

# **Remote Monitoring of PI System**



**Rotem Amfert  
Negev Ltd**

# ***Rotem Amfert Negev Ltd.***

- ❑ An integrated, multinational phosphate group manufacturing and marketing a comprehensive range of products based on phosphate rock**
- ❑ Formed through a merger of Negev Phosphates Ltd and the Rotem Amfert group in 1991.**
- ❑ Based on the strengths of Israel's valuable natural resource (Dead Sea Phosphate).**



## ***Rotem Amfert Negev Ltd (2).***

- ❑ The group has ownership in a strategic network of European companies including productions plants in:
  - ❑ Holland
  - ❑ Germany
  - ❑ Belgium
  - ❑ France
  - ❑ Turkey

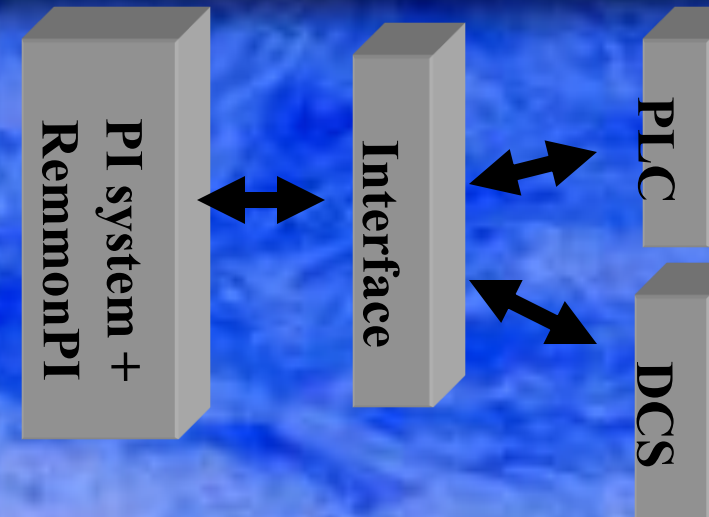
# Rotem Amfert Negev - Main Products

- ❑ POTASH (min 60% K<sub>2</sub>O)
- ❑ POTASSIUM PRODUCTS
- ❑ GRANULAR FERTI-CLOW (LOW CHLORIDE PKS).
- ❑ REACTIVE PHOSPHATE ROCK
- ❑ SINGLE SUPERPHOSPHATES
- ❑ SUPERPHOSPHATES
- ❑ GRANULAR PK
- ❑ GRANULAR NPS
- ❑ GRANULAR NPK
- ❑ ORGANIC AGRICULTURE
- ❑ FULLY SOLUBLE FERTILIZERS
- ❑ SUPERPHOSPHATE POWDERS



# Improved PI reliability

- ❑ Real time “communication failure” ALARM.
- ❑ Creating a virtual TAG at the PLC/DCS.
- ❑ Interface adds Time Stamp to the TAG.
- ❑ Step 1: Rem-PI sends SMS indicating Interface to PI communication failure.
- ❑ Step 2: PI sends regular message to the PLC, if an alarm is created Rem-PI sends SMS indicating PLC to Interface communication failure



***Stabilizing white acid system***

- real time detection
- precise solution

# Sulfuric acid

## Production plant reports

- ❑ Process of creating Sulfuric Acid releases heat. Electricity is a Byproduct – Released heat creates steam which operates turbine that creates electricity.
- ❑ Rem-PI Report 1:
  - ❑ Turbine rotation velocity.
  - ❑ Input value- sulfuric amount
  - ❑ Output value- sulfuric acid amount



# PAMA's - power station report

- ❑ Burning Oil Shell (mineral) creates white acid, electricity + cats leather (byproducts).
- ❑ Rem-PI Report 2:
  - ❑ Steam Pressure in front of the Turbine.
  - ❑ Steam level in low pressure.
  - ❑ Turbine rotation velocity.
  - ❑ Temperature at the flame chamber.
  - ❑ Percentage of the oxygen utilization.

# Remote Intelligent Monitoring

Solution for remote management and control

- ☐ Receive warnings
- ☐ Receive real time information



***PI becomes more reliable***



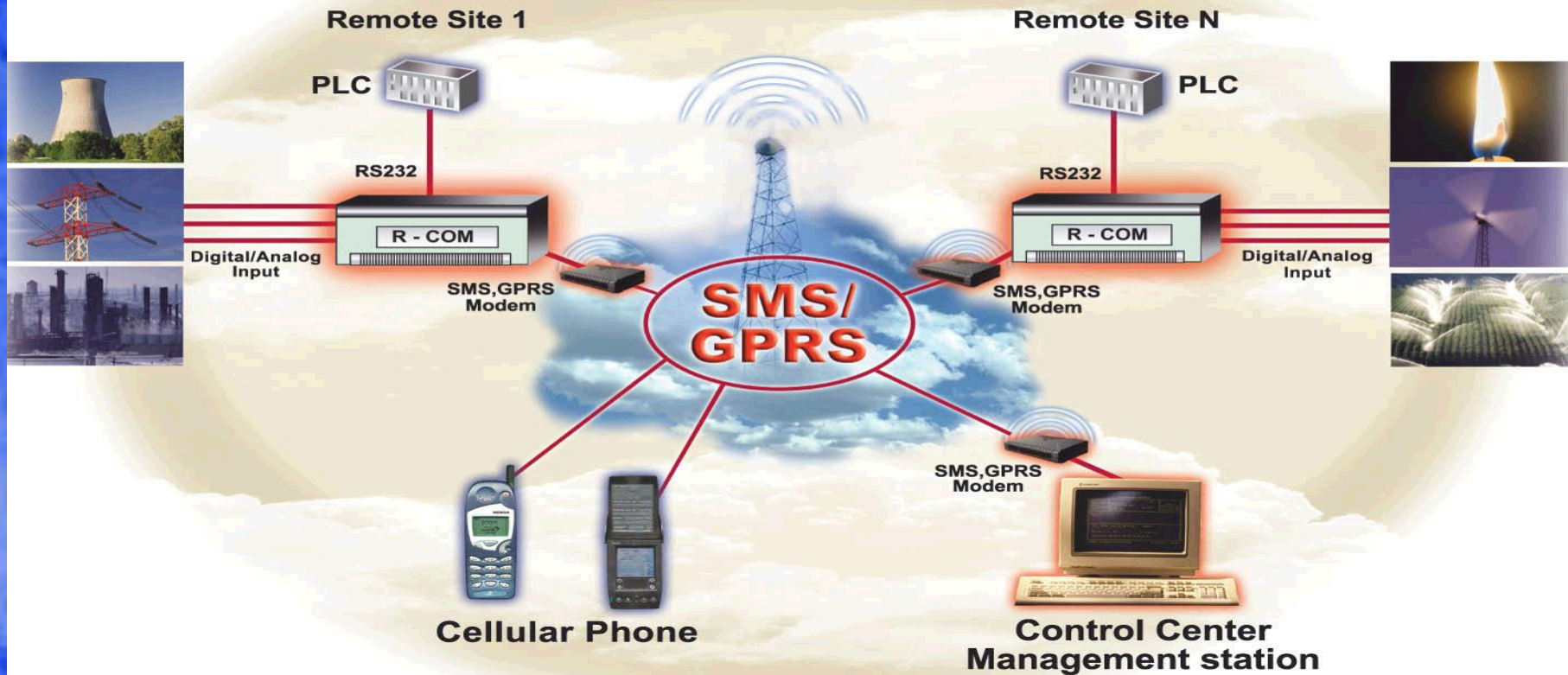
# More than just reliability



**CELLULAR PHONE  
as  
CONTROL PANEL**

# Data communication solution

## Data Communication system





# *More...*

## *Haifa Chemicals Ltd.*

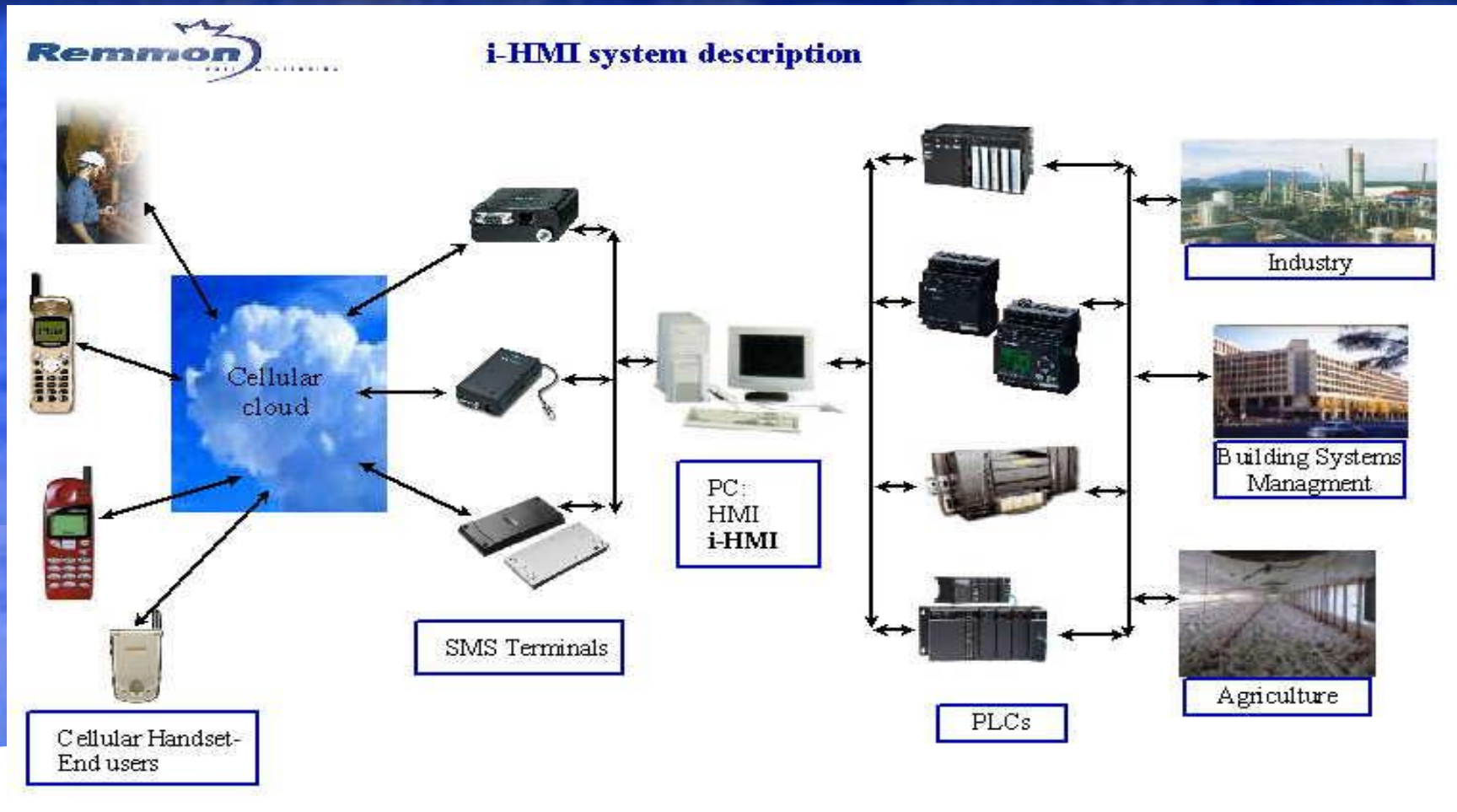
- ❑ A multi-national company, is a recognized leader in the development, production and marketing of food and technical-grade chemicals, as well as fertilizers for agriculture and horticulture.
- ❑ With headquarters in Israel's Haifa Bay area, Haifa Chemicals is one of Israel's largest industries and exporters. The company ships more than 93% of its products from Israel's ports to manufacturers and growers in over 95 countries

# Haifa Chemical's Main Products

- ❑ Food Additives
- ❑ Potassium Nitrate
- ❑ Technical Products.
  - ❑ Oil and Oil Transport
  - ❑ Cement and ceramic industries
  - ❑ Detergent industries
  - ❑ Glass industry
  - ❑ Metal industry



# Rem PI Integrated Management S/W



# Rem-PI your Petrochemical Management S/W

- *Rem-PI is an add on application integrated with PI system.*
- *Using PI API (Application Programming Interface) programmatic interface to the PI System.*





# Rem PI Integrated Management S/W



**i-HMI Workbench - [C:\i-HMI\Version1.1\Projects\QA-V1\_1\QA-V1\_1.dsi]**

File Project View Tools Help

**Linked HMI Project:** C:\CIMPLICITY\HMI\projects\QA-V1\_1\QA-V1\_1.gef

| Action     | SMS  |
|------------|------|
| act1       | act1 |
| act2       | act2 |
| act3       | act3 |
| activat... | al6  |
| cmd2       | cmd2 |
| cmds       | cmds |
| rpt1       | rpt1 |
| rpt2       | rpt2 |
| rpt3       | rpt3 |
| ssq        | s1   |

User   
 SetPoint   
 Report   
 Command

Permission   
 Alarm   
 Sending   
 Scheduler

Action:

Answer Priority:

**Points List**

| Point | Value |
|-------|-------|
| P1    | 1     |
| P2    | 1     |
| P3    | 1     |
| P5    | 1     |
| P6    | 0     |

**DISCONNECTED** Send

**AND NOW TO THE SHOW**



# Main features

- ❑ **Open system solution** - any cellular infrastructure.
- ❑ **Secured solution** – not connected to internet or third-party servers.
- ❑ **Remote Monitoring** - *Remote mobile solution connecting PI managers to the system.*
- ❑ **Adaptable control panel** - for effective monitoring and control , focused information to the right person at the right time.

# Rem-PI Benefits

- ❑ Immediate presentation of incidents to the user for evaluation, providing a faster, more reliable monitoring of the PI system.
- ❑ Real time information provided to the PI manager, no need to manually retrieve data,
- ❑ Alarms based on Time stamp changes of PI values.
- ❑ Receive PI reports directly to your cellular phone display.