

Auto-Guide components:



TopDock
 The TopDock receiver that fits to the roof of the tractor can be easily switched from one tractor to another. The TopDock includes the following:

- GPS antenna
- GPS receiver and navigation controller
- Dynamic measurement unit
- Optional radio for local base station



Steering kit
 A proportional steering valve steers the tractor according to data received from the TopDock. Valtra's Auto-Guide Readiness package includes the steering valve and all necessary wiring. The steering kit includes the following:

- Proportional steering valve
- Front wheel turning angle sensor
- Sensor that disengages automated steering system as soon as the driver touches the steering wheel



Terminal
 The terminal is fitted inside the cab and allows the driver to operate the Auto-Guide system. The terminal includes the following:

- Colour screen
- Data can be seen even in bright sunlight
- Red illuminated display in night mode
- User-friendly interface



Local base station
 An optional local base station is available with the Auto-Guide system that allows driving accuracy of around two centimetres. The local base station includes the following:

- GPS receiver and antenna
- Radio and radio antenna
- Tripod



Accuracy options

| Option | Static accuracy | Dynamic accuracy | Description | Recommended applications |
|------------------------------|-----------------|------------------|---|--|
| Auto-Guide Centimetre | +/- 2 cm | +/- 2 cm | Offers centimetre-precise accuracy using local base station. Auto-Guide Centimetre uses location data from the local base station that can be used by all tractors and implements using the same radio frequency. | Row crop farming, planting, tillage, spraying, soil preparation, fertilising |
| Auto-Guide Decimetre | +/- 10 cm | +/- 5 cm | OmniSTAR HP (High Performance) OmniSTAR HP offers decimetre accuracy through dual-frequency GPS corrections. The satellite correction signal is available from commercial satellite subscription providers | Planting, tillage, spraying, soil preparation, fertilising |



Auto-Guide
 Steering Assist System





Auto-Guide is a fully automated steering assist system for Valtra tractors based on GPS navigation. Auto-Guide accurately steers the tractor down to a few centimetres without the driver having to touch the wheel.

The system is based on GPS satellite navigation technology. The user can choose between two levels of accuracy. More precise option can steer tractors to within a few centimetres using a local base station. Less expensive option uses satellite-based differential correction signal and is accurate to within a few decimetres.

Auto-Guide is easy to use. First the driver inputs the width of the implement being used. The driver then selects a starting point at one end of the row and a turn-around point at the other end. Auto-Guide then uses this information to automatically create additional driving lines to cover the entire field. In the headland, the driver turns the tractor in the desired direction as usual, but when driving along the row the Auto-Guide system takes over the steering. This allows the driver to focus on fine-tuning speed and controlling the implement. Auto-Guide allows three types of automated steering: parallel (straight lines), contour (curved lines) and pivot (circular lines). The driving lines can also be driven in any order, thus facilitating headland turns.

Auto-Guide helps the driver in his work and frees him to concentrate on implements. The system saves fuel and time, as the entire width of the implements can be fully utilised. The amount of pesticides, seeds, manure and other spreading

materials is also reduced, as the driving lines are never redundant. This also improves the quality and quantity of the crop, as perfect coverage of the field is guaranteed without gaps.

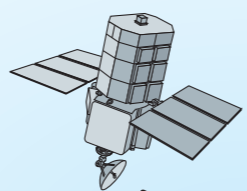
Auto-Guide makes it possible to work at night and in dusty or foggy conditions, regardless of visibility. Spraying at night reduces the amount of evaporation. By reducing the amount of redundant driving on the field, Auto-Guide also spares the ground becoming compacted, increases the efficiency of implements, and improves the quality of crops. The system also helps the driver to stay alert when he does not have to concentrate on steering.

Auto-Guide is compatible with other AGCO tractors and implements. For example, the same TopDock and GPS antenna on the roof of the tractor or terminal inside the cab can be used with a combine harvester or self-propelled sprayer. If the user owns several Valtra tractors, the same TopDock and terminal can be used in all tractors that are equipped with Auto-Guide Readiness.

If you are uncertain whether you or the next owner of your tractor will have use for the Auto-Guide system, specifying Auto-Guide Readiness could be the right solution. The Auto-Guide Readiness package includes the steering valve required for automated steering, as well as the necessary wiring and sensors. These are installed already at the factory. If you then want to start using Auto-Guide at a later date, all you need to purchase is the TopDock and terminal.

Valtra's Auto-Guide automated steering assist system is a factory-fitted option. This guarantees that the installation is more reliable and of higher quality than retrofitted systems.

GPS satellite
The GPS system is based on a minimum of 24 satellites that circle the globe at an altitude of 20,000 kilometres. The system utilise several satellites at any one time.



Signal
A normal GPS signal allows positioning within a few tens of metres. Since farmers need more precise data, the signal from GPS satellites is corrected by a signal from either a geostationary satellite or local base station. This is referred to as differential GPS, or DGPS.

Tractor
The driver of the tractor can focus on his work instead of on steering. Sensors in the Auto-Guide's TopDock automatically compensate for potential errors when the tractor is leaning, for example.

Satellite-based differential correction signals
The Auto-Guide system uses correction signals transmitted by geostationary satellites that remain at a fixed location above the equator.

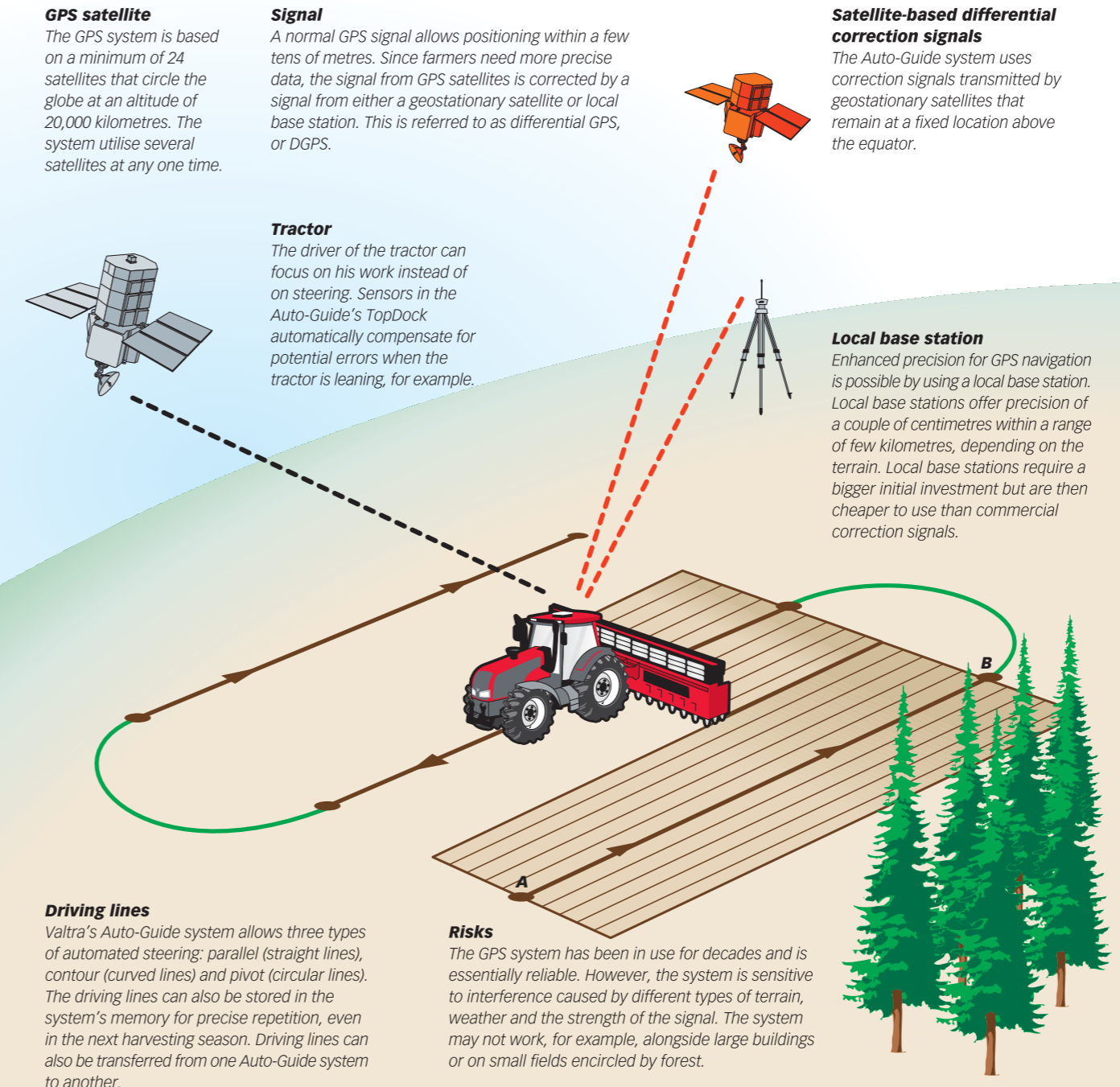


Local base station
Enhanced precision for GPS navigation is possible by using a local base station. Local base stations offer precision of a couple of centimetres within a range of few kilometres, depending on the terrain. Local base stations require a bigger initial investment but are then cheaper to use than commercial correction signals.



Driving lines
Valtra's Auto-Guide system allows three types of automated steering: parallel (straight lines), contour (curved lines) and pivot (circular lines). The driving lines can also be stored in the system's memory for precise repetition, even in the next harvesting season. Driving lines can also be transferred from one Auto-Guide system to another.

Risks
The GPS system has been in use for decades and is essentially reliable. However, the system is sensitive to interference caused by different types of terrain, weather and the strength of the signal. The system may not work, for example, alongside large buildings or on small fields encircled by forest.



Advantages for you:

- Saves fuel and time
- Reduces overlap and underlap
- Reduces use of seeds, fertilisers and pesticides
- Permits accurate operation in darkness, fog and dust
- Reduces driver fatigue
- Allows driver to focus on using the implement
- Reduces weed growth by improving herbicide application
- Saves the environment by streamlining use of fertilisers and pesticides
- Reduces soil compaction by standardising same driving lines
- Speeds up work
- Eliminates the need for row marker system
- Allows data to be stored for precision farming and traceability