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## CAR VACUUMING UNDER THE AUTONOMOUS DRIVING

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## CAR VACUUMING UNDER THE AUTONOMOUS DRIVING

### Technical task:

At present, there is no possibility of connecting a vacuum cleaner in the car so that the interior can be cleaned during autonomous driving.

### Initial situation:

Due to the lack of cleaning possibilities, the problem arises that if the vehicle interior becomes dirty while driving, the driver either has to interrupt the journey to clean the interior or even has to drive to a suction station without his own vacuum cleaner.

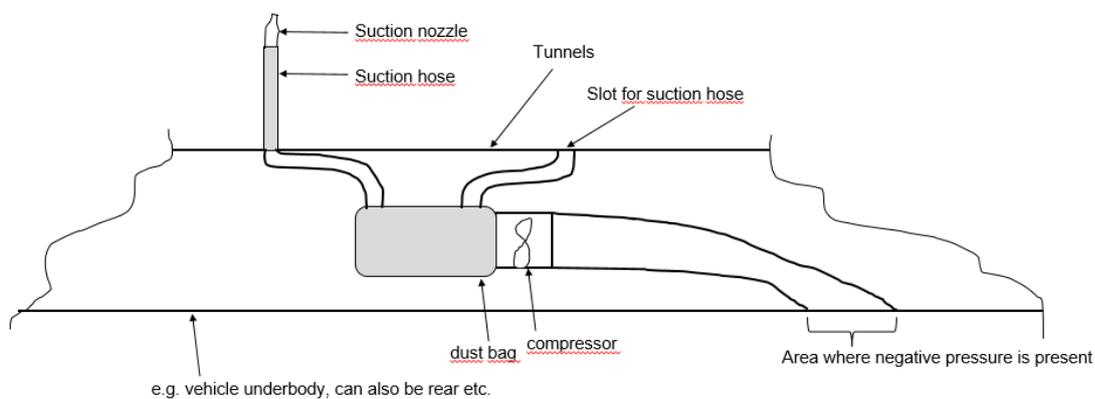
### Solution:

One way of tackling the problem identified above is to use a central vacuum cleaning system, as is already known from modern houses. In this case, a hose can be attached to each seat in the centre console in order to be able to vacuum the footwell and the seats of this seat. For this purpose, a piece of hose with the previously described suction nozzle must be connected. The negative pressure for this can be generated with a vacuum cleaner in the tunnel or with the negative pressure on the underbody or rear of the vehicle. This is possible because the vehicle has vacuum areas that generate more vacuum at high speeds and less at low speeds. The vacuum areas are intended to support the suction power in order to save electrical range. The vacuum areas are connected to a hose at the central vacuum cleaning system in order to make use of this, whereby the extracted air does not escape directly there, but the dirt lands in the collection bag beforehand (as with a vacuum cleaner) so that no dirt can get onto the roadway and the outside noise cannot get into the passenger compartment.

Another possibility is that the vehicle manufacturer offers a battery-powered vacuum cleaner that can be recharged in the vehicle.

### Advantages:

- Maintenance of the vehicle interior
- Care options for the seats while driving
- Enables quick reaction / cleaning as soon as the vehicle interior becomes dirty



**Figure 1:** Sketch of the proposed solution