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ECS COLLABORATION TOOL

Autonomous interconnected road signs

Prof. Andrzej Czyżewski
Gdańsk University of Technology
Multimedia Systems Department
ac@pg.edu.pl
www.multimed.org

Fundusze Europejskie Inteligentny Rozwój
Rzeczpospolita Polska
Narodowe Centrum Badań i Rozwoju
Unia Europejska Europejski Fundusz Rozwoju Regionalnego

Multimedia Systems Department (MSD)

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- **Head of the Department**

Andrzej Czyżewski (Full Prof.)

- **history:**
  - 1968 – beginning (55 years)
  - 1500 research papers, > 30 patents
  - 7 European projects

  Co-operation with industry

  with e.g. Intel Poland, and with Amazon, Samsung, banking sector, Polish Road Directorate, Microsystem,

  Tstronic, and others

http://www.multimed.org

Multimedia Systems Department

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short presentation program

1. „Adaptacyjne skomunikowane znaki drogowe”; [7 min]; prof. Andrzej Czyżewski

Adaptive interconnected traffic signs

2. „Chmurowy system biometryczny”; [7 min]; dr inż. Arkadiusz Harasimiuk

Cloud-based biometric system

3. „Inteligentna chmura oświetleniowa”; [7 min]; dr hab. inż. Piotr Szczuko, prof. PG

Smart lighting cloud

4. „Komputerowo wspomagany trening wymowy” [7 min]; prof. Bożena Kostek

Computer-assisted pronunciation training

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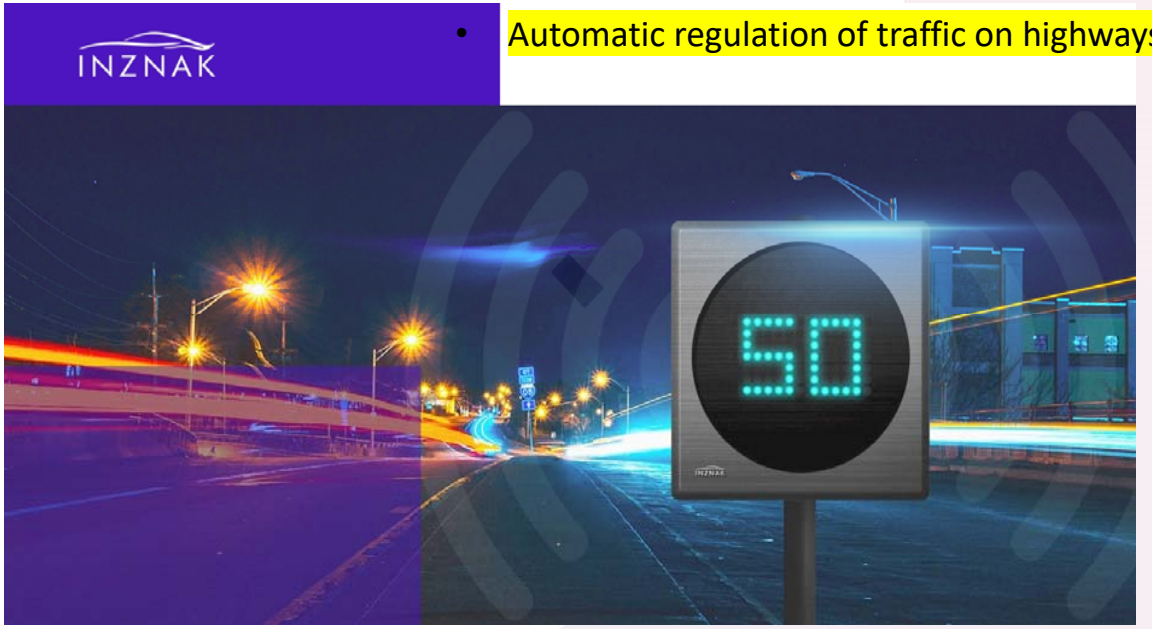
Challenges and objectives

- The goal of the project was the development, construction and testing of a new type of intelligent road signs that will allow the prevention of the most common collision types on high-speed roads resulting often from the rapid accumulation of vehicles.



- Automatic regulation of traffic on highways

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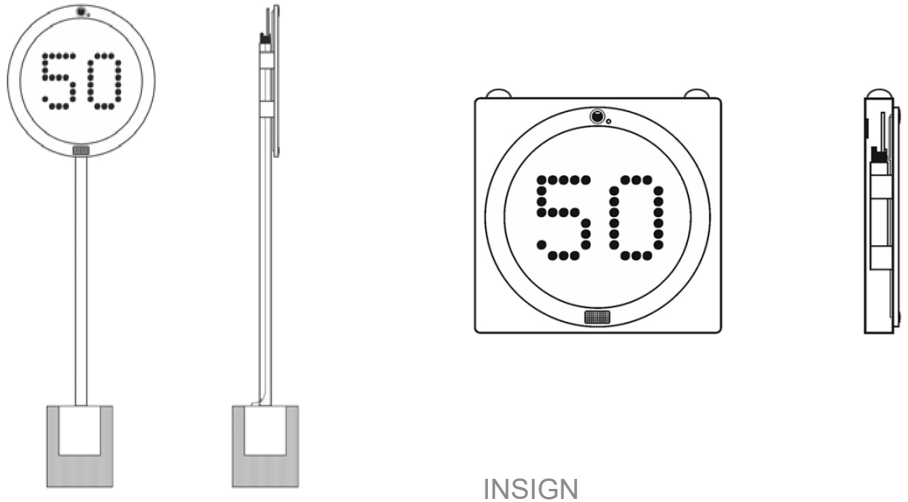
- Intelligent road signs can be mounted on a mobile stand or can be hung above the road.
- They display the dynamically updated recommended speed, determined automatically, by the electronic module placed inside the road sign, enabling multi-modal measurement of traffic intensity employing microwave, video and acoustic sensors and local weather station.
- They communicate calculated recommended speed through wireless channels.



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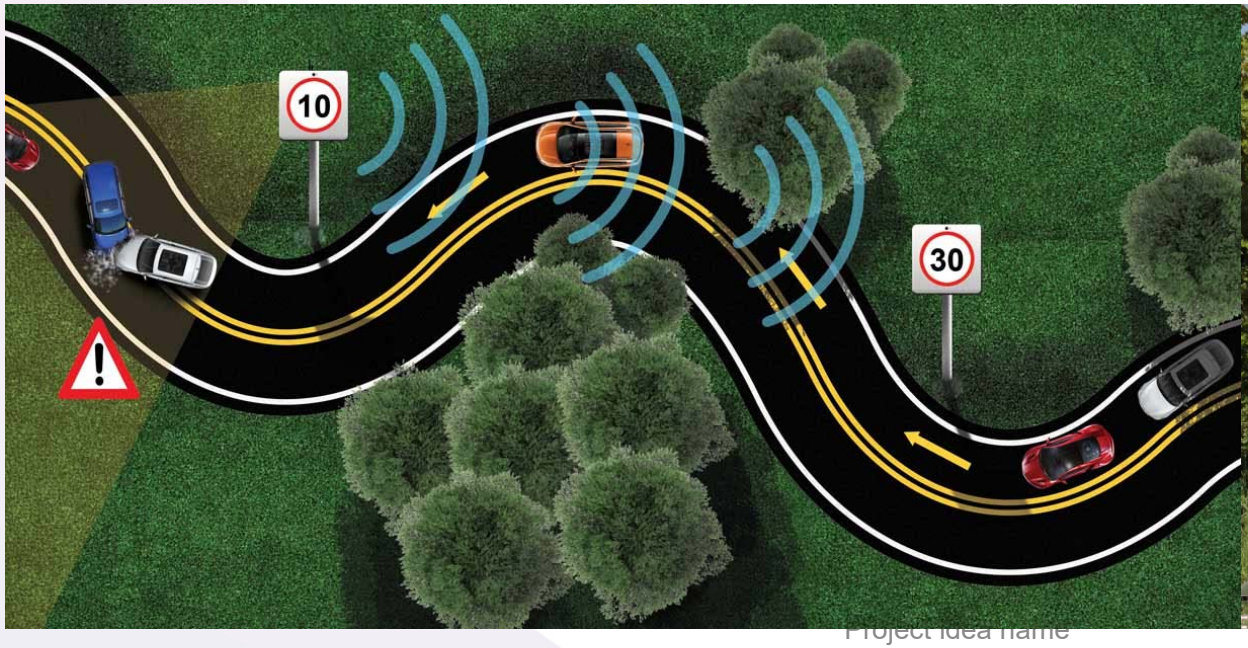
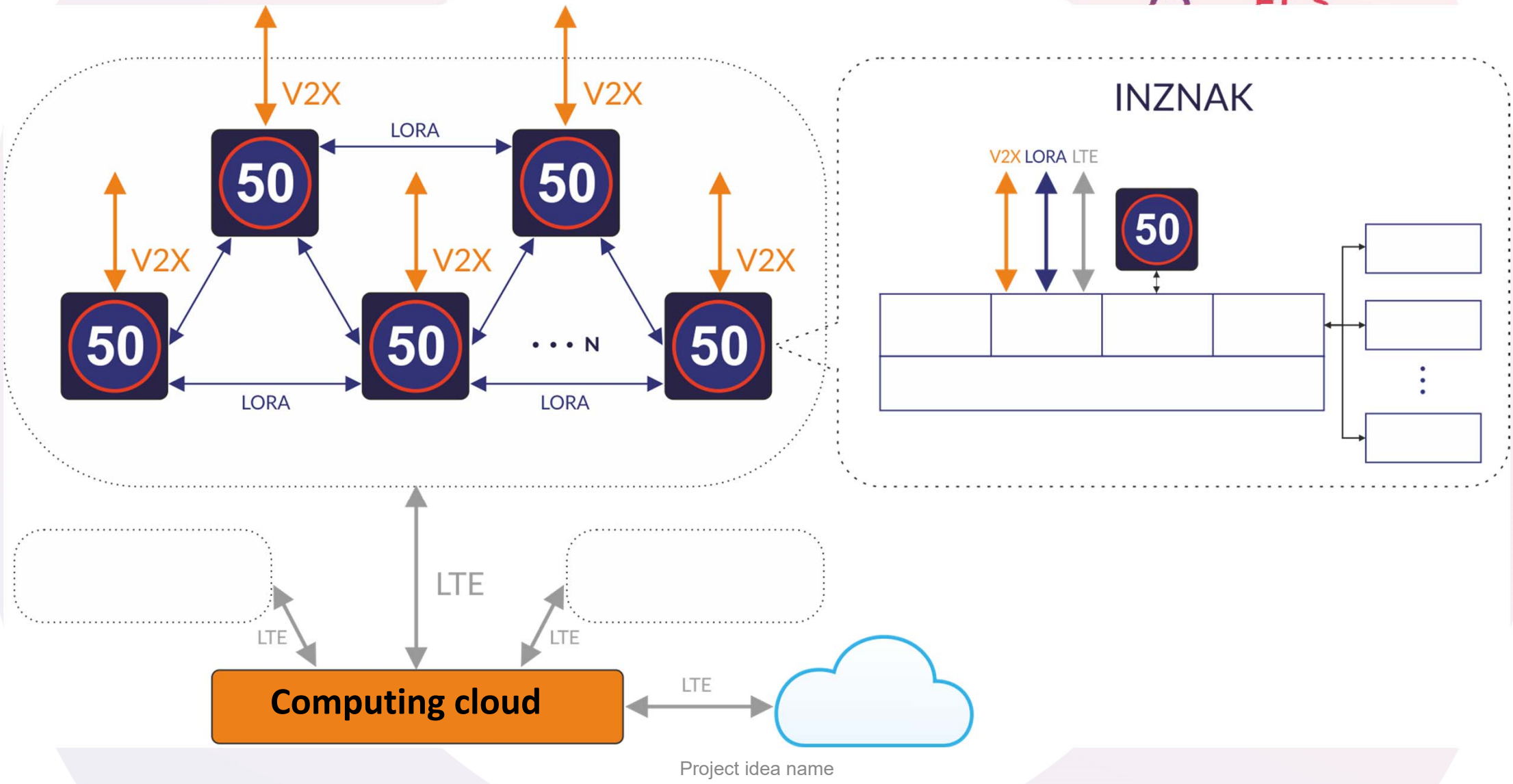
- Autonomous traffic signs communicate with each other wirelessly for this purpose are able to display recommended speeds to vehicles equipped and via V2X communication interface
- Cloud-based operational supervision was designed





Project idea name

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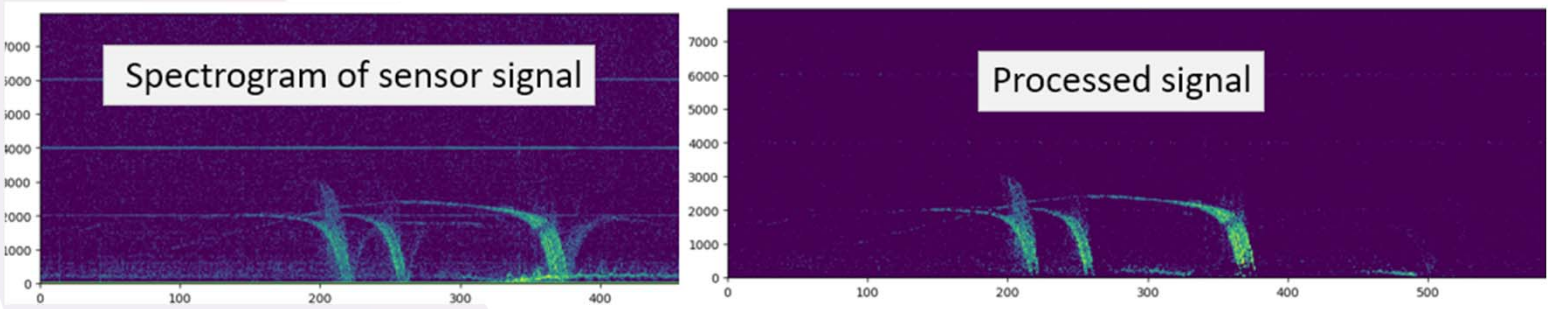
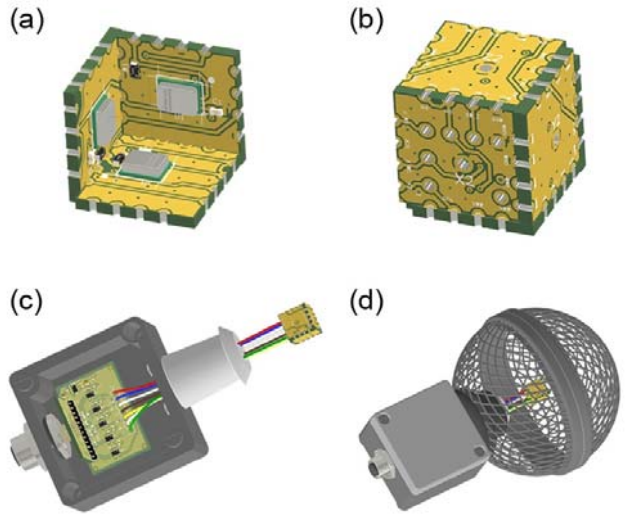
- Focus has been on assessing the effectiveness of individual sensors by comparing the received data with the ground truth data
- Special acoustical sensor was invented.
- It turned out that enhanced microwave sensors and developed acoustic sensors have the best application prospects for measuring traffic in order to detect traffic congestions and the state of the road surface.





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RESEARCH ARTICLE

Examining the Impact of Distance Between VSL Road Signs on Vehicle Speed Variance

ANDRZEJ SROCZYŃSKI[1], AND ANDRZEJ CZYŻEWSKI[2], (Member, IEEE)

[1]TSTRONIC Sp. z o.o., 83-011 Gdańsk, Poland

[2]Faculty of Electronics, Telecommunications and Informatics, Gdańsk University of Technology, 80-233 Gdańsk, Poland

Corresponding author: Andrzej Sroczyński (andrzej.sroczynski@siled.pl)

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TERAZ POLSKA

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