



PACE

Global Connectivity Enablement Platform

FOR AGRICULTURE

Introducing Cubic Telecom's next-generation platform.
Connecting devices on a truly global scale.



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1. Industry Challenges

The agriculture industry is undergoing profound transformation. There is a rapid change in technology and a move towards high-speed data connectivity.

The driving factors of this change are the features of digitalisation, sustainability, urbanisation and the challenges that they bring.



The number of cellular IoT connections will reach more than 5 billion by 2025*
Manufacturers and providers of connected products and applications expect to connect these services anywhere in the world. To be a global player, IoT device manufacturers (OEMs) must negotiate agreements with many different operators around the globe. In addition OEM's have to grapple with the complexities of connecting their devices to many different mobile telecommunications technologies and be compliant with regulatory and operational constraints in each country.

Cubic Telecom cuts through all of these complications to deliver a single global solution that offers:

- ✓ Global connectivity
- ✓ Remote device connectivity management
- ✓ Minimal embedded SIM SKUs across the manufacturing and supply chain
- ✓ Seamless integration with OEM IT business systems
- ✓ Access to our global portfolio of Tier 1 mobile network partners
- ✓ Data management and analytics
- ✓ Security
- ✓ Regulatory & Tax compliance

Types of customers we serve:



**Vehicle
Manufacturing**



**Global
Enterprises**



**Energy
Customers**



Agriculture



**Electric
Vehicles**



Devices



**Heavy
Industry**



Logistics



**Fleet
Services**

* Source Ericsson, Nov 2019

2. Take Control

Our global connectivity management platform - PACE - offers unique device connectivity management and service enablement capabilities, all in one package.

We remove all the complications of integrating with complex telecommunications networks, making it easy for you to integrate your business systems and manage your global connected devices. Cubic Telecom's connectivity products and services for connected device manufacturers consist of the following elements.

Full regulatory compliance

Cubic Telecom has a dedicated wholesale and telecom regulation legal team that is critical in designing locally compliant solutions (compliant with Telecom and Tax regulations) for all services in all countries.

Cubic-direct LTE footprint

LTE connectivity services in countries where Cubic Telecom has wholesale integrations, i.e. use of radio access from the wholesale partner network combined with Cubic's LTE Core Network.

Extended LTE footprint via Partner MNOs

88 Tier 1 MNOs agreements globally to deliver coverage in over 190+ countries, being fully regulatory compliant in all of the markets that we support, including: UAE, Brazil, Russia, Singapore, China, Turkey.

One global multi-MNO SIM and open MNO ecosystem

Cubic Telecom provides a GSMA-compliant subscription management solution. This is fully open and interoperable, enabling the participation of any MNO.

PACE: Global Connectivity Enablement Platform

Connectivity Management Platform implementing automated business processes and workflows. A best-in-class management and engineering web-portal, advanced connectivity analytics service, provided on demand. An industry-first Wi-Fi Hotspot end-user experience, including Carrier of Choice (User Carrier Selection) and pair-to family postpaid plan feature.

Differentiated Data

Cubic Telecom's LTE Core Network implements Multi-APN traffic differentiation with no restriction on the number of concurrent APN's. The associated split billing capability is also available. Furthermore, Cubic Telecom's **PLXOR** provides the unique capability to enable service classification and associated billing separation on a single APN.

3. PACE:

Global Connectivity Management Platform

OEM back end
IT systems



PACE

Management
platform PaaS

orchestration



**value added
services**
network health,
analytics, security



**management
and control**
SIM, device and policy
lifecycle management

End to end mobile
Device connectivity

Global
connectivity layer

enablement



**eSIM /
eUICC**
profile management,
remote provisioning



**service
integration**
IT integration, split billing,
sponsored content and data

network



**global partner
network**
MNO integrations across
multiple access technologies



**cubic core
network**
local breakout,
policy control

connected
devices



Orchestration

Cubic Telecom's PACE Platform provides a single point-of-control that enables you to securely manage and monitor your connected device fleet from anywhere in the world. It abstracts the complexities of integrating with multiple network providers and scales flexibly from live device numbers to mass volume, in line with your business growth. Orchestration capabilities include:

- ✓ Zero-touch device registration
- ✓ Lifecycle management of SIMs and devices
- ✓ Flexible integration with your IT systems
- ✓ Customisable management portal
- ✓ eCommerce platform and web-shop
- ✓ Connectivity analytics, monitoring and diagnostics

PACE Puts you in control

Seamless global device connectivity with zero-touch remote management and provisioning enables you to securely manage and monitor your connected device fleet from anywhere in the world.

Enablement

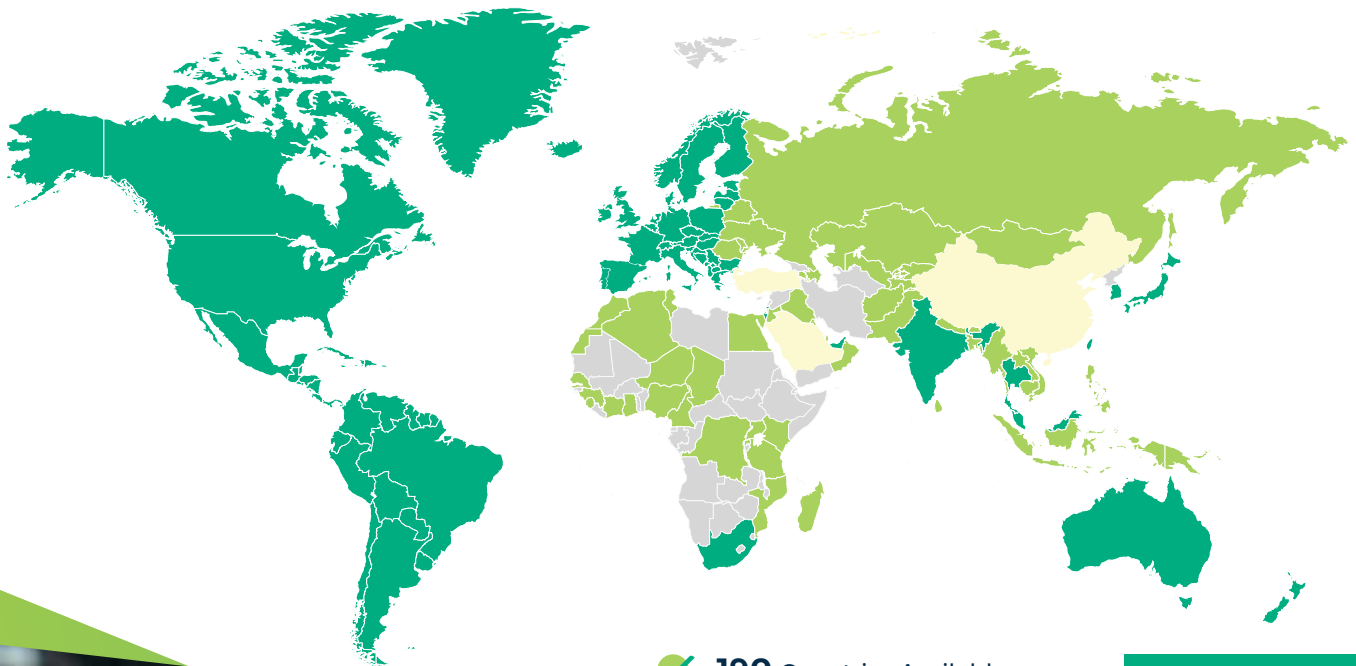
Offers the platform APIs to enable seamless integration with IT infrastructure and a suite of GSMA-standard compliant network interfaces to facilitate integration with our partner MNOs. Benefit from split charging and billing capabilities, zero rating, and sponsored services. In addition, our GSMA compliant and vendor-neutral subscription management solutions enable remote SIM provisioning and eSIM localisation with your preferred SIM provider.

Network

Provides seamless global device connectivity across all wireless technologies. Our highly scalable core network includes our HLR/HSS, DNS, SMSC and OTA infrastructure with regional Packet Gateways providing local breakout for minimal latency and PCRF for policy management and control. Global radio access network coverage is provided through integration of Cubic Telecom 2G, 3G and LTE Core Networks with our worldwide portfolio of Tier 1 MNO partners.

Global Coverage Footprint

Using a portfolio of integration types...



- ✓ **190** Countries Available
- ✓ **94** Countries with LIVE devices
- ✓ **88+** MNO Agreements

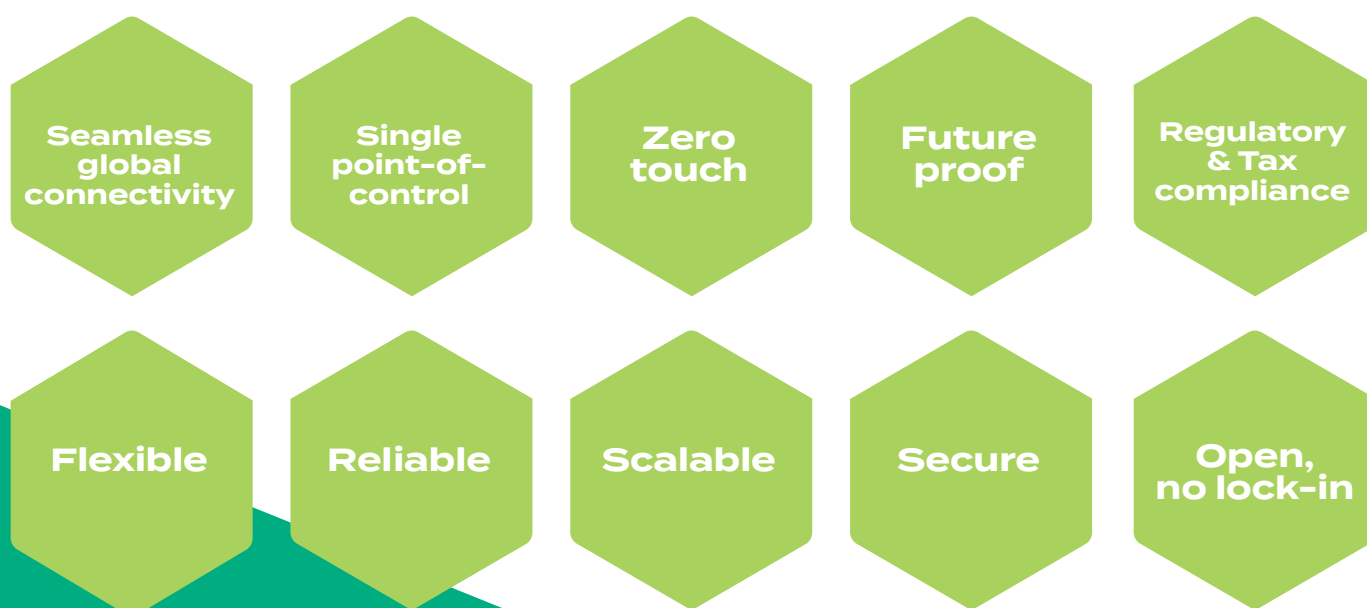
Connectivity - Live Vehicles
Connectivity - Primed
Pending Regulation
Planned



Platform Capabilities

Greater Choice	Centralised Control	Future-proof
Open portfolio of global tier-1 MNOs (via remote SIM provisioning)	Seamless global connectivity through our Tier 1 ecosystem of MNO partners	Maintains compliance with local tax regulations and industry standards
Platform access via customisable portal or API integration	One contract, one bill across multiple MNOs	Network technology agnostic
Simple device fleet migration to preferred MNO partner	Remote SIM lifecycle management (OTA)	Vendor-neutral subscription management
Flexible data plans	Global connectivity control platform	Open, no lock-in
Easy integration with customer preferred MNO IT platform	Single customer product integrated across multiple MNOs	Scales in line with customer growth
Add devices to an existing plan	Rich diagnostic monitoring & altering	Easy integration with customer preferred IT platforms
Split billing across multiple entities on one SIM	Intelligent analytics	Sponsored content and services enabled

Customer Benefits



3.1. PLXOR

Unlocking the true value and potential of the connected vehicle

PLXOR is a one-stop global solution for optimising vehicle performance, personalising connected services, enriching customer experience and unlocking revenue streams.

By leveraging Cubic Telecom's wide range of device technology solutions, IP, and expertise in complex systems engineering, PLXOR is designed to help agricultural vehicle makers improve cost efficiencies, create service revenue opportunities throughout a vehicle's lifecycle and provide advanced user experiences for customers and drivers.

PLXOR unlocks new revenue streams with over-the-air (OTA) updates, on-demand unlocking of features, bundled as well as pay-as-you-use services, while gathering valuable vehicle and usage analytics.

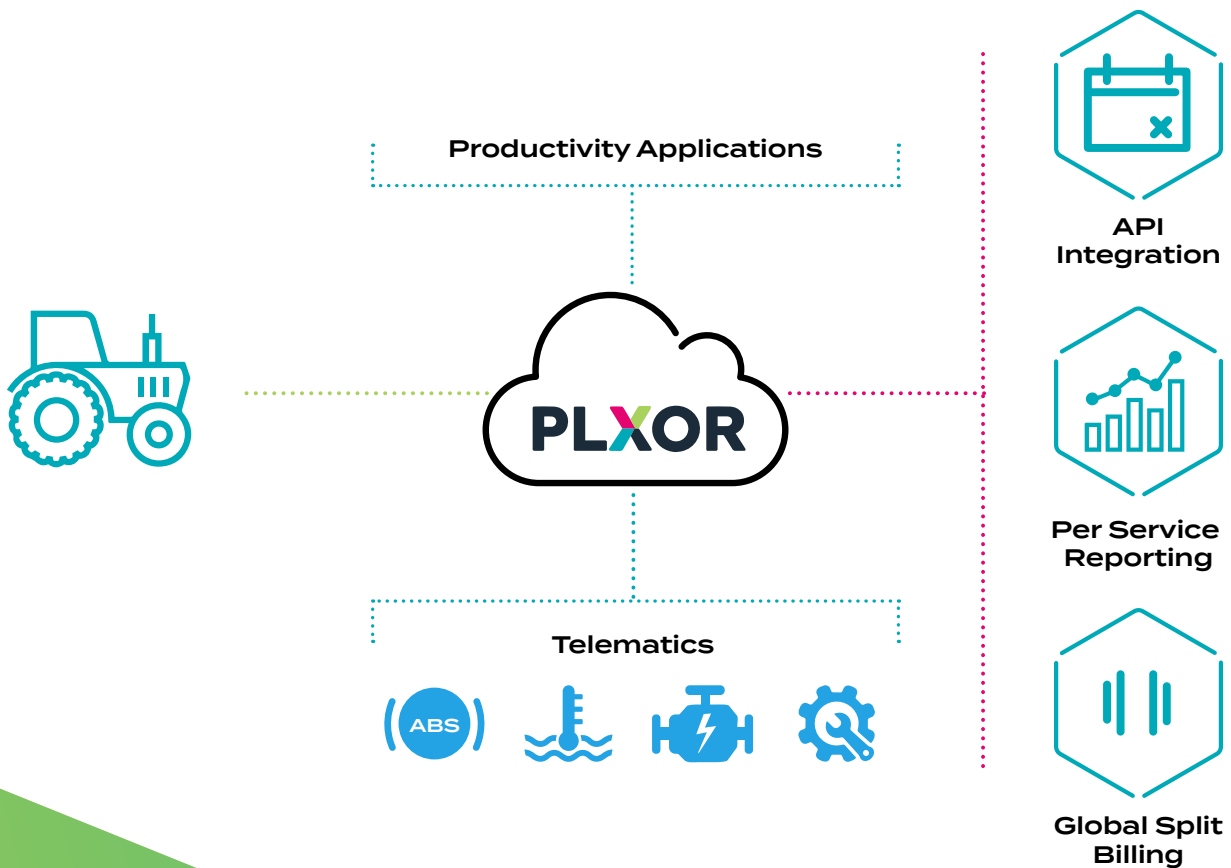
Business Value

- 1 Cost efficient connectivity services and over-the air updates
- 2 Actionable insights – opportunity to receive insights about application and feature usage, and make informed decisions based on monitoring hardware and feature usage
- 3 Global operators for global connectivity, regulation compliance and integration with local operators and differentiate traffic for sponsored connectivity offerings

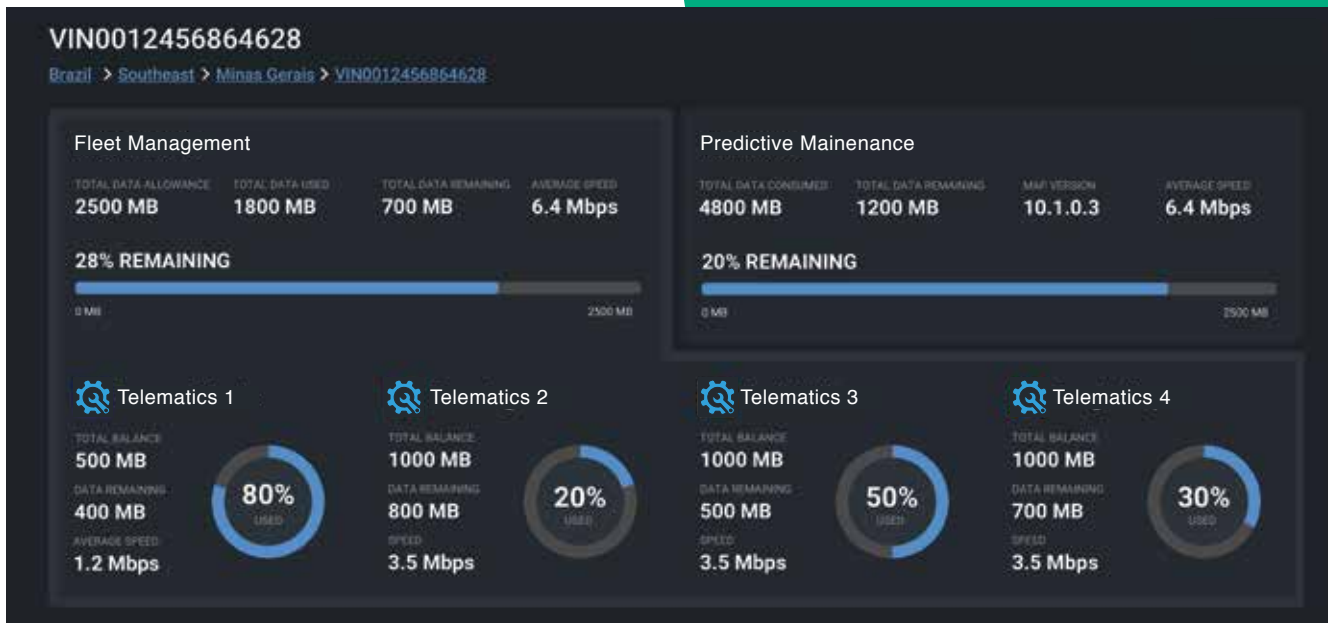


Key Capabilities

- ✓ Single point of control over what services are consuming your data flow; be the gatekeeper of your connected vehicle
- ✓ Realtime automation enables dynamic throttling, notifications and back-end updates as assigned buckets and bundles are depleted
- ✓ Prioritise and control your connectivity; each separated traffic category can be assigned separate Quality of Service settings and bandwidth priorities
- ✓ Global split billing
- ✓ Highly redundant and configured over web-standard API's
- ✓ Quick and simple configuration by the customer without complex IT integration



PLXOR - User Cases



Remote Access

PLXOR collects real-time data for telematics reporting and monitoring.

- ✓ Avoid additional visits to your vehicle dealer with time-limited remote monitoring that uses identity tokens
- ✓ Configure per-vehicle, per device telematics reporting with appropriately allocated bandwidth
- ✓ Enable performance-booster and feature-upgrades across a range of product segments
- ✓ Use a single point of management for multiple in-vehicle telemetry services

Global Identity

PLXOR identifies active multiple carriers on a global scale.

- ✓ With Cubic's advanced eUICC capabilities reporting/monitoring across multiple carriers provides a single unified view of the vehicle regardless of the carrier
- ✓ Local content providers and regional preferences set up prior to shipment; new regional service and revenue opportunities can be added over the air
- ✓ Global bill splitting for different data streams and carriers

Personalised content delivery, reporting and billing

Using PLXOR content and services consumed by the connected vehicle can be controlled on a per-vehicle, per-fleet or per-region basis.

- ✓ Service and data traffic categories are separated to receive different QoS (Quality of Service) and priority settings
- ✓ Each service can be billed separately with customised restrictions, policies and automation rules
- ✓ Customer-specific connectivity offerings can be individually fine-tuned while keeping the core mobile service generic and standardised

4. Case Study - Agriculture



Cubic Telecom delivers intelligence to the field, enabling precision farming for CNH Industrial.

- ✓ Farming has shifted its focus to include digitalization
- ✓ CNH Industrial needs to ensure automatic agronomic and machine data synchronization from the field to the cloud at a global scale, to enable the most advanced precision farming applications and provide data and insights needed to maximize productivity
- ✓ Connectivity is the key technological enabler for these use cases, and CNH industrial was looking for a strong player to bring connectivity to the next level but keeping it simple: one partner, global coverage
- ✓ Cubic Telecom's PACE platform enables worldwide connections to LTE and 5G
- ✓ PACE will initially be deployed across tractor, harvesters and crop protection models
- ✓ CNH Industrial customers can keep remotely collecting and managing data on their terrain and machines to maximize productivity and crop yield, whilst accessing the strongest networks in countries around the world
- ✓ Thousands of vehicles will be connected in Europe, Brazil, North America and the Asia-Pacific market
- ✓ The worldwide footprint of Cubic's offering and the capability of its platform to reconfigure (if required) the active SIMs based on the local technological and regulatory landscape allows CNH industrial to reduce the complexity and the efforts to offer connected vehicles all around the world



About



“ We are excited to be collaborating with Cubic Telecom as the global connectivity provider for CNH Industrial. With Cubic Telecom's proven solution and track record in the automotive marketplace, we look forward to future-proofing our agricultural vehicles across key regions with the integration of their technology. By optimizing our agricultural machinery now, farmers will increase productivity and competitiveness, experiencing the benefits of digital transformation. ”

Andrea Rodella, Digital Operations, CNH Industrial

66
Manufacturing
plants

64k
CNH Industrial
employees

54
Research and
development
centres

180
countries

Goal

To deliver on our focus of sustainability and the use of data analytics to reduce the overall impact of our customers through connectivity.

Solutions

CNH Industrial customers can remotely collect and manage data on their terrain and machines to maximize productivity and crop yield, whilst accessing the strongest networks in countries around the world.



**We are
connected**

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