUM

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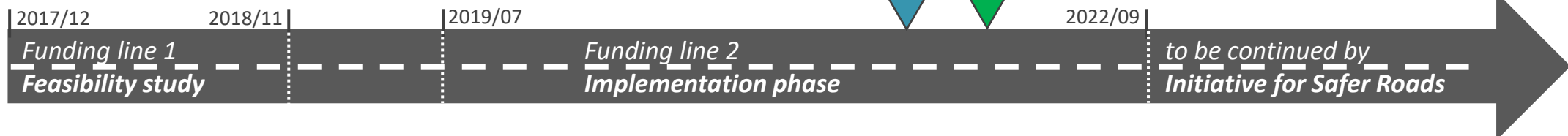
Associate partners:



Polizei Bremen



International
participation



MORE INFORMATION?

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