



## **BUILDING INTEGRATED PHOTOVOLTAÏCS**

#### A VIEW FROM THE CONSTRUCTION SECTOR

# Paul CARTUYVELS BOUYGUES Europe – ECTP Praesidium







- WHAT BUILDERS WANT
- Where we come from
- WHEN BOTTLENECKS BECOME ENABLERS
- Where we are
- BIPV AS AS A DRIVER FOR INNOVATION
- Where we are going to
- CONCLUSIONS



(Solaxess)



#### WHAT BUILDERS WANT: A BROADER OFFER

- Aesthetics: beautiful or... invisible!
- Customisation: shapes, sizes, flexibility
- Colours
- Texture
- Resistance
- Water tightness
- Heat control (from risk to hybrid heat / electricity)
- Fire resistance and other safety issues

... at the best price!





- 2009
- Singapore
- Tampines Grande Office building
- PV façade
- LEED Gold certification





#### WHEN BOTTLENECKS BECOME ENABLERS

- Public procurement: an impressive potential Europe wide
- **Financing**: innovative products can make the difference; fiscal incentives...
- Regulation: Energy Performance of Buildings; Energy efficiency;...
- Education and training: from better informed users to new jobs opportunities
- Energy prices: cheaper network electricity in France is a constraint (UK, Es)





- 2011 to now...
- Paris (Meudon)
- Positive Energy Building
- PV façade
- « Green office » concept by Bouygues Immobilier
- 10 more under construction





#### **BIPV AS A DRIVER FOR INNOVATION**

- Dynamic: Many start-ups ans SMEs, but also larger companies involved!
- Develop response to the construction's sector demands
- Parralel evolution / increased opportunities with other technologies like...
- Electricity storage: the HORIZON 2020 project ELSA (2<sup>nd</sup> hand car bat.)
- Communication: Sometimes, it is a question to get to know each other...



# WHERE WE ARE GOING TO (1)





# (2) ABC: « Autonomous Building for Citizens »

- 2016?
- Grenoble
- Off Grid

 BIPV will become a natural component of the offer



#### **CONCLUSIONS**



- The construction sector strongly supports the development of BIPV
- Political backing is strong at national and EU levels (for new and retrofitting)
- Get the actors to meet, good communication

(pic courtesy Solaxess)



### • « GREAT EXPECTATIONS »...

