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## SYSTEM AND PROCEDURE FOR SIGNALING AND TRAFFIC CONTROL OF ROUNDABOUTS WITH ENHANCED CAPACITY AND SAFETY AND LOWER DELAYS

### Patent

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### Code

TRANSP\_UAH\_19

### Application areas

- Information and Communication Technologies
- Industrial Manufacture, Material and Transport technologies



### Type of Collaboration

- License Agreement
- Acquisition Agreement
- Joint-Venture Agreement

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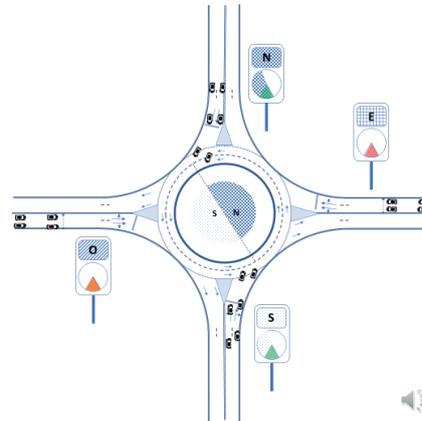
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### ABSTRACT

New system and procedure for roundabout signaling and traffic control, based on grouping the vehicles of each access into platoons and staggering the platoon's arrival from orthogonal directions of roundabout access.

The current roundabouts, based on the priority to the vehicles that circulate within it, provide greater security than intersections or crossings, but are quite limited, with medium and heavy traffic, due to the frequent stops of vehicles at their entrance. Major capacity and delay improvements are needed that are applicable to both conventional and autonomous vehicles.

Roundabout signaling and control must evolve by integrating traditional signaling technologies and current wireless and sensor networks. Synchronous Rotating Priorities Sectors Roundabouts (SYROPS) is proposed, a new paradigm, different from the current signalized intersections and roundabouts, for the control of traffic in roundabouts and their vicinity based on platoons of vehicles arriving at the roundabout with speed identical to the turning speed in the roundabout and within the time interval assigned to his entrance, avoiding all the conflicts of passage and with it the arrests. The system can be adopted in any country in the world with the prior approval of the corresponding traffic authority. It is very suitable for improving traffic in roundabouts with heavy traffic.

The uniform speed and timing of the arrival of priority vehicles avoid many stops at the entrance of the roundabout.

### ADVANTAGES AND INNOVATIONS

- Avoids stops at the entrance of the roundabout and eliminates conflicts between vehicles within it to exit.
- The absence of stops improves capacity and delays and makes it possible to reduce the distances between vehicles safely, as there are no appreciable changes in speed
- Driving in the roundabout becomes smooth (and less pollutant) instead of stressful with sudden speed changes.
- The system is suitable for all types of vehicles, manual or automatic driving.
- The system can alternate its operation as a conventional roundabout in low traffic conditions or emergency situations, with synchronous operation with high traffic.
- It creates multiple opportunities for the development of novel display devices.