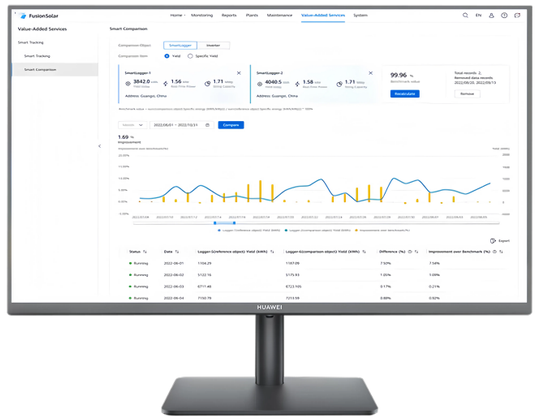
Smart Tracker Control Algorithm (SDS)

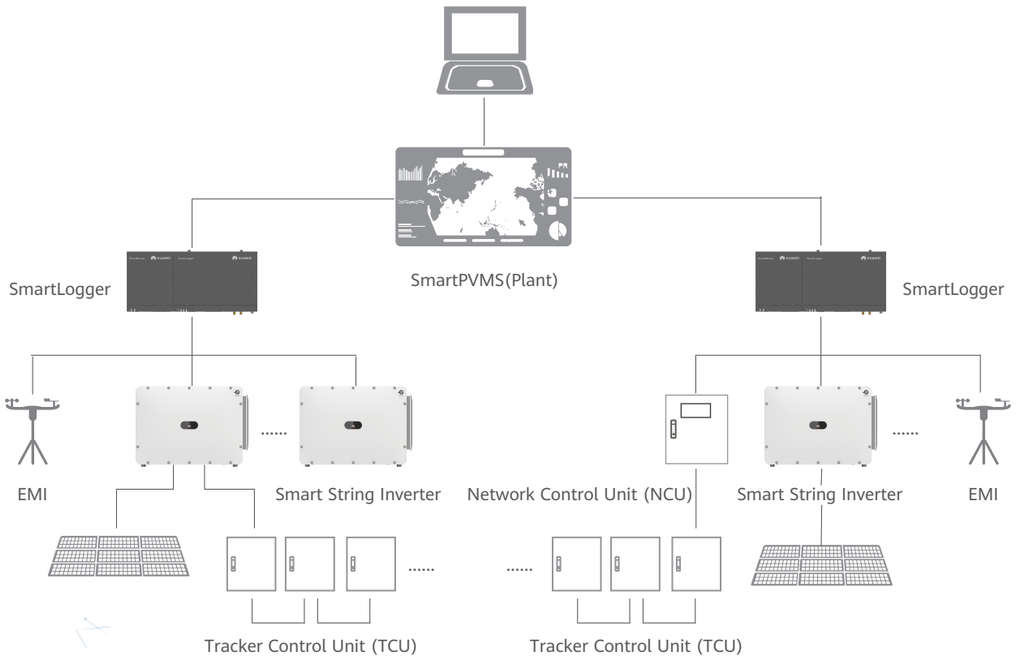
Smart Tracker Control Algorithm (SDS) is a valuable software based and closed-loop control. By using the SDS, together with Smart PVMS, SmartLogger and SUN2000 inverters, the trackers' angle can be automatically controlled and optimally adjusted to achieve higher yields. The yields can be increased by ~1% especially in complex terrain and weather scenarios, and it will bring higher revenue to the customer.



System level closed-loop control to keep the system operating in the state of maximum irradiation and optimal power output of PV module

Automatic tracking angle optimization and control by using AI technology, automatic sensing of shading and weather information. No need for additional sensing equipment, free from manual and empirical dependence

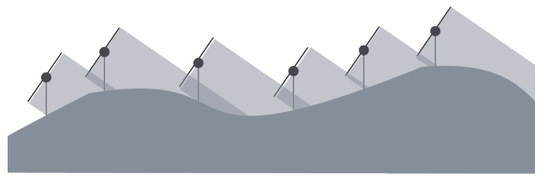
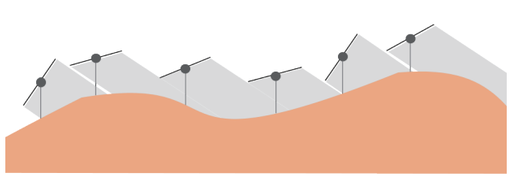
Network Structure

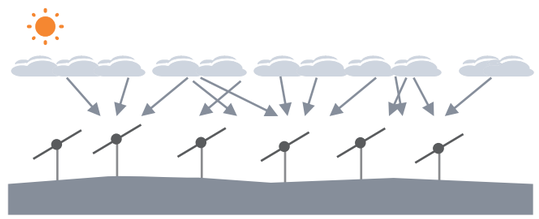
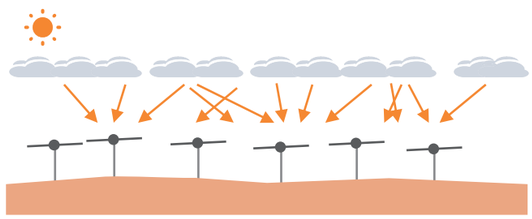


Smart Tracker Control Algorithm (SDS)

Technical Specifications	
Smart String Inverter	SUN2000-215KTL-H0, SUN2000-215KTL-H3...
Data Logger	SmartLogger3000 series...
Management System	SmartPVMS(Plant)
Tracking Angle Accuracy	0.5°
	Smart Tracker Control Algorithm Verified by TÜV

Comparison of Tracker Algorithms and Angles

Reverse-tracking stage in the morning and at dusk	
Shadows in the front and back rows of modules, without consideration of complex terrain.	The SDS algorithm allows trackers to find the optimal angle for each, effectively avoiding shadow occlusions.
	
Traditional Tracker Algorithm	Smart Tracker Control Algorithm

Cloudy and rainy days	
Tracking the angle of the sun is not the best way to get maximum irradiation when without consideration that direct sunlight becomes diffuse reflection in this scenario.	Trackers are flattened at a small angle to receive more diffuse light, so as to get maximum irradiation.
	
Traditional Tracker Algorithm	Smart Tracker Control Algorithm