

Confidentiel



**solairé**direct



## Growth & Competitiveness using Satellite Applications



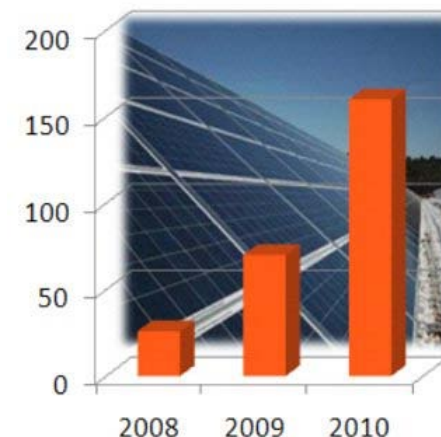
23 November 2011 WARSAW

# The Company

- Founded in October 2006 in France, Solairedirect is the first pure French solar power operator. Its goal is to make solar power accessible to everyone.
- Solairedirect is more than just a simple project developer, installer or even manufacturer of photovoltaic modules. It is an integrated operator of solar (and only solar) electricity.



- A generating capacity that will reach 120 MWp by the end of 2011
- An international presence in 4 continents
- A workforce of 300 people worldwide by the end of 2010
- Nearly €500 million raised, mainly through Project Financing



# Our Markets

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- Solairedirect provides 2 types of photovoltaic installations :



## Rooftops

Our aim is to increase the value of rooftops by enabling private and professional customers to produce clean, efficient and competitive electricity, making photovoltaic power an indispensable resource for enhancing a building's energy performance.

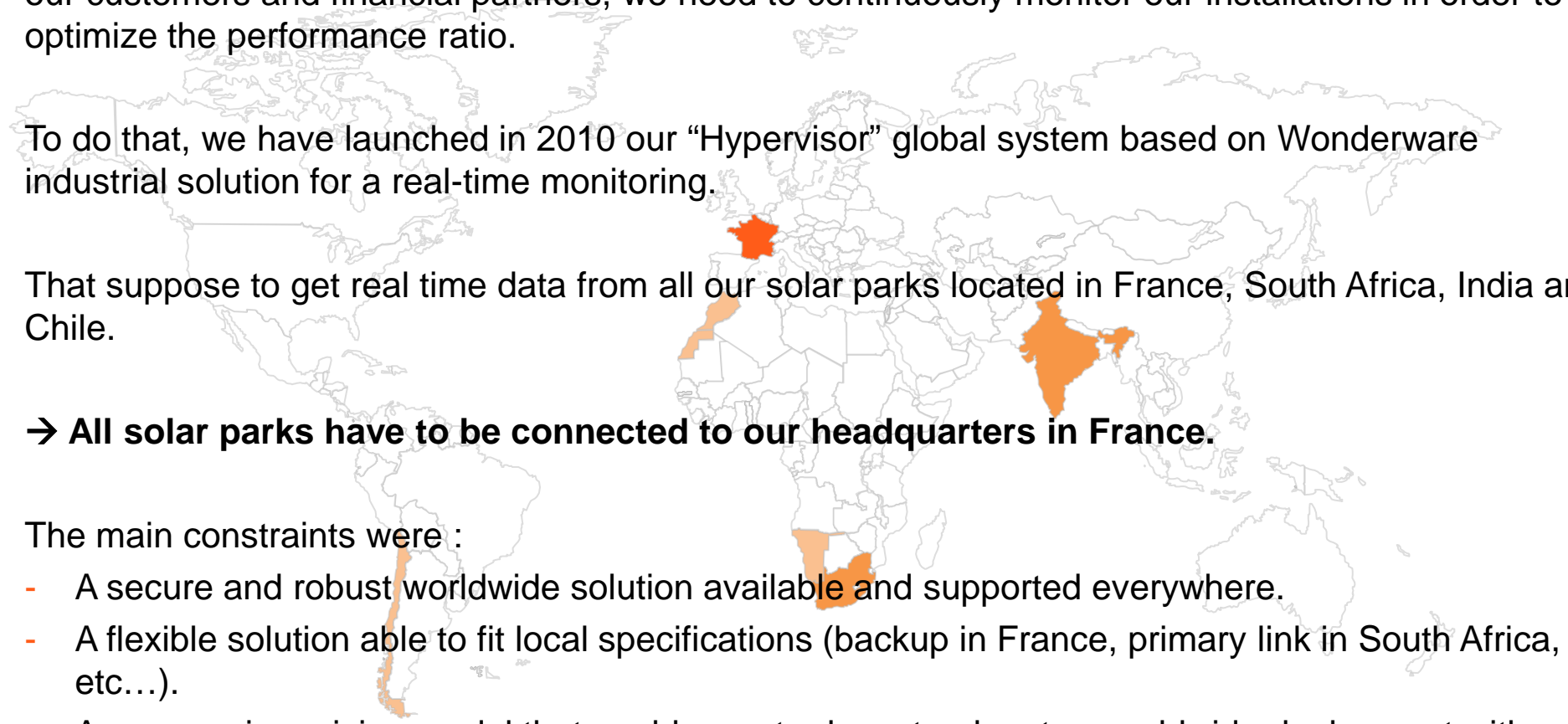


## Solar Parks

As the leading solar power operator in France, Solairedirect has made a name for itself in the market for its innovative approach to the energy business. Solairedirect believes that building a solar PV park can play a pivotal role in local government strategy for land-use planning.

# The Challenge

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- Concerning the solar parks market and because of our “Operating & Maintenance” contracts with our customers and financial partners, we need to continuously monitor our installations in order to optimize the performance ratio.
  - To do that, we have launched in 2010 our “Hypervisor” global system based on Wonderware industrial solution for a real-time monitoring.
  - That suppose to get real time data from all our solar parks located in France, South Africa, India and Chile.
- All solar parks have to be connected to our headquarters in France.**
- The main constraints were :
    - A secure and robust worldwide solution available and supported everywhere.
    - A flexible solution able to fit local specifications (backup in France, primary link in South Africa, etc...).
    - A progressive pricing model that enables us to do a step-by-step worldwide deployment without requiring expensive investments.
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- A world map with a light gray background. Four regions are highlighted in orange: France in Europe, South Africa in Africa, India in Asia, and Chile in South America. The map is centered on the Atlantic Ocean.

# The Solution

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- After evaluating (technical & financial) several solutions, we finally decided to deploy a global network based on satellites connections with our partner TELESPAZIO.

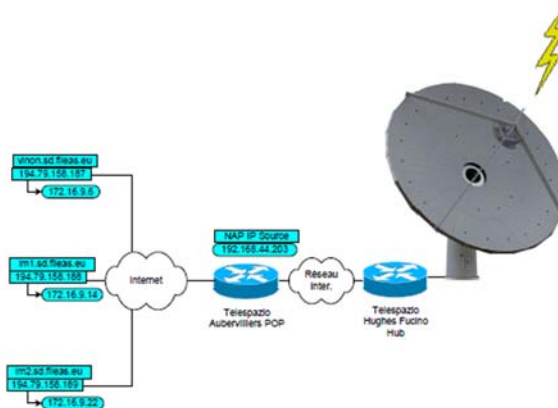


- The main benefits of that solution are :
  - It is available worldwide with local contractors/suppliers.
  - The IT network architecture can be quickly copy/paste with minimum installation required.
  - We must be able to supervise this global network from a central “cockpit”.
  - The pricing and bandwidth can be adapted to local specifications (mutualize link, dedicated link, adaptive bandwidths, etc.).
  - A cost reduction solution with a “cost per park” that decreases with the number of connected solar installations.
  - A robust and secure solution providing a very high availability rate.

# The Deployment

- We started with a “pilot project” this year on 3 solar parks in order to validate the solution and to be sure it fits our needs :

- data acquisition
- security control
- remote video surveillance
- weather station
- OPC client
- WIFI local access



- Because the “pilot” was a success, the solution has been then deployed to all our solar parks that will include 16 installations by the end of this year.

- We expect to deploy the solution on 20 more sites for next year.

