



Centro de
Tecnologia da
Informação
Renato Archer

Product-integrated Photovoltaics *in the Photovoltaic Laboratory at CTI*

Homero M. Schneider

Laboratory Coordinator

homero.schneider@cti.gov.br

CEPAL, Santiago, May 4th 2016

Ministry of Science, Technology and Innovation - MCTI

Information Technology Center Renato Archer – CTI

www.cti.gov.br

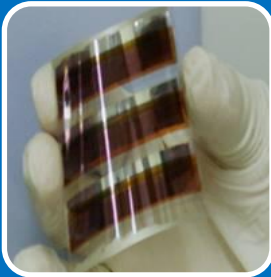
Campinas SP, Brazil



Areas of competency

- Design of electronic components and systems
- Empacotamento eletrônico
- 3D printing
- Qualification and failure analysis
- Photonics
- Microsystems
- Robotics
- ⋮

Approaches to Photovoltaic (PV) Technology in CTI



Organic PV cells and modules



Integration of PV into products

The Photovoltaic Laboratory

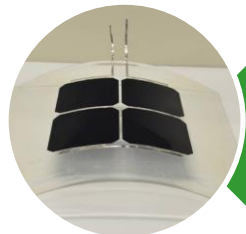
Main Lines of Action



PV Integration into products



Development of customized modules



R&D in materials and processes for the assembly of PV modules

Projects in the Photovoltaics Laboratory

PV Integrated to a Warning Light Dome

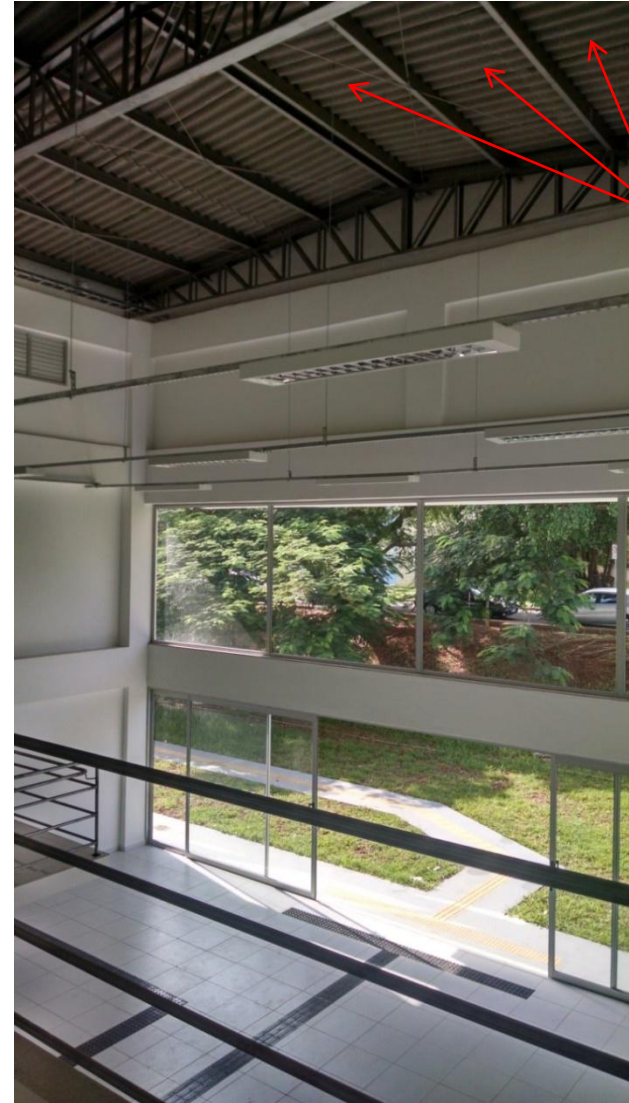


Front and back of a circular module (nominal power 7W) with 32 cut cells. (Right) Dome of a warning light with PV integrated .

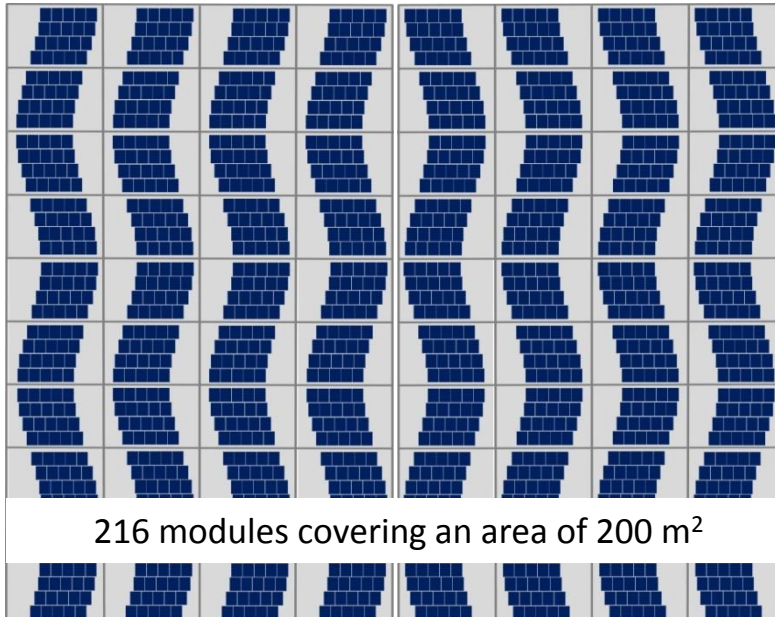


Projects in the Photovoltaics Laboratory

BIPV Roof



Semi-transparent PV modules

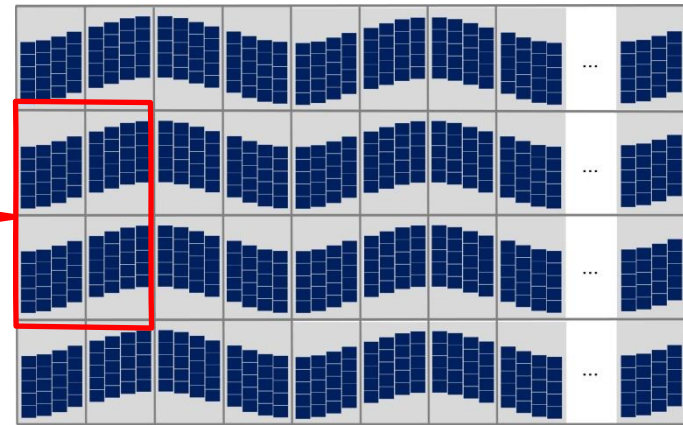
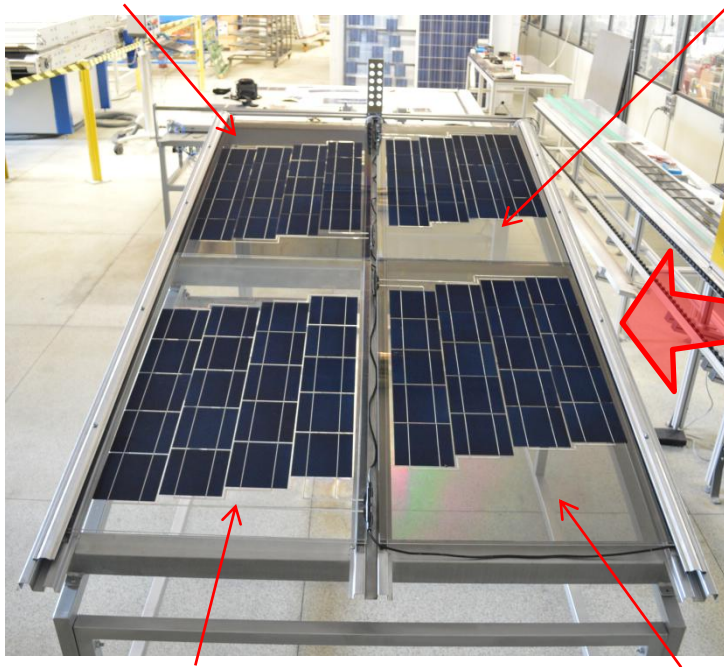


Projects in the Photovoltaics Laboratory

Testing on a Prototype of the BIPV Roof

Night Vision 25 (3M)

Habitat Reflective Gray (Cebrace)



Glass with no sun protection

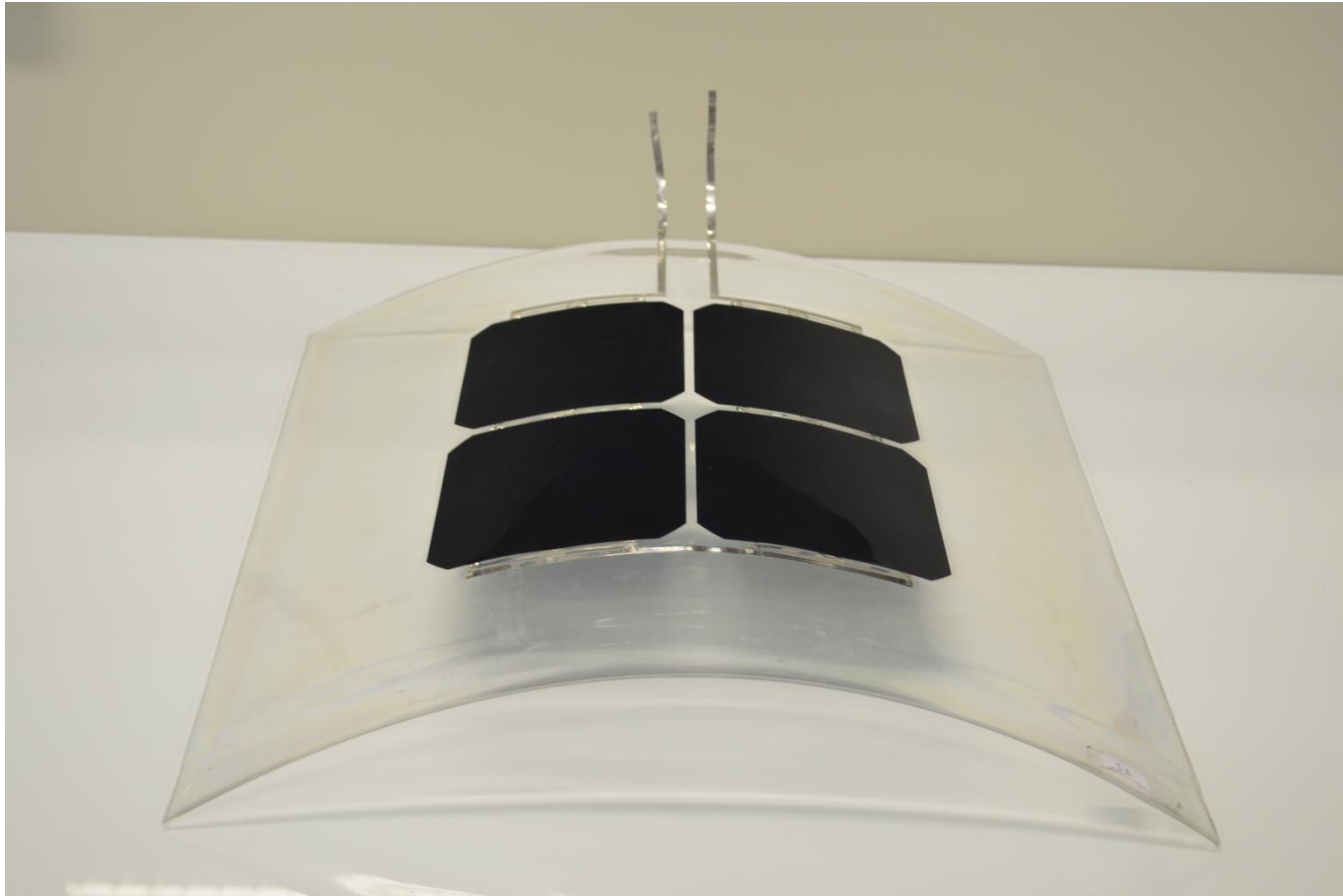
Prestige 40 (3M)

Performed tests :

- Efficiency of different solar protection technologies
- Sun's effect on the temperature of the modules
- Electrical connection of the modules
- Mounting the modules on metallic profiles

Projects in the Photovoltaics Laboratory

R&D in photovoltaic modules



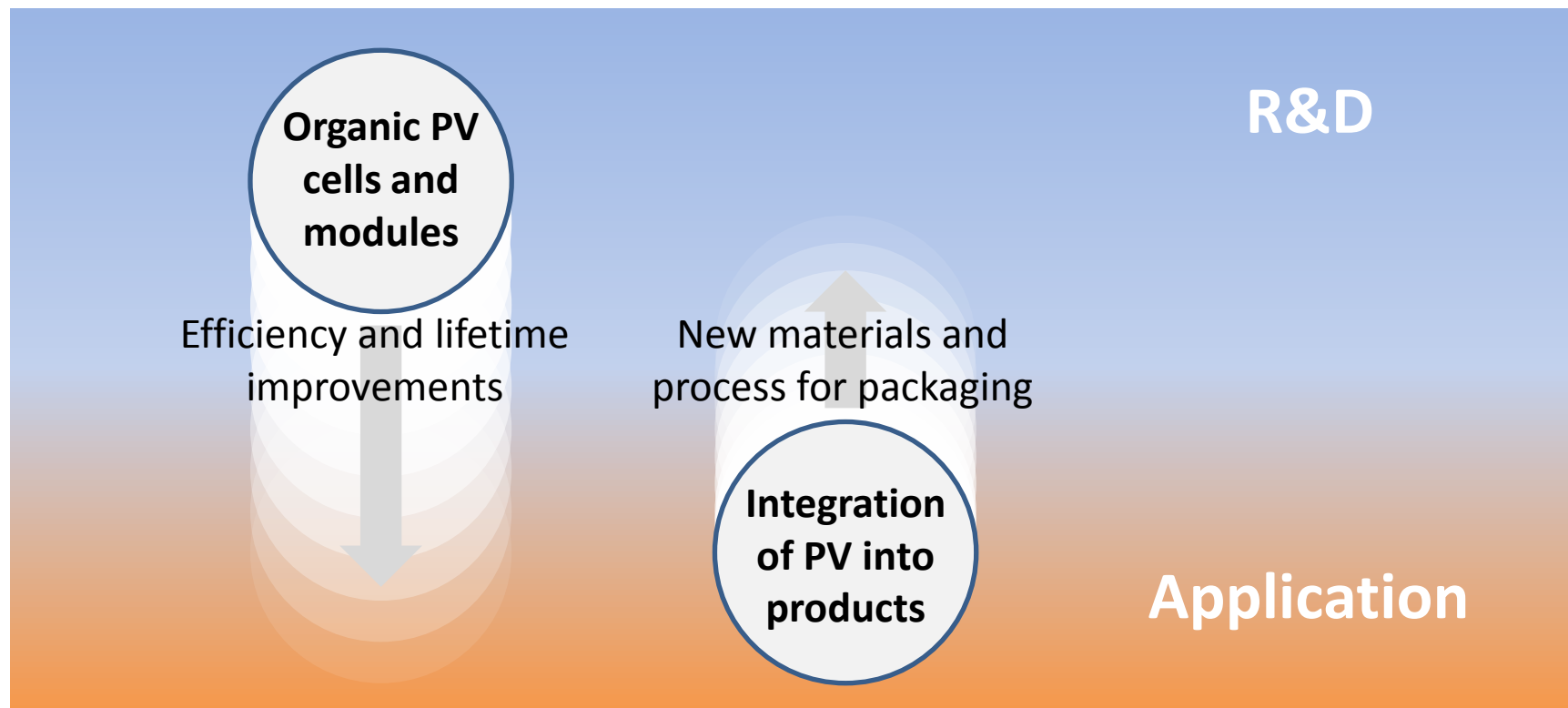
Use of polycarbonate for making flexible modules

The Photovoltaic Laboratory Infrastructure



All the equipment in this lab have been financed by FINEP

Major Challenges Ahead at CTI





Gracias por su atención!

Homero M. Schneider

homero.schneider@cti.gov.br