

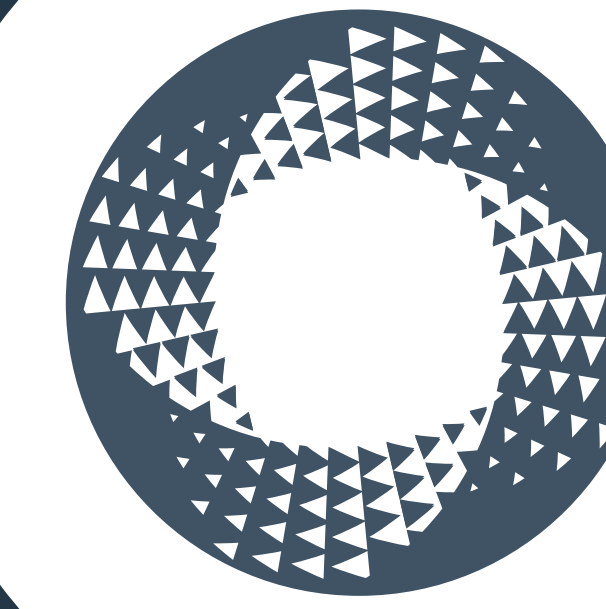
Traffic Monitoring and Recording. Camera-as-a-Sensor Solution.

The Need

As our cities continue to grow and evolve, high traffic congestion remains a prevalent issue, particularly in urban areas.

Councils face the ongoing challenge of planning and developing infrastructure to accommodate the increasing traffic demands. They also have a need to monitor vehicle numbers accurately as they assess the necessity for new roads, intersections, and public transportation systems.

To ensure they can make informed decisions regarding infrastructure development, there is a requirement to correctly record detailed traffic patterns. However, manual recording is time-intensive and the maintenance costs for traditional methods continue to rise, making it increasingly expensive.



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Automated and accurate vehicle detection and classification creating actionable insights for traffic management.



The Solution

With accuracy levels beyond 95% in vehicle counting, Bosch Cameras running the IVA Pro application can replace traditional and expensive to maintain counting methods.

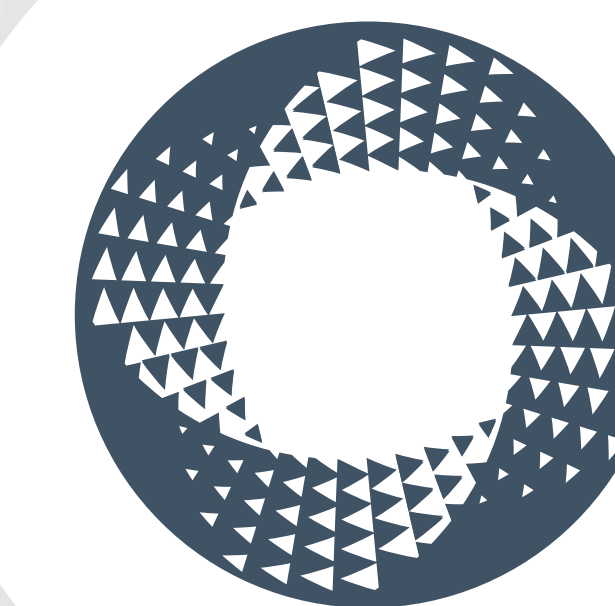
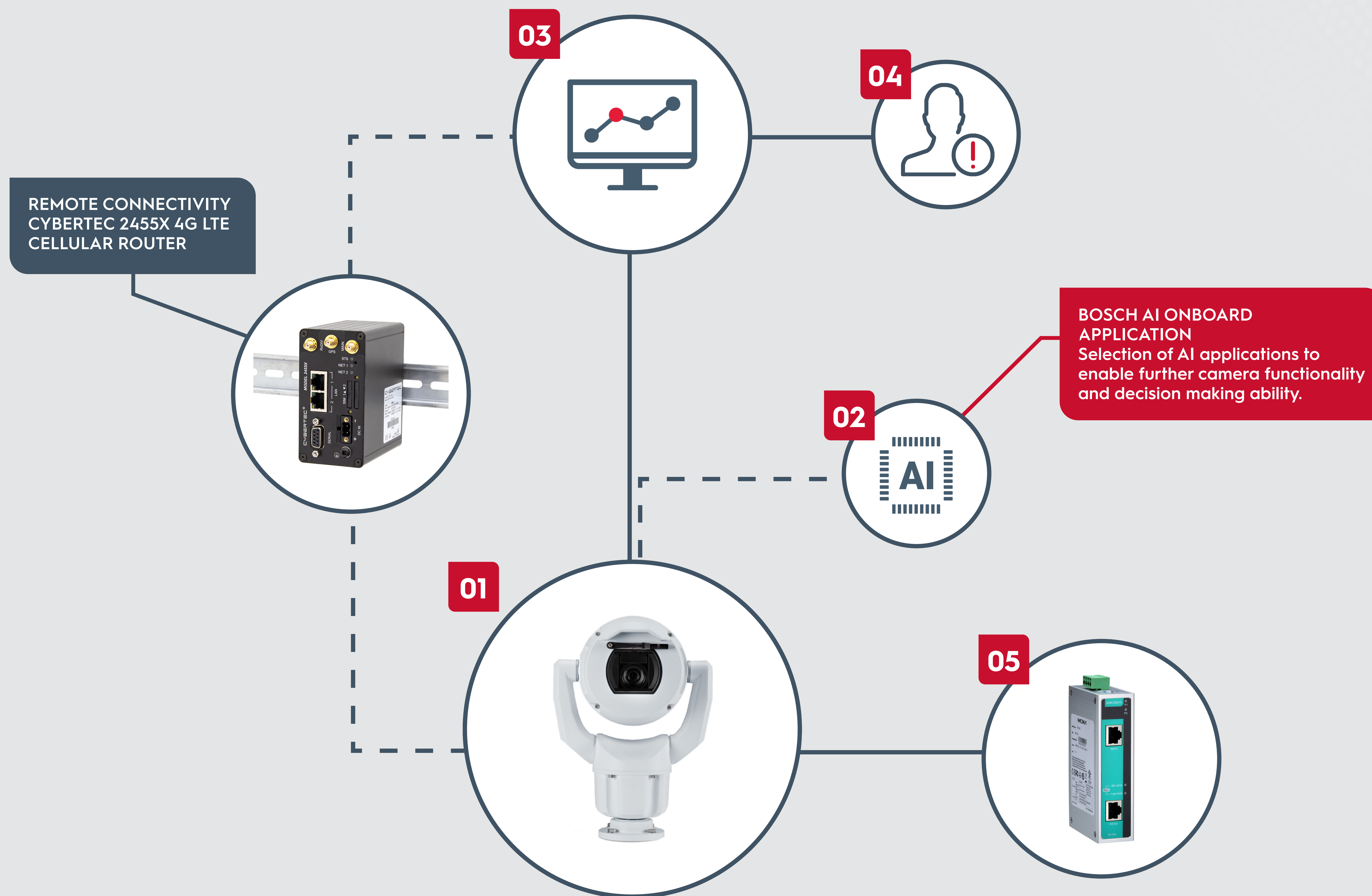
In addition to giving an accurate count, this solution offers reliable detection and sub classification of vehicles such as cars, bicycles, buses, motorcycles, and trucks. It can also accurately detect and classify pedestrians, even in crowded scenes, highlighting opportunities to develop safer pathways for all road users.

The collected data provides actionable insights for improving the efficient use of roadways and the safety of people and vehicles at intersections, highways, and

tunnels. The algorithm is trained to ignore potential disturbances caused by vehicle headlights or shadows, extreme weather, sun reflections, and shaking cameras, making it perfect for harsh environments. In addition to congestion and infrastructure planning, tracking vehicle numbers helps councils identify bottlenecks and areas with high traffic volume. This data allows them to implement traffic management strategies such as optimising traffic signal timings and introducing alternative routes. By doing so, councils can enhance transportation efficiency, reduce travel times, and improve overall quality-of-life for their communities.

Solution Architecture

TRAFFIC MONITORING



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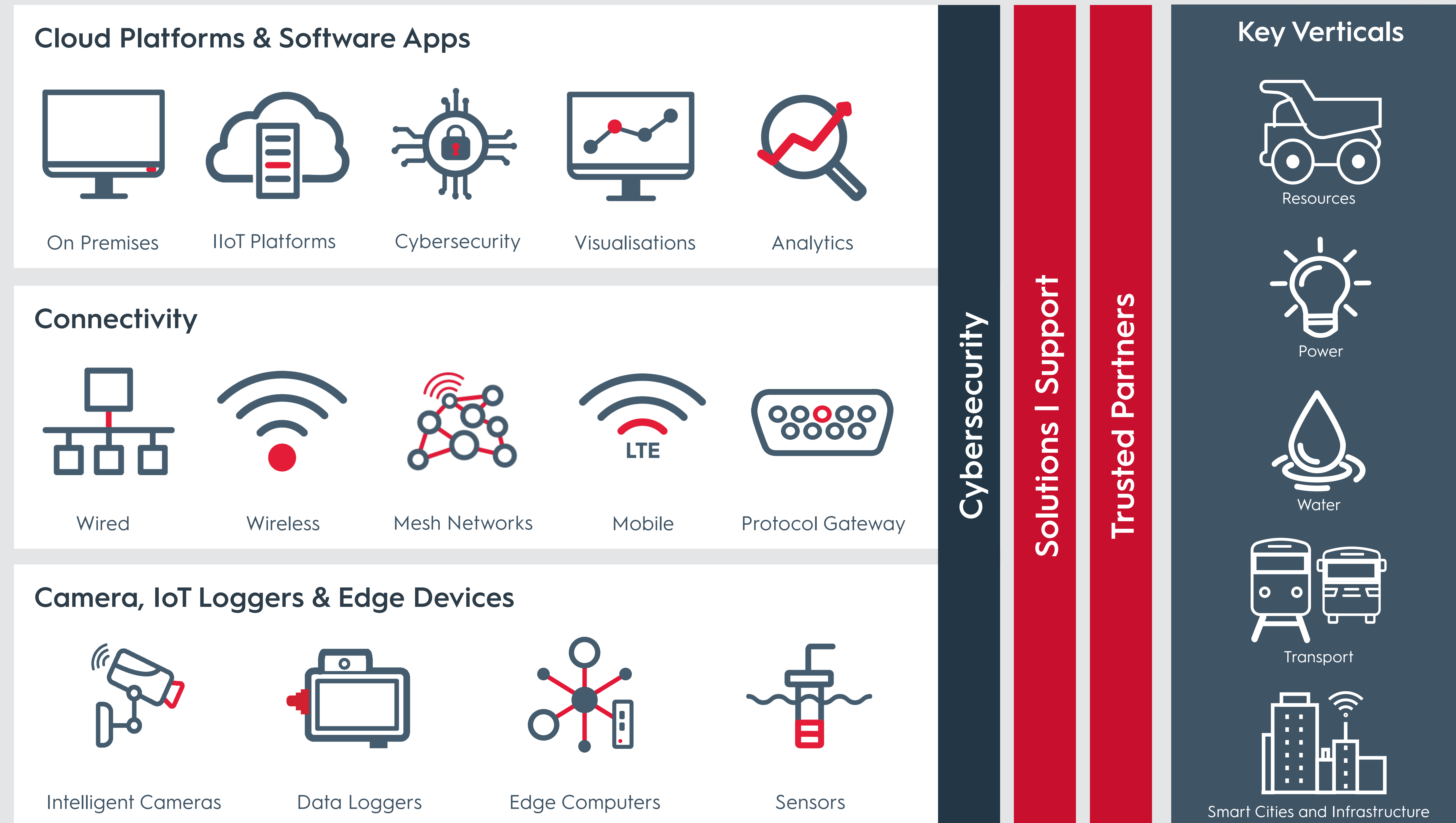
- 01** BOSCH MIC INTEOX 7100i PTZ CAMERA
An advanced PTZ camera with a powerful, embedded processor and dedicated hardware to support advanced machine learning and AI.
- 02** BOSCH AI ONBOARD APPLICATION
The specialised BOSCH IVA Pro Traffic application detects, classifies, and locates cars, motorbikes, bicycles, trucks, and buses in heavy traffic, day or night.
- 03** BOSCH REMOTE PORTAL DEVICE MANAGEMENT PLATFORM
View alarm events, visualise what triggered events and gain live view for situational awareness.
- 04** ALERTS AND ALARMS
Receive alarms and alerts in real time via email or the BVMS platform, based on preconfigured triggers.
- 05** POWER OVER ETHERNET (PoE)
Power over Ethernet transmits both power and data for easy installation.



Critical operational environments require specialist understanding



Technology Stack



With a 30-year legacy of providing resilient industrial technology solutions, we're familiar with many of the challenges the industrial sector faces as it embraces digital transformation to better understand and manage resources, improve safety, and increase efficiencies.

Our experience connecting and protecting people, assets and the environment, combined with our industry leading technology portfolio, means we're the preferred partner for IIoT, industrial networking, cybersecurity, asset management and asset visibility, giving our customers digitally transformed critical operating environments that unlock data insights and business intelligence.

