



Update on Experimental Power Grid Centre, A*STAR, Singapore

**4th Sep 2012
Evora, Portugal**

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Our Mission

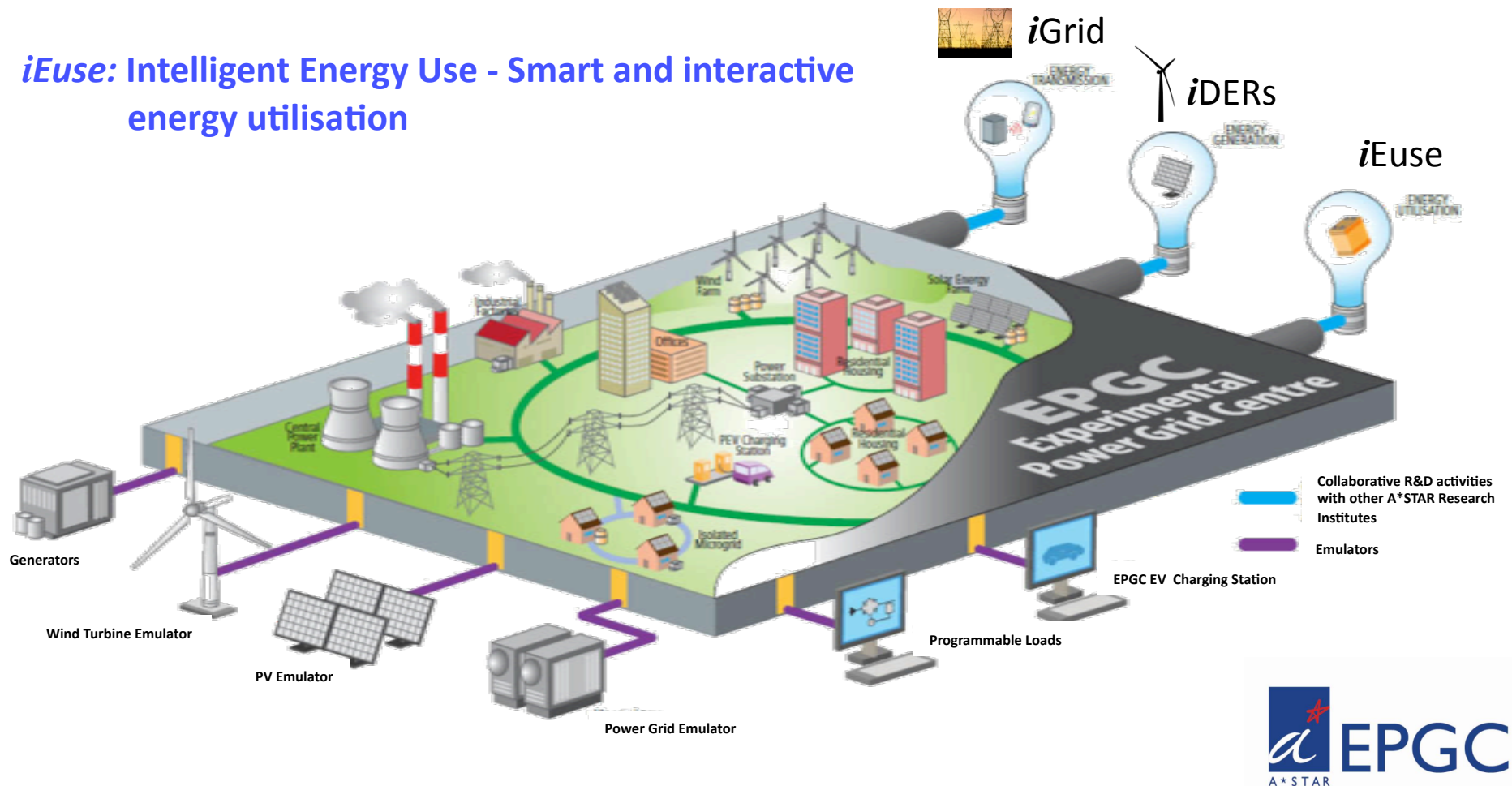
- To undertake Research and Development activities in defined core areas for intelligent and decentralised power distribution, interconnection and utilisation
- To develop collaborative R&D with A*STAR Research Institutes, Universities, Industry and Singapore Public agencies
- To promote quick adoption and implementation of innovative technologies

Experimental Power Grid Centre

iGrid: Intelligent and decentralised power distribution networks

iDERs: Intelligent control and management of Distributed Energy Resources (DERs)

iEuse: Intelligent Energy Use - Smart and interactive energy utilisation

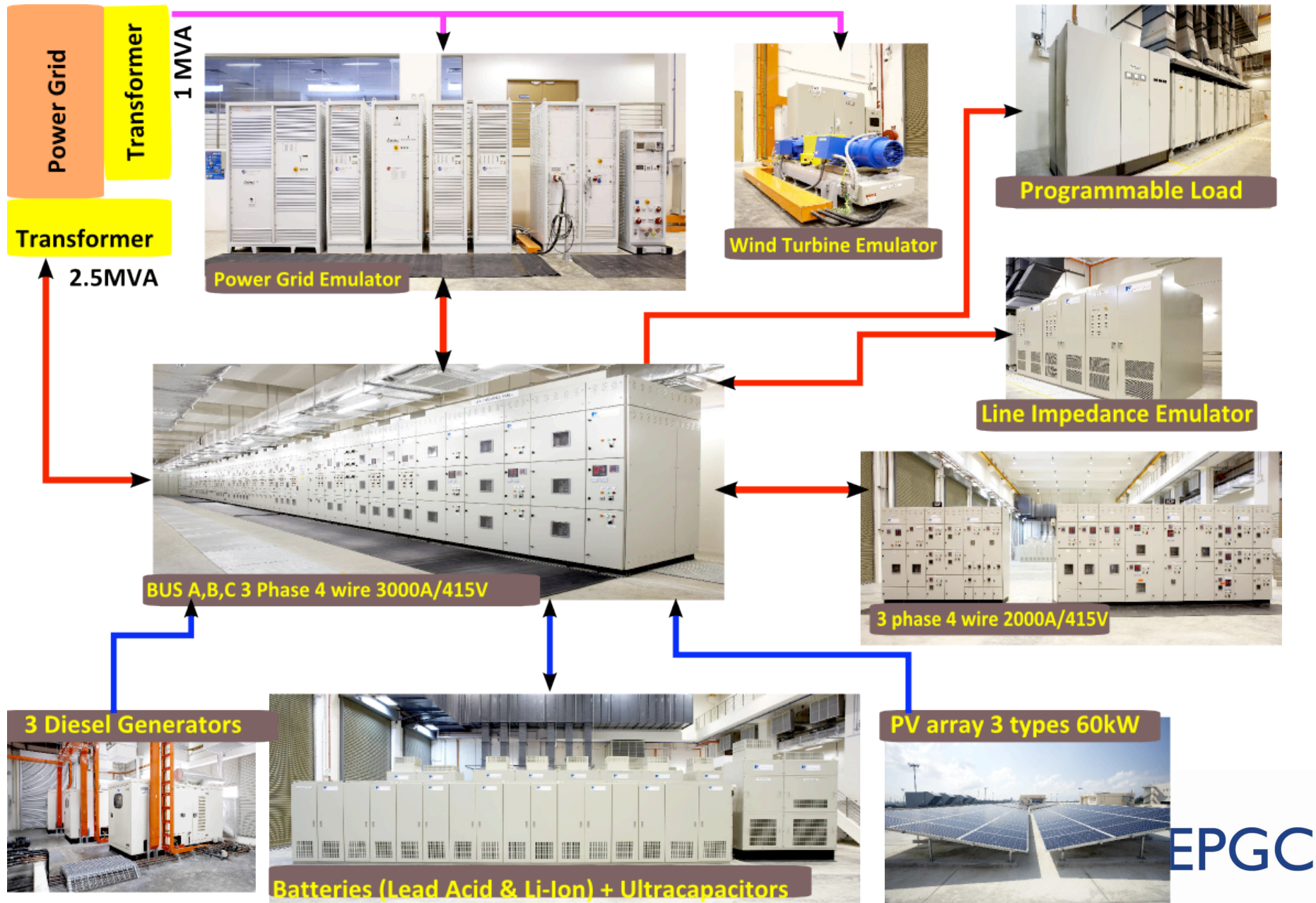


Update on Facilities

- Research facility housing experimental power grid completed in Nov 2011

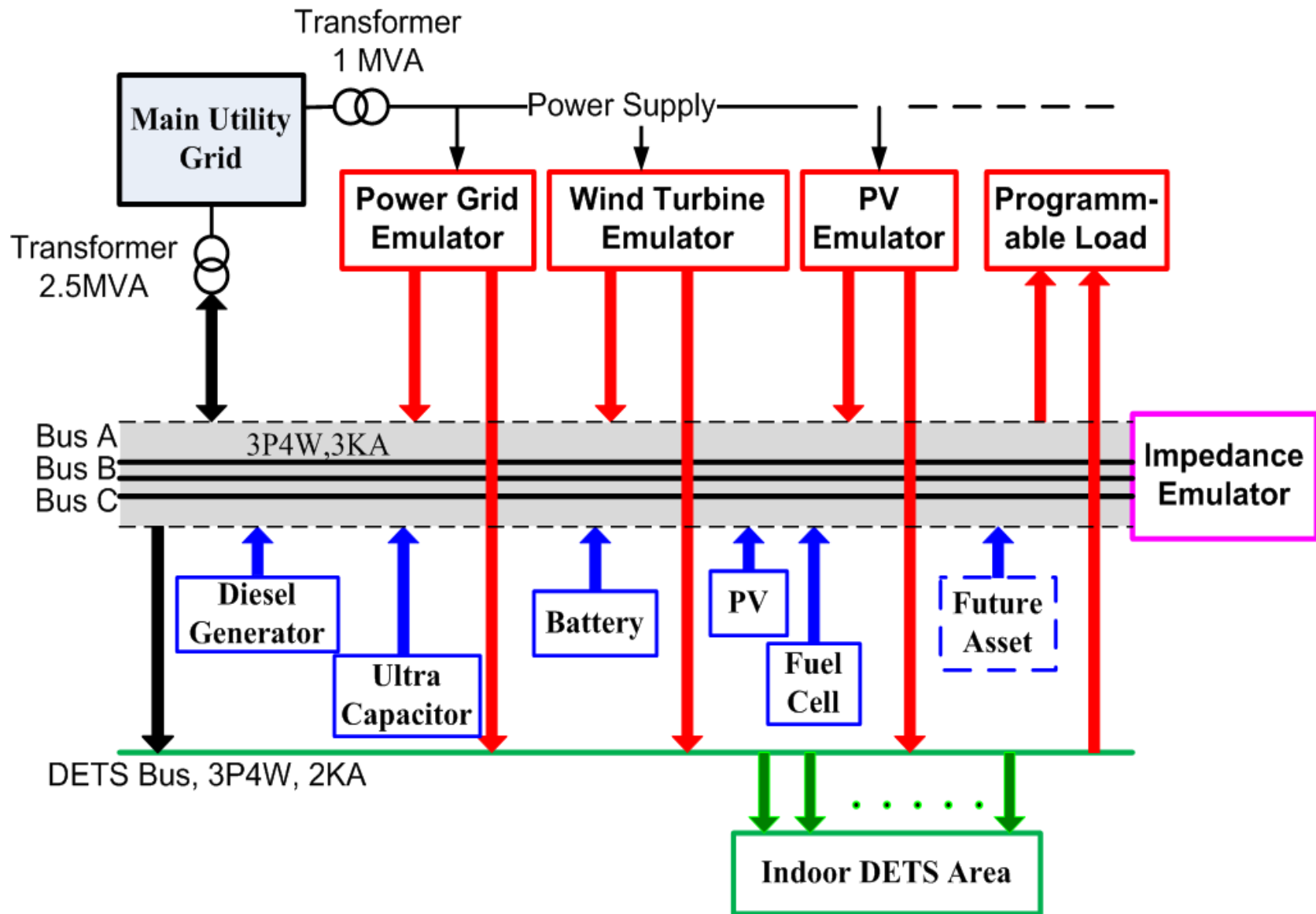


What does EPGC have?



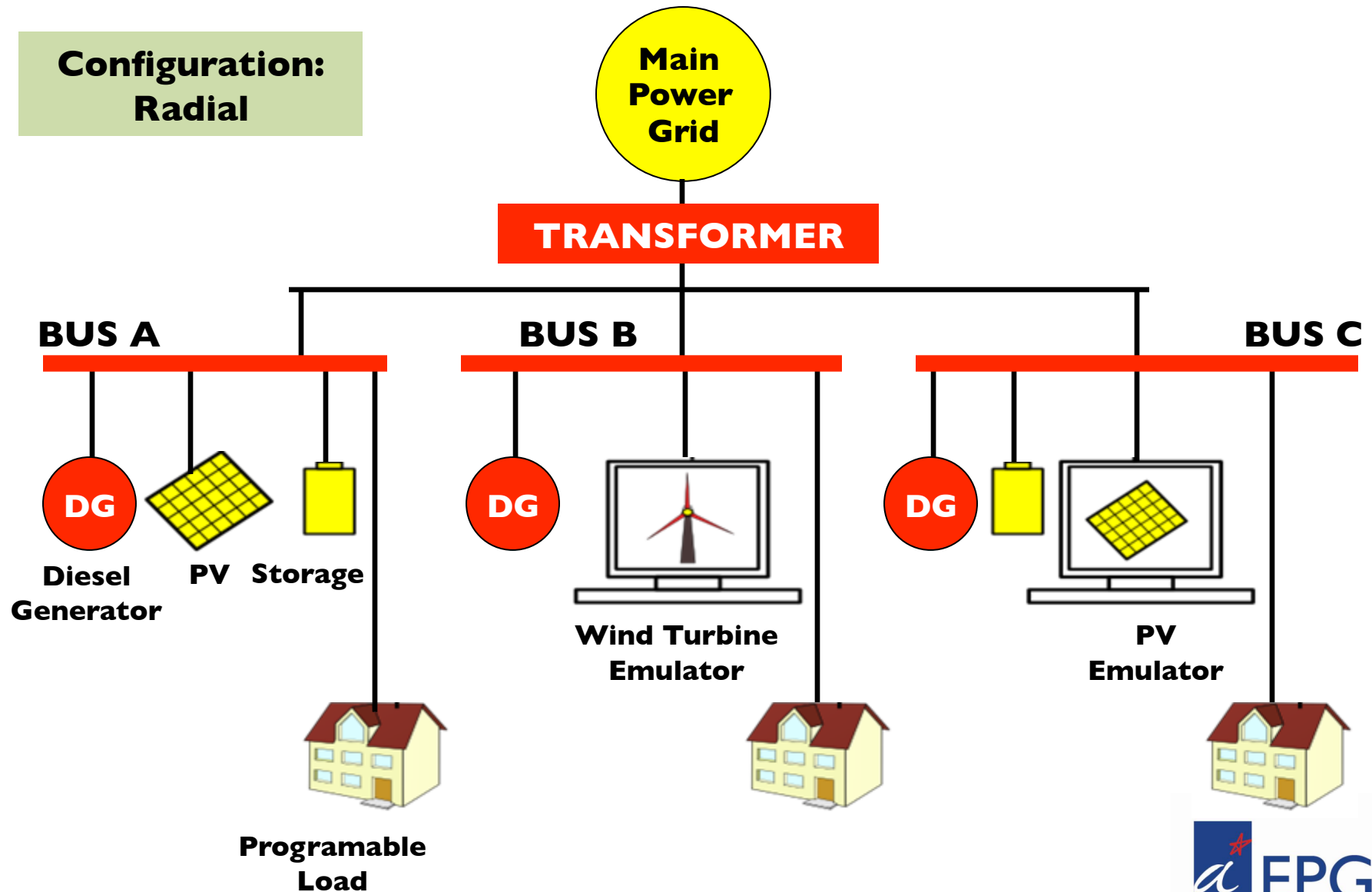
EPGC

Flexible Infrastructure

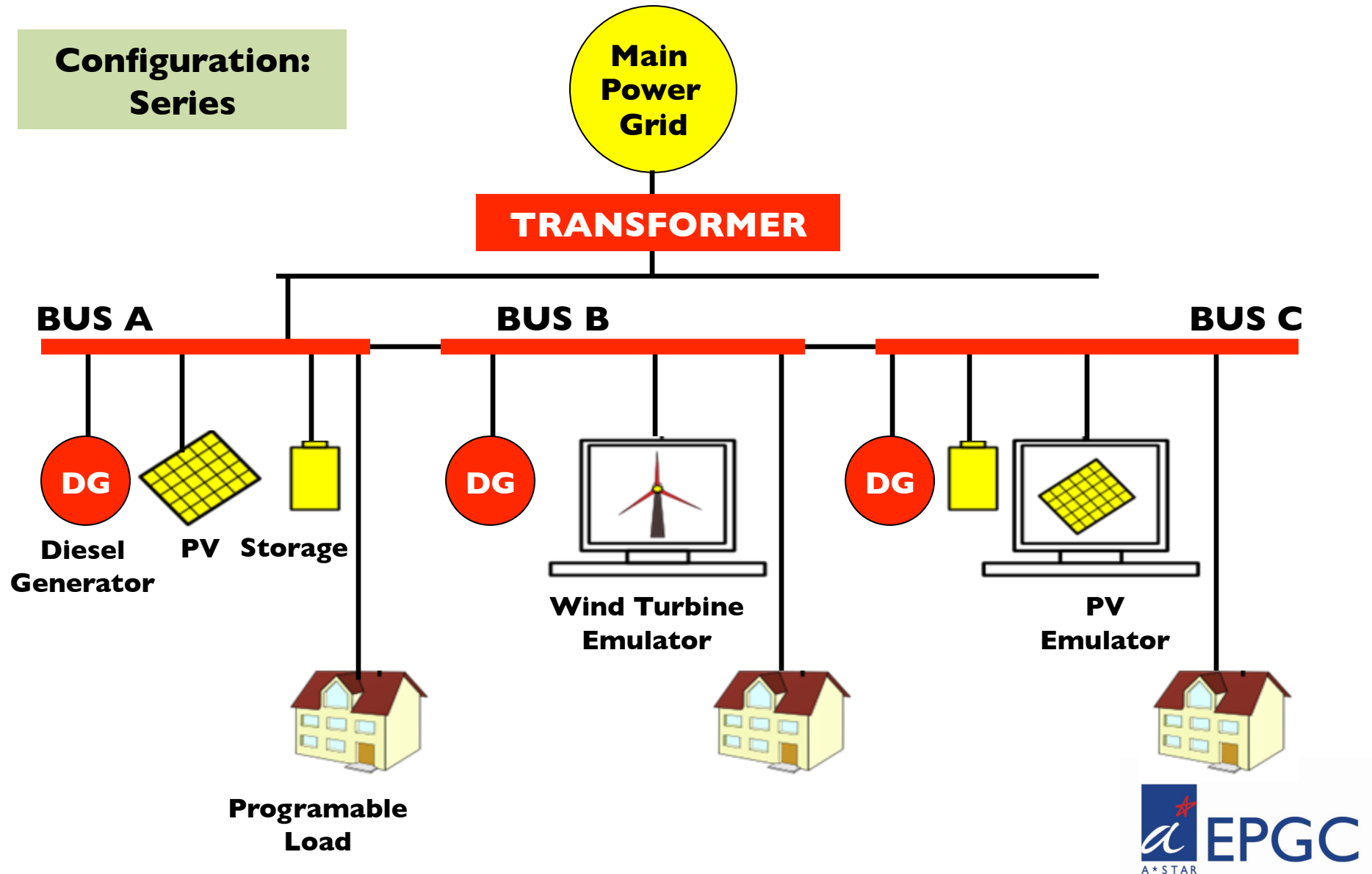


Configuration for various network topologies

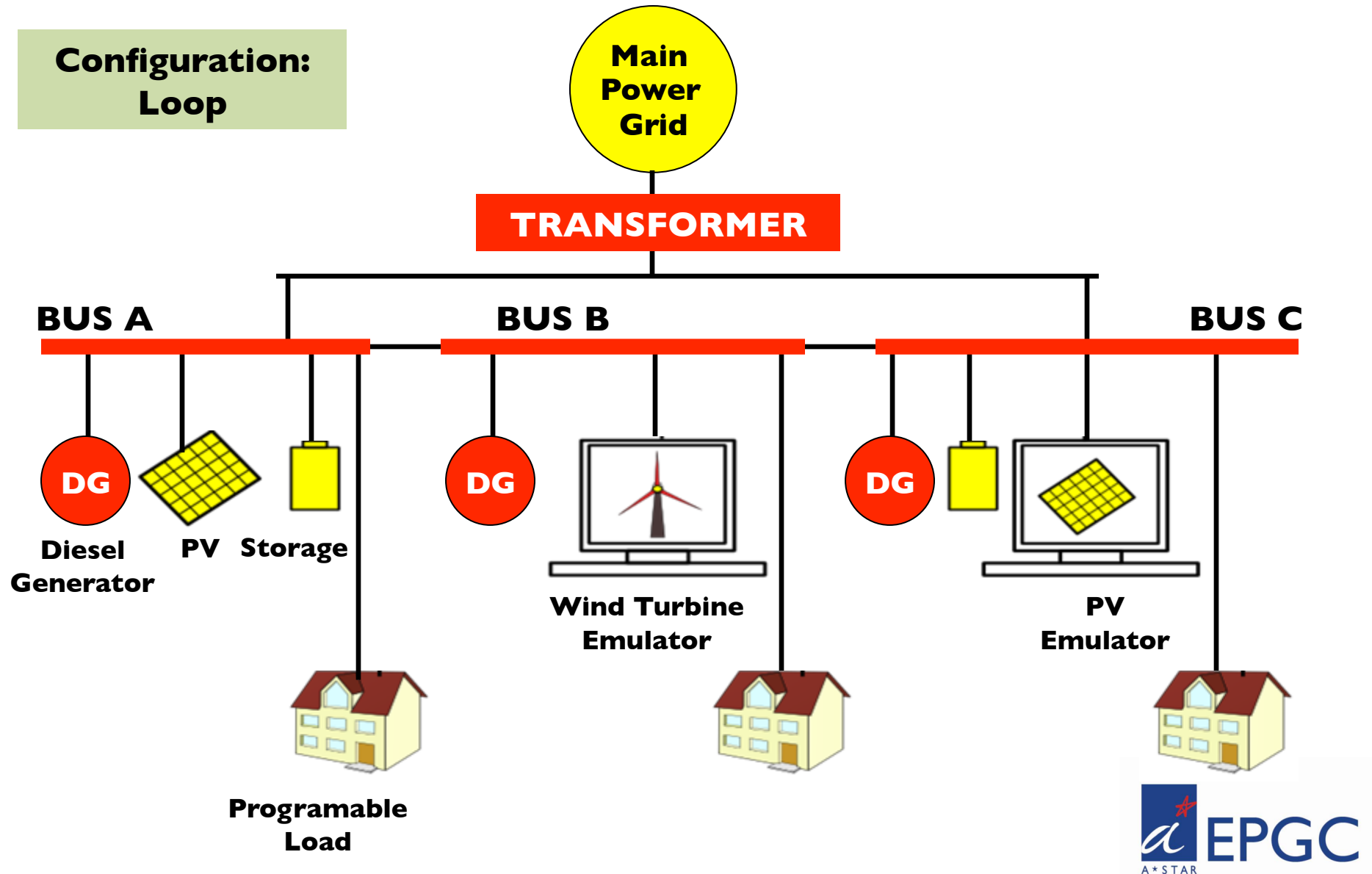
**Configuration:
Radial**



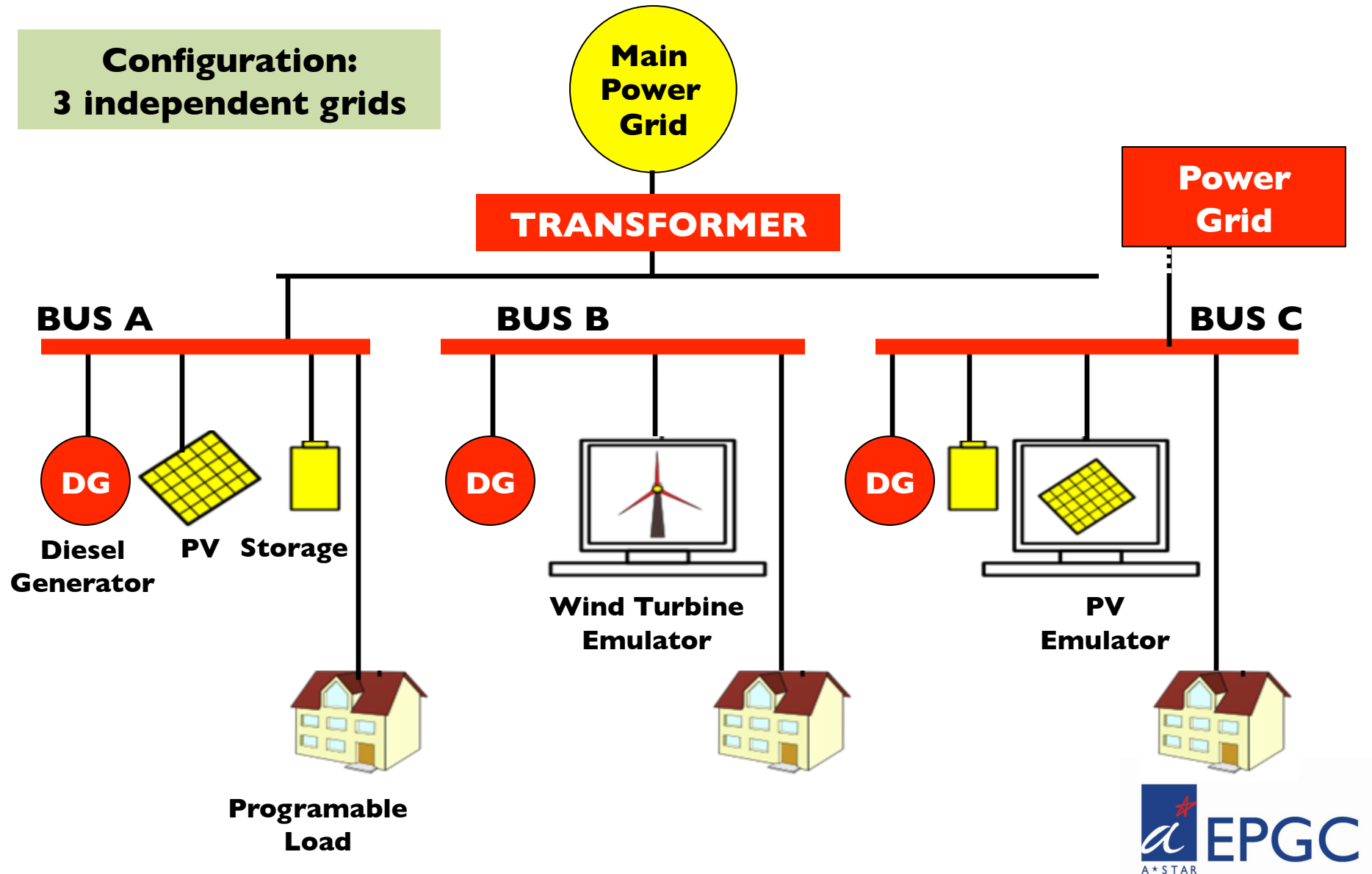
Configuration for various network topologies



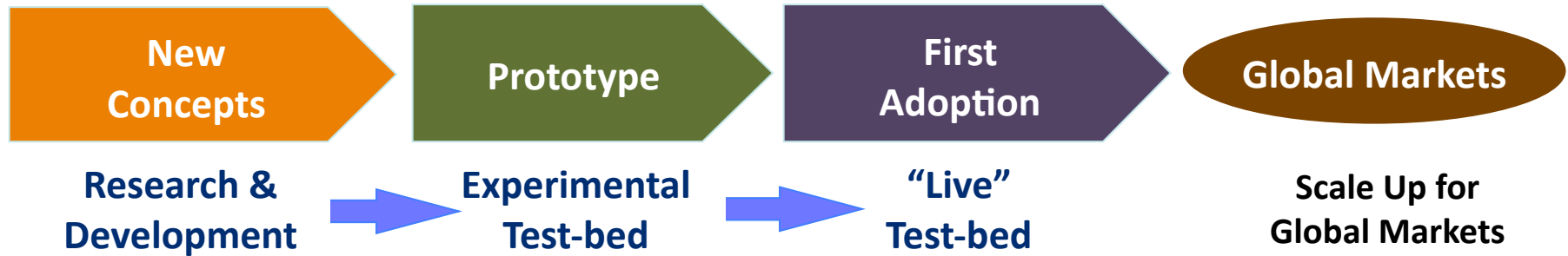
Configuration for various network topologies



Configuration for various network topologies



EPGC a key facility in making Singapore a Living Lab



Our Local Partner
Government
Agencies:



Update on Research Activities

- Completion of several projects with industry
- Previous & current projects
 - Low Frequency Oscillations of Wide Area Power Grid
 - Real-time Power Monitoring and Control Device
 - Co-Simulation of Marine Grid
 - Simulation of Fault Current Limiter for Distribution Network
 - Aircraft Smart Power Networks
 - Coupling Thermal and Electrical Grids in Buildings
 - Impact of high Penetration of PV
 - MV Inverters Control

Industry Projects Summary

Vestas

**NATIONAL
INSTRUMENTS**



Rolls-Royce

SP POWERGRID
A member of Singapore Power Group

EADS

HITACHI
Inspire the Next

**ENERGY
MARKET
AUTHORITY**

Smart Energy, Sustainable Future



FURUKAWA ELECTRIC

AEG
Power Solutions

**Lloyd's
Register**

phoenix
SOLAR

Vestas

ST Electronics
A company of ST Engineering

ST Kinetics
A company of ST Engineering

DRTech
Defence Research & Technology Office

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EPGC
A*STAR

Thank You