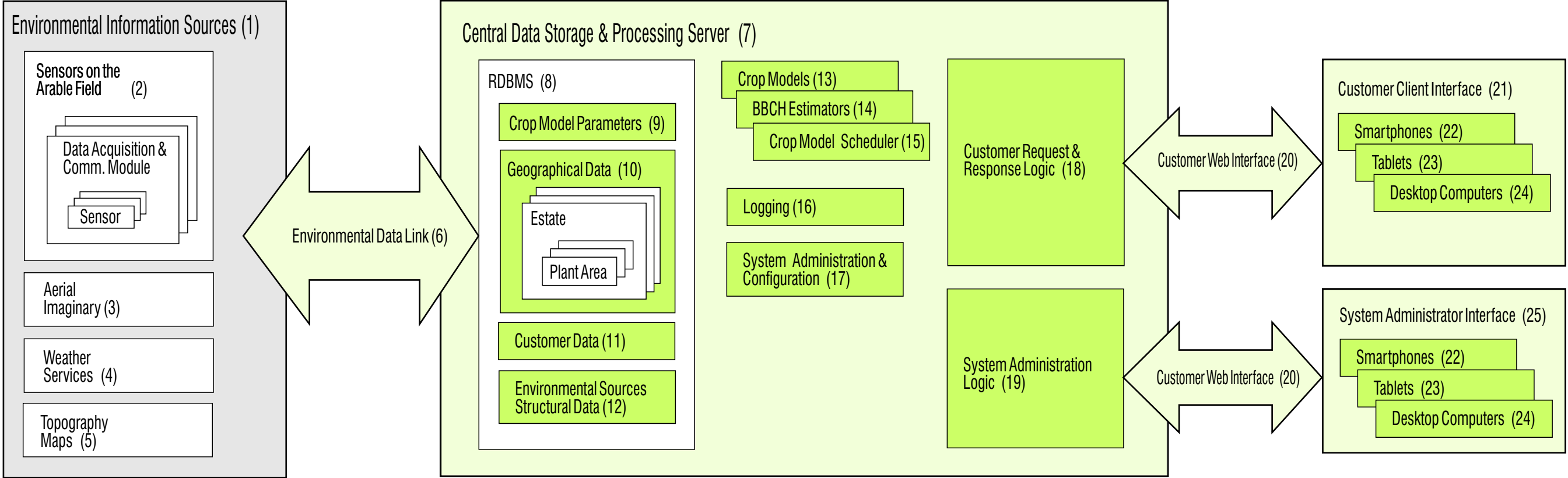


# PODS — Plant Observer & Diagnostic System | High Level Overview



- (1) The Crop Models (13) are based on several environmental information elements
- (2) The sensors on the arable fields: soil temperature and humidity, air temperature and humidity, solar intensity, and leaf wetness. The sensors are coupled to Data Acquisition & Communication Modules to transfer their data via GSM network
- (3) High-resolution aerial images are used from several sources (drones, satellites)
- (4) The system is using various ag-specific weather data services to obtain precise weather forecast information
- (5) Topography has a huge impact on the flow of water and nutrients in the soil and in the field. The System uses Digital Elevation Maps (DEM) retrieved from various sources
- (6) The environmental data are transferred via GSM network to the Internet with custom-interfaces

- (7) One or more (self-scalable) Data Storage & Processing Servers put the business logic through
- (8) Relational Database Management System provides data persistence
- (9) The Crop Model Parameters ensure the BBCH Estimator's input
- (10) Two level areal partition ensures precise plant area registering
- (11) Detailed Customer Data are stored in the system (for service access, available environmental sources, geographical data, etc.)
- (12) The Environmental Sources Structural Data represent the technical details of the information sources
- (13) The Crop Models give disease and pest forecast information
- (14) The BBCH Estimator gives indispensable input information for the Crop Models

- (15) The Crop Model Scheduler provides the periodic running of the Crop Models according to the Crop Model Parameters (9)
- (16) Detailed Logging Facility ensures the system maintainable work
- (17) The System Administration & Configuration Facility is a key component of a manageable computerized system
- (18) The Customer Request & Response Logic realizes a rich, and user-friendly User Interface Logic
- (19) Similarly to (18) the System Administration Logic ensures a simply and safe system administration
- (20) The customers communicate with the system via Web-services
- (21, 25) All browser-based electronic devices are able to communicate with the system without preliminary software installation

- (22) Smartphones with Android operating systems, Apple iPhones can be used in the same way
- (23) There are no restrictions between tablets which can be used: wide browser-compatibility will be implemented
- (24) The system is also available via desktop computers

