EPTS Electronic performance and tracking systems

EPTS are technologies used to monitor and improve player and team performance. EPTS primarily track player (and ball) positions but can also be used in combination with microelectromechanical devices (accelerometers, gyroscopes, etc.) and heart-rate monitors as well as other devices to measure load or physiological parameters.

1 Optical-based tracking system

Benefits
- Non-invasive to players
- Commonly used in the football market
- High sampling rate, ball tracking possible

Limitations
- Limited number of measurements
- Tracking occlusions require manual corrections
- Installation time

2 Local positioning system

Benefits
- High number of measurements possible
- Accuracy of measured data in real-time
- Ultra-wide band technology reduces chances of interference in transmission path

Limitations
- Fixed installation
- Installation costs
- Installation time

3 GPS/GNSS satellite system

Benefits
- High number of measurements possible
- Short installation time
- Operator not needed

Limitations
- Device attached to player and device size are issues for matchday usage
- Satellite signal line of sight in stadium
- Accuracy concerns of measured data