Sicherheitstechnik: Übung 11

Für die Motorsteuerung soll die Sicherheitseinstufung für das Sicherheitsziel „Ungewollte Beschleunigung" ermittelt werden. Berücksichtigt werden sollen die Fälle a) Fahrzeug während der Fahrt und b) Fahrzeug in Stillstand.

		C1	C2	C3
S1	E1	QM	QM	QM
	E2	QM	QM	QM
	E3	QM	QM	ASIL A
	E4	QM	ASIL A	ASIL B
S2	E1	QM	QM	QM
	E2	QM	QM	ASILA
	E3	QM	ASIL A	ASIL B
	E4	ASIL A	ASIL B	ASIL C
S3	E1	QM	QM	ASIL A
	E2	QM	ASIL A	ASIL B
	E3	ASIL A	ASILB	ASIL C
	E4	ASIL B	ASIL C	ASIL D

S: Estimation of potential severity

Class	S0	S1	S2	S3
Description	No injuries	Light and moderate injuries	Severe and life threatening injuries (survival probable)	Life threatening injuries (survival uncertain), fatal injuries

E: Estimation of probability of exposure in driving and operating situation

Class	E1	E2	E3	E4
Description	Very low probability	Low probability	Medium probability	High probability

C: Estimation of controllability

Class	C0	C1	C2	C3
Description	Controllable in general	Simply controllable	Normally controllable	Difficult to control or uncontrollable

Aufgabe: Bestimmen Sie die Schwere (S), Eintrittswahrscheinlichkeit (E) und Kontrollierbarkeit (C) im Team für beide Fälle. Ermitteln Sie den dazugehörigen ASIL Level!

Gefährdung	Fahrzeug während der Fahrt	Fahrzeug in Stillstand
	S = E = C = **ASIL =**	S = E = C = **ASIL =**

Class	S0	S1	S2	S3
Description	No injuries	light and moderate injuries	Severe injuries, possibly life-threatening, survival probable	Life-threatening injuries (survival uncertain) or fatal injuries
Reference for single injuries (from AIS scale)	AIS 0 and less than 10% probability of AIS 1-6 Damage that cannot be classified safety-related	more than 10% probability of AIS 1-6 (and not S2 or S3)	more than 10% probability of AIS 3-6 (and not S3)	more than 10% probability of AIS 5-6

Class	C0	C1	C2	C3
Driving Factors & Scenarios	Controllable in general	99% or more of all drivers or other traffic participants are usually able to avoid harm	90% or more of all drivers or other traffic participants are usually able to avoid harm	Less than 90% of all drivers or other traffic participants are usually able, or barely able, to avoid harm

Class	Temporal Exposure			
	E1	E2	E3	E4
Description	Very low probability	Low probability	Medium probability	High probability
Definition	Duration (% of average operating time)			
	Not specified	<1%	1%-10%	>10%

Class	Frequency Exposure			
	E1	E2	E3	E4
Description	Very low probability	Low probability	Medium probability	High probability
Definition	Frequency of Situation			
	Occur less often than once a year for the great majority of drivers	Occur a few times a year for the great majority of drivers	Occur once a `month or more often for an average driver	Occur during almost every drive on average