

**EasyWay**



Annual Forum 2010



**Shortcut to the future.**

Lisbon • November 16<sup>th</sup>-18<sup>th</sup>



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# The Challenge of Detecting Parked Trucks

Guido Schuster



## Outline

- Problem
- Activities
- Future
- Lessons Learnt




## ITP as a part of ITS

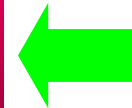
2<sup>nd</sup> step

ITP Service  Truck Parking Information  
Reservation

1<sup>st</sup> step

Data  Providing  
Processing  
Detecting/ Generating

Accuracy  
Reliability  
Availability 24/7  
Standardised  
No Redundance



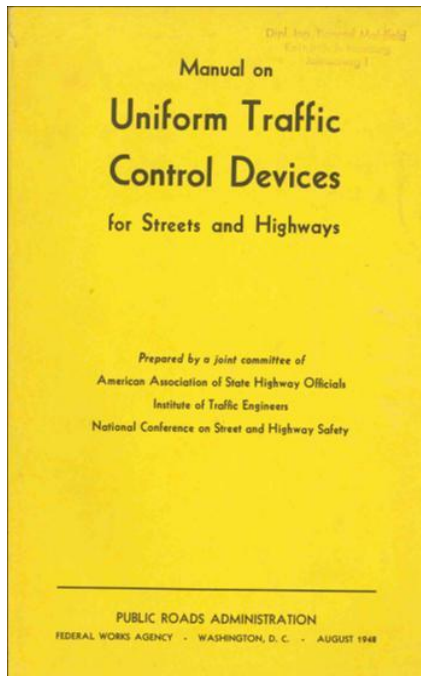


## Availability of Technologies



Vehicle-Actuated Control by Sonic Detector, Baltimore 1928

## Availability of Technologies

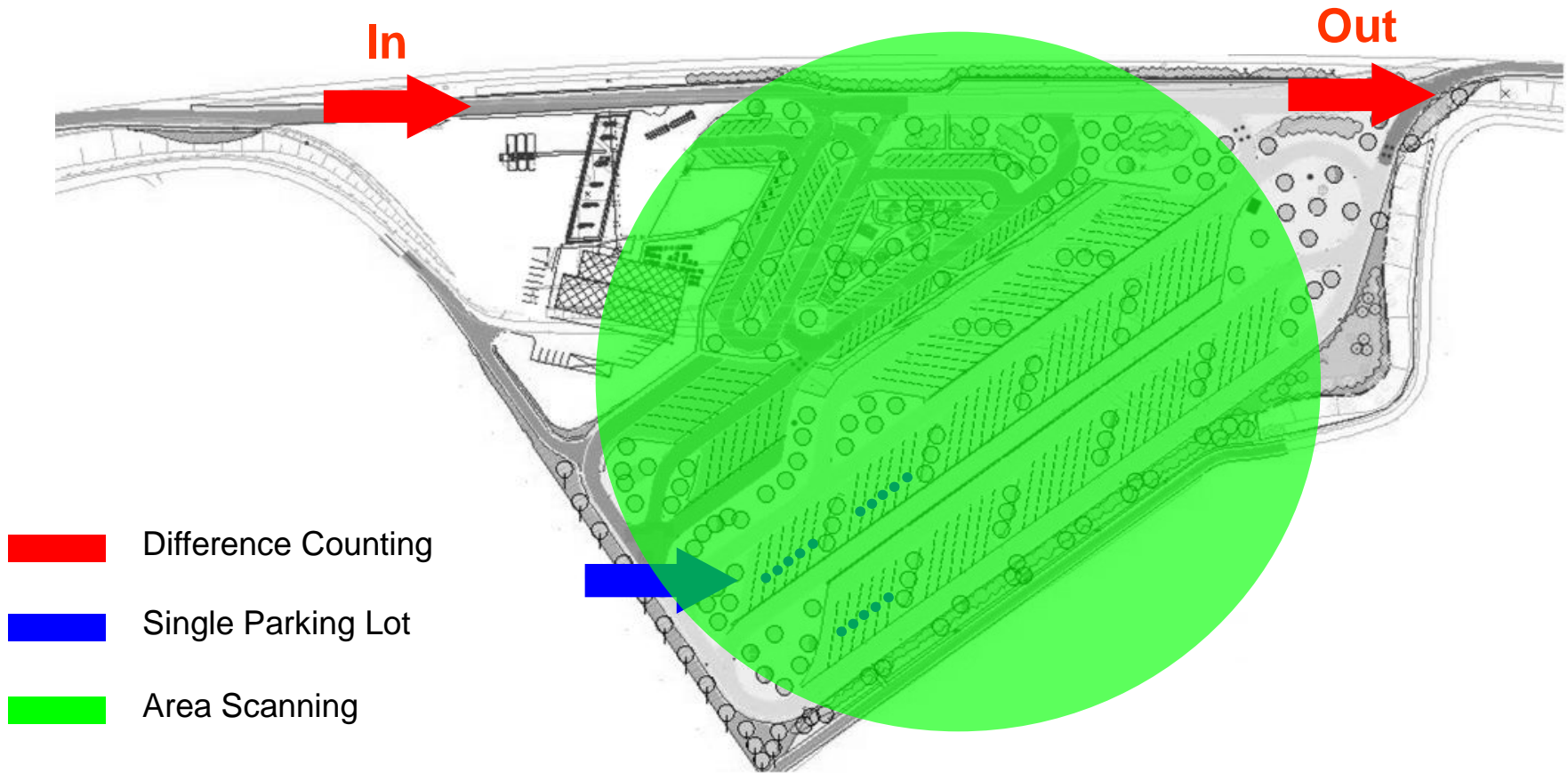


3<sup>rd</sup> edition: 1948

Section 244. Types of detectors-----  
Section 245. Pressure-sensitive detectors -----  
Section 246. Magnetic detectors-----  
Section 247. Sound-sensitive detectors-----  
Section 248. Light-sensitive detectors-----  
Section 249. Pedestrian push-button detectors.

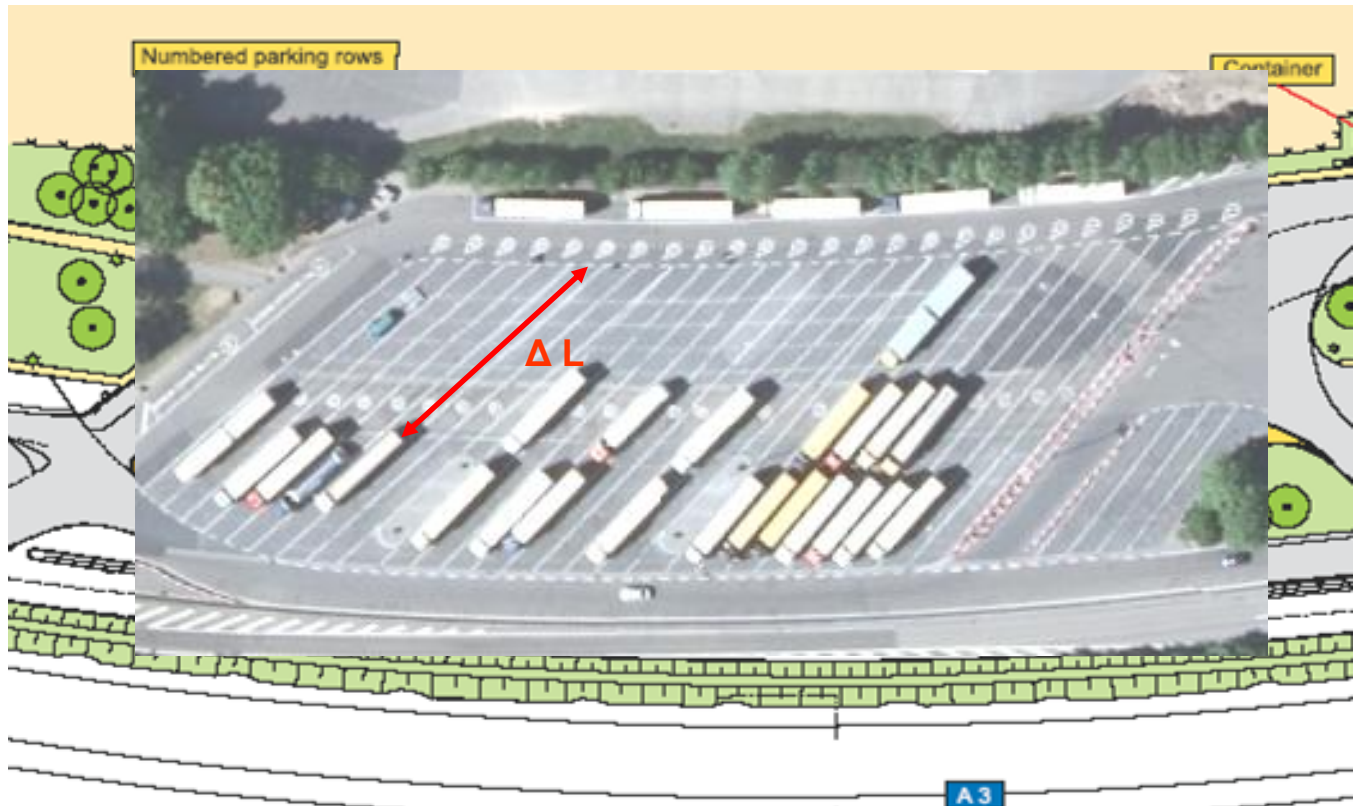


## Type A: Dissemination of Conventional Rest Area Occupancy Operating of Reservation Systems





## Type B: Generation of TCP-Rest Area Occupancy and Controlling of Parking Lot Allocation





## Truck Parking Detection vs. Running Vehicle Detection

- Huge Variety of Trucks
- Constructional Conditions on Rest Areas
- Unexpected driving and parking Situations
- Unfavorable Conditions by Outdoor Detection



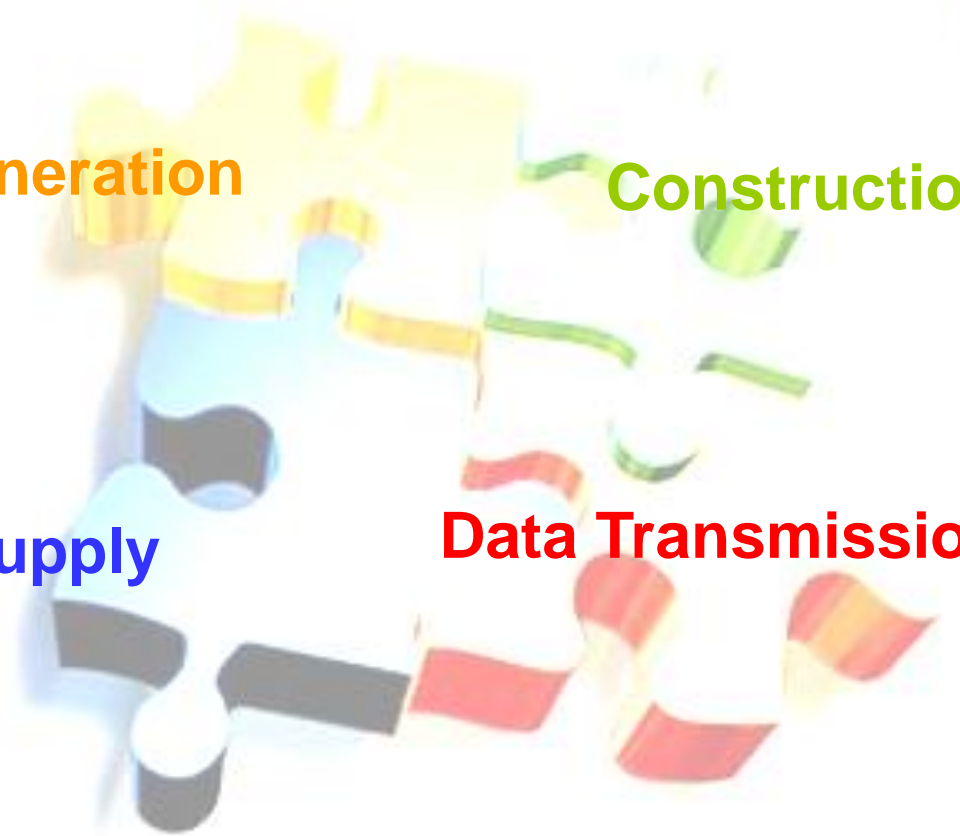
## Detector Operation Requirements

**Signal Generation**

**Construction**

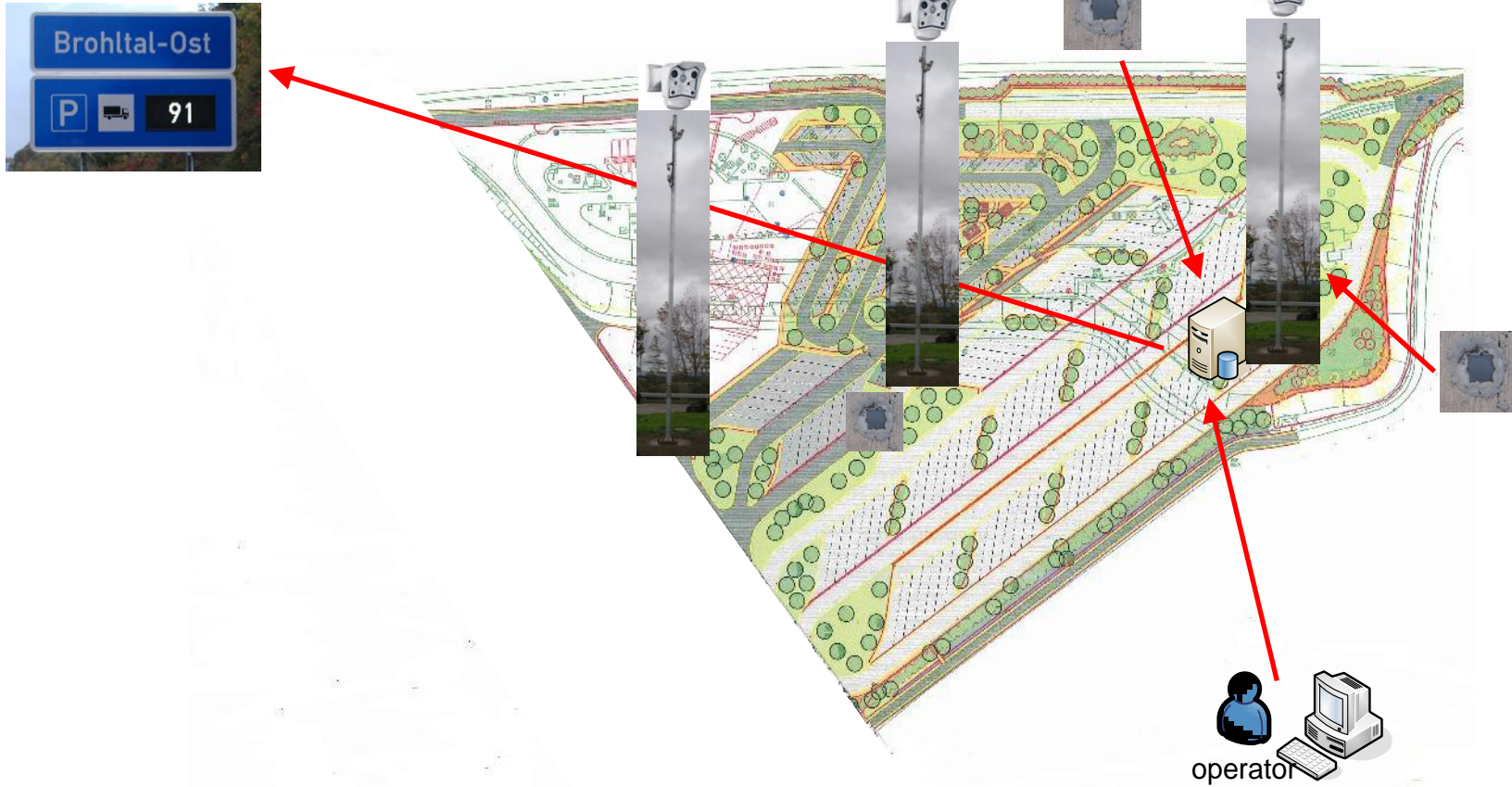
**Energy Supply**

**Data Transmission**





## Detector Test Site





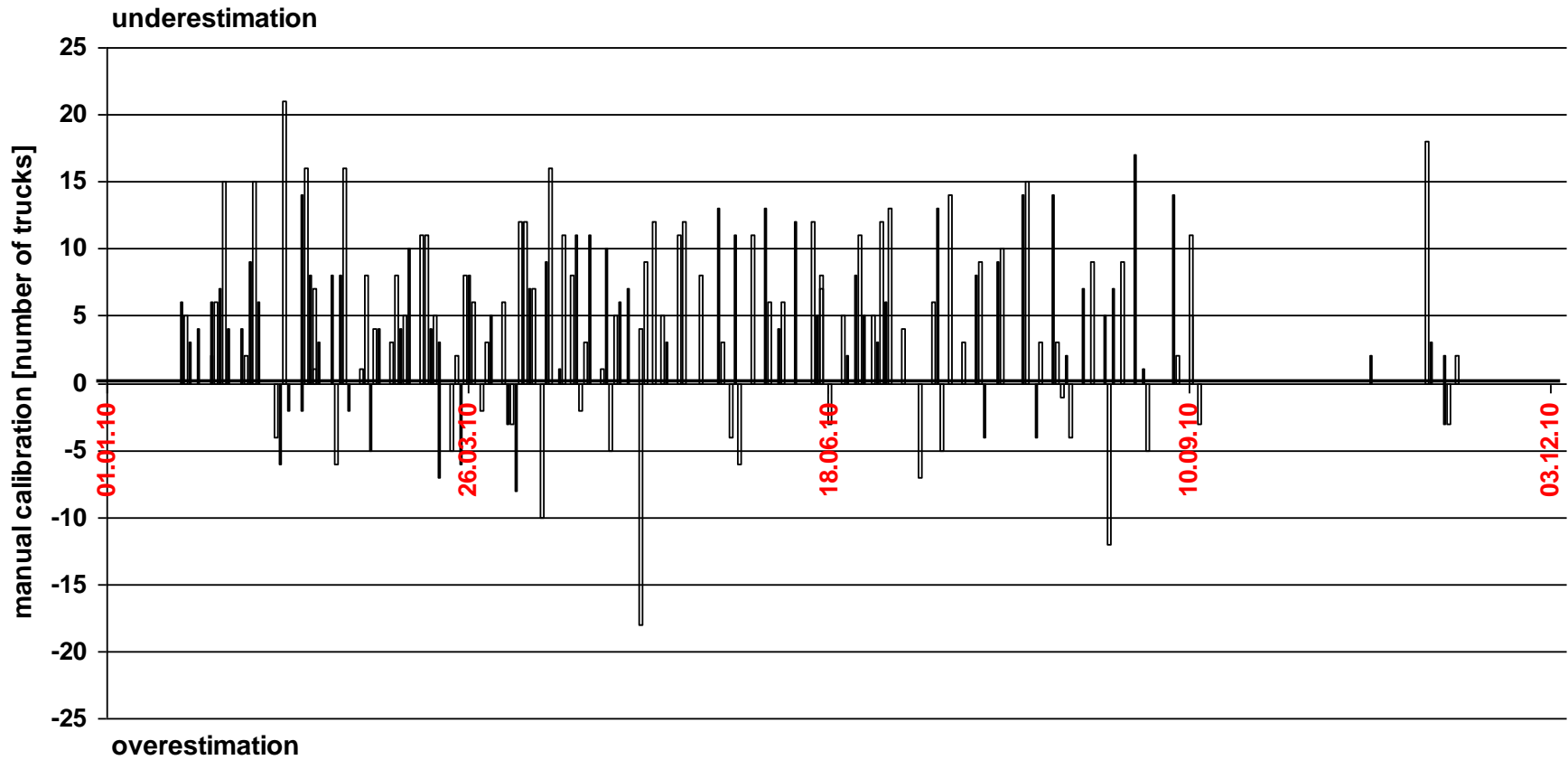
## Parking Situation



to watch the movies about traffic flow on my laptop: please contact me in the break



## Manual Calibration





## Near Future of classical HGV-detection

### Data Fusion

Complementary Fusion

Cooperative Fusion

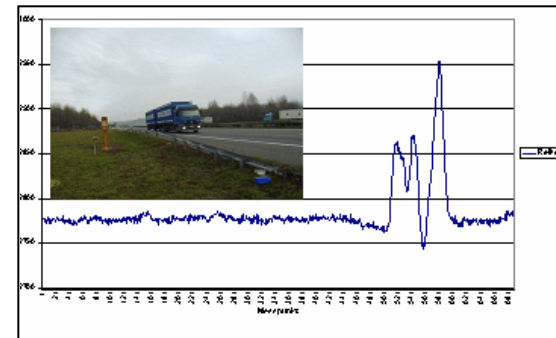
Competing Fusion

Fusion 1: Magnetic Field + Inductive

Fusion 2: Ultrasonic + Radar

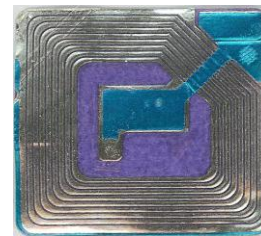
## Change of Data Collection

Passive Data Capture  
vehicle is "passive"  
estimation/ analysis



ref.: wikipedia

Active Data Capture  
vehicle is "active" by RFID  
pre-defined data taking over



ref.: scienceblogs.de



## Lessons Learnt

- Finding of Appropriate Devices for Truck Detection is still necessary
- The Phase of Testing is overlapped by the Phase of Implementation
- The 2<sup>nd</sup> Step is done before/ at the same time with the 1<sup>st</sup> Step
- High-sophisticated expensive solutions already exist
- Area Scanning not promising
- **Data Fusion is promising**
- **Change of Data Collection will come**



thank you for your attention

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