

**RENA's single side tools InPolish and InSiOx:
 two new inline wet tools for high efficiency cells**

With its InOxSide Tool, RENA has already successfully introduced inline single side etching in the PV industry and is now expanding its single side processing portfolio with two new equipment types: InPolish and InSiOx for inline single side polishing and inline single side oxide etching.

While the existing InOxSide tool is already a powerful enabler for rear-side passivated cells (it performs the junction isolation by removing the n-diffused layer from the back side of the cell), the two new products are dedicated to high efficiency cell concepts and complete RENA's tool box for the production of rear-side passivated cells.

With rear-side passivated cells, a flat back surface is required to improve the back side reflection and to allow for an efficient passivation of the rear surface. For this purpose, the technology of the InOxSide was developed further in the **InPolish** system to expose the back side of the cell to a polishing etch, thus providing a smooth rear side. The etch depth and so the smoothness of the surface can be tuned according to the requirements set by different cell concepts.

A passivation layer with a high potential is thermally grown SiO₂. During the oxidation process the layer is formed on both sides of the cell. Using a single side etch step, the **InSiOx** technology allows removing the oxide on one side of the cell without damaging the passivation layer on the other side.

Both tools can process as well multi as mono wafers. With a throughput for 156 mm wafer of 1,600-3,000 w/h, the InPolish has a footprint of 7,800 – 10,200 x 2,300 mm² and the InSiOx a footprint of 4,200 – 10,200 x 2,300 mm².

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