

# LEAN SOLAR™

## Intevac's Production-Proven Platform for PV Applications

- Individual cell processing for precise process control
- Sequential parallel processing
- High productivity
  - Up to 2000 cells per hour throughput (single-sided)
  - Up to 1000 cells per hour throughput (double-sided)
- Handles 125mm and 156mm cell sizes
- Low cost, proven platform – in production at multiple customer sites throughout Asia and the United States

## Plug and Play Process Module Capability for Optimal Processes

### DEPOSITION

- DC and pulsed DC sputtering
- RF sputter
- Reactive ion sputter
- CVD
- Option to deposit on both sides of cell

### HEATING AND COOLING

- Two zone uniform heating up to 650° C
- Highly efficient helium cooling
- Up to 8 MFCs per station
- Every chamber individually pumped and valved
- Base pressure < 5 10<sup>-8</sup> Torr with optional water pumping

## High-Productivity Integrated Processing System



- System architecture enables multiple configurations
- Small footprint
- Short lead time for equipment delivery – 14-16 weeks

LEAN SOLAR Dimensions: L: 7.0m; W: 1.8m; D: 2.7m

# LEAN SOLAR APPLICATION EXAMPLES

## CIGS on Glass or Stainless Steel Substrates

- LEAN SOLAR greatly simplifies scaling challenges
- 125mm and 156mm cell sizes minimize uniformity challenges
- Enables fast scale-up to high efficiencies
- All layers deposited in one system
  - Back Contact, Absorber, Buffer and Top Contact
- Modular capital investment
- Low cost substitute for Poly-Si or c-Si cells to enable grid parity cost per watt

## C-Si Metal Contact

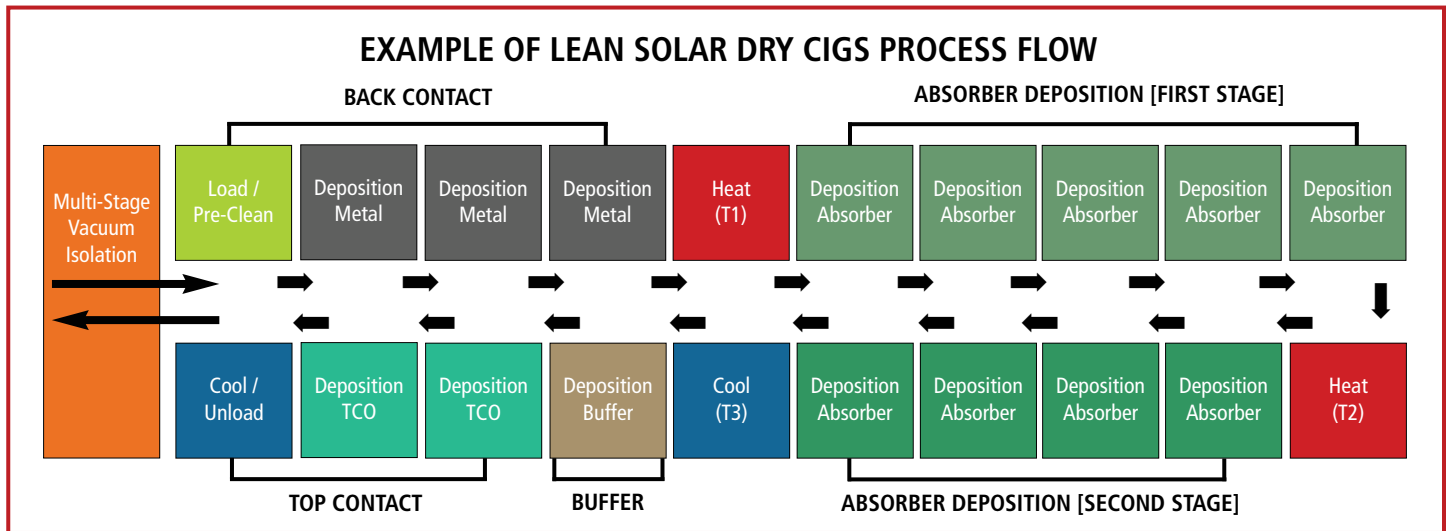
### MOLYBDENUM, ALUMINUM

- High rate
- Uniform film
- High conductivity

## Transparent Conductive Oxide

### ITO, AZO, iZO

- High rate
- Uniform film
- High transmissivity



For information about LEAN SOLAR, contact Ian Latchford at [ilatchford@intevac.com](mailto:ilatchford@intevac.com) or 1.408.588-2138 • [www.intevac.com](http://www.intevac.com)



**INTEVAC**

*Think Lean. Create Value.*