Pneumatic Cannon for Emergency Delivery of Light Goods over Short Distance

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The purpose of the project was creating pneumatic homing cannon and special projectile with something like life jacket inside. Project seems to be really actual, as there are many drowning victims around the world. According to the World Health Organization and the Center for Disease Control and Prevention, drowning is major public health problem worldwide. In 2015, an estimated 360,000 people died from drowning. (www.wlsl.org/WLSL/The_Event/Drowning_Data/WLSL/Drowning_Data.aspx?hkey=7f1070a1-83e1-4c58-857d-ea086b4ae231) Plan: Developing working prototype, with aiming function. It`s include: 1) Developing and assembling mechanical part (rotation around two axes); 2) Programming microcontrollers; 3) Creating a trajectory calculation method for projectile; Developing a projectile. It`s include: 1) Form selection; 2) The mechanism of the release of the vest in the water; Results: As a result, a working prototype was assembled, capable of making an aiming and choosing a trajectory of flight. Projectile which can transform into life jacket when it gets into water was created too. Cannon could shoot at a distance approximately 50 meters, but it is enough for beaches. Conclusion: In developing process pneumatic cannon and projectile was created. In addition, the method for searching necessary projectile path for weak in speed microcontroller was created. It`s based on prevent calculations and function approximation.