**SCADA Migration- Site Survey Report**

**Purpose:**

The purpose of the site surveys is to support the migration of the SCADA system from the Cork County Council network to the Cully Automation cloud SCADA system for Irish Water. The surveys will focus on assessing the lifecycle of devices, verifying connectivity, and ensuring compatibility, including PLCs, HMIs, Modems/Hubs, and Smart Switches.

For the Zone 2 Cork project, the primary goal is to identify the existing network setup, including the number and type of devices connected to the Cork County Council network. It is crucial to ensure that the existing network is properly delinked from Cork CoCo's network for both PLC, HMI, and Plant SCADA (where applicable). This information will help determine the additional hardware required, including new routers and the de-linking of the existing CoCo server.

**Benefits of the Site Survey:**

1. Verifying the correctness of plant information (I/O and mapping tables)
2. Assessing signal strength for communication (mobile or radio networks)
3. Reviewing existing network interfaces

*A picture containing text, screenshot, font, design

Description automatically generated*

The collected data will facilitate a smooth migration to the Cully Automation cloud SCADA system and support any necessary upgrades, such as Cyber Security initiatives or communication system enhancements. This survey will also aid in properly sizing the SCADA system—both in hardware and software—for the new cloud platform.

If sufficient site information is already available from local integrators or the client, a site survey may not be necessary. However, conducting these surveys before the migration is essential for ensuring a successful transition.

**Objective of West Cork Site Visits:**

1. **Assess Existing PLC, Router, and Communication Devices:**
   * Identify PLC type, available Ethernet ports, slots, and installed modules (including serial numbers).
   * Check space and slot constraints.
   * Backup PLC program.
   * Verify physical I/O connectivity and communication devices (e.g., IEDs, power meters).
   * Backup Disinfection and Telemetry PLCs (type, protocol, and program).
   * Identify HMI type, make, model, and backup program.
   * Document HUB/switch details inside the panel.
   * Record GPRS/GSM modem info (including SIM number).
   * Check radio equipment and connectivity to base radio.
   * Record IP addresses of all devices.
   * Document network layout and terminations.
   * Take detailed photographs of the panel, PLC, router, and switches.
   * Scan available local electrical drawings.
2. **Assess Local Plant SCADA System:**
   * Verify product and license details.
   * Confirm network connectivity (IP address, hub/switch info).
   * Backup SCADA system.

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| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  | **Site Info** |  | Text, letter  Description automatically generatedText  Description automatically generated |  |
|  |  |  |  |  |  |
|  |  |  |  | **Information** |  |
|  |  |  |  |  |  |
|  | 01 | Site Name |  |  |  |
|  |  |  |  |  |  |
|  | 02 | Site Location / Co-ordinates | |  |  |
|  |  |  |  |  |  |
|  | 03 | Site Access Details |  | Plant Operator must be contacted |  |
|  |  |  |  |  |  |
|  | 04 | On Site Parking |  |  |  |
|  |  |  |  |  |  |
|  | 05 | Area Engineer & number |  |  |  |
|  |  |  |  |  |  |
|  | 06 | Site Caretaker & Number |  |  |  |
|  |  |  |  |  |  |
|  | 07 | Site Survey Completed By |  |  |  |
|  |  |  |  |  |  |
|  | 08 | Control approach discussed with Site Operator | | Yes/No |  |
|  |  |  |  |  |  |
|  | 09 | Visual Inspection of existing Treatment | |  |  |
|  |  |  |  |  |  |
|  | 10 | Site Type / Raw Water Supply Type | |  |  |
|  |  |  |  |  |  |
|  | 11 | Electrical Supply |  | 400VAC/ 24VDC |  |
|  |  |  |  |  |  |
|  | 12 | Plant Photos Completed | |  |  |
|  |  |  |  |  |  |
|  | 13 | Is the Site Undergoing Construction/Upgrades | |  |  |
|  |  |  |  |  |  |
|  | 14 | Description of Construction/Upgrade Works | |  |  |
|  |  |  |  |  |  |

|  |
| --- |
| **Existing System Architecture** |
| *#Detailed architecture can be attached#* |

**Hardware Details**

|  |  |  |  |
| --- | --- | --- | --- |
| **PLC** | **Manufacturer / Model** | **Model / Slot** | **Hardware Version** |
| **CPU** |  |  |  |
| **Ethernet Card** |  |  |  |
| **Other Comms** |  |  |  |
| **No. of Racks** |  |  |  |
| **HMI** |  |  |  |
| **Router** |  |  |  |
| **Comments** |  |  |  |
| **Approx. Age of PLC** |  |  |  |
| **Compatible software version for PLC & HMI** |  | | |
| **Comments** |  | | |
| **Is there space on the wall/panel to mount a new Router** |  | | |
| **Is there space on the panel or desk to Install a new managed switch (CISCO)** |  | | |
| **Existing Router Power Supply** |  | | |
| **Antenna Location & Distance from Router** | Internal/ External | | |
| **Is there an existing UHF Network? (Radio)** | Yes/No | | |
| **Type of UHF Network ( IP Radio or Serial)** |  | | |
| **Site Alarms and Modem/Router information** |  | | |
| **Third Party PLC** |  | | |
| **Third Party HMI** |  | | |
| **Network Switches** |  | | |
| **Other Hardware in the Network (power meters etc)** |  | | |
| **Mobile phone network** | Vodafone IE : \_\_\_dBm  Eir : \_\_\_dBm  3 IRL Meteor LTE : \_\_\_dBm | | |
| **LAN available to Council network** |  | | |
| **Other Hardware required for migration (antennas, cables, breaker etc)** |  | | |

**Communications** **Details**

|  |  |
| --- | --- |
| **PLC IP, Port Details & Gateway** |  |
| **HMI IP, Port Details & Gateway** |  |
| **Router IP, Port Details & Gateway** |  |
| **Router Signal strength** |  |
| **Router Log in User Credentials** |  |
| **Radio IP, Port Details & Gateway** |  |
| **Network Switch IP Port Details & Gateway** |  |
| **Local PC SCADA/HMI Connectivity with Router/ LAN network** |  |
| **Free Ports in Router and Switch** |  |
| **Existing SIM Details (IMEI, Number, Network Provider, Signal dBM)** |  |

**LOCAL Plant SCADA Details**

|  |  |
| --- | --- |
| **SCADA location** |  |
| **SCADA PC details** |  |
| **SCADA platform** |  |
| **SCADA Licence** |  |
| **Clients/Slave/Remote Login details** |  |
| **PC Details**  **Operating Systems**  **Peripheral information**  **Memory**  **CPU** |  |
| **Additional Comments**  **(Attach Photos where possible for the existing systems, Graphics Screen shots** |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pre-Departure Site Verification Checklist** | **Yes** | **No** | **N/A** | **Remarks / Timeline** |
| Uploaded PLC Load |  |  |  |  |
| Uploaded/Backed up HMI Load |  |  |  |  |
| Has the ABB PLC load matched the one available in SharePoint? |  |  |  |  |
| Recorded the System Information of the SCADA PC |  |  |  |  |
| Recorded the versions of Iconics, Kepware, and CODESYS |  |  |  |  |
| Created a system architecture diagram of the existing control system (including IP addresses, port details, and communication protocols) |  |  |  |  |
| Uploaded Router configuration (if available) |  |  |  |  |
| Uploaded configuration of Radios (Master/ Slaves, if available) |  |  |  |  |
| Recorded the gateway address of each device connected to the network |  |  |  |  |
| Is a managed switch connected to the network at the site? |  |  |  |  |
| Was a dial-out alarm configured directly from the site? |  |  |  |  |
| Was the modem connected to the PLC or SCADA, or were dial-out alarms coming from the router? |  |  |  |  |
| Noted down the existing dial-out alarms |  |  |  |  |
| Backed up SCADA Graphics |  |  |  |  |
| Backed up HDD files for Historical Data |  |  |  |  |
| Backed up Workbench Configuration |  |  |  |  |
| Backed up Alarm Configuration |  |  |  |  |
| Backed up MMX (AlarmWorx Multimedia) |  |  |  |  |
| Backed up OPC (Kepware) Configuration |  |  |  |  |
| Backed up OPC (CODESYS) Configuration |  |  |  |  |
| Taken screenshots of Kepware / CODESYS configuration |  |  |  |  |
| Taken SIG file/SYM file configuration from the SCADA system |  |  |  |  |
| Are there any controls for equipment from the SCADA PC? |  |  |  |  |
| If so, documented the controls, faceplates, and operations from the SCADA system |  |  |  |  |
| Electrician required for the migration |  |  |  |  |