

# Co-Location

Data Sheet



An operating division of



## Introduction

Our co-location facilities located on the Aurora Telecom national network have been designed and built to provide customers with as complete a service as possible. They offer a Point of Presence (PoP) to major towns and In Line Amplification (ILA) for backhaul services. They are designed with an average spacing of 80km between sites.

Aurora Telecom customers can physically house their hardware and equipment in these highly secure facilities with features that include; onsite diesel backup generators, internal and external CCTV, intruder alarm system, fire and leak detection, inergen fire suppression, DC (Direct Current) power with battery backup, uninterrupted power supply, earthing, lighting, air conditioning, environmental monitoring, internal cable management systems. All facilities have diverse fibre routes terminating in separate ODFs.



Figure 1. Gaybrook Co-location Facility

### 1.1 Co-location Facility Details

The co-location facility measures 9m long x 3m wide x 3m high and are constructed from double skin plastisol coated steel, designed to meet a resistance to penetration of solid bodies and water greater than IP55. (Figures 1 & 2).

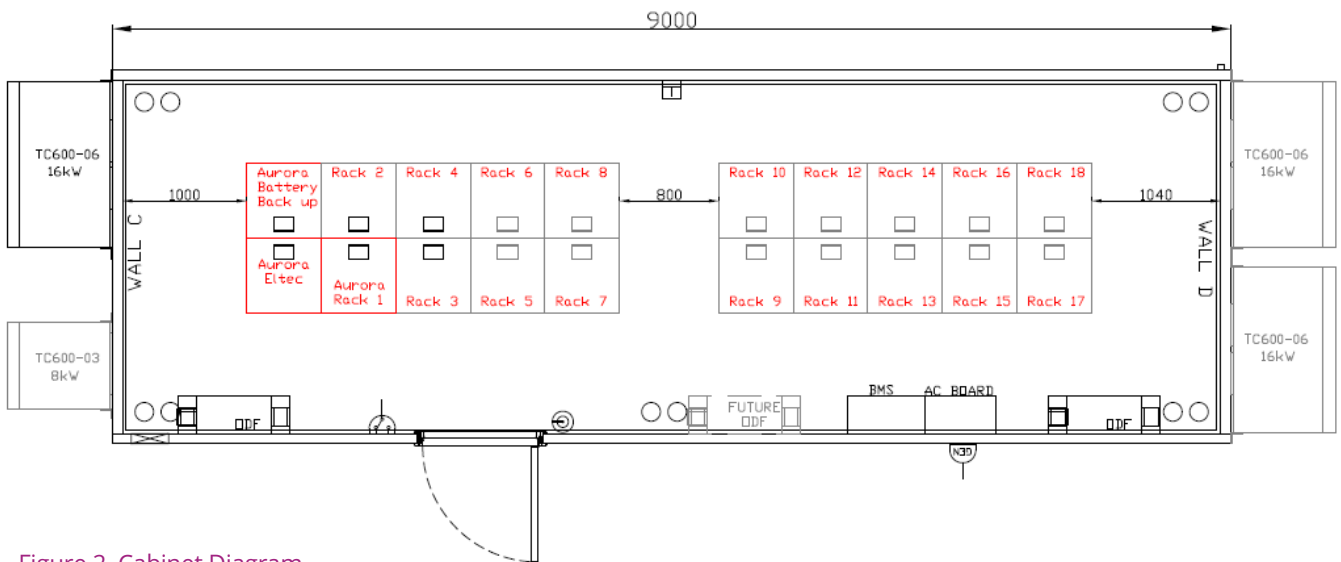


Figure 2. Cabinet Diagram



Figure 3. Diesel Backup Generator

### 1.2 Onsite Backup Diesel Generators

All sites are equipped with onsite backup 50KVA 3 Phase diesel generators, external bunded diesel storage tanks and automatic change over switch to give a backup autonomy in excess of 24 hours in the event of failure of mains power supply. (Figure 3)



Figure 4. Typical Rectifier and Battery Cell Set up

### 1.3 DC Power Supply and Battery Backup System

The Eltek Flatpack DC power system rectifies the AC mains power converting it to 48-53 volts DC supply to the customer cabinets. In times of electricity mains fail, the system switches over to its battery backup supply. The system consists of 48v rectifiers utilising an N+1 design and facilitates an A&B feed to the equipment racks. (Figure 4)

### 1.4 Uninterrupted Power Supply (UPS) and Battery Backup System

Each cabin has a Riello SEP 3000 UPS system installed. This provides a true in line double conversion (VFI) UPS. The system has a fail-safe internal bypass for continued operation. The battery system is of a sealed lead-acid type fully scalable and modular.

### 1.5 Cabin Electrical and Earthing Specification

The normal power supply is taken from the existing national grid electrical distribution system. This supply is three-phase 230/400V 50 Hz earthed neutral (TN-C-S) system.

Provision for an emergency replacement power supply is provided by means of onsite backup diesel generator and DC battery backup system. The communication cabin is bonded utilising a clean earth system. The earthing system protects personnel and equipment against the effects of wiring faults and lightning strikes. (Figure 5)

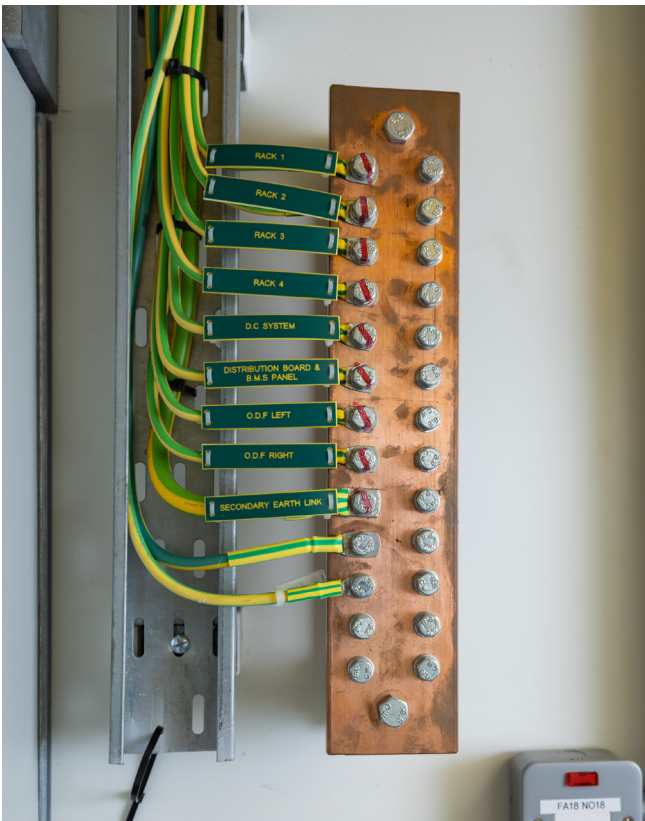


Figure 5. Earthing Bar



Figure 6. Air conditioning Unit

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## 1.6 Air Conditioning

In order to maintain an optimal operating environment for the equipment, each cabin has been fitted with a DIONX DAQs air conditioning system. This provides heating and cooling as required using free air and mechanical cooling. This system is designed to run 24/7/365, maintaining a positive internal pressure, with a minimum of two air changes per hour. This keeps the room at a temperature between 16 and 23 degrees centigrade with an N+1 design. (Figure 6)



Figure 7. ODF Cabinet

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## 1.7 Optical Distribution Frame (ODF)

Each cabin contains two Tyco FIST-GR3 rack containing Tyco FIST-GPS3 optical distribution frames and patching trays at opposite ends of the cabin. Each GR3 Rack contains a single diversely routed span (East or West) of the Aurora Telecom national fibre optic cable. All connectors in the GPST patching trays within the ODFs are SC-PC. (Figure 7)

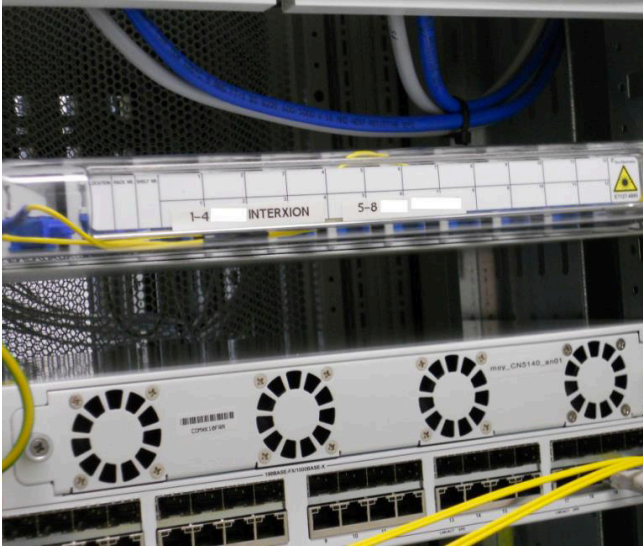


Figure 8. Patch Panel



Figure 9. Typical Customer Racks

## 1.8 Customer Fibre Access

Should a breakout be required, the customer fibres shall be patched directly from the ODFs to the customer's co-location rack. Fibre can be run over diversely routed paths in the fibre raceways at ceiling level. All customer access to the fibre shall be managed at their co-location rack only as the ODF will be locked from all third-party access. If a breakout is not required within a co-location facility, the fibres can be routed directly from ODF to ODF. Figure 8 shows typical fibre patch panel installed in the customers rack. (Figure 8)

## 1.9 Equipment Cabinet

The cabinets used within the co-location facility are 600mm wide x 600mm deep x 2200mm height with 42U.

## 1.10 Leak Detection

The cabins are fitted with a leak detection system to detect the ingress /presence of moisture within the cabin.

## 1.11 Building Management System

The cabins are monitored and managed remotely via a BMS - Building Management System from the Aurora Telecom monitoring centre. This system is designed to communicate with and manage all of the systems within the co-location facility including the following;

Remote door access control, Internal lighting system, air-conditioning equipment, CCTV system, intruder alarm, fire detection system, electrical system and leak detection system.

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### 1.12 Intruder Alarm

The intrusion detection and alarm system installed within the building includes magnetic door contacts and PIR motion sensors. The system is addressable locally and remotely via the BMS monitoring link.

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### 1.13 CCTV System

The CCTV system comprises of two ethernet based CCTV cameras internally and two high speed dome cameras located externally on diagonally opposite corners of the equipment cabin and an Avigilon network video recorder. Manual camera controls (pan, tilt, zoom) and visual monitoring is available through a camera controller connected to the BMS at the Aurora Telecom monitoring centre. (Figure 10)



Figure 10. CCTV Camera

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### 1.14 Site Perimeter Fence

The site perimeter security fence comprises of either a 2.4m high PVC coated chain link fence with 3 strands of galvanised barbed wire or 2.4m high PVC welded mesh fence with a 300mm ground beam.

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### 1.15 Cabin Door

The cabin door is a 60-minute fire rated, steel reinforced security door with stainless steel security butt hinges incorporating a motorised latch retraction which is addressable locally or remotely via the BMS.

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### 1.16 Co-location Facility Access

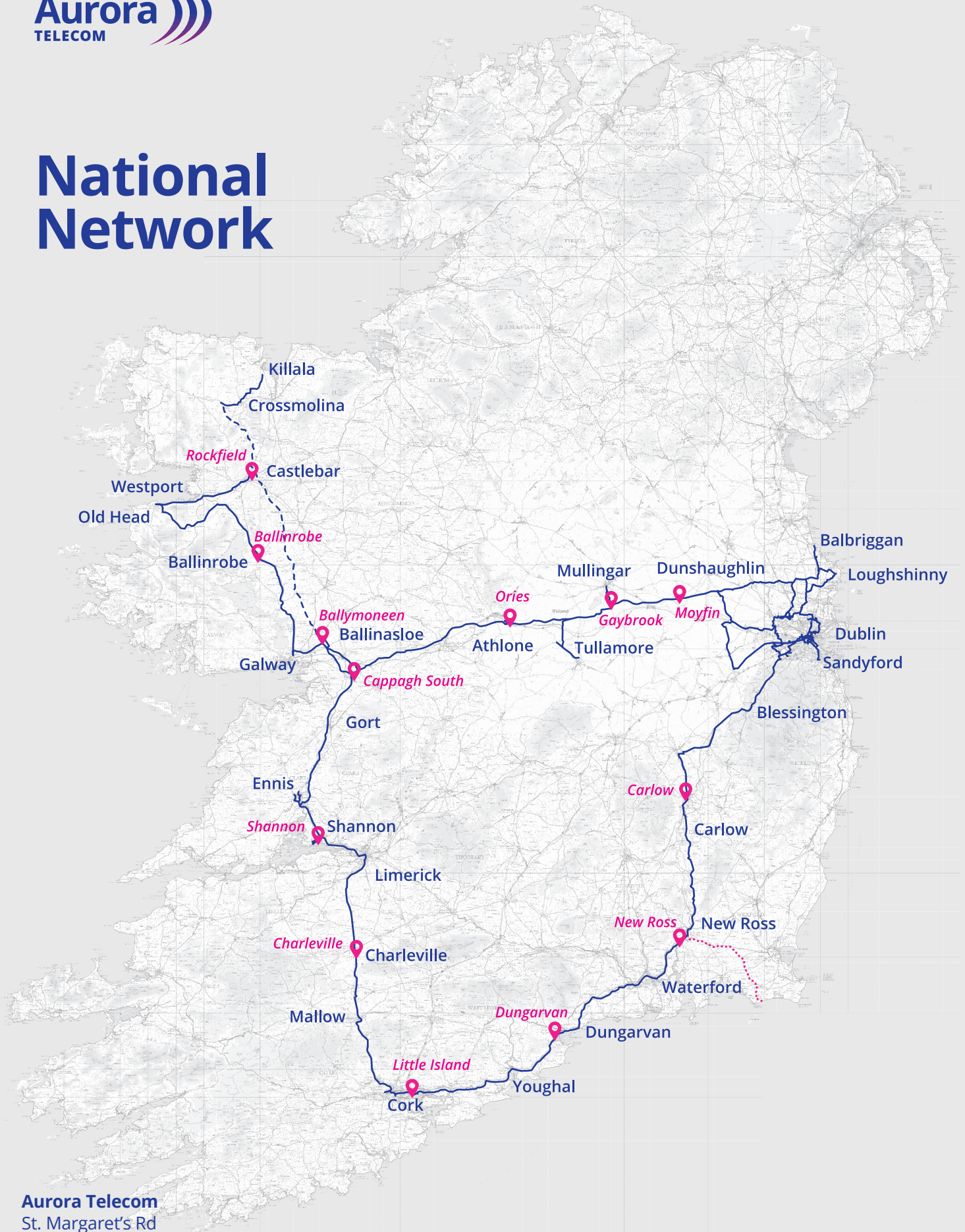
Co-location facility access is managed via a remote-controlled door access system incorporating a RFID card proximity reader and keypad. The system manages individual user access levels including accessible sites, dates and working hours. The system provides a record of each user's site attendance, dates and duration.

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### 1.17 Security and Intruder Penetration Testing

Site security levels are regularly reviewed by site security inspections and intruder penetration testing coordinated by the Gas Networks Ireland security team.

# National Network



**Aurora Telecom**  
St. Margaret's Rd  
Finglas, Dublin 11  
T: +353 (0)1 892 6000  
darkfibre@auroratelecom.ie

[www.auroratelecom.ie](http://www.auroratelecom.ie)

Red Pin: Colocation / ILA sites  
Solid Blue Line: National network  
Dotted Red Line: New line in development