



ETC Group

ENERGY ENGINEERING FOR A SUSTAINABLE FUTURE TM

Through broad knowledge and
deep experience, we help you

SAVE ENERGY

SAVE MONEY

SAVE THE PLANET

ENERGY EFFICIENCY IS ALL WE DO



ETC Group
ENERGY ENGINEERING FOR A SUSTAINABLE FUTURE™

DATA DRIVEN ENERGY MANAGEMENT

May 2013

Chris Binger, PE



ETC Group

ENERGY ENGINEERING FOR A SUSTAINABLE FUTURE™

- Established in 1988
 - Staff of 30
 - 15 Engineers (10 P.E.s)
 - Architects, Analysts, Technicians...
- Energy Efficiency is all we do
 - Energy Management
 - Energy Assessments
 - Implementation Assistance
 - Commissioning, Retro-commissioning and System Optimization
 - New Building Energy Design & LEED Services
 - Education Outreach and Policy

DATA DRIVEN ENERGY MANAGEMENT

Automatically collecting, analyzing and
presenting data

+

Providing *Actionable Feedback*

so that

ENERGY IS SAVED CONTINUOUSLY

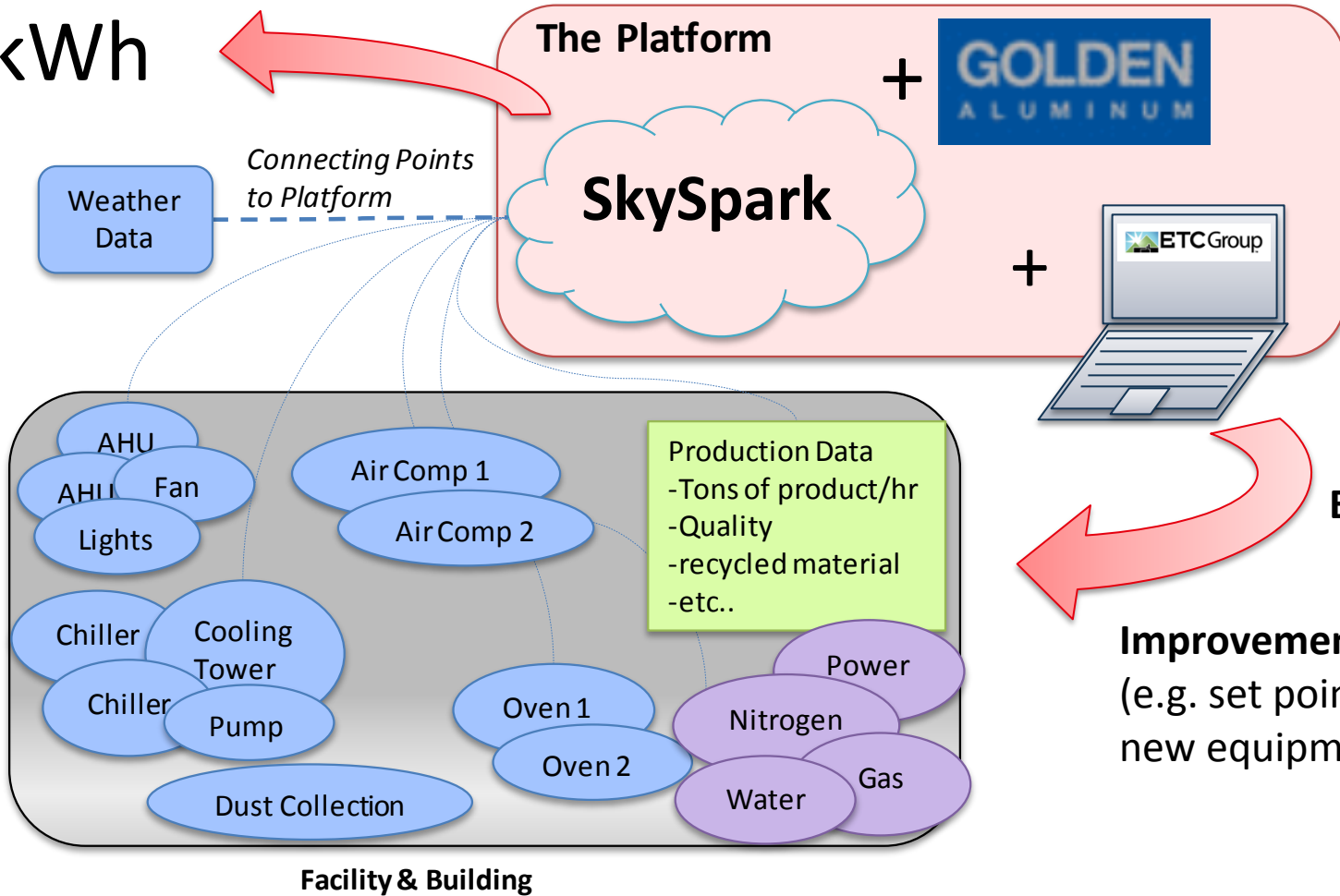
REMEMBER

Most of the important data is already somewhere!

THE PLATFORM – SKYSPARK

Btu \$ kWh

Verify Savings



PROCESS



ENERGY EFFICIENCY

Improvement
(e.g. set point change, new equipment, etc...)

LIVE DEMO

DEMO LINK

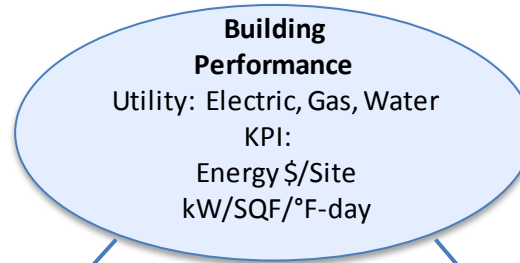
1. Owens Illinois – Facility Level Data
 - Meter and Production Level Comparison 2010 - 2012
2. Golden Aluminum – System Level Data
 - Compressed Air Data from August 2011
3. Site Comparison – Fault Detection
 - HVAC and Lighting Data Live Connection

LEVERAGE YOUR DATA

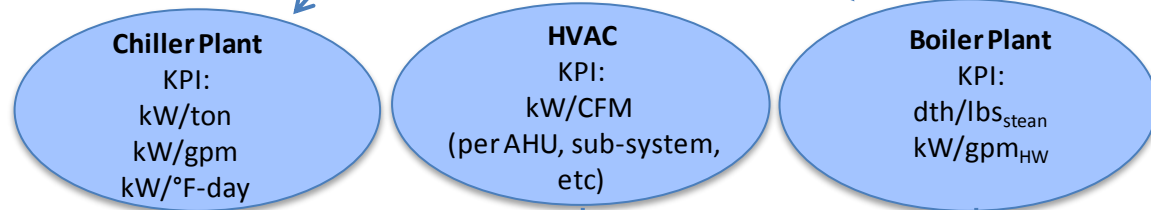
1. Provide a strategic picture
2. Establish a foundation for comparison
3. Performance benchmarking
4. Ongoing commissioning
5. Automatic fault detection

BENCHMARKING & DIAGNOSTICS

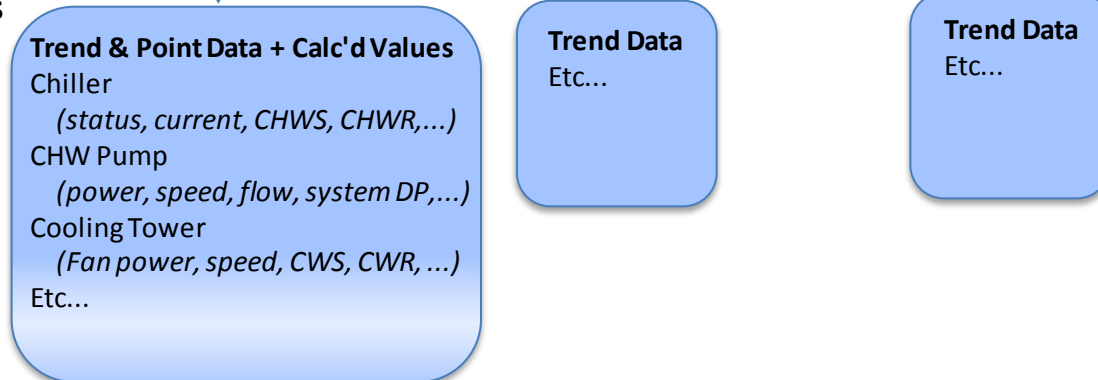
Level 1 - Building Performance



Level 2 - System Performance

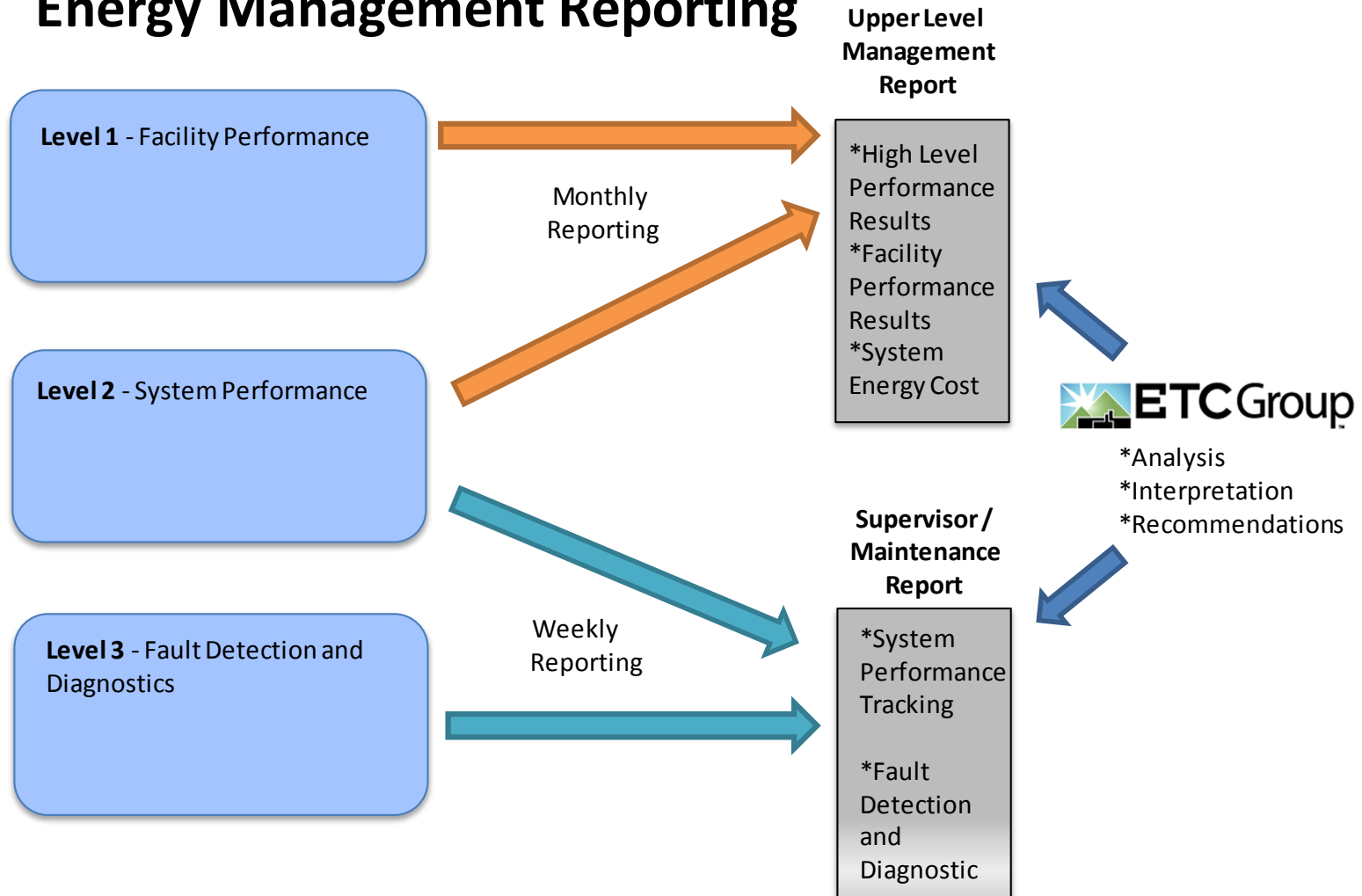


Level 3 - Fault Detection and Diagnostics



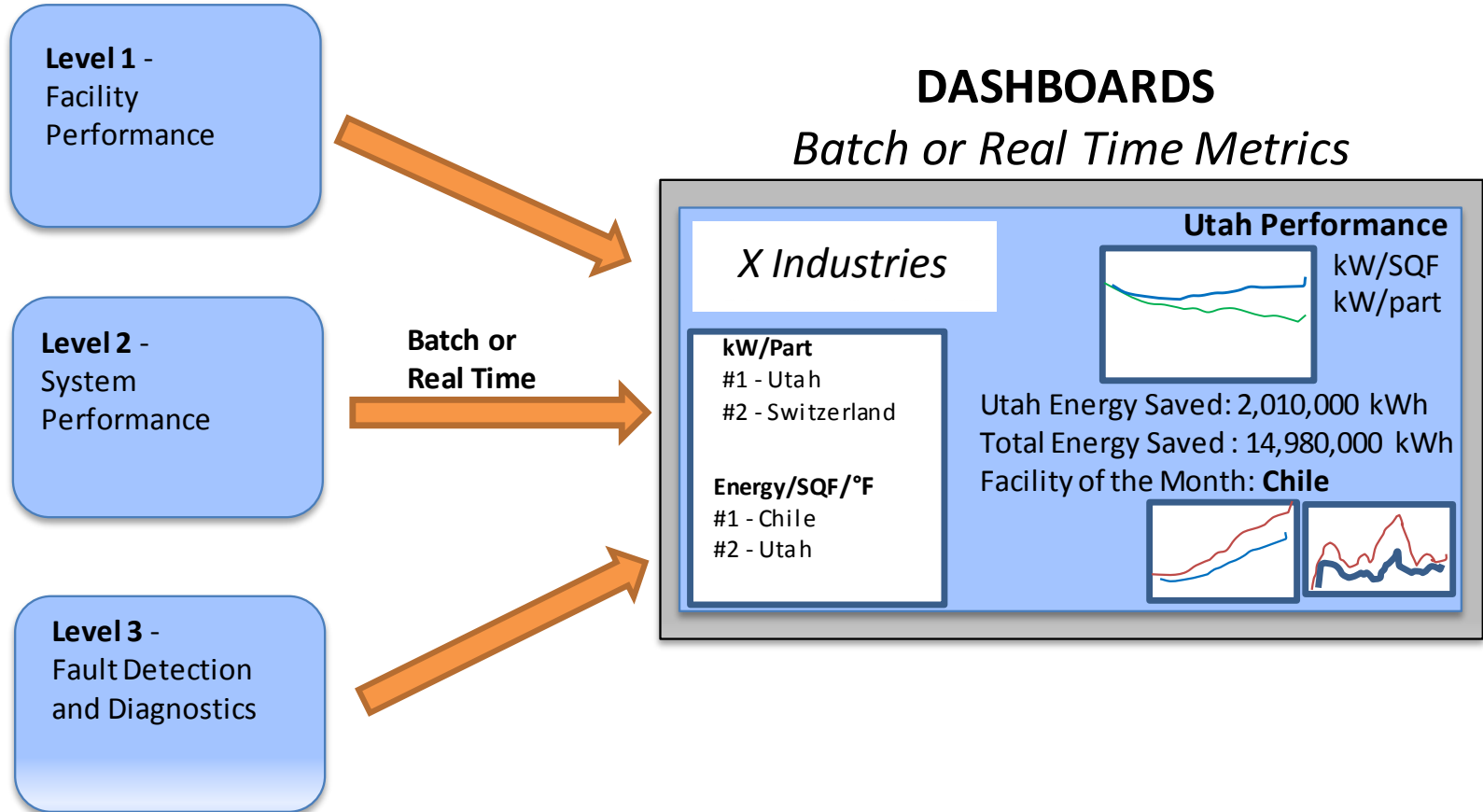
REPORTING

Energy Management Reporting



REPORTING

Energy Management Reporting



PROPOSED RAFFLE

- Proposed CIEC and ETC Group assistance
 - Strategic consulting assistance
 - Developing a foundation for Data Driven Energy Management
 - Building a sample Skyspark site and hosting data for 1 year.
- Scope of assistance
 - Develop a strategic plan
 - Setup a site for one 1 system (BAS, chiller plant, etc)
- Participation
 - Assistance from your staff
 - Purchase hardware and pay for integration
- Winners - 2 companies eligible (random drawing)
- If interested – Neil will coordinate
- Deadline By May 24

Follow up demo in 3-4 months