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## INTEGRATION OF NON-DRIVING ACTIVITIES INTO PILOTED TIME WINDOWS

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## INTEGRATION OF NON-DRIVING ACTIVITIES INTO PILOTED TIME WINDOWS

### Technical task:

Starting at SAE Level 3 (highly-automated driving), it is intended that the driver can perform non-driving activities, such as watching movies. These are available to the driver when the vehicle is in piloted driving mode.

### Disadvantage:

The driver must estimate for himself how long the function will be available and schedule the end of the non-driving activity. The non-driving activity is interrupted when the vehicle has to leave the piloted driving mode.

### Solution:

1 The non-driving activities are directly integrated into the piloted driving time window and can be planned by the customer. Example: A 120 min. time slot is available. The driver selects a film or suitable films are suggested to him that fit into the time slot.

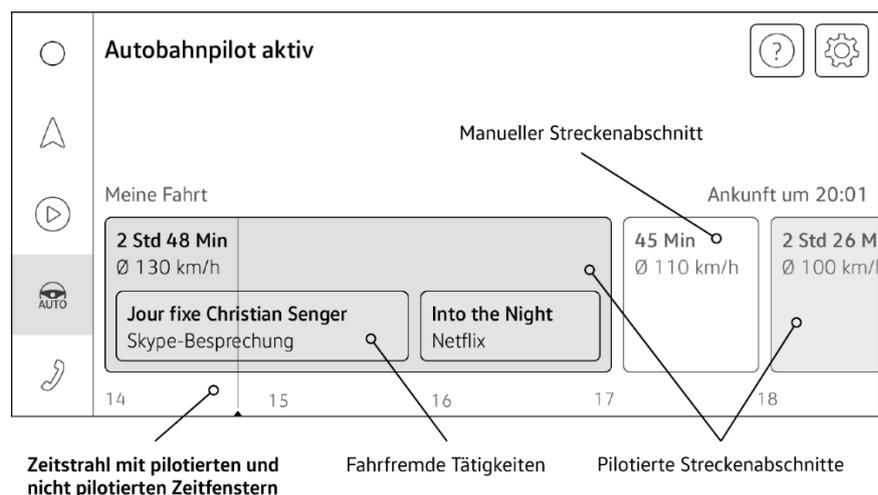
2 The piloted time windows can be dynamically adjusted according to the planned selected non-driving activities by changing the average speed. This can occur if the non-driving activity takes longer than the piloted time window. By lowering the average speed, the piloted time window can be stretched so that the non-driving activity can be performed to the end. An adjustment during the piloted drive is also conceivable.

Example: A live event is watched as a non-driving activity during the piloted journey. However, this event lasts slightly longer than the available piloted time slot. To enable the customer to finish watching the event during the journey, he can extend the piloted journey time by means of an HMI input and finish watching the live event in the vehicle.

### Advantages:

- The non-driving activities can be scheduled and fit into the available piloted time windows.
- The customer has a good overview of whether the length of the non-driving activity fits into the available piloted time slot.
- The piloted time windows can be adjusted according to the non-driving activities.

Shown below is a concept image of the touch display in the vehicle. The planned route is divided into manual and piloted route sections. The driver is informed when and for how long a route section can probably be piloted or driven manually. This is determined on the basis of the availability criteria of the automated driving function in the navigation map and the route entered. The target average speed is also displayed. Traffic data is also taken into account here.



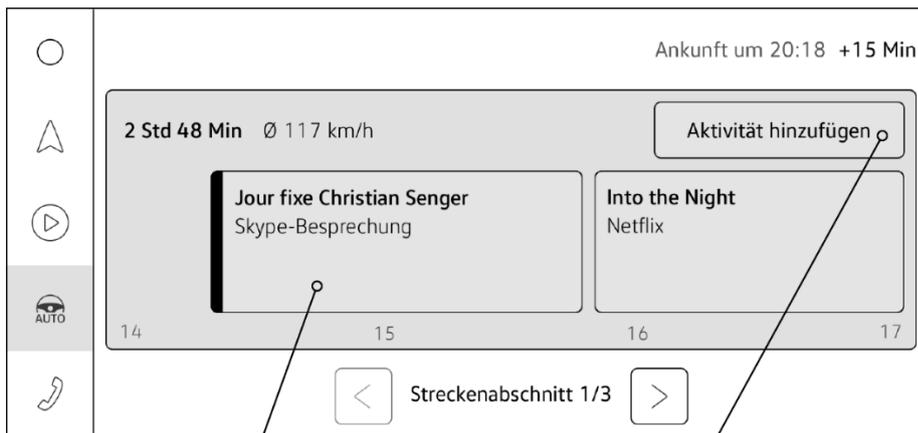
If the non-driving activity now takes longer than the available time window, the piloted time window can be extended by an input from the driver, e.g. via touch. The average speed is consequently reduced for the piloted time window concerned and communicated to the automated driving function as a setpoint.



Möglichkeit zur manuellen Anpassungen des Zeitfensters

In the upper right part of the image, you can see that the driver is informed about the new arrival time. The expected average speed has also been updated by the vehicle.

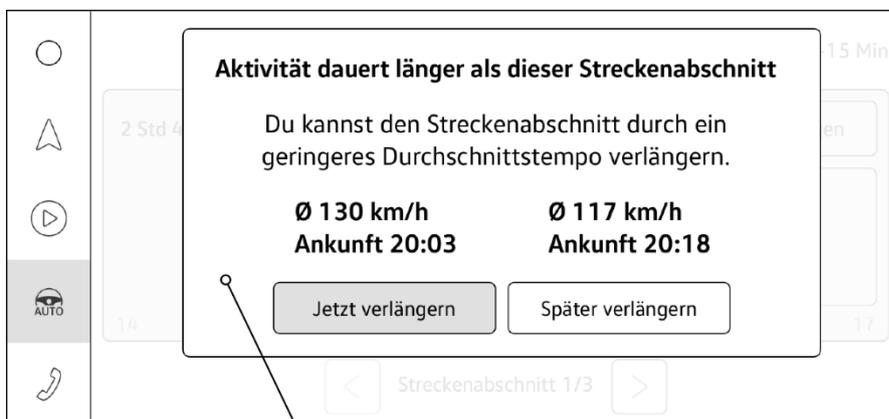
In the lower part of the screen, the non-driving activities are scheduled. These can be added using the <Add activity> button.



Fahrfremde Tätigkeiten

Hinzufügen weiterer fahrfremder Tätigkeiten

The following image shows an automated indication from the vehicle when the non-driving activity (activity) lasts longer than the piloted time window (route segment).



Info und Möglichkeit zur automatischen Anpassung des pilotierten Zeitfensters