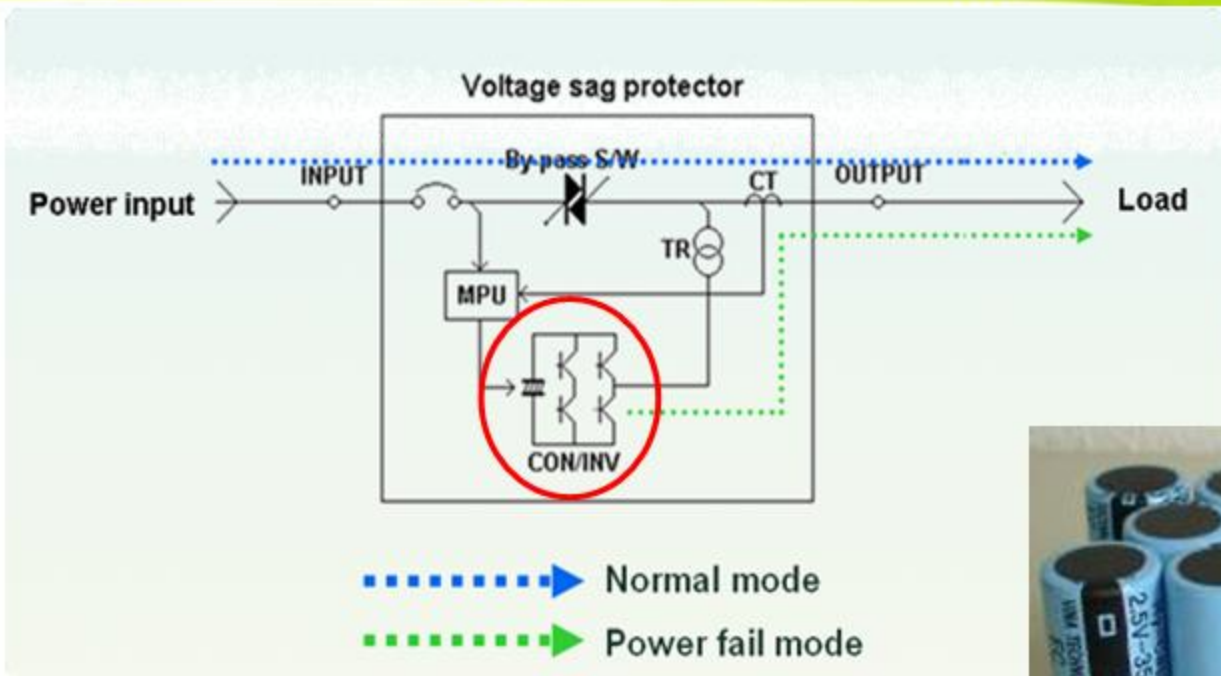


## ◆ Short-term UPS (1 – 5 seconds backup)



### ◇ Purpose

: Instantaneous voltage drop compensation

### ◇ Markets

- UPS for Semi-conductor production line

Telecommunication's base station

Medical equipment etc.

디지털 수도미터



(13mm,20mm)



Meter Circuitry

Super Cap  
- Last gasp for outages

- ◇ Peak power assist when sending wireless data-signals of electricity/ gas/ water meters.
- Long life(500,000 cycles) : No maintenance over the whole life of products
- Wider temperature range in the field : -40°C to 60°C
- 5V 1F - 3F and 25F - 50F



◇ Purpose

- Extending life of car battery
- Help improve power when ignition

◇ Applications

- Sub-power for Car audio, Car navigation, automatic window, other electric accessories

### Automatic Door



- ◇ Purpose
  - : Power backup
  - when emergency or outage
- ◇ Advantage
  - No-maintenance
  - High reliability
  - Quick reaction

### Electric Valve



### Nozzle control





## ◆ Black Box (Vehicle)

Confidential



### ◇ Purpose

- Data keeping when car accident or emergency

### ◇ Advantage

- Instantaneous reaction
- No maintenance (no need of battery cover)



◇ Purpose

- Quick charge (seconds for Children)
- No battery replacement
- Light weight (1F - 3F)



*Nissan Diesel Co.*



◇ Purpose

: Gasoline engine + Electric motor with supercapacitor  
(covering peak power when acceleration or engine starting)

◇ Advantage

- Long life cycle (over 500,000 cycles)

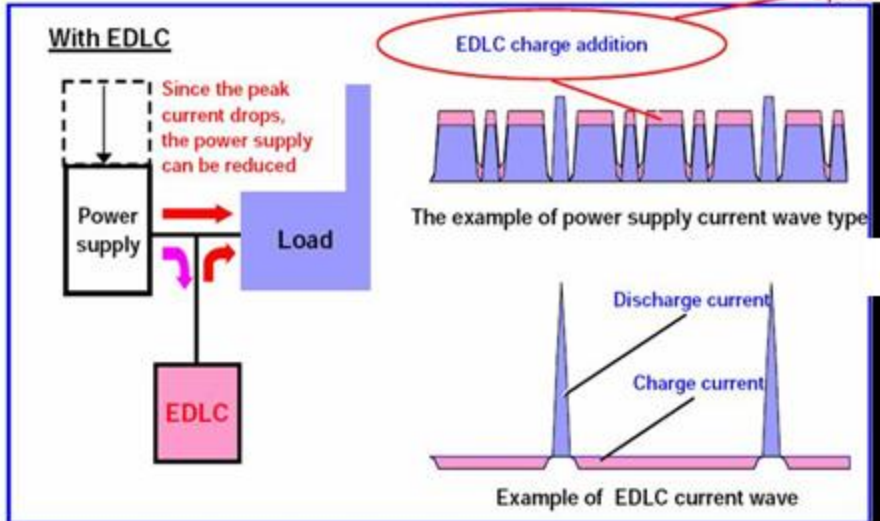
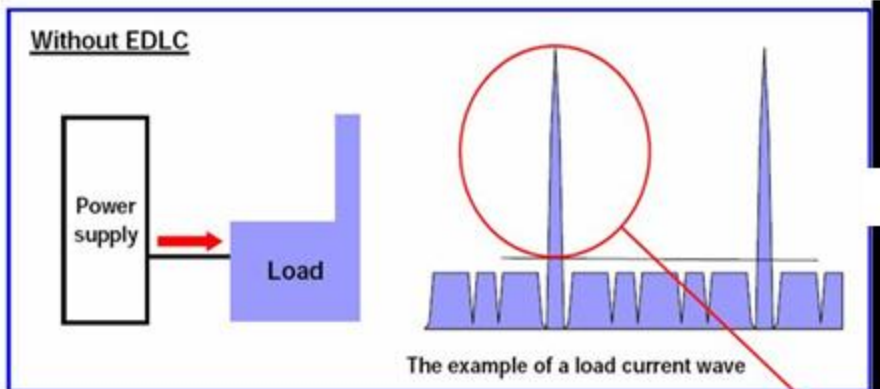
\*\*\* Long term market (in 5 years)



# Application : Industrial

Confidential

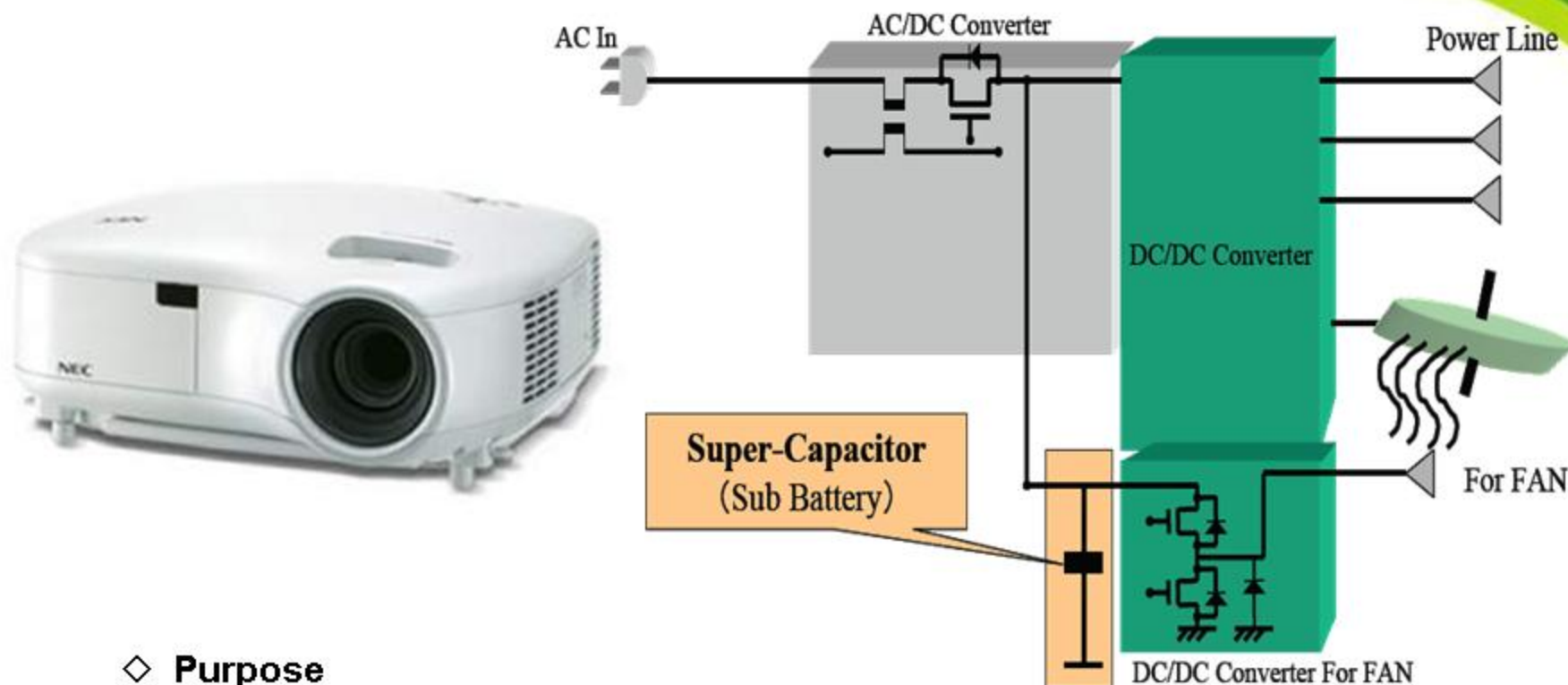
- **Peak Power Assist** from supercap's high power performance
- Advantage of improving battery's life & size down





## ◆ Projector (Auto fan stop)

Confidential



### ◇ Purpose

- Automatic Heat Control of the projector

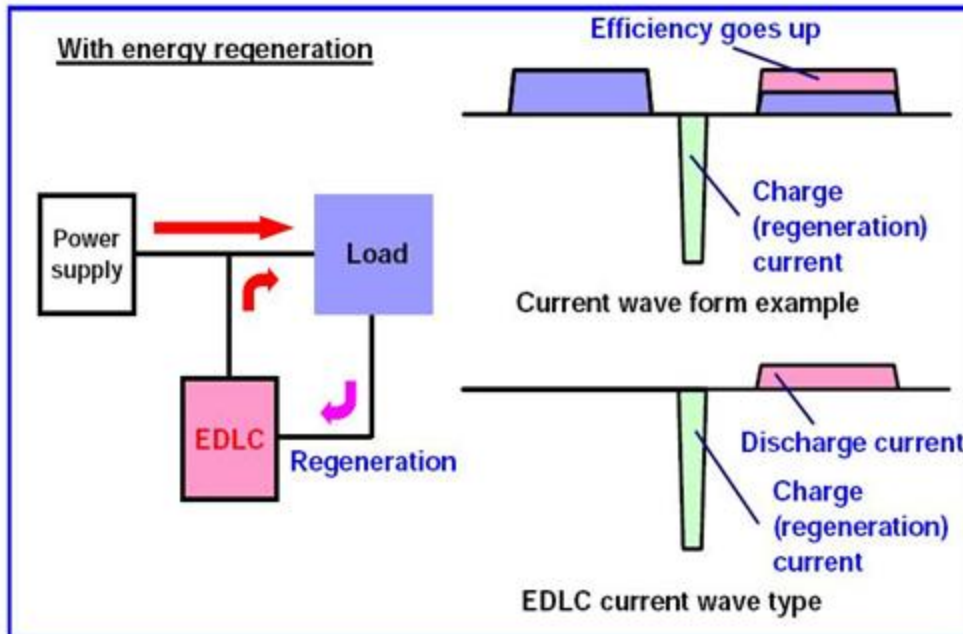
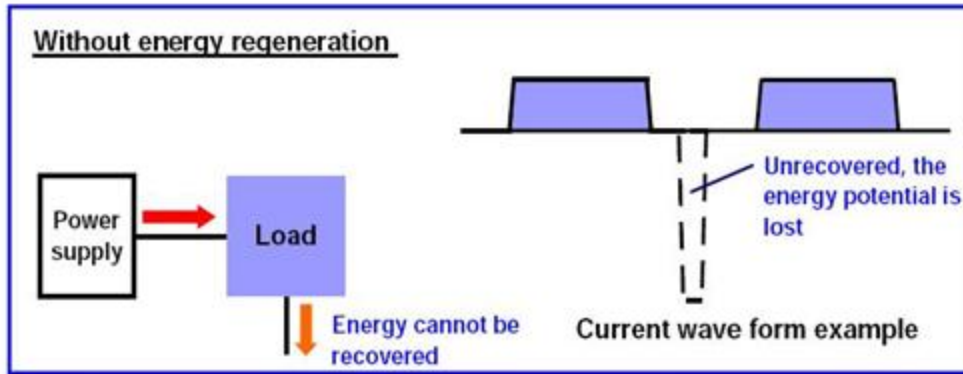
### ◇ Advantage

- Temperature feature
- Quick charge / discharge
- No maintenance

# Application : Regenerative Brake System

Confidential

- Energy Recovery in Heavy duty cycle applications
- Elevator, Forklift, Crane, Railroad



Railroad station



◆ Windmill [Pitch Control when emergency]



◇ Purpose

: Peak power providing for pitch controlling of each blade when emergency or braking.

◇ Advantage

- No-maintenance / No replacement
- Instantaneous peak power capability



◆ Supercap Module examples (UPS, Car Audio, Solar...)

Confidential



2F / 125V



5.8F / 140V



16F / 15V



100F / 17V