WTL | **WIRELESS**
TECHNOLOGY LABS

WTL
PRODUCT
SOLUTIONS

PRODUCT SOLUTIONS

- Vivada MNO Extension

- Vivada National Roaming

- Micro MNO

- Vivada Fixed Wireless Acess

- Vivada Community Communication Centre

MNO EXTENSION

VIVADA MNO EXTENSION

Build, deploy and grow your mobile business, with a complete, turnkey solution that can be deployed anywhere.

MNO Extension

Expand your network reach

Building out new mobile infrastructure and extending the
coverage footprint becomes progressively more expensive, with the result that it's
hard to deliver connectivity to many locations.

WTL's Vivada MNO Extension solution solves this problem, by offering a cost-effective platform for extending mobile
coverage, with low CAPEX and low OPEX. It allows new mobile connectivity to be delivered gradually to the
unconnected, with a price that meets business goals.

Complete, turnkey mobile telco

Vivada MNO Extension is fully self-contained, allowing
deployment in areas with no, or intermittent local power. It includes multiple backhaul and interconnection options,
ensuring that it integrates seamlessly with the macro network.

Offering LTE and GSM support, it provides full voice, data and SMS access, meeting
the needs of consumers, businesses and IoT applications, and ensuring that MNOs can deliver a
complete range of services.

REMOTE SITE 1

REMOTE SITE 2

Satellite Dish

REMOTE SITE 3

MOBILE OPERATOR

ADVANTAGES OF VIVADA MNO EXTENSION

- Low power, Low cost BTS & eNodeB
- Fully autonomous and self-contained, low footprint
- Small cell from 1 TRX to 6 TRX
- Solar power options
- 2G, 4G or innovative combined 2/ 4G solution
- Easy interconnection with any vendor core, via AoIP / S interfaces
- Real-time traffic tracking for per-usage charging

PLUG AND PLAY CELLULAR GROWTH

Grow your footprint, one cell at a time

Vivada MNO Extensions offer a completely modular approach, allowing MNOs to extend their footprint, easily and gracefully. Cell sites do not need to be contiguous, as the diverse range of backhaul technologies means they can be spread across different target areas. As a result, MNOs can target coverage extension with pinpoint accuracy.

Flexible backhaul
Connect directly to existing network via fibre or enable satellite connectivity for remote deployment. Optimised voice transport to maximise capacity and reduce costs.

Self-contained
Solar power options, with low footprint and no cooling requirements, reducing OPEX, maintenance and infrastructure requirements.

Flexible interconnect
Easily connect to EPC or IMS core, with full integration to OSS/BSS and real-time charging systems for pre-paid access.

VIVADA NATIONAL ROAMING

VIVADA NATIONAL ROAMING

National roaming enables mobile service providers to share infrastructure to reduce costs, connecting the unconnected with flexible commercial models.

National Roaming
Fair access for all stakeholders

National roaming has become a key tool to lower the cost of deploying mobile coverage to eliminate the digital divide. To succeed, flexible, equitable access to infrastructure is key.

Vivada National Roaming solution provides a cost-effective platform for enabling national roaming, supporting wholesale access, multi-tenancy, as well as classical network roaming.

National Roaming

Innovative deployment models

Vivada National Roaming offers completely neutral access, allowing different models to be adopted, depending on national regulators and other stakeholders. It is cost effective, accelerating ROI and reducing barriers to entry.

Supporting LTE and GSM spectrum, voice and data services can be offered, as well as IoT connectivity. Self-contained and with solar power options, flexible backhaul via fibre or satellite means it can be delivered anywhere.

ADVANTAGES OF VIVADA NATIONAL ROAMING

- Low CAPEX & Low OPEX enable shared RAN for rural coverage

- Avoid duplicating assets through using shared infrastructure

- Route subscriber calls to home MNO

- MAP / CAMEL interconnect with MNOs

- Voice, data & SMS support

- Integrated billing allows rural/ host operator to charge by usage

- Integrated VLR, SMSC, GMSC

- Pre and post-paid options

CLOSE THE DIGITAL DIVIDE, PROFITABLY

Enabling competition and new stakeholders

As well as providing shared infrastructure, Vivada National Roaming enables a new class of stakeholder, the independent neutral operator. Infrastructure can be deployed when and where needed, with accelerated ROI, enabling every operator to reach new customers.

Lowers costs
Reduced CAPEX and OPEX makes even the most remote region viable, and provides a platform for future revenue growth.

Opens access
Coverage can be extended easily from initial deployments opening markets to established and new providers, with easy administration.

Supports new services
Data access can be used to enable new ICT and IoT services, helping boost economic growth, capturing new revenue and meeting digital access ambitions.

MICRO MNO

MICRO MNO

Build, deploy and grow your mobile business, with a complete, turnkey solution that can be deployed anywhere.
Micro MNO

Create and run a micro mobile operator

Building a mobile business requires many components to be combined seamlessly. Vivada Micro MNO provides a complete package, allowing new networks to be built quickly.

Now enterprises, NGOs, regional authorities and traditional stakeholders such as MNOs and MVNOs can quickly launch self-contained mobile networks, for private or public access.
Vivada Micro MNO

Become a Micro Mobile Operator

Vivada Micro MNO is a complete, turnkey solution for building, establishing and operating a micro mobile operator. It includes scalable RAN infrastructure, a full mobile core, and all necessary operational and support processes, in a single package. Vivada Micro MNO is a complete, turnkey solution for building, establishing and operating a micro mobile operator. It includes scalable RAN infrastructure, a full mobile core, and all necessary operational and support processes, in a single package.

It can be used to drive rural and remote deployments, cost-effectively and allows a flexible, build-as-you-grow approach, accelerating ROI and creating profitable revenue streams. Suitable for commercial as well as private networks, Vivada Micro MNO can be tailored to meet the needs of different user communities.

FULLY INDEPENDENT WITH COMPLETE OPERATIONAL CONTROL

- Self-contained GSM / LTE network

- Low CAPEX & Low OPEX

- Reduced cost & complexity, generating rapid returns

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- No integration efforts required

- All major functions of GSM network (HLR, messaging, billing)

- Carrier Interconnect via SS7 or SIP

- Integrated OSS/BSS

- Enable IoT services

- Optimised backhaul

A SCALABLE, FLEXIBLE SOLUTION

Multi-service support to target the widest set of use cases

Vivada Micro MNO supports any combination of services, allowing it to serve both personal communication and a growing ecosystem of IoT devices and applications. It allows operators to solve multiple communication challenges, from a single platform, and can be deployed in the most remote locations.

Highly scalable

Each core supports up to 200 cell sites. New cores enable graceful coverage extension to accommodate growth and step-by-step coverage extension.

Consumer and business

95Mbps downlink and 10Mbps uplink allows consumer and business offers to be launched, with management from a single operator portal.

Increase ROI

Build out complementary services, such as IoT offers, to enhance ROI, directly or through engagement with third parties

VIVADA
FIXED WIRELESS
ACCESS

VIVADA FIXED WIRELESS ACCESS

Efficiently and cost-effectively deploy high-speed broadband services to residential and business customers, via wireless connectivity.
Fixed Wireless Access

Extend and complement fibre deployments
Deploying fibre to deliver broadband services is costly and can create significant disruption. While high-speed broadband brings many benefits, it can be difficult to deliver via fibre.
FWA using LTE radio frequencies provides a complement and an alternative, allowing you to extend your footprint and launch high-speed broadband services in hard-to-reach areas.
FWA
Vivada Fixed Wireless Access

A complete solution
Vivada FWA provides a complete solution to enable the deployment of Fixed Wireless Access by ISPs, service providers and operators to residential and business customers. With full support for LTE, it includes radio antennae, EPC core, subscriber management and a range of value-added services.
Vivada FWA is highly scalable, which means that providers can get started with a lightweight deployment and expand with their business. Small cells allow easy deployment to penetrate new areas, with stand-alone capabilities for remote deployments and easy interconnection with existing network infrastructure. Providers control CPE access to protect the network.

ADVANTAGES OF VIVADA FIXED WIRELESS ACCESS

- Reduce costs and accelerate ROI

- Extend and complement other investments

- Connect hard-to-reach neighbourhoods

- Deliver services rapidly

- Scalable coverage footprint

- Standardised, 3GPP-compliant

- Diversify data offer with VoIP and more

ACCELERATE ROI AND DIVERSIFY YOUR BUSINESS

Rapid returns, greater flexibility
Vivada FWA offers rapid ROI and can run with a single cell, enhancing the business case for deployments. With a range of value added services, such as VoIP, it allows providers to add voice to data-only offers, creating sticky services and boosting customer retention.

Start small and grow
A simple deployment can be followed by rapid densification, reducing risk and accelerating ROI as business grows.

Enhanced efficiency
Devices are static, so there are no mobile handovers, ensuring resources are used more efficiently and delivering more capacity to users

Simple to control
Complete operational portal, with rich subscriber management, billing and interconnection options to external networks.

VIVADA COMMUNITY COMMUNICATION CENTRE

VIVADA FIXED WIRELESS ACCESS

Create a rich community communications hub, backed by an ecosystem of solutions and supporting applications with Vivada C
Community Communi¬cation Centre

Bringing people and services together
Delivering remote connectivity creates an opportunity to unlock more than just personal or business communications. It allows a host of new services to be delivered, directly to the heart of the local community, boosting the local economy and meeting development goals.
Vivada C3 natively supports a rich ecosystem of services, while providing the foundation for new service delivery across remote infrastructure. It maximizes value while unlocking opportunities, connecting markets and merchants.
Community Communication Centre

Educate, entertain and enrich
Services enabled by Vivada C3 span information, ICT capabilities, payment transfer, as well as entertainment – ensuring value is maximised and that investment returns can be accelerated. Surplus power can be traded and new IoT services supported over GSM / LTE.
The Vivada C3 Community Communications Centre meets the needs of consumers and businesses, enabling economic development to deliver national goals, while enriching leisure time. New services can easily be added, extending the ecosystem.

Cyber Cafe

Satellite Dish

Telephone

Hotspot

COMMUNITY CENTER

BUILD A RICH COMMUNITY HUB

Self-contained, flat-pack communication hub with a range of applications. Modular and capable of supporting some or all of the following services:

- GSM small cell Wi-Fi hotspot / Cyber café
- Public call shop
- Agricultural information point
- Air-time / SIM sales
- Access to online gaming, content and video
- Money transfer / mobile banking
- Electricity supply

EMPOWER THE COMMUNITY

Rapid returns, greater flexibility
Vivada FWA offers rapid ROI and can run with a single cell, enhancing the business case for deployments. With a range of value added services, such as VoIP, it allows providers to add voice to data-only offers, creating sticky services and boosting customer retention.

Increase revenue
New commercial offers can complement classical communications services, increasing ROI and boosting net returns.
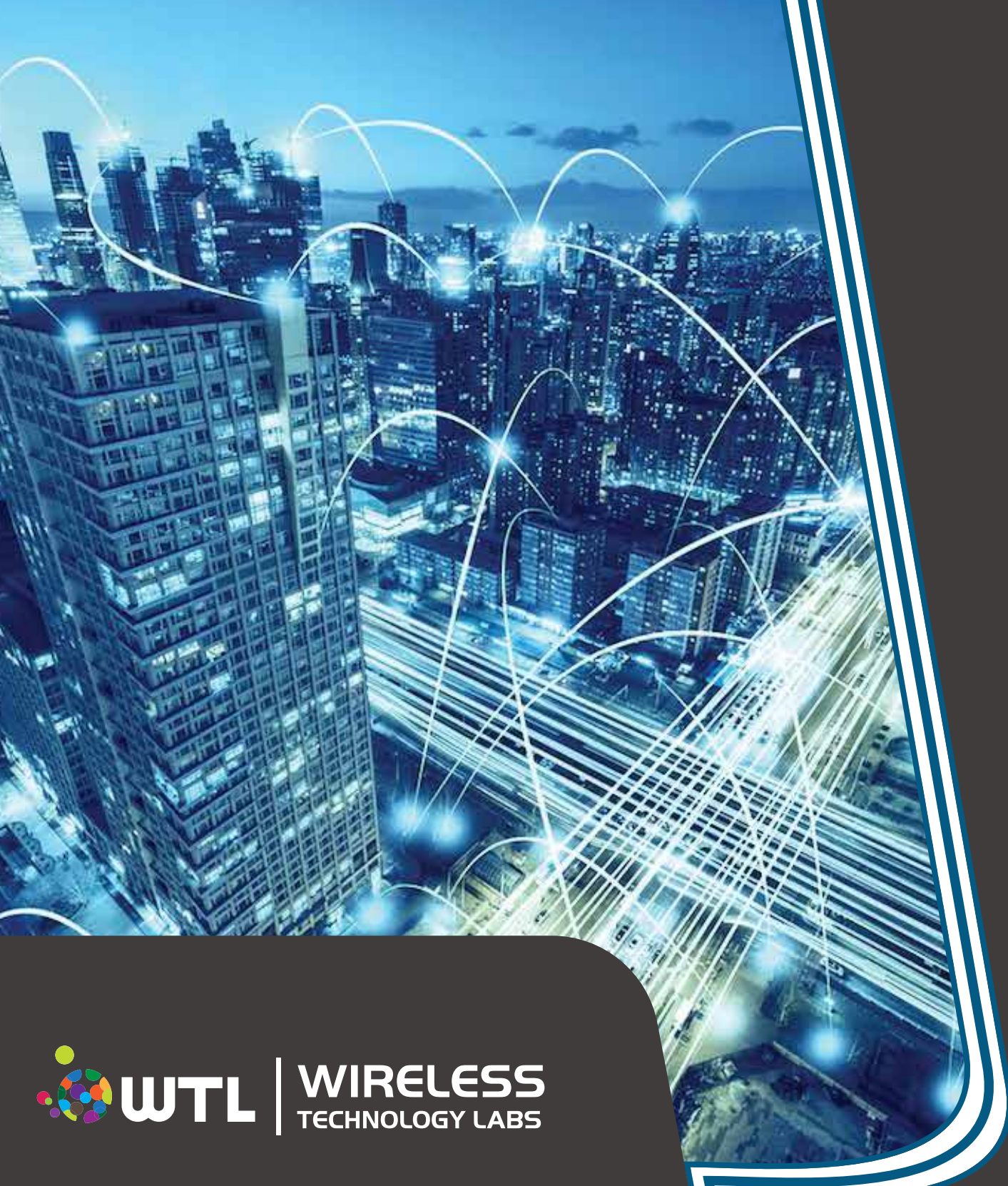
Accelerate development
Bring valuable information to communities, increasing knowledge while delivering new entertainment and engagement opportunities.

Create new markets
Find new customers for services and applications, while addressing the needs of everyone in the community, ensuring the widest audience for new deployments.

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