VEHICLE CONCEPT WITH AIR CONDITIONING UNIT IN THE FRONT

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**VEHICLE CONCEPT WITH AIR CONDITIONING UNIT IN THE FRONT**

**Technical task:**
Air conditioning unit in the front with defined air outlets into the interior

**Initial situation:**
Conventional vehicles have an air conditioning unit (usually left-hand drive/right-hand drive) that uses the installation space of the cockpit in the passenger area. When driving autonomously, lying positions are aimed for. This is restricted for the driver by the steering wheel and pedals, and for the passenger by the air conditioning unit. In addition, the installation space for passenger entertainment is limited.

**Solution:**
More space for the rear passenger on the passenger side by moving the air conditioning unit to the front of the vehicle. Air conditioned air enters the interior through defined passages. Premise: no front axle drive, possibly wheel hub motors.

**Advantages:**
- Passenger has considerably more space in the interior
  - Use for entertainment, e.g. second AR-HUD or retractable screen
  - more room for the feet in the lying position - better inclination angle of the seat
  - Rear seat occupant can shift lying position, because the front seat can be moved further forward
- Uncontrolled front wall

![Fig. 1: Air conditioning unit in the installation space in the cockpit, passenger side](image1)

![Fig. 2: Air conditioning unit in the front](image2)
**Fig. 3 and 4: Layout front end**

**Fig. 5: Uncontrolled front wall**