# Platform for Omnidirectional Traffic

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The Main goal of the work was to create a working prototype of the platform on which you can move in any direction in the horizontal plane. The principle of operation of this platform and a classic treadmill are similar. In order for a person to move while remaining in place, the surface on which they are moving must rotate in the opposite direction at the same speed. However, for omnidirectional movement, it is necessary not only to create a counteracting speed, but also to change its module and direction. To adjust the resulting speed, it was decided to decompose it into two orthogonal components: the rotation of the coating base and the rotation of the segment tapes. Each segment is a small treadmill, the tape of which rotates in a direction perpendicular to the rotation of the main coverage. In this way, a person moves on a solid surface formed by a ribbon of segments, without slipping, which allows you to maintain the mechanics of running. That is, the same muscle groups are involved as in the usual running. The coverage of this installation is divided into segments. For synchronous rotation of segments, a longitudinal gear shaft is used, located parallel to the line of movement of the segments. The edges of the shaft teeth are slightly cut off. This allows for smooth joining of segments with the gear shaft, when passing a straight section. The basis of the coverage made up of separate components interconnected by rubber. While working on the project, the following was done: 1. The basic principle of operation was invented. 2. The main elements of the platform required for testing have been created. 3. The software part for managing the platform has been written. 4. Checked the basic principle of operation, as well as the performance of the system.

**Awards Won:**