



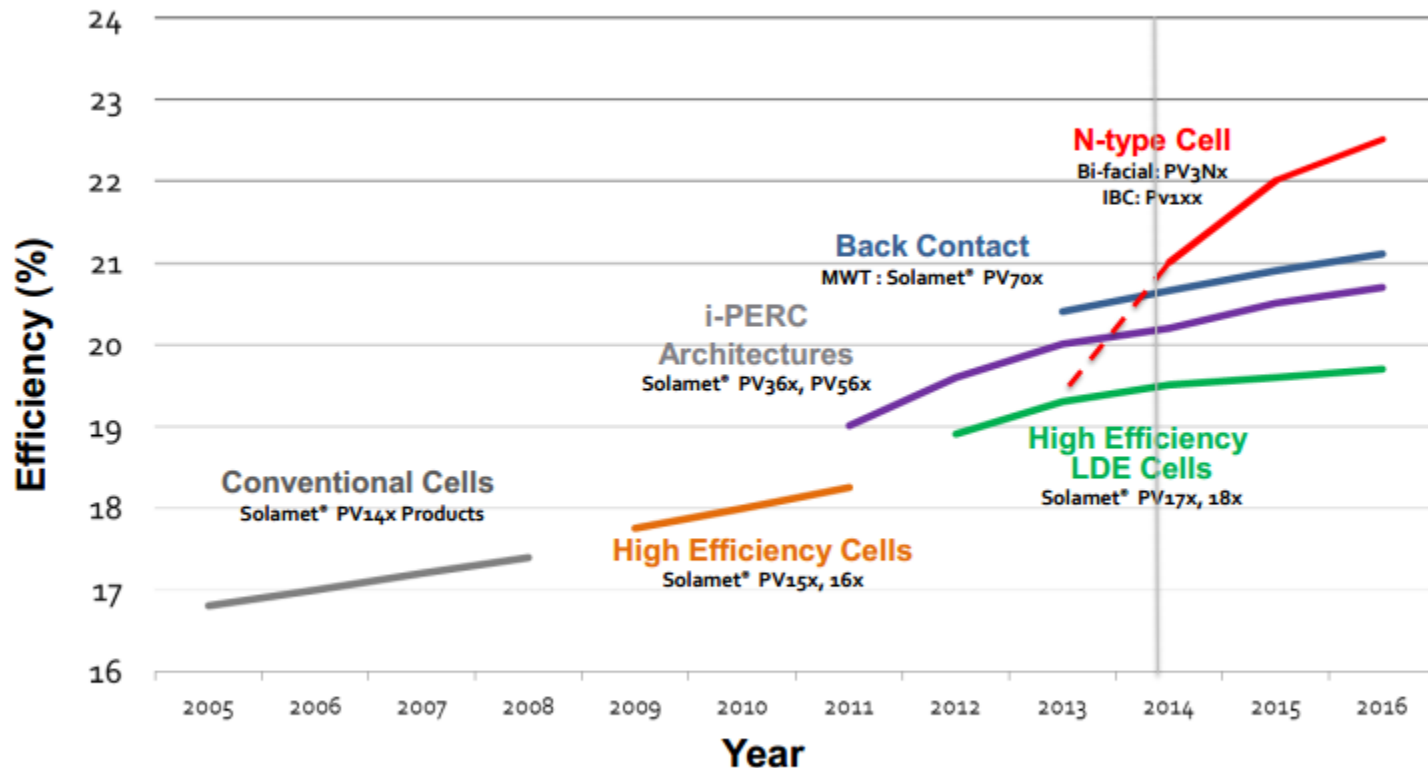
International Solar Energy
Research Center Konstanz

bifiPV working-groups 2015

Yannick Veschetti, Radovan Kopecek

- get together at the ISC booth in room 1
- update of current bifacial activities (e.g. MissonSolar, MegaCell, Motech, Silevo...) (Rado)
- short summary from Yannick and Rado about the groups and possible tasks
- possibilities for financing (SOPHIA, German Call, H2020, ...)
- next steps

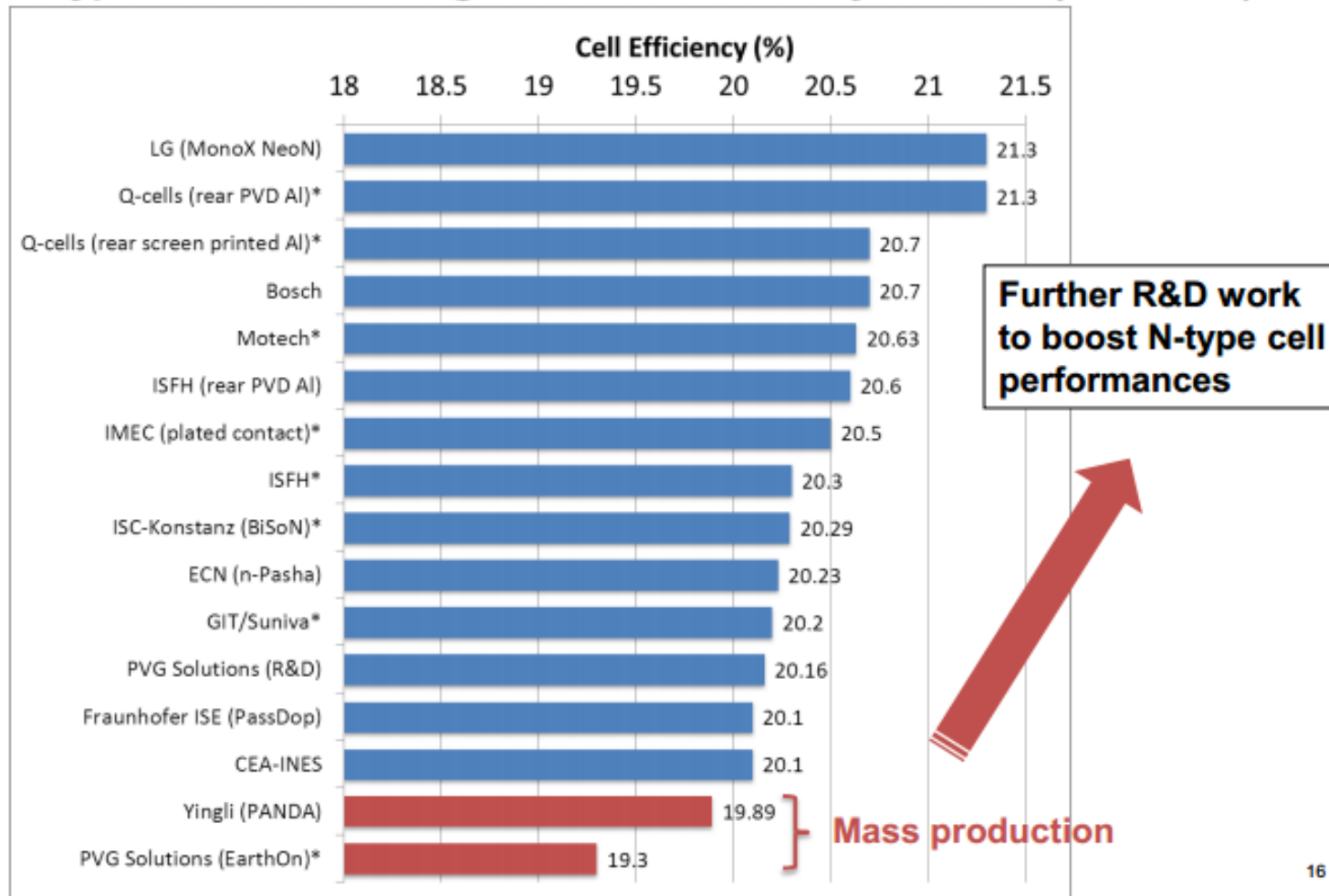
Cell Efficiency Evolution



DuPont™ Solamet® Metallization Technology is on target to help achieve 22% cell efficiency in 2015

N-type PERT companies

N-type Cells – Some large Area Cell Efficiency Records (* certified)



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“bifacial companies”



PERT

- Yingli/Panda- not bifacial
- LG Solar/NeoN – not bifacial
- Bsolar- not in production
- PVGS/EarthON
- neosolarpower (NSP)
- **MegaCell/BiSoN in Q1 2015**
- **Mission Solar/PASHA in Q4 2014**
- **Motech in Q1 2015**
- **FirstSolar-** not bifacial
- > “newcomers”: e.g. Photowatt (bifacial p-type cell), Schmid (bifacial mc-Si p-type cell)...

HIT

- Panasonic
- Keneka
- Silevo
- Sunpreme

IBC

- sunpower- not bifacial
- Samsung
- Hereaon

Machine builders

- tempres/ RENA (PASHA)
- centrotherm (BiSoN)
- Schmid (mcBifi)
- Meyer Burger (HIT with smart wire)
- Apollon (NICE) ...

+ many others

Doodle survey

28 Teilnehmer	calibration	standards in production	system simulations
Radovan Kopecek (I)	✓	✓	✓
Andres Schnelder (I)	✓	✓	
Jai Prakash SINGH	✓	✓	
Vahid Fakhfouri (Par)	✓	✓	
Matteo Marzoli (SU)	✓		✓
Alexandra Schmid	✓		
Wilhelm Warta (ISE)	✓		
Jochen Hohl-Ebinger	✓		
Alberto Pozza (JRC)	✓		
Nicoletta Ferretti (P)	✓	✓	
Christina Ng (Mun)	✓	✓	✓
Gillaume Razongk	✓		
Roland Einhaus (Ap)	✓	✓	
Julliane Berghold (P)	✓	✓	✓
Ufuk Yusufoglu (Un)	✓		✓
Matthieu Despelisse	✓	✓	
Eric Gerritsen (INE)	✓		✓
Alexander Krieg (ISI)	✓	✓	
Gregoire Pichenot (✓
Marius Peters (SEF)			✓
Po-Tsung Hsieh (M)	✓	✓	
Jose Castillo-Agullik	✓	✓	✓
Naftali Eisenberg		✓	✓
Lev Kreinin		✓	✓
Jan Lossen (ISC Ko)	✓	✓	
Remi Monna (INES)		✓	
Your Name	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	21	16	11

> **calibrated measurements** (cells and modules) (FHG ISE, ECN, Ispra, ...)

> **bifacial certification** (TÜV Rheinland, pi Berlin, FHG ISE, Supsi...)

> **standard in production**
fast and accurate bifacial measurements (h.a.l.m., Pasan, ...)

> **simulation of bifacial gain** (IHT Aachen, bSolar, ISC Konstanz, INES, ECN, FHG ISE ..>> PVsyst)

- > **SOPHIA** (Yannick): running EU Project
- > **FaMoSS** (Rado): applied German project
- > **H2020** (all)?

Next steps: actions

- > write minutes of this meeting and distribute (Rado)
- > find responsible for bifi-groups (all)
- > find financing for work (all)
- > outcome will be presented at the next SiliconPV, nPN, bifiPV
.....

List of participants



EU-PVSEC
List of Bifi Group participants

MATTEO MURZOLI	SUPSI
NICOLETTA FERRETTI	PI-BERLIN
Johann Wöhl	Ethy ISE
ALBERTO POZZA	JRC
Roland EINHAUS	Apollo Solar
Yannick VESCHETTI	CEA-INES
Jonas Miller	Meyer Burger
Alberto & Pozza	JRC
Eric Berritsen	CEA-INES
Daniela Dirnberger	ISE
Jan Lossen	ISC
Radovan KOPECEK	ISC
Helmut	h.a.l.m.
	Pasau