## GLOBAL STUDENTCOMPETITION

## THEME: **Door stop for stepless positioning of vehicle doors**

### **START DATE** April 8, 2019

**DEADLINE** September 30, 2019

### CONTACT

innovace@ace-int.eu Toni Riediger

### AWARD CEREMONY November 2019

### QUESTIONS

If you have any questions, please do not hesitate to contact us by mail at innovace@ace-int.eu

### **CALL FOR COMPETITION**

A design draft with technical proof of function and feasibility is expected.

The adjusting element to be developed should, in contrast to existing door stops/door catch hinges with pre-defined detents or holding stops, realize an infinitely variable positioning and holding function of a vehicle door. This will provide the operator with greater comfort, e.g. in tight parking situations.

The installation position of the adjustment element and the mounting points are to be adopted from existing door stops, i.e. centrally between the door hinges (see technical framework). in the field of mechanical engineering/construction/ mechatronics/electrical engineering for universities, technical colleges and universities of applied sciences

# INNOVACE2019

The opening range of the door and thus the infinitely

variable functional range of the adjustment element is

between 0° and 90°. The adjustment force during door

movement should be <20N and the holding force of the

positioned door between 30-50N, both measured at the

For the competition, we expect a target price calculation

with regard to cost for planned quantities of more than

Distance pivot point to handle 1000mm

Adjusting force

<20N

Holding power 30-50N

center of the outer door handle.

50,000 units per year.

### REGISTRATION

Candidates/applicant teams must register by sending an email to innovace@ace-int.eu . The accompanying chair/professor must be named.

### PRIZE

The winning team or individual will receive \$5,000 in prize money. The accompanying chair receives an additional \$2,000.

### **EVALUATION CRITERIA**

**Design** (30 points): Concept with mounting points/mounting position

**Function** (30 points): Functional verification with corresponding load cases

**Price concept** (40 points): Plausible cost estimate



### ACE Stoßdämpfer GmbH · Albert-Einstein-Str. 15 · 40764 Langenfeld · Germany innovace@ace-int.eu · www.ace-ace.com

#### **TECHNICAL FRAMEWORK**

Installation space: H 150mm x W 190mm x D 30mm

Life cycle: Min. 50,000 cycles (opening and closing)

Tensile strength: 8.500N with door open (misuse)

**Connection:** Use existing connection points of a car door

