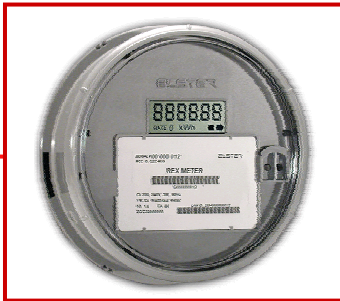




**Flexible
Cost Effective
Smart Metering**

EnergyAxis® AMR System



September 2004

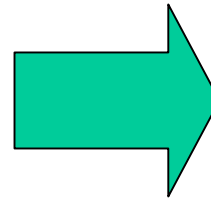
ELSTER 

Some History.....

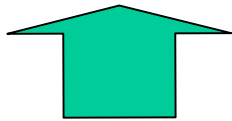
We are the largest supplier of gas, water and electricity metering in Canada, and the world.



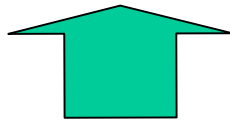
ELSTER 



ruhrgas industries



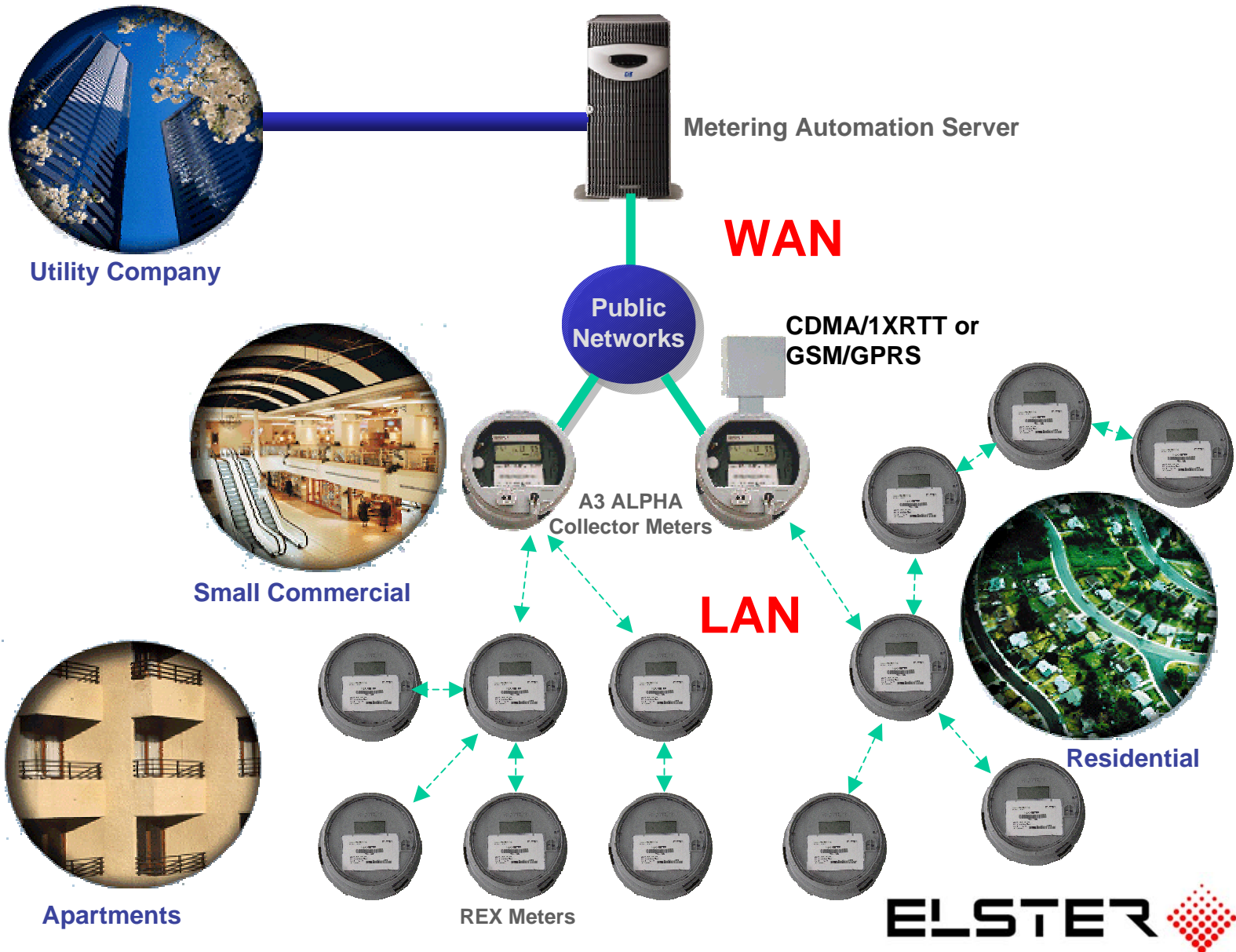
ABB



 **Westinghouse**

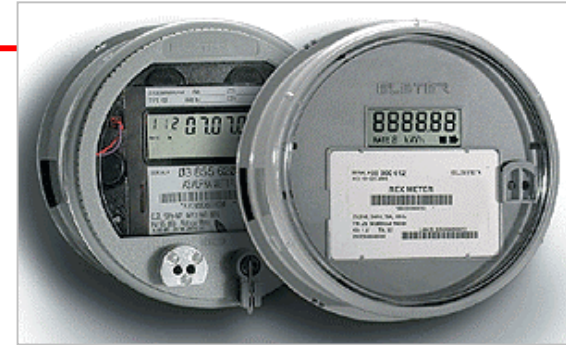
ELSTER 

EnergyAxis System Architecture



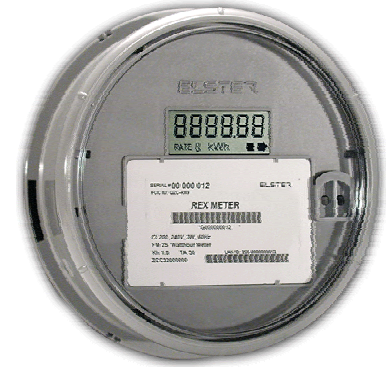
Features - EnergyAxis System

- Entirely meter-based system
 - New electronic, single-phase REX™ meters
 - A3 ALPHA® Collector meters
 - ***No Antenna's, towers, power supplies, etc!!!***
- Self-registering RF meters
- Any meter can be a repeater
- Collectors are residential or C&I meters
- Data is read from actual meter registers
 - Remote readings are identical to registers
 - No intermediate pulse storage modules or mis-matched remote readings
- Measurement Canada approved.



REX Meter

RESIDENTIAL
REX
EXCELLENCE



■ *Every REX meter is capable of:*

- Energy registration
- Flexible TOU – schedules easily changed
 - Critical Peak Pricing
- Load Profiling
 - 15, 30 or 60 minutes
 - Data uploaded to Collector typically every 4 hours
- All metering data is stored in non-volatile memory on the meter
- Functionality can be activated/deactivated remotely at any time on any meter

No need to change meters to add or change functionality.

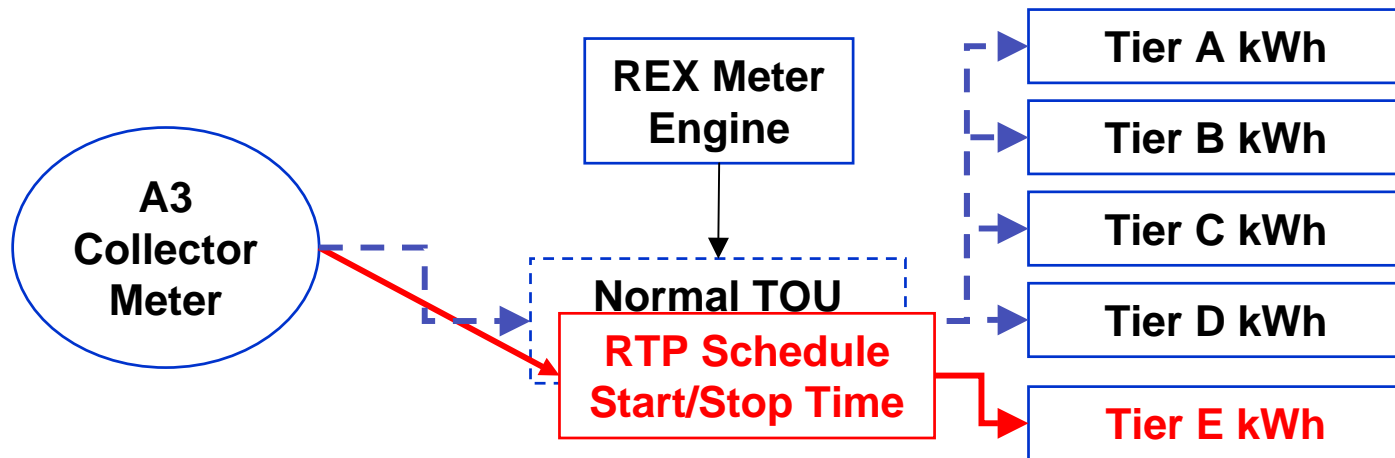
ELSTER 

REX - Real Time/Critical Tier (Peak) Pricing

- The system can download an alternate CTP schedule with a start and stop time and do this differently every day
- This overrides the REX's normal TOU schedule for the specified period of time to put 'peak-time' energy into any specified tier register (REX has a 5th TOU Register which can be used)

- Critical tier energy is thus auditable and viewable at meter

ADVANTAGE: Eliminates need for interval data collection and back-office processing to reconstruct TOU or Critical Peak energy consumption



A3 ALPHA Collector

- The Collector is:
 - A typical Elster C&I meter in use today by Ontario Utilities
 - The Collector still provides full metering capabilities
 - But in addition it has an option board which handles all of the Rex communications
 - Configures and manages the Rex communications
 - Collects data from up to 1024 REX meters and downloads it to MAS software.
 - Available in all meter forms.
 - Can be plugged in to existing sockets



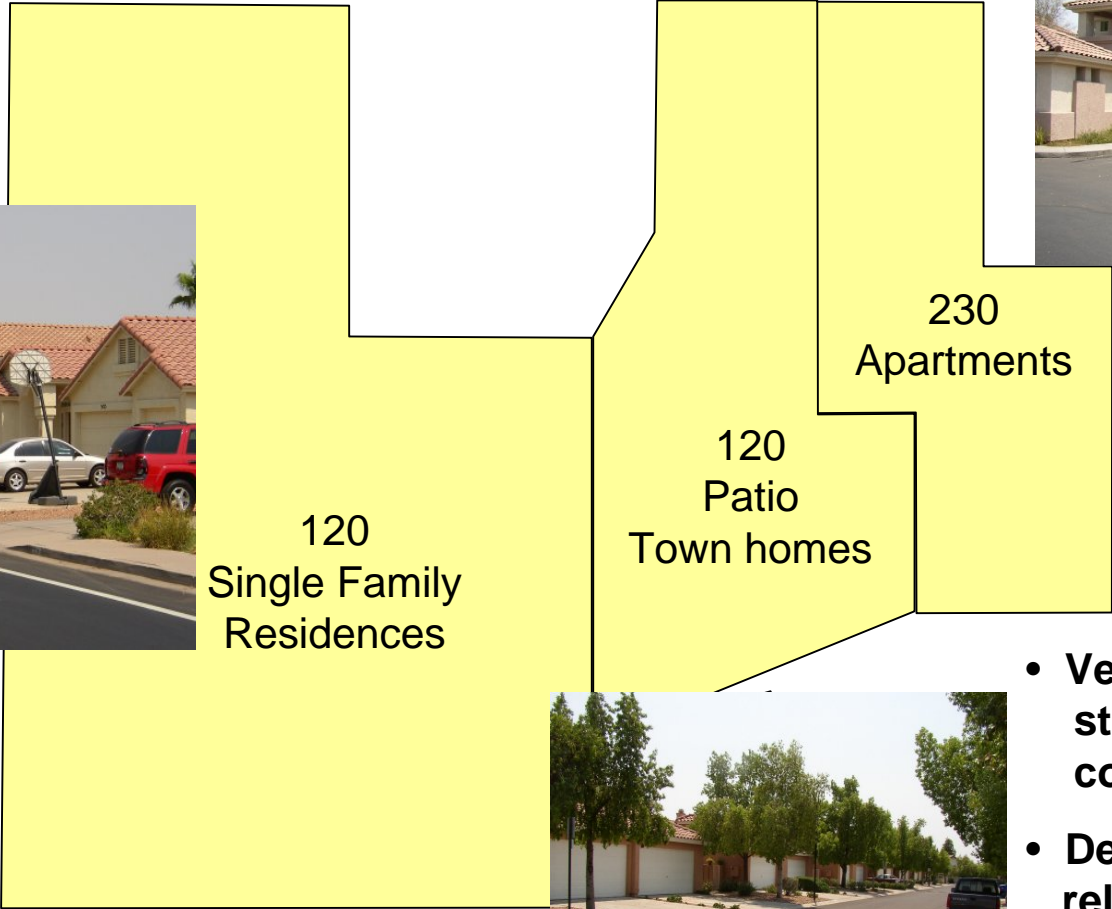
ELSTER 

Current Installations

- EnergyAxis launched in September 2003.
 - Have already received orders from thirteen utilities
 - Nine systems fully operational
 - Have also received commitments for nine more systems.
- Systems currently are being installed throughout North America, South America, Caribbean and Asia
- In Canada we have two projects in process:
 - Olameter/Newmarket Hydro
 - Toronto Hydro
- Measurement Canada approved

Salt River Project Installation

← .5 mi. →



Single-family Residences



Apartments



Townhouses

- Verified operation with stucco over wire construction
- Demonstrated highly reliable daily AMR reads



Portland General Electric Installation Planning for Backbone System Test (approx. 1200 Meters over 12 sq. miles)

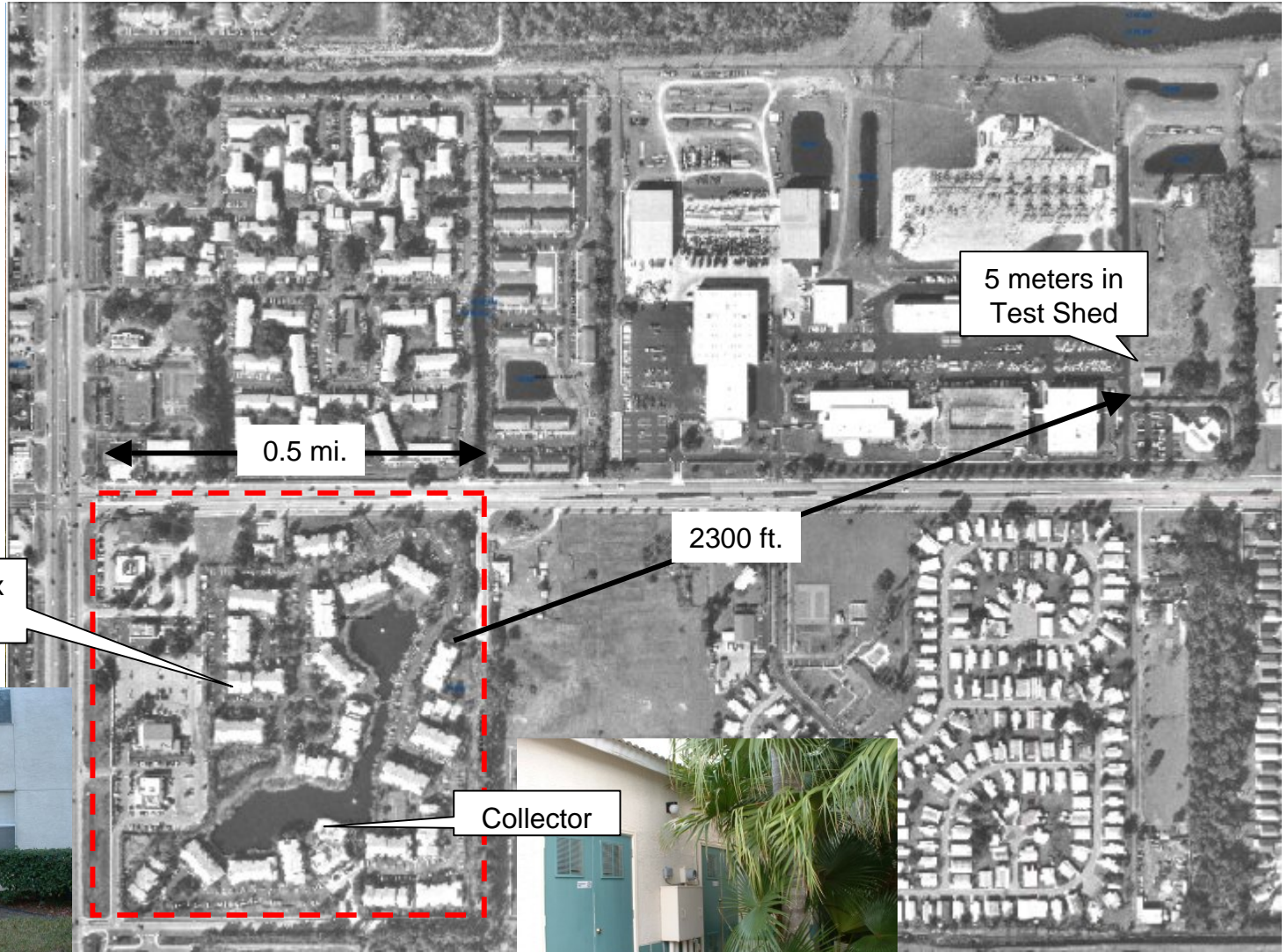
Testing networks of 80-120 REX meter/repeaters per square mile

using 1 Collector per square mile grid

System will Provide ability to install AMR or TOU meter anywhere within the backbone network.



Orlando Utilities – 480 Meter Apartment Complex



OUC EnergyAxis System Expansion



Why Utilities have Chosen EnergyAxis?

- Operational savings
 - Two-way communications
 - On demand reads
 - Remote disconnects/reconnects
- Ease of installation
- Flexible metering capabilities
 - Ability to implement flexible rates
 - Consumption to TOU
 - Support for Critical Peak Pricing
 - Load Profile

Future Flexibility

- Support for gas and water meters
- REX option boards are adaptable for:
 - In-home communications
 - Energy management and load control
 - Customer messaging (rates, kWh, kW, \$)
 - Pre-pay metering services
 - Home automation features
 - RF or PLC communications





Electricity Meters and Systems

Discover the value of the diamond

