

# International R&D Collaborations Local Area Monitoring System for Micro Grid

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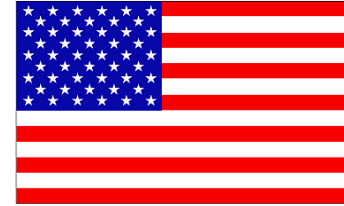
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20<sup>th</sup>, July, 2011

KERI

# Background

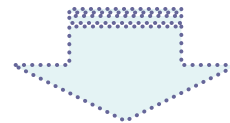
MOU on Smart Grid between Korea-illinois (July,2010)



International R&D Collaboration



R&D MOU



Local Area Monitoring System for  
Microgrid

# Project overview

## Summary of project

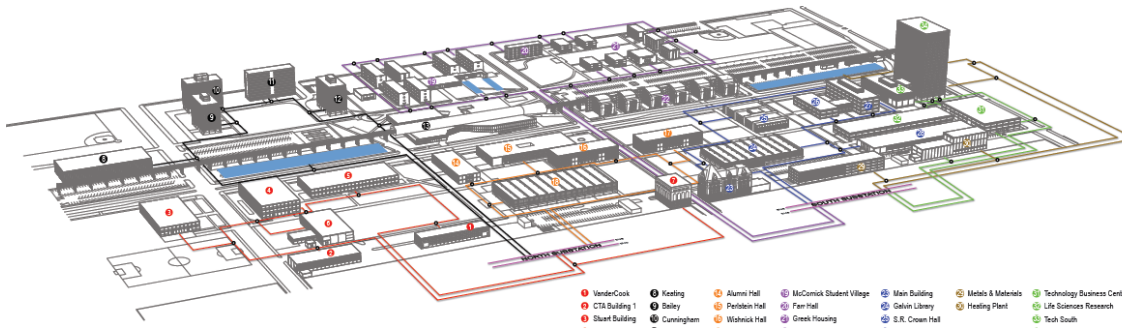
- Project Title : Local area monitoring system for MicroGrid
- Participants : Korea PI : DK Kim (KERI)  
U.S PI : Dr. Alex Flueck(IIT)  
Co-Work : DY Kweon(Procom)
- Budget : 3 mil.
- Duration : 2010.12~2013.11 (36 months)

- Project Goal
  - Development of monitoring system
  - Development of Smart PMU
  - PMU Demonstration for  
Distribution Network

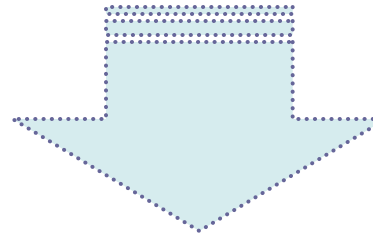
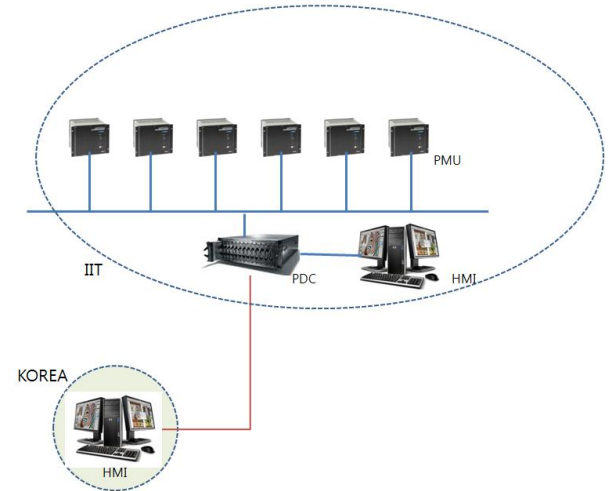
# Goal of Project

## Campus Microgrid Illinois Institute of Technology

High Reliability Distribution System (drawing not to scale)  
at the Illinois Institute of Technology - Main Campus



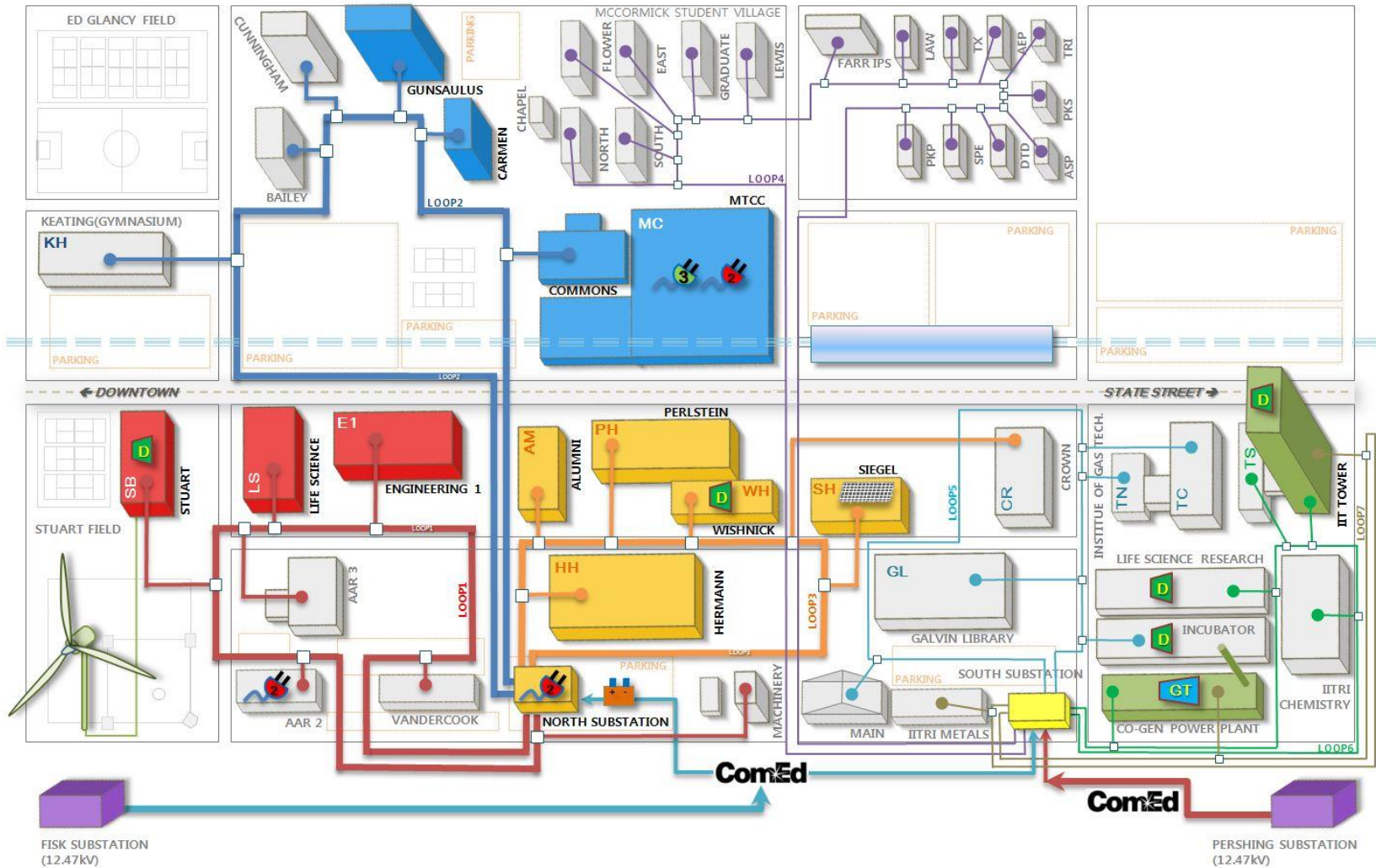
## Smart PMU



- Make New PMU Application on Distribution Network
- Make Microgrid Demonstration Platform
- Prove behavior of Microgrid using Monitoring System

# Number of PMU

## MICROGRID OF IIT CAMPUS

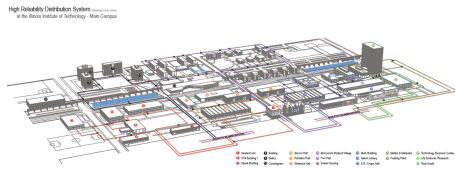


2011 PROCOM SYSTEMS CO.,LTD

# Scope of Work

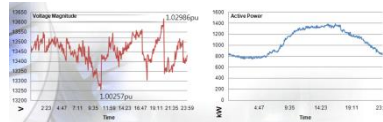
## Phase 1.

Deployment of PMU



## Phase 2.

Measurement, Modeling & Analysis



## Phase 3.

New PMU for Distribution Network



- Deploy PMUs
- Benchmark PMU data

- Collect baseline data for an year
- Analyze load patterns
- Perform shutdown/startup tests
- Capture dynamic load behavior
- Develop load models

- perform shutdown/startup tests
- Deploy, test and refine the application for New PMU
- Improve load models based on PMU measurements
- Forecast load demand
- Predict dynamic startup load behavior