MORE POWER LESS DIRT

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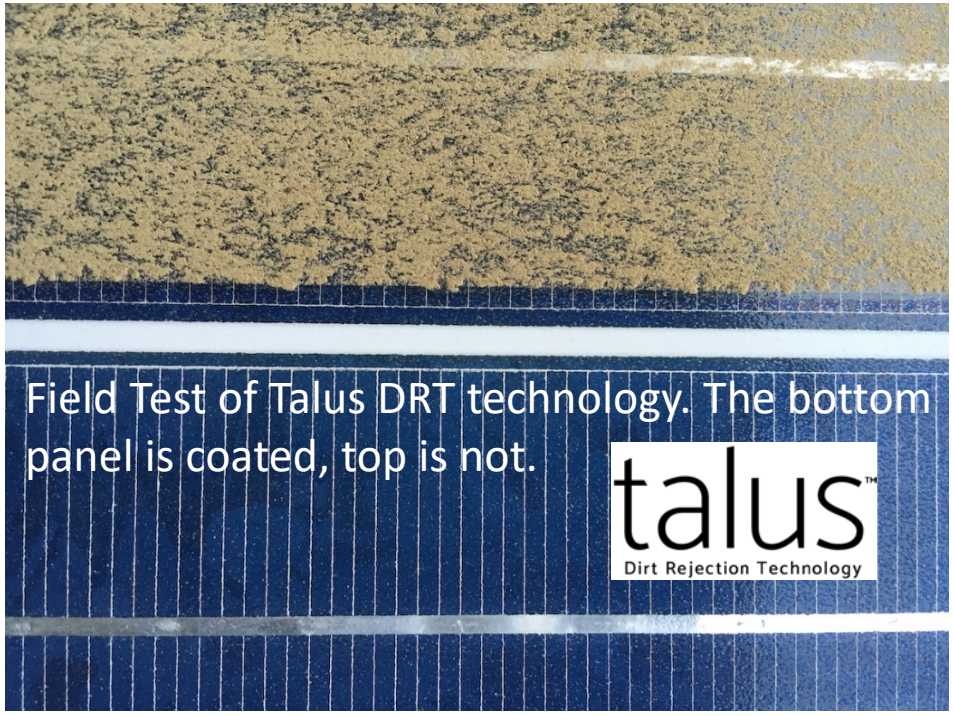
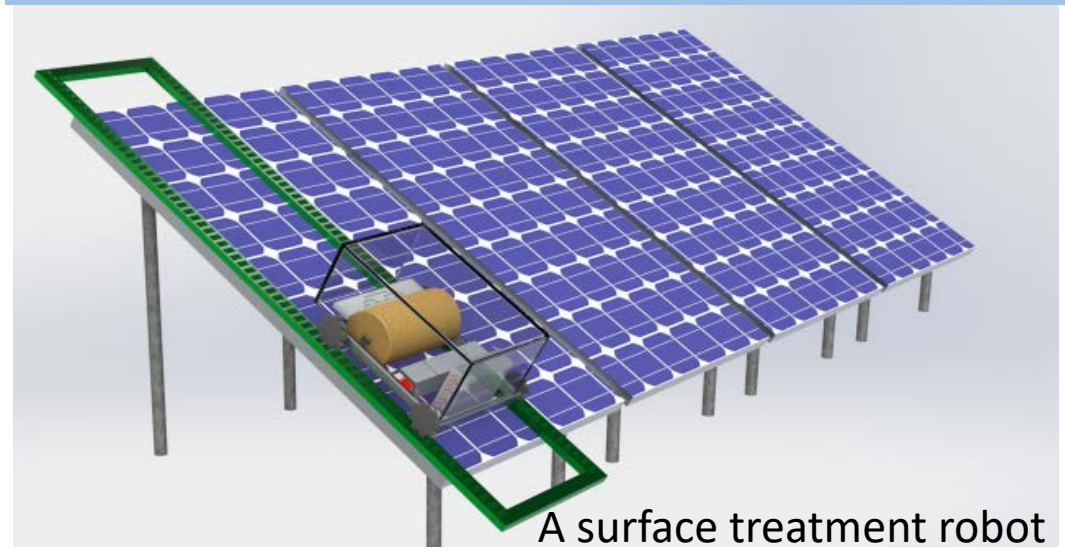
U.S. DEPARTMENT OF ENERGY

Soiling on solar panels leads to significantly reduced energy yields, especially in high insolation arid and semi-arid climates. Even in optimized cleaning scenarios, soiling reduces the current global solar power production by 3%–4%, with 3–6 billion US dollar annual revenue losses.

Pellucrere's Talus dirt rejection technology optimizes the unique physical properties of our silica shield's nano-structure to prevent the buildup of dirt and other particulates. The unique properties of Talus DRT allow it to "reject the dirt" without waiting for rain. Its excellent dirt-rejection capability, durability, un-matched optical performance, and easy installation outperform any existing anti-soiling coatings in the field.



Field Test of Talus DRT technology. The bottom panel is coated, top is not.



A surface treatment robot

One major remaining hurdle for the broad market penetration of Talus DRT is an efficient surface treatment on installed AR-coated PV modules for the application of Talus DRT coatings. Thus, we propose to demonstrate a robotic surface treatment and coating solution to overcome this major hurdle. The result of winning the solar prize will lead to a retrofit, anti-soiling coatings to save billions of dollars annually due to the lost solar power via soiling.