Sitraffic FUSION®

The next generation in adaptive traffic control

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FUSION: Enabling C-ITS Use Cases

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Utilizing richer data

- Above Ground Detection
- Object Tracking Data (Smart Detectors)
- Floating Car Data
- Cooperative Awareness Messages (CAM)
- Signal Request Message (SREM)

Significant Performance Increase & Reduction of Configuration Effort

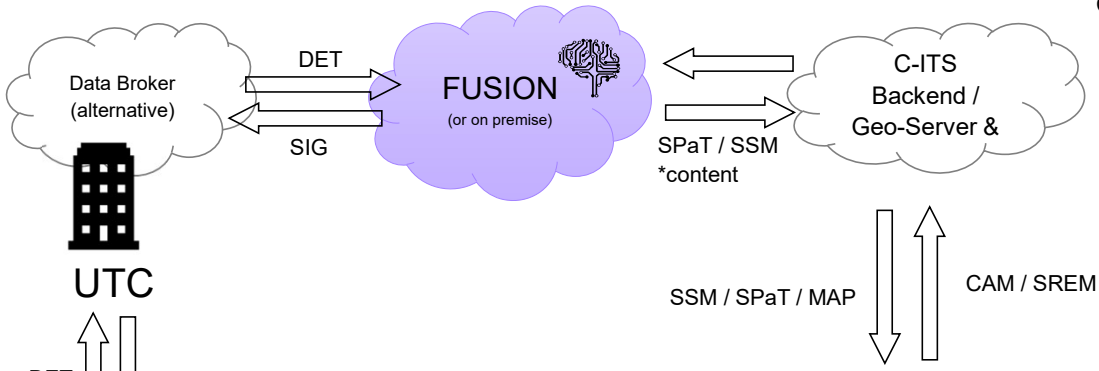
- better image of the actual traffic state
- higher accuracy for short term predictions (arrival profiles)
- improvement of traffic flow by reducing delays, stops etc.
- Auto-Validation of internal traffic models
- Fast response to demands of public tranport & emergency vehicles

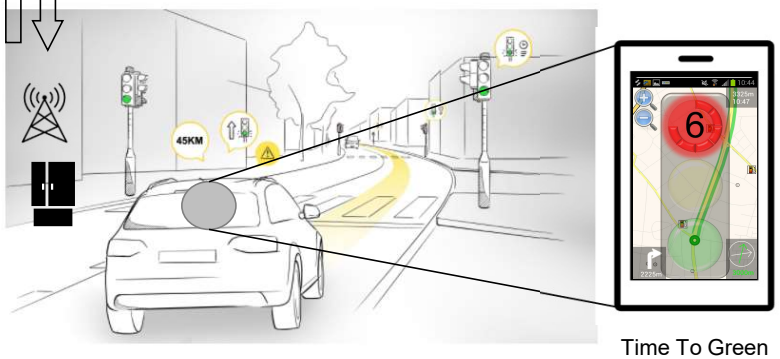
Connected Mobility

- Provision of Residual Signal Time (SPaT) & Map Data
- Enabler for Green Light Speed Advisory (GLOSA) and Time-To-Green Information

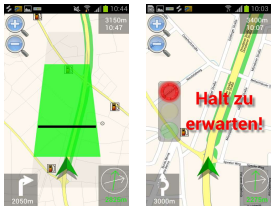
Reduction of Emission & Increase of Road Saftey and Driving Comfort

- Less stops due to Green Light Speed Advisory
- Warning of a (pending) red light
- Advice to reduce speed when green signal cannot be reached
- Reduction of "dead time" through increased attention to an pending green signal





Time To Green
(TTG)



Green Light Speed Advisory
(GLOSA)

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FUSION® enhances the functionality of existing adaptive control systems in addition to providing **six new key benefits:**

1. **Optimization** for all road users including pedestrians, cyclists and public transport
2. **Reduces delays by 25%** compared to conventional adaptive control
3. Targeted reduction in configuration and validation **cost savings of 20-30%**
4. Increased **safety and driver comfort** with C-ITS use-cases
5. **Significant performance increases** by integrating enhanced data (i.e., C-ITS & FCD)
6. **Prevent critical traffic situations** with long-term prediction (up to 1 hour)

Key Benefit 1: FUSION® is focusing on moving people across different modes and not just on cars

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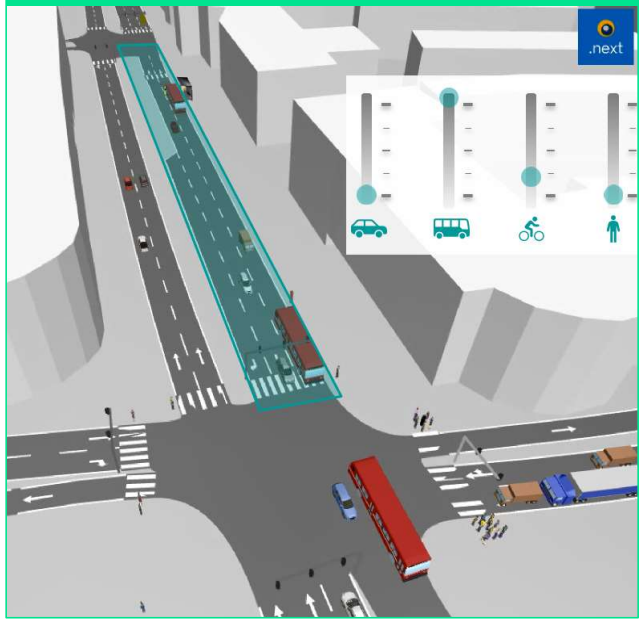
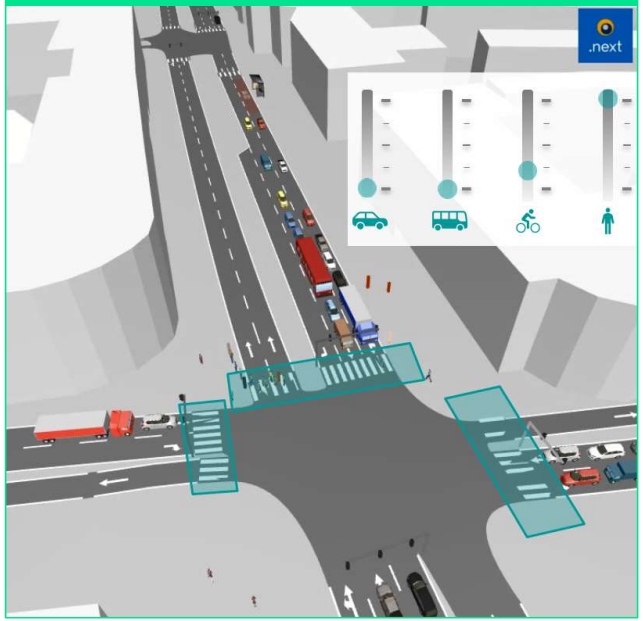
- Holistic optimization and prioritization for **all road users**
- **Increased flexibility** and **reduced engineering** efforts with sliders to adjust optimizers live

Cars

Public Transport



Pedestrian



Key Benefit 2: FUSION reduces traffic delays by 25% compared to SCOOT and 40% compared to fixed time

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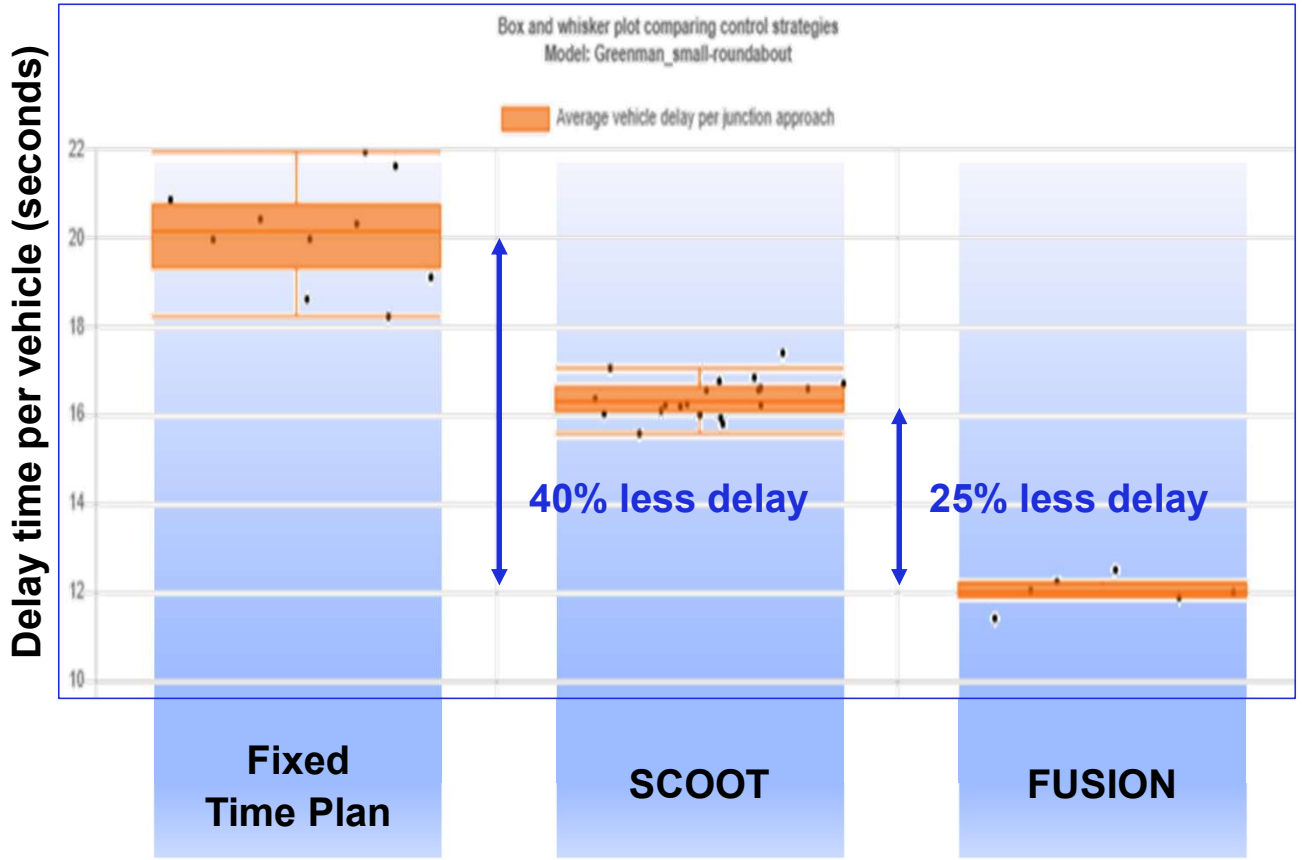
Usage of a unique methodology to **analyse and predict** the traffic situation:

- Tracking of **every object** across the **entire network**
- Using new optimization techniques in order to generate & adapt the **most suitable traffic signal plan**



Key Benefit 3: Targeted reduction in configuration and validation cost savings of 20-30%

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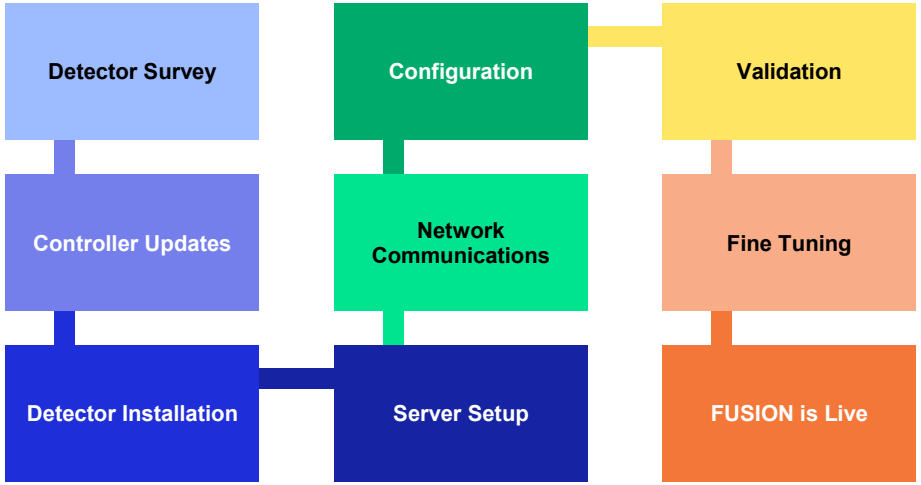

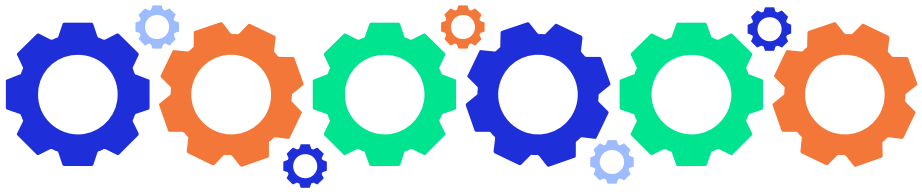

1. User Friendly Interface – Visualisation of Parameters
2. Compatibility with Mobile Devices
3. Usage of Floating Car Data for Automated Validations

1. Reduced set-up and operational costs
2. Higher performance over a longer period
3. No site visits required for validation

Key Benefit 4: Increased safety and driver comfort with C-ITS use-cases

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Use-Cases

- Provision of the given constraints of signal plan adaptions for Phase and Timing (SPaT) Service
- Configurable SPaT-Horizon to fix Residual Times

→ More accurate Time-to-Green (TTG) Information

→ Improved Green Light Speed Advisory (GLOSA)

Benefits

- Less stops due to GLOSA
- Increased safety with warning of impending red light
- Speed advice when green light out of reach
- Attention to impending green light
- Reduced "dead time" through increased attention to a pending green light
- Reduction in emissions (i.e., CO_2 by up to 27%)

Key Benefit 5: Significant performance increases by integrating enhanced data (i.e., C-ITS & FCD)

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New Data Sources:

- Object Tracking Data (Smart Detectors)
- Floating Car Data (FCD)
- Co-operative Awareness Messages (CAM)
- Signal Request Message (SREM)

Results in the following benefits:

- Improved quality of the actual traffic state
- Higher accuracy for short term predictions
- Improvement of traffic flow by reducing delays, stops, etc.
- Auto-validation of internal traffic models
- Fast response to demand to public transport & emergency vehicles

Key Benefit 6: Prevent critical traffic situations with long-term prediction (up to 1 hour)

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Benefits

- **High quality predictions** of potential congestion
- **Detect anomalies** in the traffic conditions that may be an incident
- Compare the expected effect of different response plans to **decide on the best intervention**

Sitraffic FUSION® – A new Adaptive Traffic Control System empowered by Artificial Intelligence & Connected Mobility

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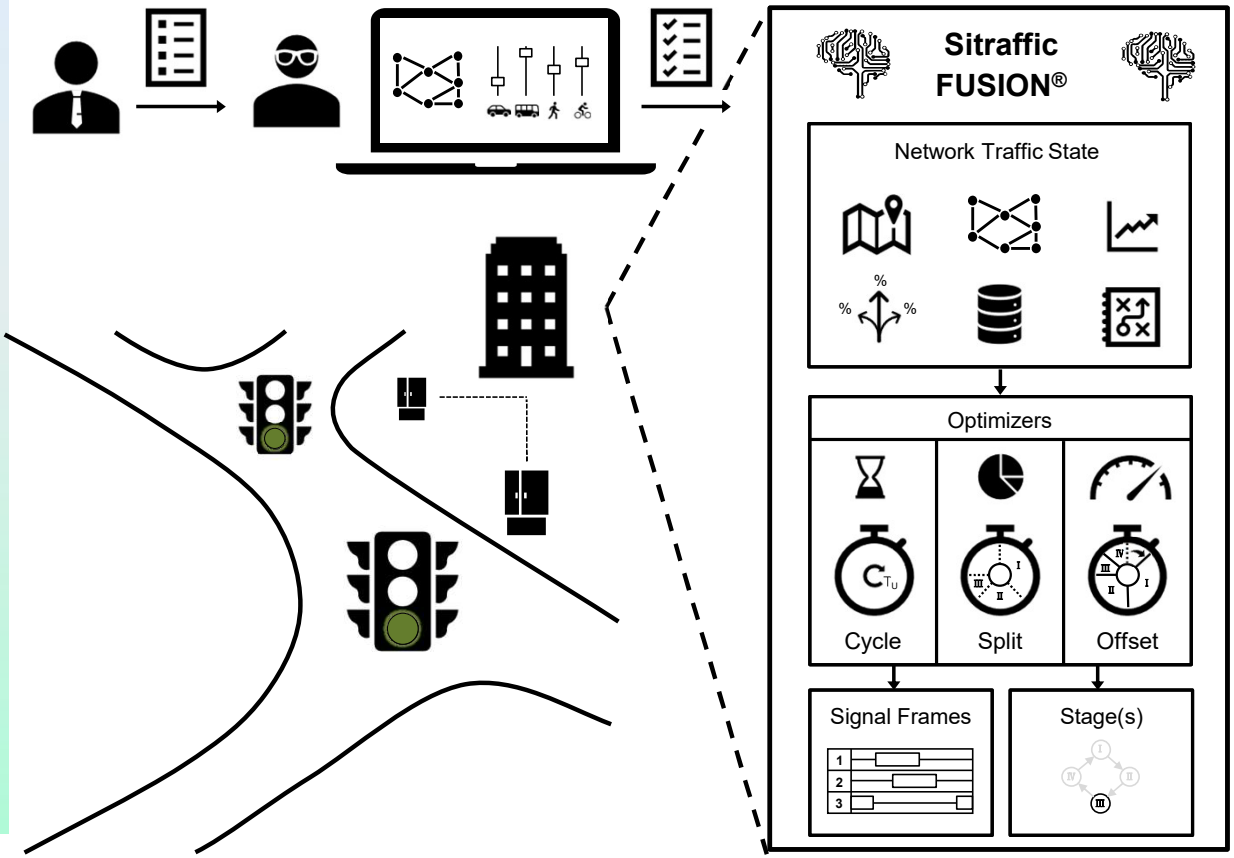

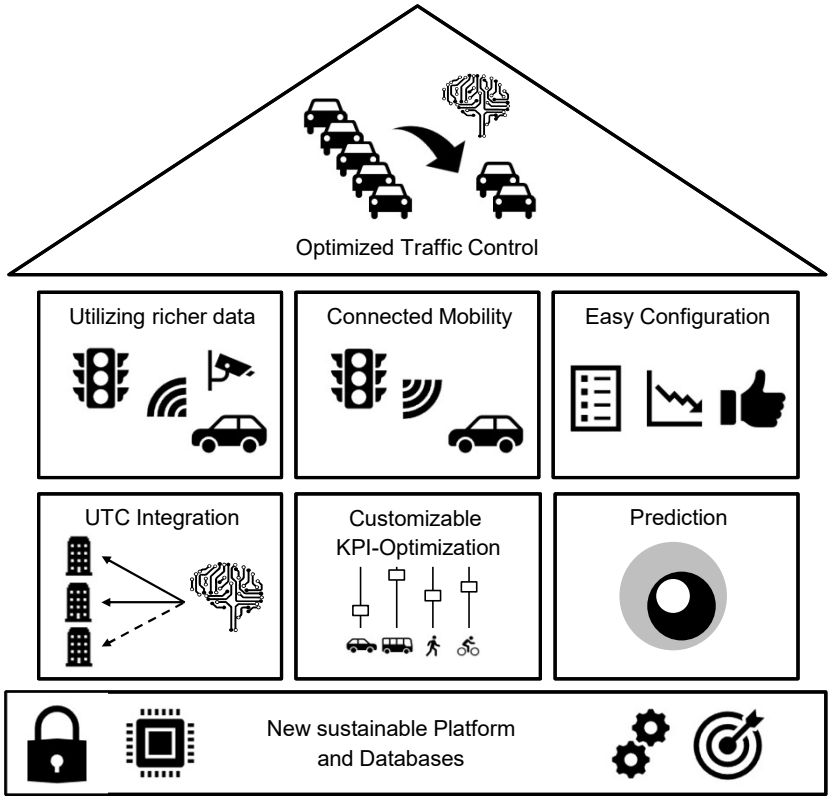

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INVITATION TO VISIT OUR STAND AND ATTEND TO THE BIKE SHARING PRESENTATION