



Eilot International Renewable Energy Conference

February, 17th 2010

BOSCH Solar Energy

Leading technology to maximize customer benefit at reduced cost through integrated approach

Solar Energy

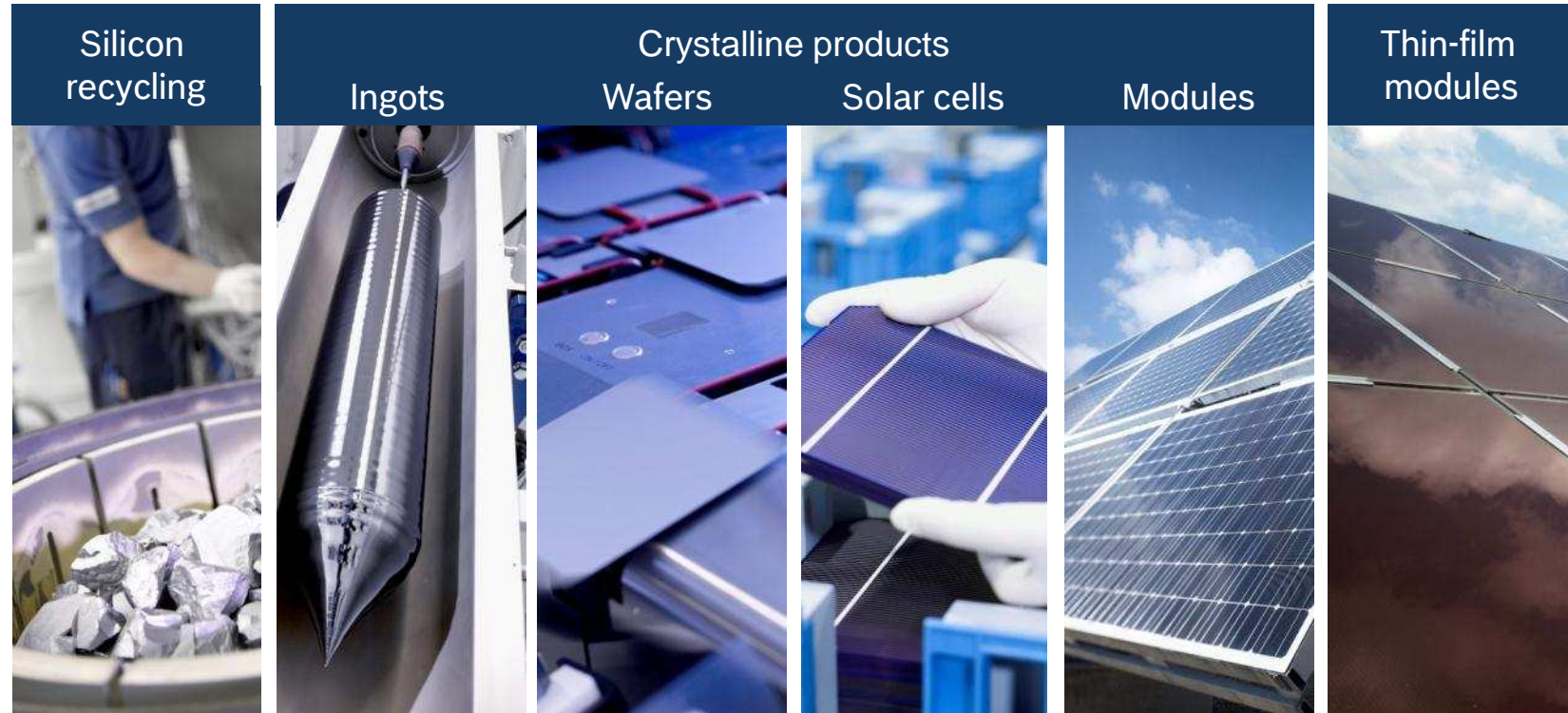
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Bosch – Solar Energy

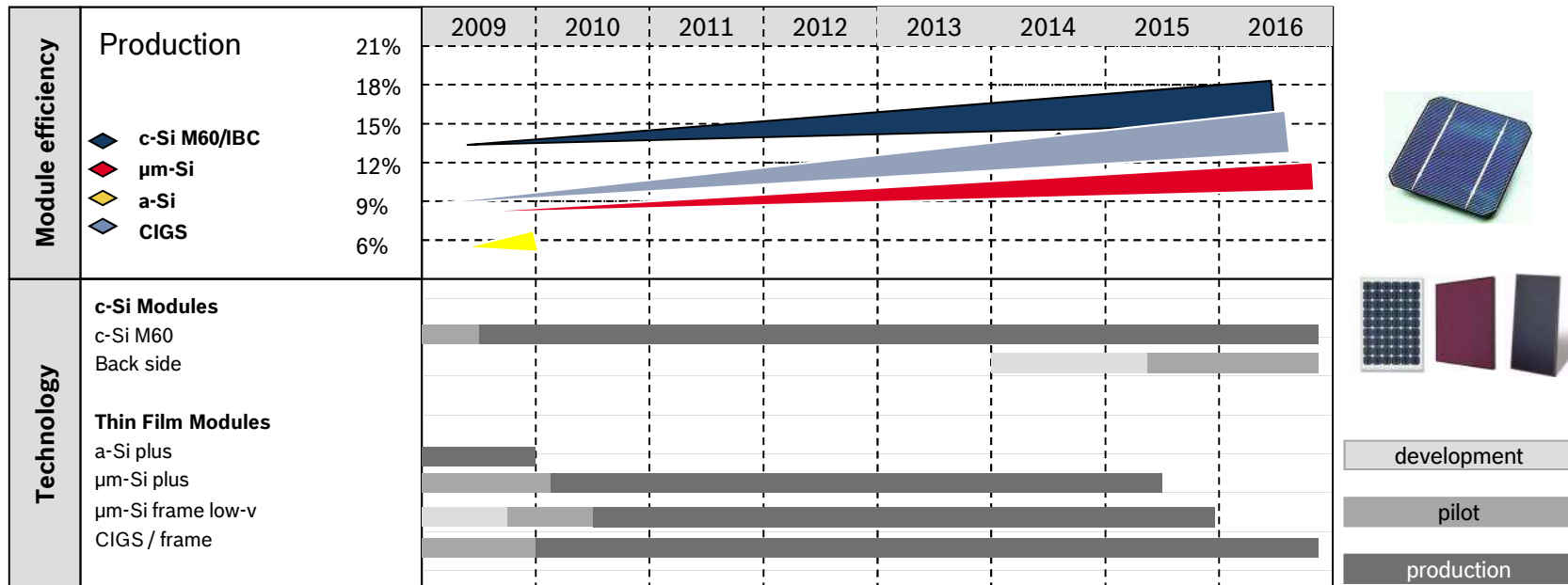


Bosch Solar Energy AG develops, produces and markets high quality silicon based PV products along the complete PV value chain



Technology Roadmap

- Clear focus on quality and technological leadership through high investments in R&D
- High efficiency cells and modules
- Optimized systems integration through inhouse Turn Key PV solutions.
- c-Si technology: MWT cell, Back contact cell
- Thin Film technology: μ m-Si and CIGS

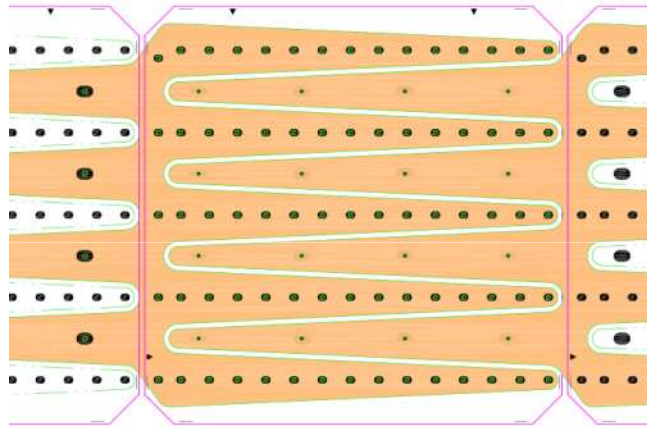


MWT-cell

No busbars → less shading → higher efficiency +0,8%



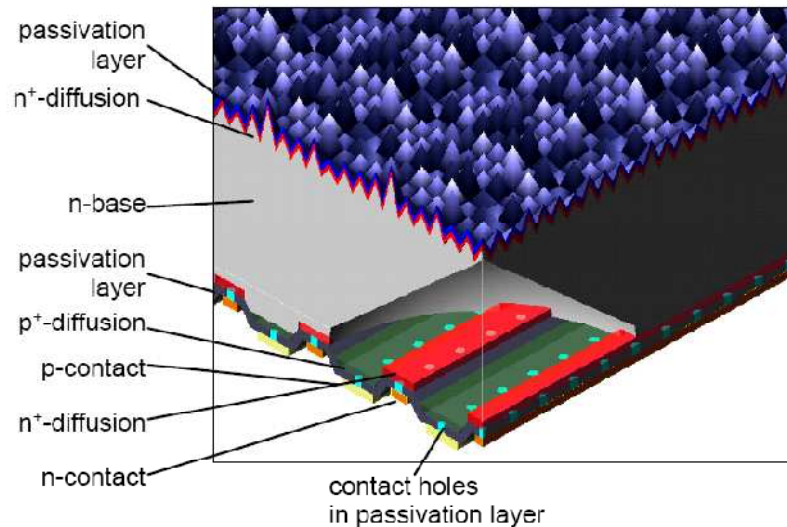
new front side:
→ Improved Fill Factor



new soldering technology: BFT*
→ preparation for Back Contact Module technology



Bosch Back-Contact cell - The road to 20%



- p-Emitter inside n-material
- Back-side passivation
- Local contacts

→ Efficiencies > 20% due to higher minority carrier lifetime,

→ No boron oxygen complexes

Bild: S.W. Glunz, „High-Efficiency Crystalline Silicon Solar Cells“, Advances in OptoElectronics Volume 2007 (2007), Article ID 97370, 15 pages

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Bosch System approach – quality and efficiency to maximize the customer benefit

- Minor mounting cost due to application of inhouse mounting systems optimized on Bosch Solar μ m-Si module with hardened front glass
- Cost reduction by using only 50% aluminum, compared to conventional system



Fotovoltaik_V5_Kurz.wmv

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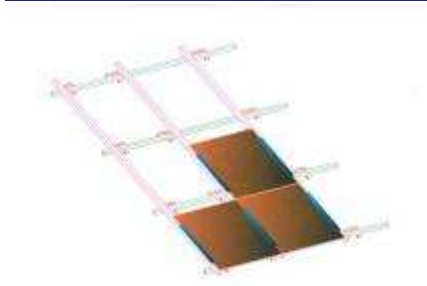
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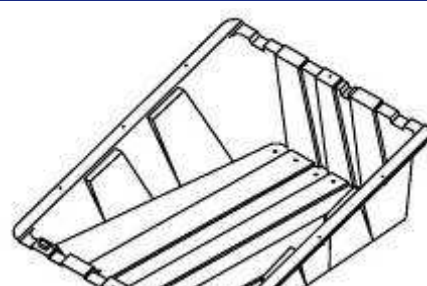
Module integration with respect to customer needs

Roof top applications

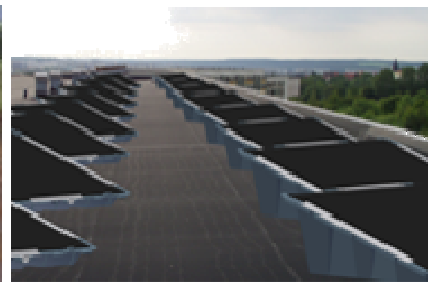
Parallel to the roof



flat roofs



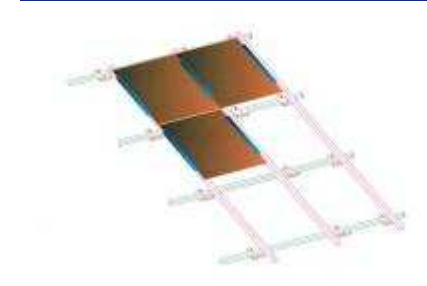
Mounting System, Impegs



Renusol

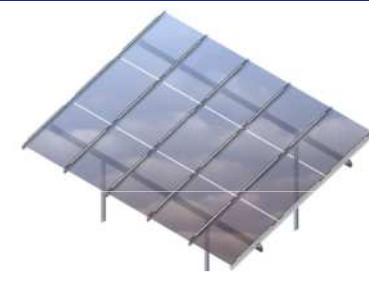
Free field application

4 rows



Customized solution

2 rows



Bosch Rexroth

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Thank You very much for your attention!

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