

# PPA 2017 conference Samoa

Cloud cameras –  
saving fuel and  
costs

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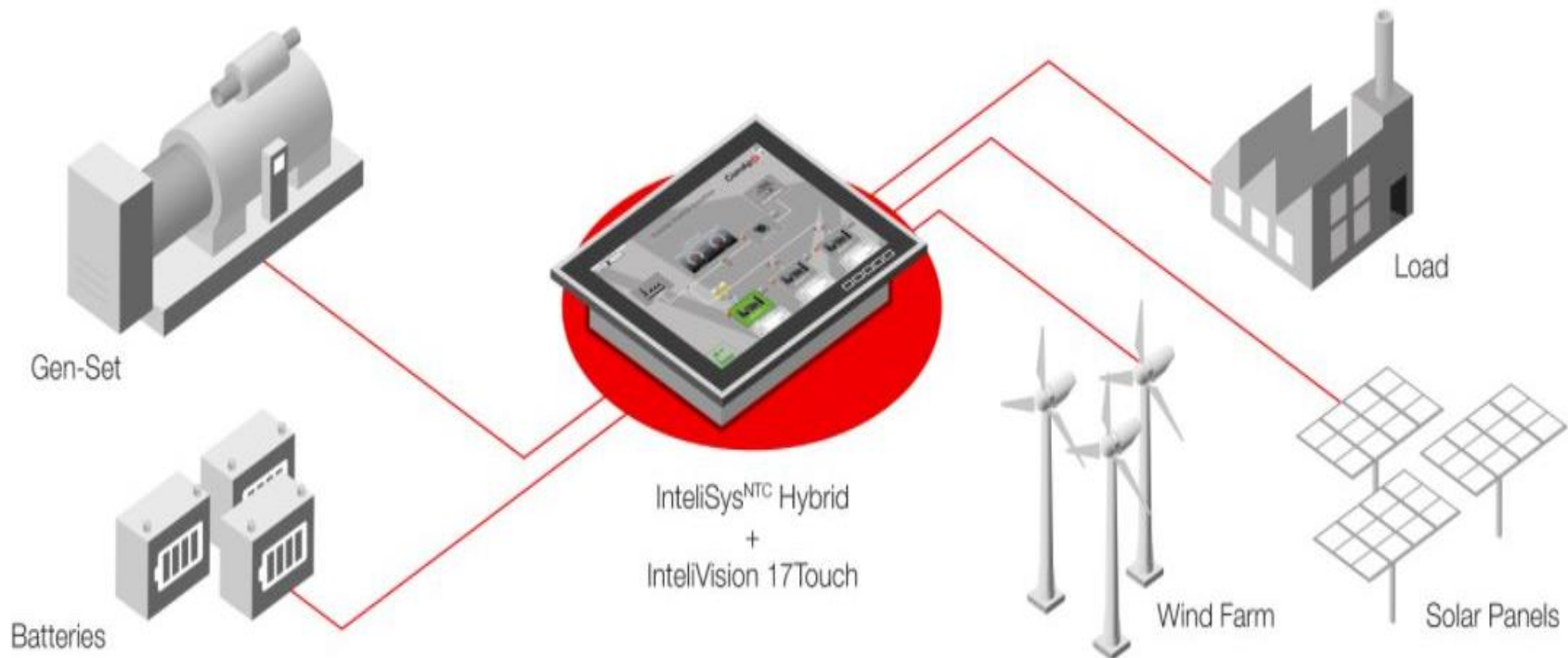
- ▶ **One of the worlds leading suppliers of control systems for diesel and gas generators**
- ▶ **Many systems already installed across the Pacific the – at least 10 different PPA member countries sat this stage.**
- ▶ **Mostly automation of existing manual stations.**

# Automation of stations





# Adding in a hybrid system



# Hybrid system controller

## Benefits for customers

- ▶ **Talks to all components of the system**
- ▶ **Monitors all of the outputs, capacities, alarms etc.**
- ▶ **Displays it all on the ComAp SCADA**
- ▶ **Controls the output of the diesel generators and operates them at the optimum level**

# But there are problems....

- ▶ **Solar PV is intermittent – a cloud can arrive at any time**
- ▶ **Backup is essential to prevent blackouts**
- ▶ **Two choices:**
  - Large amounts of spinning reserve
    - Seriously affects fuel consumption – by up to 20%
  - Adding in batteries
    - Very expensive
    - Add nothing at medium levels of penetration

# Addressing the problems

- ▶ **Previous systems suffered from a lack of accuracy and the right software for cloud prediction**
- ▶ **They are also very expensive because they were not designed for the PV industry**
  - ▶ \$100,000s cost for system
- ▶ **New cloud camera systems – Less than \$25K**

# Cloud cameras are the solution

- ▶ **Scan the sky continuously for clouds**
- ▶ **Software plots the movement of the clouds and predicts when they will hit the solar array**
- ▶ **Can even detect clouds that form in the path between sun and solar array**
- ▶ **Through the Hybrid Controller starts up or changes the sets ready for the cloud event**
- ▶ **Allow you to operate diesel generators near full load**
- ▶ **Means that you can have only a small battery installation**
- ▶ **Spend the money on extra PV!**



- ▶ **The technology has been in development for many years**
- ▶ **It is now perfected and is being rolled out into real situations**
- ▶ **We can offer it for your island now**

Thankyou