

Alstom, pioneering in Smart Grid

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16 June 2011

GRID |

ALSTOM

Three main activities

Equipment & services for power generation



**Alstom Power
Sector**

Equipment & services for rail transport



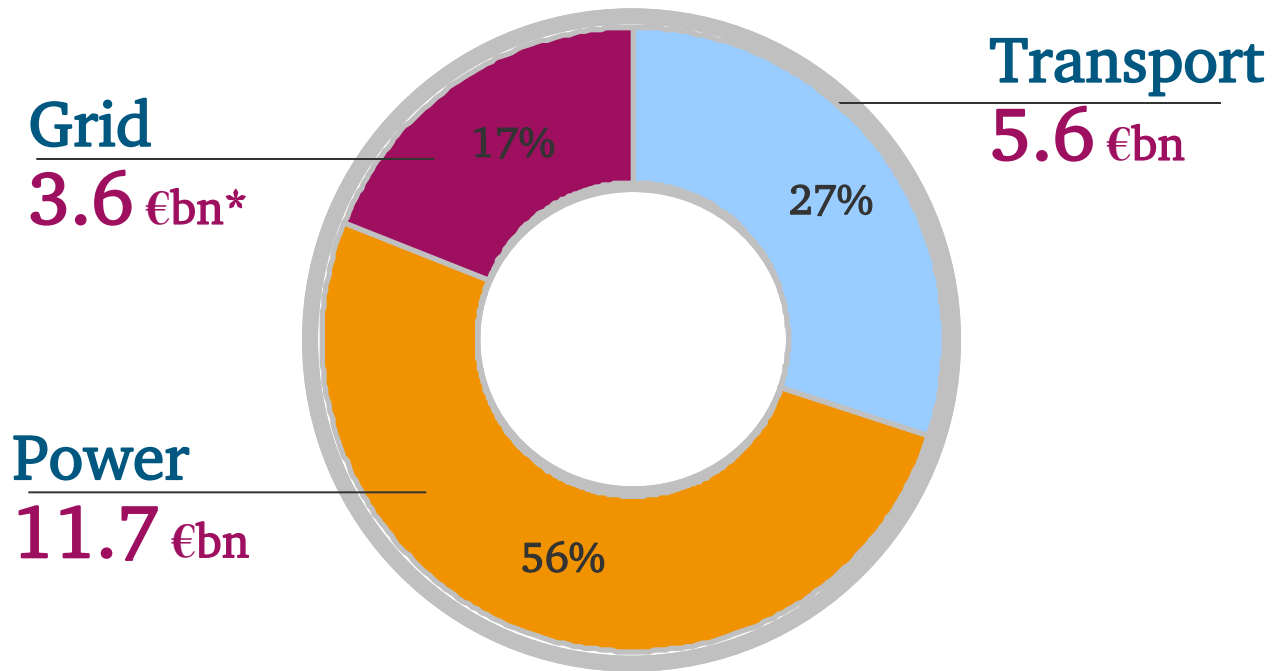
**Alstom Transport
Sector**

Equipment & services for power transmission



Alstom Grid Sector

Three main activities



Total sales 2010/11:
€20.9 billion

* Grid figures over 10 months: June 2010 to March 2011

Three main activities

In the top 3 in its main activities

Rail transport infrastructure

Alstom makes 1 metro in 4 and 1 tram in 4



Power generation infrastructure

Alstom supplies major equipment for 25% of the worldwide installed power generation capacity

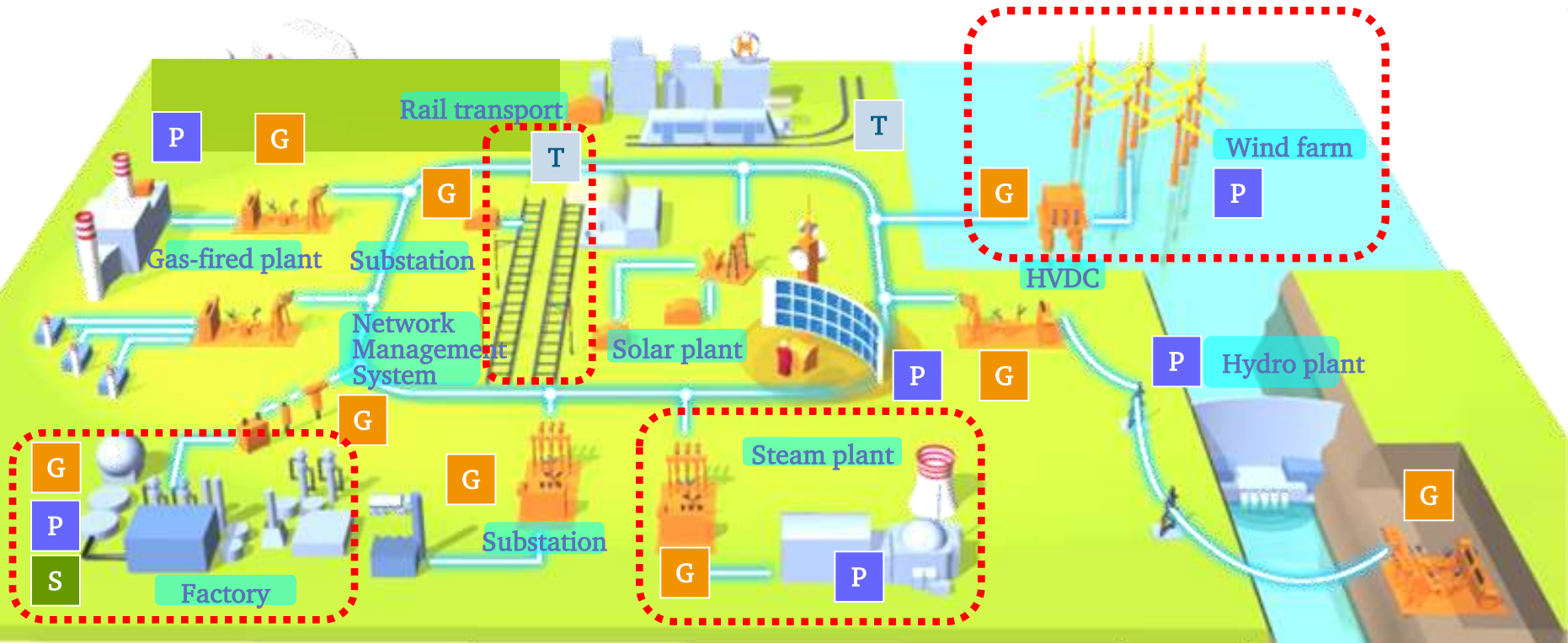


Power transmission infrastructure

Leadership in key markets and fast-growing technologies (disconnectors, GIS, HVDC ...)



From products to integrated solutions



G Provided by Alstom Grid

T Provided by Alstom Transport

P Provided by Alstom Power

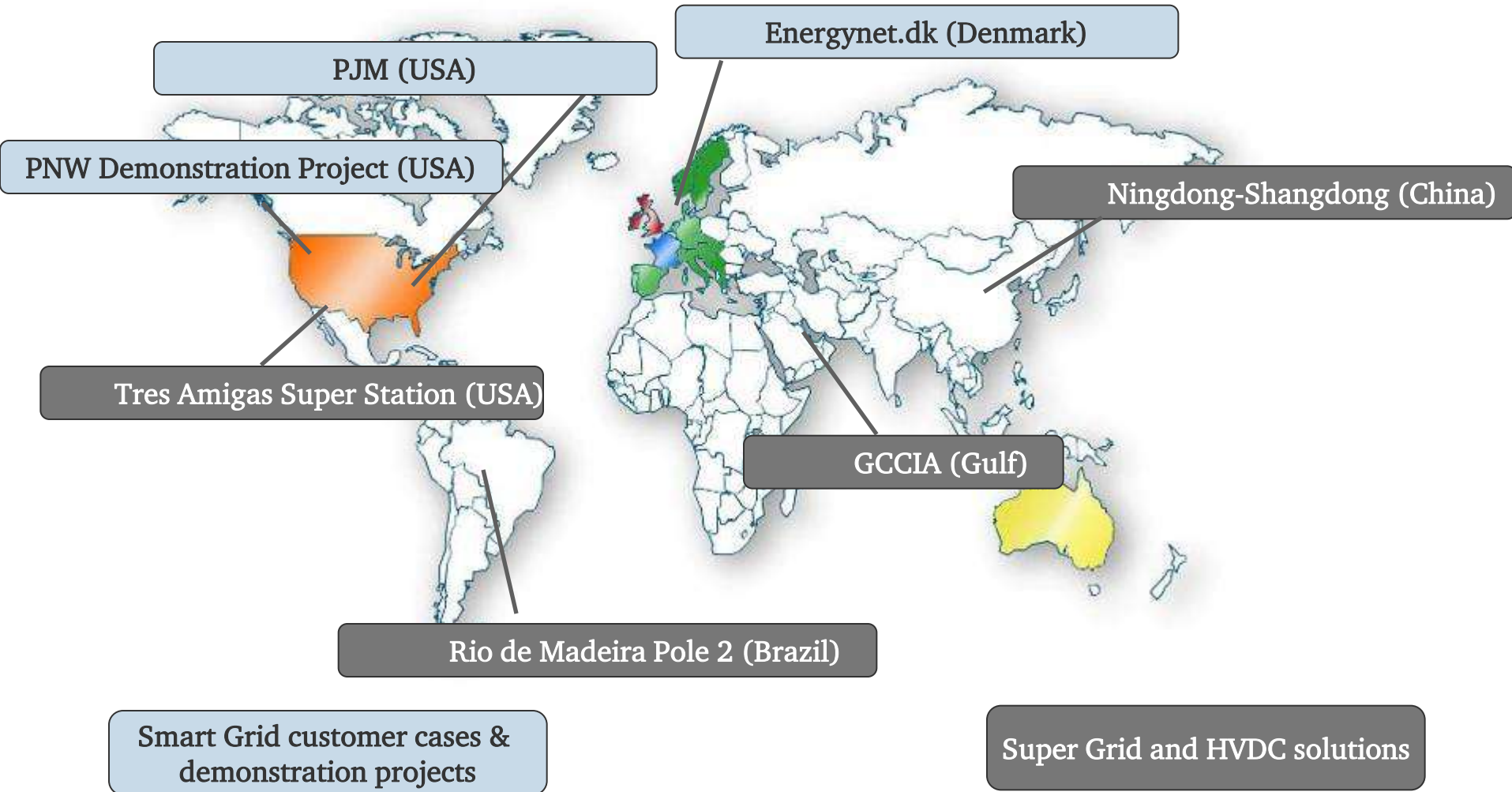
S Provided by partners (MV / LV)

[Red dashed box] New integrated solutions (example)

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Alstom, a pioneer in Smart Grid, Super Grid and HVDC technologies



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Alstom Smart Grid & Super Grid technologies can strengthen the Russian Unified Power Grid's in the next decade



▶ 1. Increasing energy efficiency across the grid infrastructure

- Maximizing energy flow in constrained and aging grids
- Creating long-distance energy highways
- Reducing the energy losses on the grid



▶ 2. Protecting the grid reliability and stability

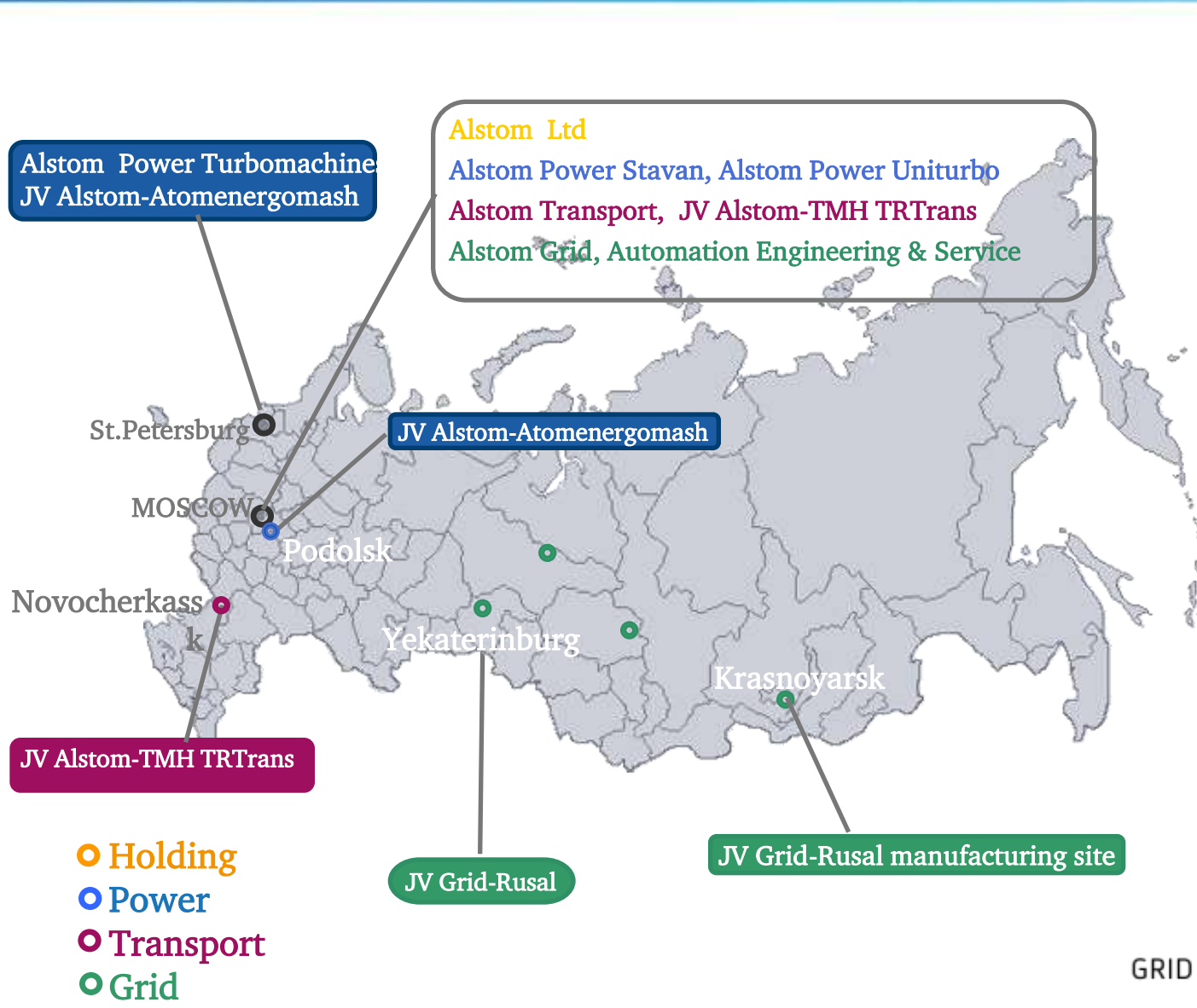
- Preventing transmission blackouts and minimize outages in distribution
- Estimating grid asset condition in real-time and react accordingly
- Preventing cascading disturbances, even in connected AC networks



▶ 3. Maintaining a low carbon energy mix

- Enabling renewable grid connection and improving thermal generation flexibility
- Integrating distributed generation, smart buildings and electric vehicles
- Developing new energy storage capabilities

Alstom in Russia: localized manufacturing and strategic partnerships



Conclusions

- Alstom is a world-wide Leader for Smart- and Super-Grid (HVDC) Solutions
- Alstom continues to strengthen the presence in Russia through strategic partnerships and Joint-Ventures
- By transferring know-how to our strategic partners, Alstom will accelerate the development of the Russian Smartgrid and HVDC Solutions.

October 2010,
Mr Budargin (FSK)
Mr de Gliniasty (French Ambassador in Russia)
Mr Poupart-Lafarge (Alstom Grid)



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