



# Automated Driving and Driver Drowsiness

#### DROWSINESS MANAGEMENT CONCEPT

#### **Drowsiness:**

"is a transitional state between wakefulness and sleep" (Johns, 1998)

#### DRIVER-STATE RELATED STRATEGY

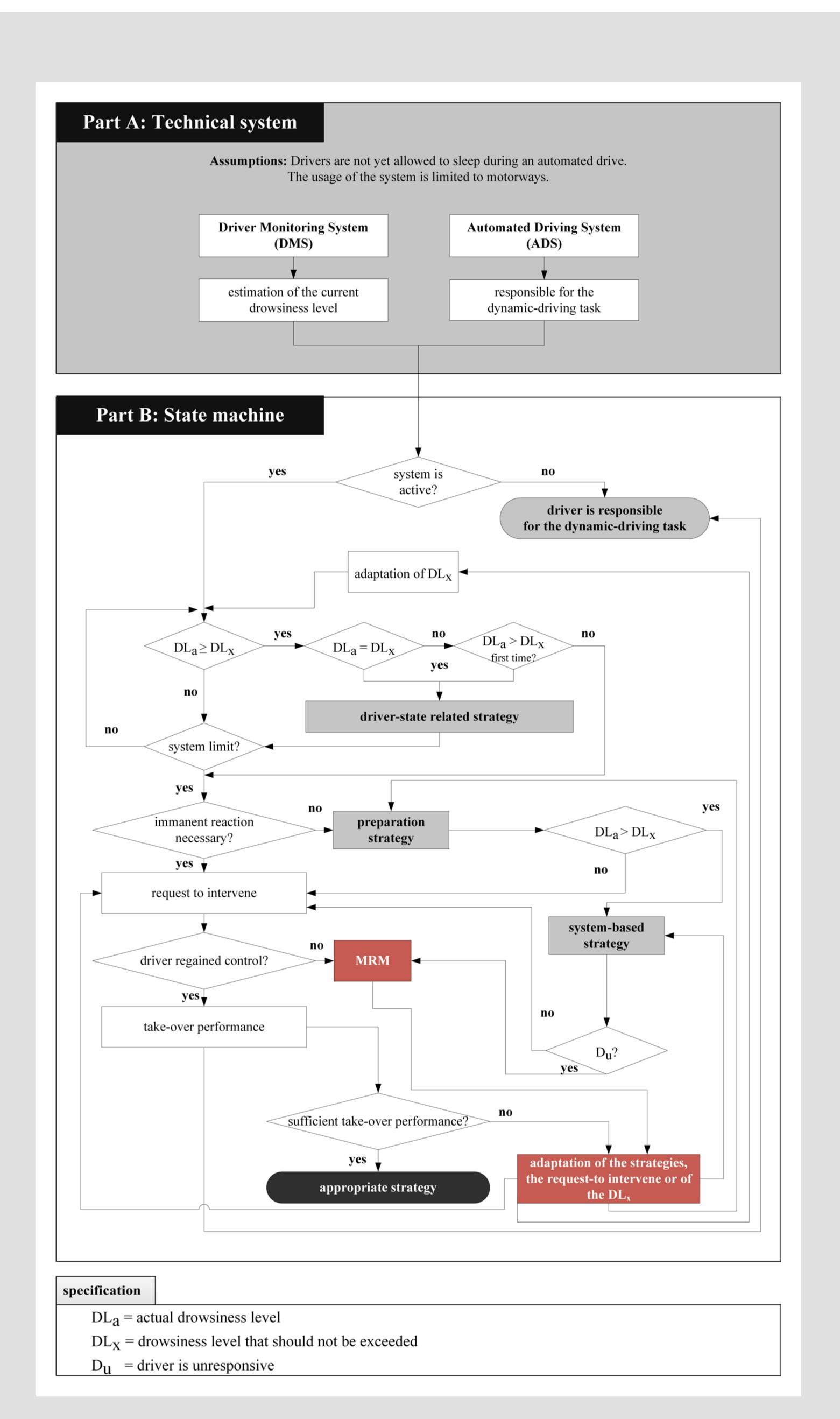
A driver-state related strategy aims to minimise drowsiness.

#### PREPARATION STRATEGY

A preparation strategy aims at reducing surprise factors and at reactivating the driver as well as possible within a short period of time.

### SYSTEM-BASED STRATEGY

The system-based strategy is aimed at ensuring vehicle safety, if there is any uncertainty about whether a driver may safely retake control.



(Weinbeer, Bill, Baur, and Bengler, 2018)

## MAIN ISSUES

1

Which options of a driver-state-related or of a system-based strategy would be most accepted – out of a user's perspective?

(Weinbeer, Bill, Baur, and Bengler, 2018)

2

How to get the driver drowsy and how does drowsiness influence various take-over aspects?

(Weinbeer, Baur, Radlmayr, Bill, Muhr, and Bengler, 2017)

3

Automated driving: The potential of non-driving-related tasks to manage driver drowsiness

(Weinbeer, Muhr, and Bengler, submitted)



How to deal with uncertainty periods of a Driver-Monitoring-System? – Evaluation of different concepts

