Motia Installation Guide

City Smart Pro (AI Side Scan DVS Oct-2024)

There are 3 variations of the City Smart Pro system depending on the customer requirements, these are:

- **MOIS** (front moving) sensor only
- **BSIS** (blind sport) sensor only
- **MOIS** (front moving) & **BSIS** (blind spot) sensors

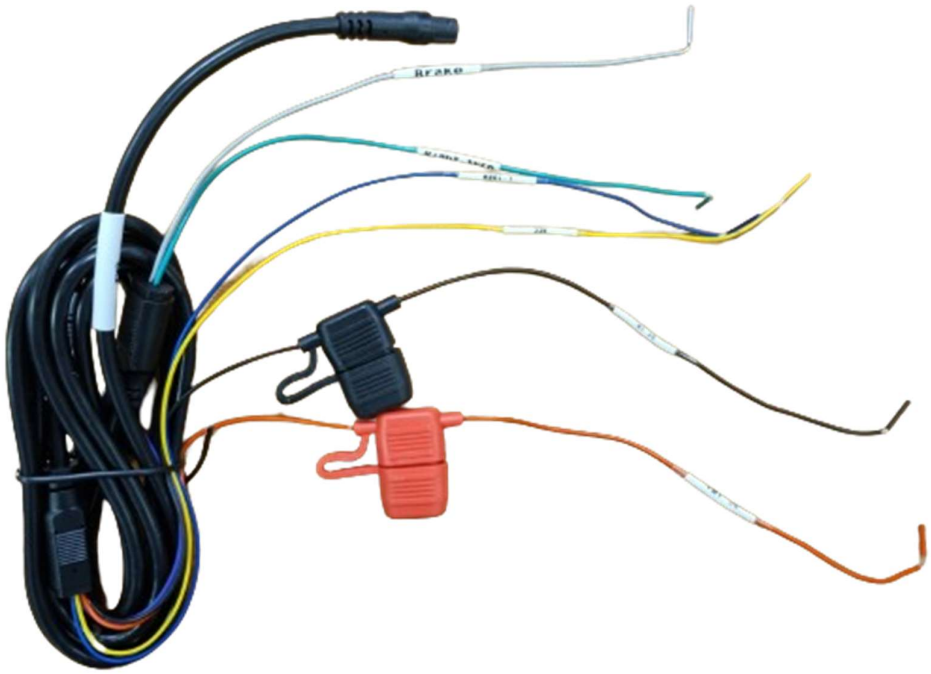
The MOIS & BSIS will be the most common for retro fitting to existing vehicles, but for new vehicles they may already come with MOIS & BSIS systems fitted by the manufacturer. For installation of a MOIS only or BSIS only system the only difference is fitting one less camera, and the configuration of the AI module via mobile app requires the 2nd camera zone disabling to prevent false alerts.

The City Smart Pro system reports back to a central AI control module which has multiple cable connections as shown/described below:

- **CAMERAS** - Connect the BSIS blind spot camera to the input VIN1 (video in 1) and the MOIS front camera to the input VIN2 (video in 2). If fitting BSIS only or MOIS only then you will have no camera in the relevant VIN port.
- **INTERNAL SPEAKER** - Connect the internal speaker to the 4-pin aviator connector. There is an extra yellow fly lead on this connector, leave this disconnected as it is not required for this installation.
- **EXTERNAL SPEAKER** - Connect the speaker to the 4-pin aviator connector with the corresponding 'SPEAKER' label. Standard aviation extension leads can be used.

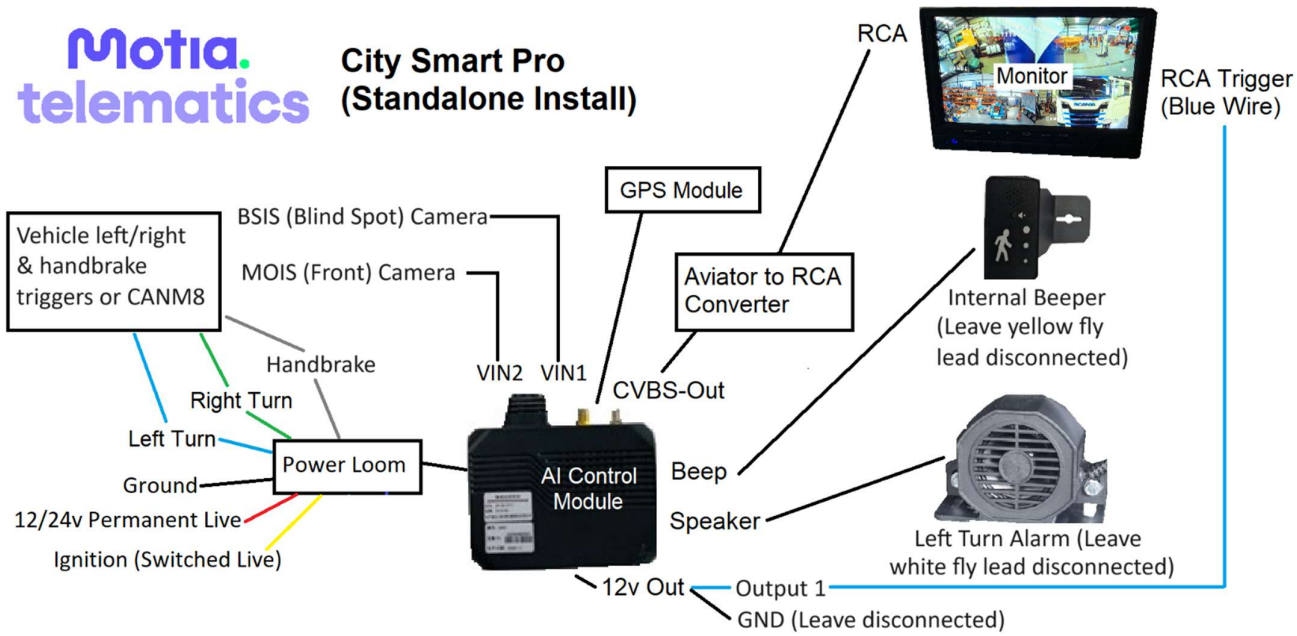
- **GPS ANTENNA** - Place the GPS antenna facing upwards in an internal location that has minimal obstruction by the metal cab. It is important that the AI control module has adequate GPS signal otherwise the speed detection triggers required for operation will not function.
- **VIDEO OUTPUT** - Connect the video output (CVBS) to the monitor via the RCA cable. An aviation to RCA converter is provider with City Smart Pro kit to allow conversion from the aviation connector.

The power loom has 6 coloured fly leads all labelled with the required input as shown below:



- **GROUND / CHASSIS** - Connect the black wire to the chassis or a solid ground wire.
- **POWER** - Connect the red wire to a permanent power supply. This can be 12 V or 24 V.
- **IGNITION / ACCESSORY** - Connect the ignition "ACC" yellow wire to a switched positive that is live whilst the the ignition is turned on. Be sure to test that this wire does not drop to ground during vehicle operation.
- **LEFT TURN SIGNAL** - Connect the left turn signal wire to the left turn indicator wire that is positive when the indicator is on or flashing. If this is not available on the vehicle then use a CAN-pickup device such as CANM8.
- **RIGHT TURN SIGNAL** - Connect the right turn signal wire to the right turn indicator wire that is positive when the indicator is on or flashing. This is a MUTE signal. If this is not available on the vehicle then use a CAN-pickup device such as CANM8.
- **HANDBRAKE SIGNAL** - Connect the brake wire to the handbrake indication wire. This wire must be positive when the handbrake is up. If there is a negative wire for the handbrake then use a relay to invert the signal. If there is no handbrake signal present on the vehicle then use a CAN-pickup device such as CANM8.
- **FINALISATION** - Once the physical installation is complete the AWAI unit must be set up using the application. Please refer to the Application Setup instructions on how to do this.

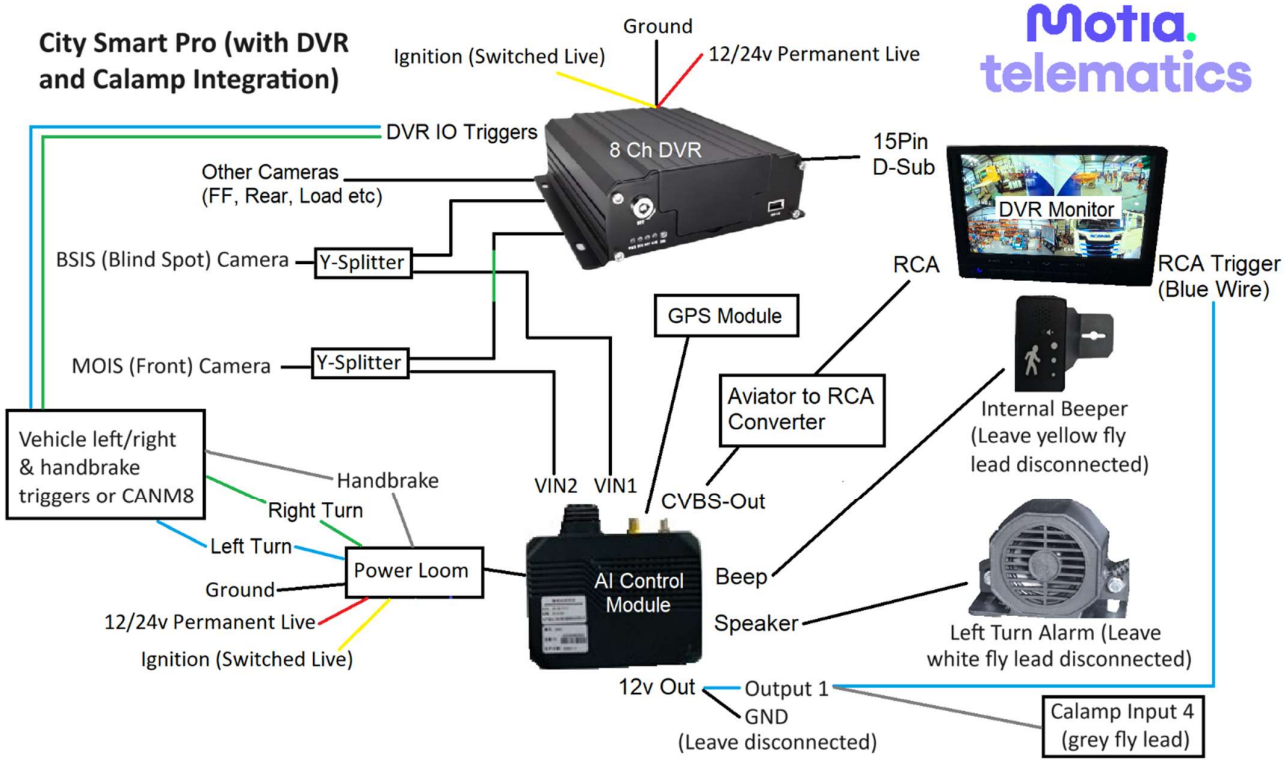
CITY SMART PRO (STANDALONE) WIRING DIAGRAM



CALAMP AND/OR DVR INTEGRATION

If connecting the City Smart Pro AI control module to a Calamp and/or DVR then you will need to make the below additional connections:

- **DVR Y-SPLITTERS** - the y-splitter aviation cable splits the camera feed from the MOIS (front) & BSIS (blind spot) cameras to go to the DVR and AI control module so that all footage is recorded on the DVR.
- **CALAMP INPUT 4** - use the 12v out feed (the same one used to trigger the monitors RCA feed) to connect to the Calamp input 4 grey fly lead. This will generate an input high trigger for all events sensed by the AI control module and display them on the customer's MyMotia telematics portal.



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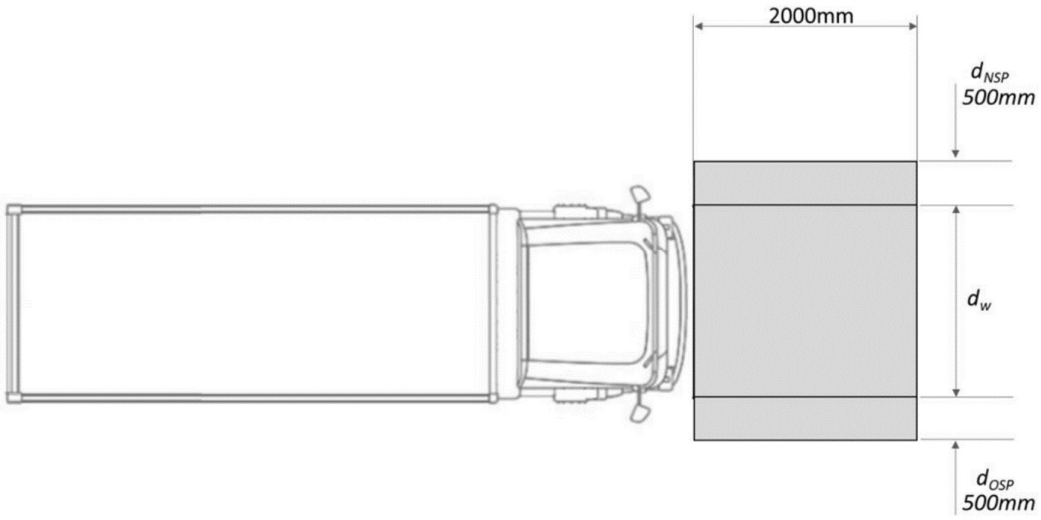
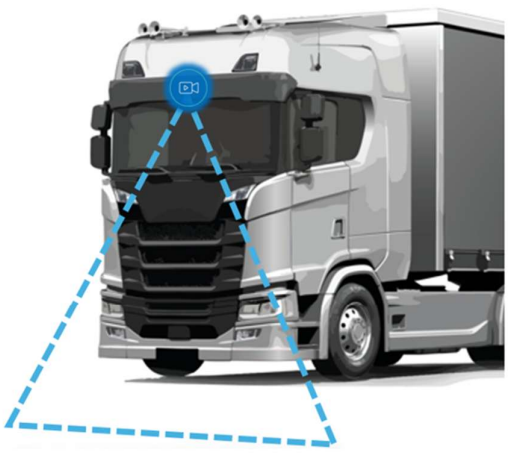
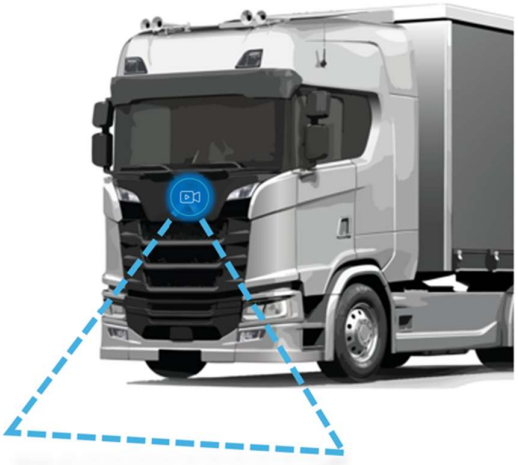
MOIS (MOVING OFF INFORMATION SYSTEMS) FRONT CAMERA:

As per the TFL (Transport for London) Progressive Safe System Technical Specifications, the front camera detection zone must cover the below space 2m ahead of the vehicle and 50cm to the left and right of the vehicle as shown below:



A wide lens external side camera (2.1mm or less) must be used to give a wide angle and the best mounting position is above the windscreen as shown below. If there are any obstacles in the way preventing the mounting in this location then it is ok to mount below the windscreen but the above detection zones must be covered for it be compliant with the MOIS requirements.





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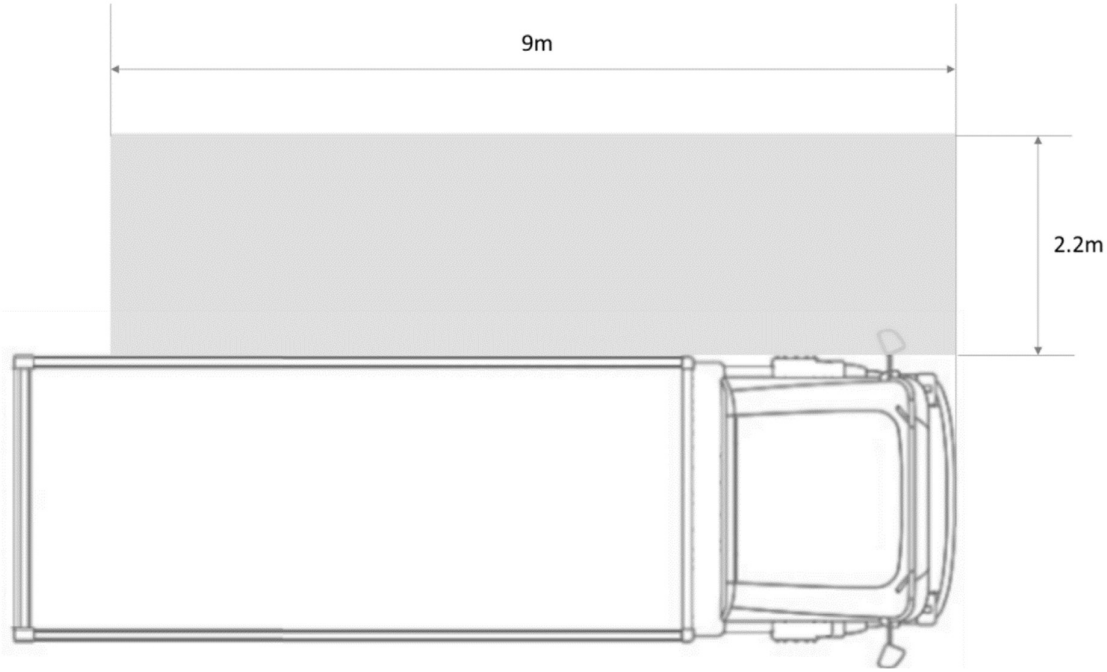
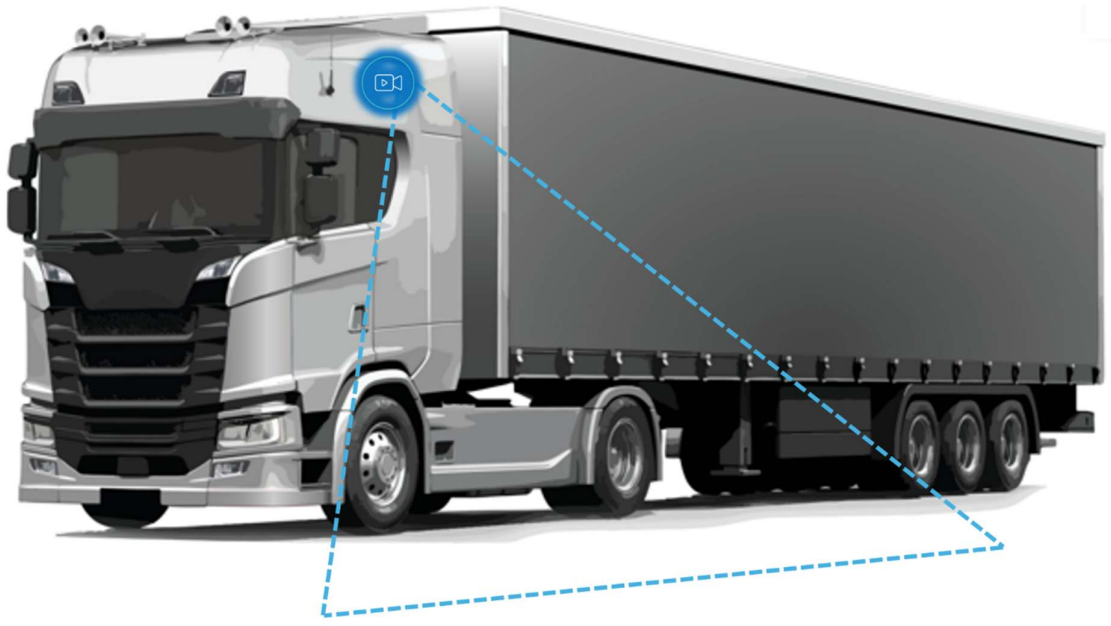
BSIS (BLIND SPOT INFORMATION SYSTEMS) SIDE CAMERA:

As per the TFL (Transport for London) Progressive Safe System Technical Specifications, the blind spot detection zone must cover 9m adjacent to the near side (left) of the vehicle and 2,2m away from the vehicle as shown below. Ensure to use a suitable grommet or panel adhesive/sealant to seal the hole around the camera to prevent water ingress.



A wide lens external side camera (2.1mm or less) must be used to give a wide angle and the best mounting position is above near side (passenger) door with the camera angled to reach the 9m x 2.2m detection zone requirement from the front left corner of the vehicle as shown below. Ensure to use a suitable grommet or panel adhesive/sealant to seal the hole around the camera to prevent water ingress.



Ensure to use a suitable grommet or panel adhesive/sealant to seal the hole around the camera cable to prevent water ingress.

INTERNAL MONITOR DISPLAY & BUZZER PLACEMENT:

The internal monitor display & buzzer is the primary way that the driver gets warnings about the presence of pedestrians in the warning zones. The internal buzzer connects to the AI control module via an aviation connector to the connector labelled 'BEEP'.

The yellow fly lead is to be left disconnected, but its intended usage is as an auxiliary 12v output and must be configured via the mobile app.

The internal beeper and monitor need to be mounted in a visible location with no obstructions. The preferred location is on the inside of the near-side A pilar as shown below:

EXTERNAL SPEAKER:

The external speaker must be mounted externally to the cab either in the front or the rear of the cab, close to the near side. The GR01AI speaker uses standard 4pin aviation connectors so camera extension cables can be used to allow the desired placement of the speaker.

Common placement is under the front cover as close to the near side corner as possible to ensure the alerts can be heard by passing pedestrians.

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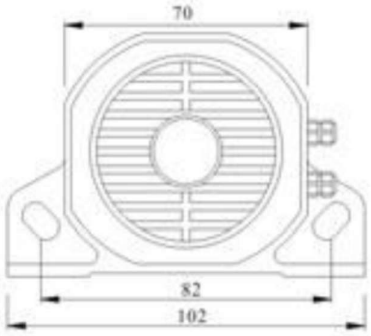

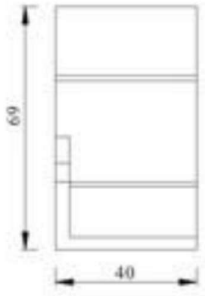

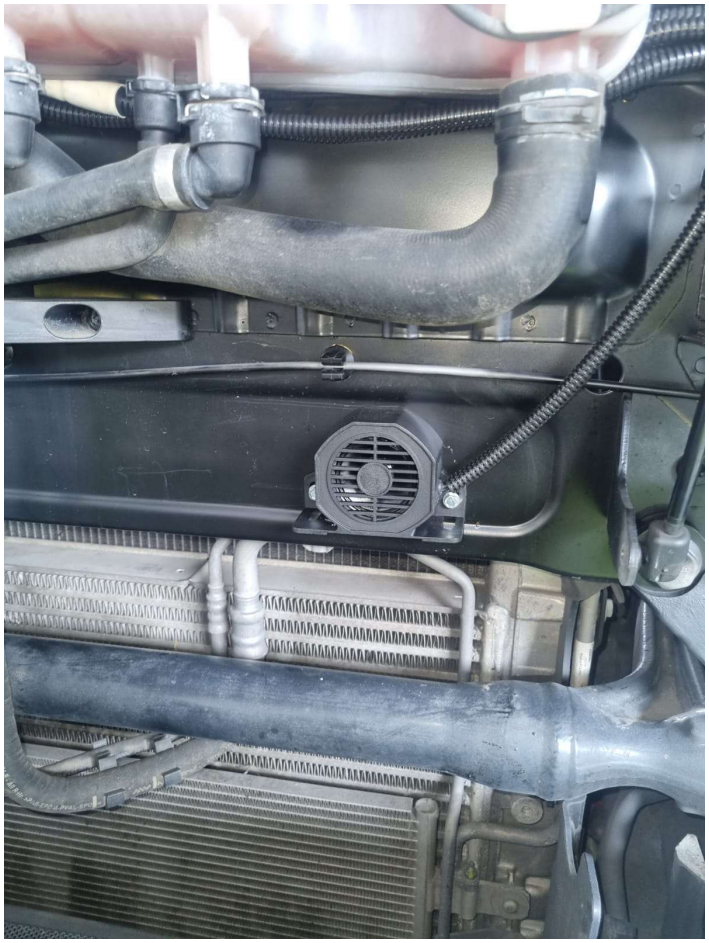

Once installation is complete, the next stage is to configure the AI control module via the Android mobile/tablet app. Click here for instructions on how to configure the mobile/tablet app.