Quantum Plus Technologies

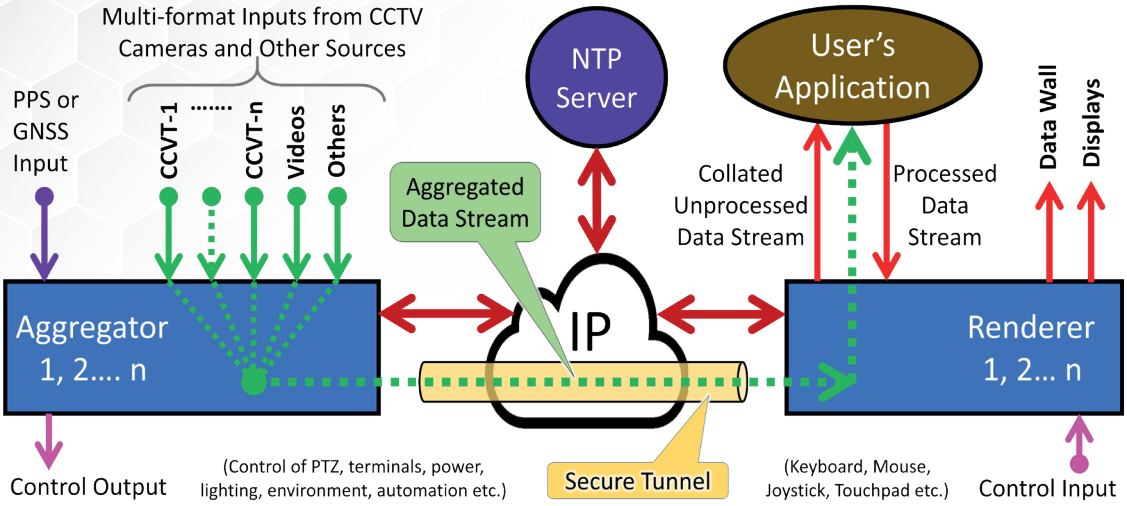
intelo-v

Specialised CCTV Feed Aggregation and Rendering Solutions

www.quantumplus.tech

Email : contact@quantumplus.tech

The *Intelo*-V Range of Devices



Aggregation of CCTV Feeds

Scalable & Multi-Network Ready

Seamlessly scalable from few devices for a small localised installation to a very-large numbers for a metropolitan wide deployment of CCTV cameras interconnected via fibre optic, wired or wireless networks or any combination thereof.

Versatile & Flexible

From 160*120p legacy *Vidicon* with composite output to 4K digital CCDs with HDMI, and from 320p to 2160p video over IP using any standard CODEC, can be configured to interface with most camera types including thermal and IR *imagers*.

Secure & Reliable

Designed for secure corporate, government and military applications. Being home-grown, can incorporate proprietary standards like encryption algorithms and can be relied-upon even for most sensitive applications.

AI & Vision Processing Ready

With up to 16 CPU cores and GPU (Graphic Processing Unit) options, can run distributed AI (Artificial Intelligence) applications. SoM (System-on-Module) add-ons, like *Jetson* and *Movidius*, for autonomous vision processing.

IoT & Edge Computing Enabled

Ready for IoT (Internet of Things) applications. Significant computing capability for running even computationally intensive user applications on edge devices themselves, reducing burden on expensive centralised resources.

The Qu+ *Intelo*-V range comprises of two hardware device types optimised for CCTV (Closed Circuit Television) deployments.

The *Aggregators* collate feeds from multiple CCTV cameras over IP (Internet Protocol) or direct video connections like HDMI, S-Video, Composite Video etc. The aggregated feeds are then synchronously transmitted over any type of network to central location.

The *Renderers* are complementary devices which receive multiple aggregated feeds and make them available for user applications or rendering on displays or data walls.

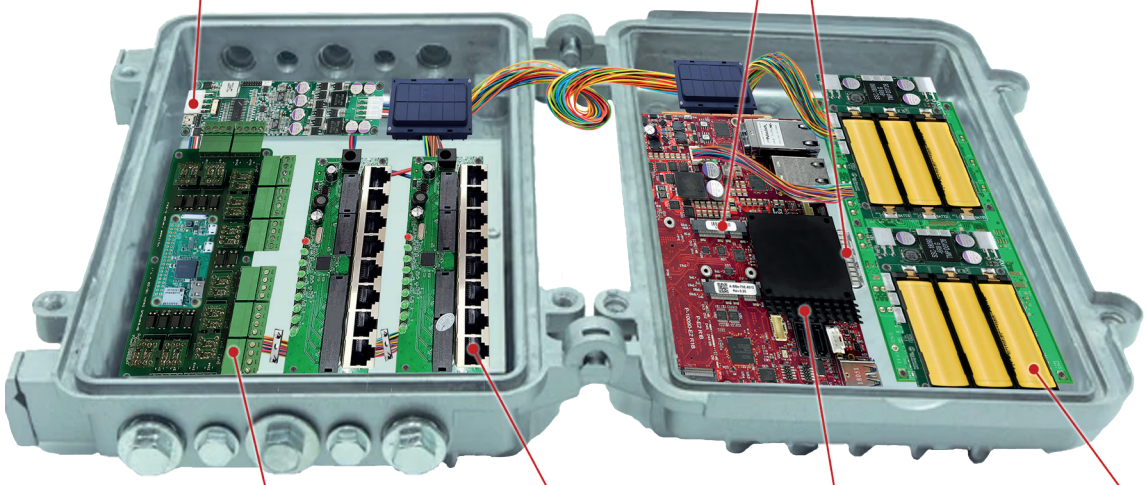
A set of devices can be used to (remote) control PTZ (Pan-Tilt-Zoom) functions, terminal sessions, power, lighting, environment and other automation aspects making them ideal for *Industry 4.0* framework based implementations.

Features, like NTP (Network Time Protocol) and GNSS (Global Navigation Satellite System) PPS (Pulse Per Second) add-ons for time and position alignment, semi-rugged fanless and full IP (Ingress Protection)-rated options set them apart from generic networked solutions.

In-house development and simplified installation ensure assured long term support, ease of upgrades and customisation, and low TCO (Total Cost of Ownership)

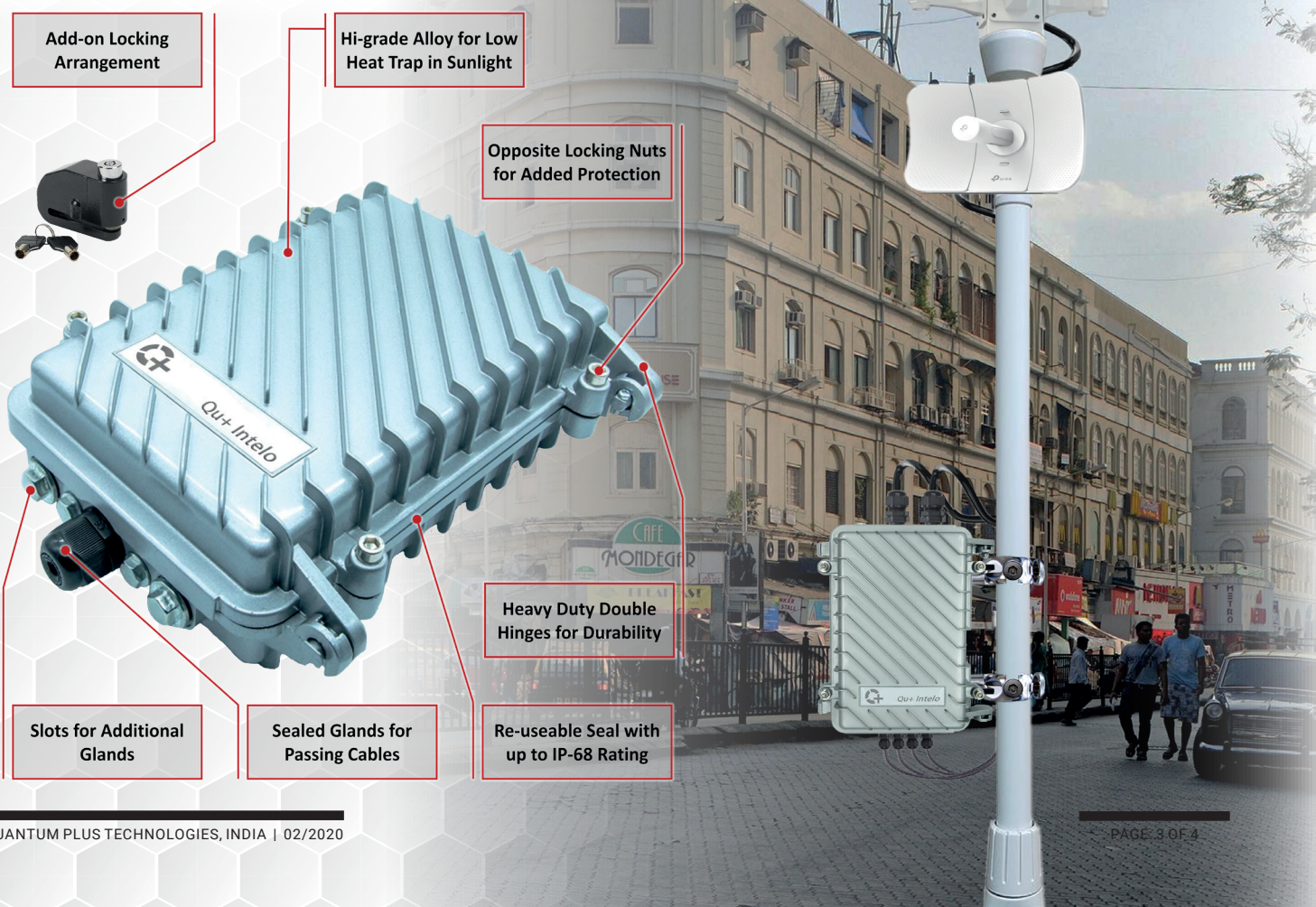
A pole-mountable Compact Outdoor *Aggregator* is capable of handling about twenty Ethernet and direct CCTV camera feeds with PoE, GPS and UTP/STP, fibre, WiFi, 4G etc. up-link options.

Compact Outdoor *Aggregator*



Built for Reliability

The *Intelo* range of devices are designed and manufactured for reliability. Particularly, the outdoor CCTV *Aggregators* have a range of features to enable prolonged outdoor use even in harsh tropical climates. These devices are capable of facing direct sunlight even in hot summers, thunder-showers etc. for reliable installs in tough conditions.



SPECIFICATIONS

Processing : Intel x86 and IA64 processor with two to sixteen physical cores with HT support in both forced air cooled and fanless configurations. From 2GB to 256GB DDR3/DDR4 ECC/non-ECC RAM in single/dual channel configuration. Option for adding professional GPU (or other co-processors/ASICSs for maths, AI, hashing, vision processing etc.) including in fanless configurations. Wide temperature range (-40°C to +85°C) options.

Storage : From 128GB to 32TB industrial-grade/ enterprise-class Solid State storage on SATA/PCI-e/ NVMe. Option for housing up to eight 2.5inch or up to four 3.5inch electromechanical hard drives for bulk storage of up to 48TB.

Chassis : Forced air cooled EMI/RFI protected double edge folded Nickel plated steel chassis line-up with rack-mount option. Fanless convection cooled Aluminium alloy chassis line-up from mini-ITX to full-ATX form factor with professional GPU support and built-in SMPS. IP rated chassis line-up, up to IP-68, for outdoor applications with CCTV specific optimisations like up to 24 (further expandable) Ethernet ports and multi-port PoE options.

Cooling : Use of PWM controlled variable RPM fans with high MTBF and RPM monitoring, multi-point temperature monitoring, high-grade electrically non-conductive thermal compounds and interface materials, Aluminium and Copper alloy heat-sinks and heat-pipes (as per respective chassis and electronics configuration).

Built-in HMI : Option of built-in LCD display with integrated keypad, both customisable for wide range of functions from health monitoring to displaying status of computing resources to specific input-output including from/to user applications.

Aggregator Interfaces : Configurable for most type of CCTV cameras (analogue/digital, IP based using any standard CODEC, HDMI, S-Video, Composite Video including low-light and IR based etc.), IP stream (video, audio, MIDI etc.) over Ethernet, display inputs (VGA, RGB, SDI, DVI, Display-Port, HDMI etc.), RS-232/422/485 serial, MIL STD, ARINC, NMEA, CAN-bus, SCADA, coaxial, MIDI, AVB etc.

Renderer HMI : Option of single and multi line character displays, DLV monitors, up to 8K LED displays, fully configurable data-wall with up to 64 monitors, keyboard, mouse, tablet, pen, touch, joystick, motion and other controllers.

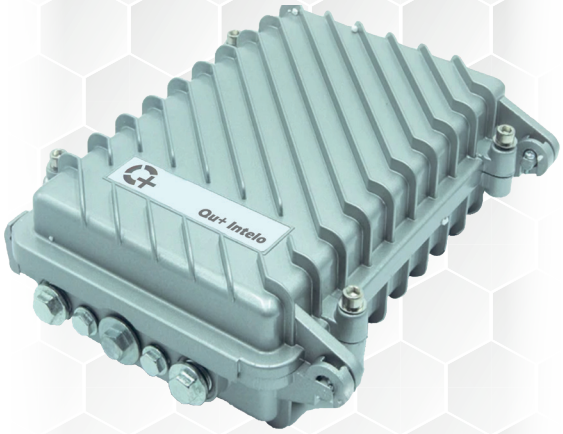
Power Supply : Configurable for multiple power sources including LV DC, HV DC, AC mains, HV AC, Methanol fuel cell, photovoltaic solar panel/array etc., and combinations thereof with redundancy. Up to two built-in micro-UPS with rechargeable batteries, voltage/temperature monitoring for each cell and signalling to device OS. Option of built-in programmable variable DC source for PoE and peripherals like CCTV cameras, sensors, actuators etc.

Synchronisation : Option for NTP, and/or GNSS or PPS based time-synchronisation.

Custom Configurations

In addition to the feature rich standard configurations, a range of customisation options are available to meet even the most demanding CCTV deployments in the most challenging environments.

Outdoor IP-Rated



Semi-Rugged Fanless

Ultra-Compact Benchtop

Rackmount with Built-in HMI

Support for Wide Range of IP/Direct CCTV Feed Types

Up to 16 x86/IA-64 Physical Cores even in Fanless Config

Up to 256GB ECC RAM & 32TB SSD Storage Capacity

GPU, Co-processor, ASIC etc. even in Fanless Config

Built-in Micro-UPS with Dual-Redundant Option

Flexible Power : Mains, Grid, Solar, Battery, Fuel-Cell

Time Sync : Central NTP, and/or Local GNSS or PPS

EMI and RFI Compliant Hi-grade Alloy Chassis

Rugged Fanless and Outdoor IP (up to IP-68) Options