

## FS-AI Dynamic Events Setup and Cones Specification

The main Formula Student rules (D 2.5.1) delegates the specification of the Driverless Vehicles dynamic event cones and track layouts to the 'competition handbook'.

For the IMechE Formula Student FS-AI event this document represents the 'competition handbook' and may be used by participating teams to prepare their entries to the competition.

These specifications have been adapted from 'FSG21\_Competition\_Handbook\_v1.0.pdf' downloaded from: [https://www.formulastudent.de/fileadmin/user\\_upload/all/2021/rules/FSG21\\_Competition\\_Handbook\\_v1.0.pdf](https://www.formulastudent.de/fileadmin/user_upload/all/2021/rules/FSG21_Competition_Handbook_v1.0.pdf)

**NOTE: for the IMechE Formula Student FS-AI competition this document takes precedent.**

Should the FSG competition handbook be updated, any changes MIGHT NOT be carried over for IMechE Formula Student FS-AI. Any changes will be discussed with participating teams before adoption. This is to ensure the full competition specification and rules set is available at the beginning of the competition year. See Table 1 below:

**Table 1:**

IMechE Formula Student FS-AI Competition Year	FSG Handbook used for Specification
2021 (begins Sept 2020)	'FSG21_Competition_Handbook_v1.0.pdf'
2022 (begins Sept 2021)	'FSG21_Competition_Handbook_v1.0.pdf'

Where applicable, paragraph headings have been adopted from the FSG Competition Handbook. Deletions from the original text are marked in ~~Red~~. Additions are marked in **bold**.

### DE6.3 [DV ONLY] Track Marking

DE6.3.1 The markings of all dynamic events will have the following characteristics:

- The track is marked with cones.
- The left borders of the track are marked with small blue cones.
- The right borders of the track are marked with small yellow cones.
- Exit and entry lanes are marked with small orange cones.
- Big orange cones will be placed before and after start, finish and timekeeping lines.
- ~~If not defined otherwise in chapter D of the rules, t~~ The maximum distance between two cones in driving direction is 5m. In corners, the distance between the cones **may be is** smaller for a better indication.
- The start, finish and timekeeping lines as well as keep out zones around the timekeeping equipment **may be are** marked with ~~red, orange or pink~~ paint **or chalk**.

- Additionally for skid pad and trackdrive, track limit lines on either side of the track and entry/exit lanes may be marked with ~~yellow, green or white~~ paint **or chalk**.
- There are no track limit lines for acceleration and Emergency Brake System (EBS) test.

~~DE6.3.2 All lines are spray painted with the chalk-based marking paint "Soppec-Tempo T.P."~~





DE6.3.3 The cones used at the competition are equal to the cones listed in Table 2. ~~despite that there will be letters "FSG" on the black/white band of the cones (white/black respectively).~~

DE6.3.4 The manufacturer WEMAS<sup>6</sup> does not sell the cones to end customers, but they may be purchased from baustellenabsicherung24.de<sup>7</sup>.

<sup>6</sup><https://www.wemas.de>

<sup>7</sup><https://baustellenabsicherung24.de/leitkegel-titan-180-1934.html>

**Table 2:**

			
big orange cone two white stripes	small orange cone single white stripe	small yellow cone single black stripe	small blue cone single white stripe
WEMAS 307.610500.00.00	WEMAS 400.000013.00.00	WEMAS 400.000013.01.10	WEMAS 400.000043.00.00
285 mm × 285 mm × 505 mm 1.05 kg	228 mm × 228 mm × 325 mm 0.45 kg		

DE6.3.5 There are the following limitations mainly resulting from the ~~Hockenheim~~ track conditions and organizational / authorisizational issues:

- The lines may not be perfectly and continuously drawn.
- There may be further markings, to those mentioned above, that are not part of the track (e.g. markings, including cone position markings, lines from other events or different coloured surface, etc.) on or close to the track which will not be removed by the officials.
- There may be (stacked) spare cones standing at the trackside at distinguishable distance.
- No special artificial landmarks are provided by officials. The team must not place additional landmarks on the track or inside the dynamic area.
- No map data is provided by the officials.

DE6.3.6 Figures 1, 2 and 3 visualize the track layout descriptions given in D4.3, D5.1, and D8.1.

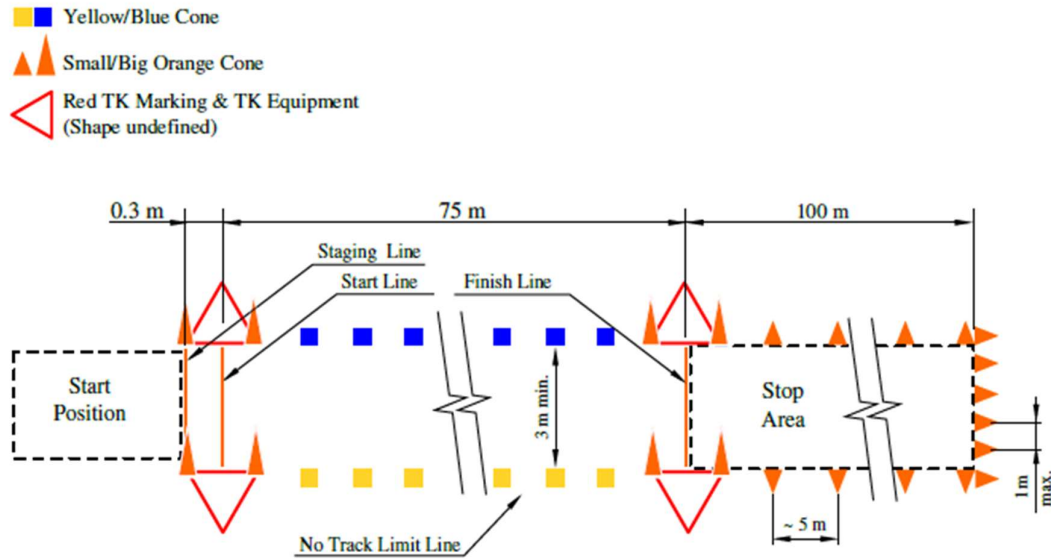


Figure 1: Acceleration

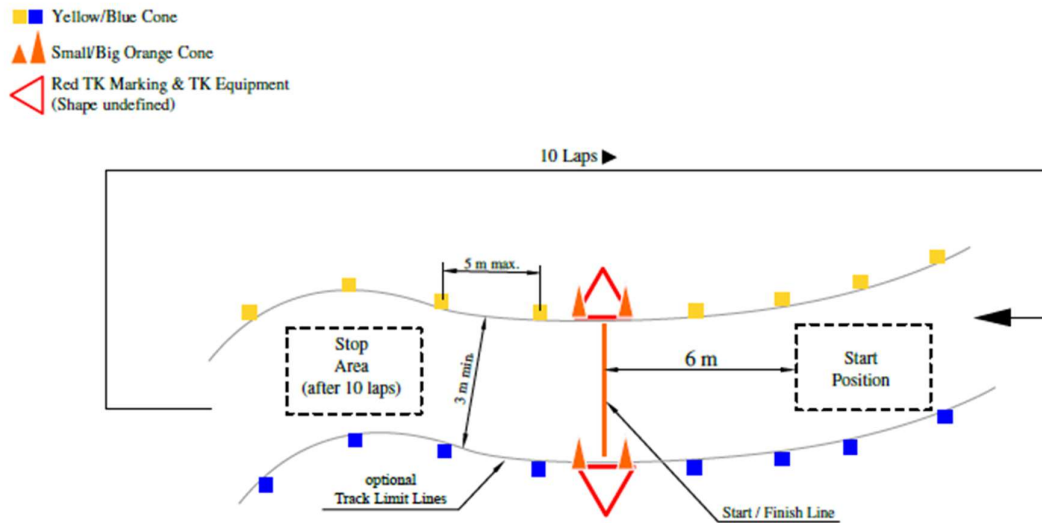


Figure 2: Trackdrive

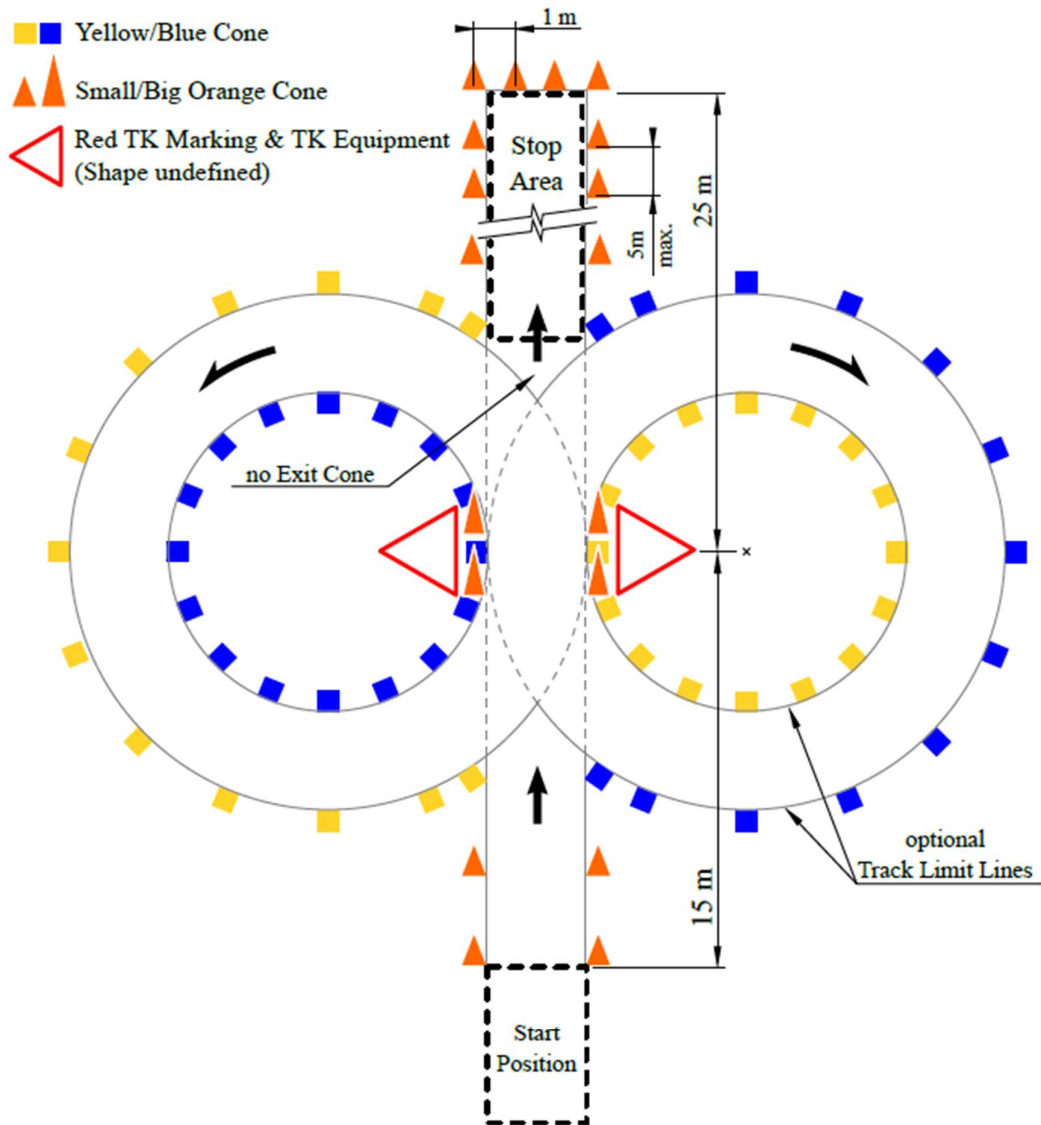


Figure 3: Skidpad base configuration according to rule D4.3