

**EUROPEAN COMMISSION**

HORIZON 2020 PROGRAMME

TOPIC H2020-LCE-2016-RES-CCA-RIA

Improved electrolysis for distributed hydrogen production

GA No. 727523

**Next – generation interdigitated back-contacted silicon heterojunction solar cells and modules by design and process innovations**



**NextBase – Public Summary**

**Work package 6 – IBC-SHJ process integration for mass production**

<b>Work package</b>	6: IBC-SHJ process integration for mass production	
<b>Dissemination level</b>	Public (PU)	
<b>Status</b>	Version 1	2017-01-12
<b>Related deliverables</b>	D6.1, D6.2, D6.3	
<b>Document type</b>	Ongoing: will be completed after every finished related deliverable.	

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## Public summary

### **Deliverable 6.1**

“Tool specification for high quality silicon deposition and in-situ masking”

A new R&D reactor combining both the deposition of ultra-thin new silicon layers with built-in patterning option will be manufactured. The goal is to manufacture IBC SHJ solar cells using shadow masks to reach high efficiency solar cells with a minimum of process steps. The development of this new technology will be structured around two main topics. First, the deposition of high quality silicon layers in order to reach very low contact resistance values with a novel type of silicon junction. Next, the development of a masking solution inside the reactor to pattern the silicon layers with very narrow tails width, allowing reaching very high aspect ratio. The combination of such new patterned silicon layers with state of the art passivation quality will trigger the development of very high efficiency IBC SHJ solar cells at a competitive cost.

### **Deliverable 6.2**

“Tool manufacturing, testing and pilot cell fabrication: SHJ double side contacted cells with FF>80%, precursors with layer patterning >2ms and  $J_0 < 10$  wafers/hour”

Due in month 18, March 2018

### **Deliverable 6.3**

“IBC-SHJ cells processing with a throughput >10 wafers/hour”

Due in month 24, September 2018