



INTRODUCTION TO SATEL

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Mission-Critical Connectivity **SATEL**

SATEL IN A NUTSHELL

- Founded in 1986 in Salo, Finland
- A global, privately held company
- Private data radios and radio connectivity solutions
- Exporting over 90% of products



Mission-Critical Connectivity **SATEL**

OUR SOLUTIONS ARE GLOBAL

50,000
RADIOS
SHIPPED
EVERY
YEAR



Over half a million SATEL radios delivered to globally leading Electricity, Energy and Water Companies, Tier-1 OEMs, and other customers

150, 200, 400, 800, 900 MHz & 2.4 GHz



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Sigma Wireless Communications Introduction

About us:

- Sigma Wireless Communications is a fully Irish owned entity
- Total number of employees 49 people, 24 of whom are qualified engineering resources
- Satel partner for 10 years
- Key supplier of critical communications solutions to the Emergency Services, Transportation, Utilities and Private Enterprise sector's
- Design, supply and supporting critical radio communications networks since 1981
- Shareholder in Tetra Ireland providing the national Digital Tetra Radio services to all emergency services in Ireland

KEY APPLICATION FIELDS

Smart Grid & Utilities

Energy production
Transmission grids
Distribution networks
District heating
Waterworks

Telemetry

Weather stations
Racing results
Moving target systems
Irrigation systems

GNSS

Land surveying
Precision farming
Machine control
Harbour logistics
Port cranes

Security

Surveillance network
Gate and camera control
Warning lights

Fleet Management

Real-time passenger information
Traffic light priority
Variable messaging
Track warning
Parking information



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AVOIDING OUTAGES BRINGS SAVINGS SATEL AS YOUR MISSION-CRITICAL CONNECTIVITY PARTNER

- High quality private data radios and radio connectivity based solutions
 - IP radio routers and serial communication radios
 - Stand-alone with housing or embedded as radio modules
- Customers include different types of
 - Utilities and industrial operators
 - High technology system providers



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SATEL PRODUCTS



SATELxprs
IP RADIO
ROUTERS



SERIAL RADIO
MODEMS



WIRELESS I/O



SERIAL
RADIO
MODULES

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UTILITIES

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SATEL IN UTILITY NETWORKS

		
<h2>170 000</h2> <p>Radios delivered worldwide</p>	<h2>50/50</h2> <p>About 50% in power and 50% in water applications</p>	<p>Deliveries in total to</p> <h2>300+</h2> <p>Distribution operators</p>

SATEL IN DISTRIBUTION AUTOMATION

SATEL RADIO CONNECTION USAGE EXAMPLES



Generation
Transmission
Distribution
Metering



Primary substations

- Monitoring and Control
- Effective FLIR throughout the network
- Enabling the Network Optimisation

Secondary substation

- Monitoring and Control
- Fault Indications
- Inter-substation communications

Transformers
Re-closers
Switches

Renewable energy in the network

SATEL XPRS MULTIGATEWAY

COMBINING RF WITH CR AND OTHER CONNECTIVITY
IN ONE ENCLOSURE

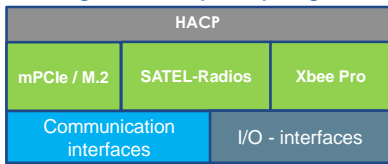


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SATEL XPRS MULTIGATEWAY PLATFORM

HACP
SATEL High Availability Computing Platform



Radio Interface examples

- SATEL Radio module
- SATEL IP radio unit
- LTE 450 MHz
- LTE (private or public)
- LTE-M
- LoraWAN GW

Communication Interfaces

- 2 x RS-232
- 2 x Ethernet
- 2 x SIM
- 2 x USB
- WiFi
- Bluetooth

I/O - Interfaces

- Analog I/O
- Digital I/O

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SATEL SUSTAINABILITY



7

AFFORDABLE AND
CLEAN ENERGY

6

CLEAN WATER
AND SANITATION

Radio technology improves the reliability, quality and environmental impact of important utility systems

Real-time wireless monitoring and remote access to utility systems adds efficiency, cuts reaction time and minimizes the environmental impact.

It also ensures reliable power and water distribution for society and environmentally critical systems.

SATEL's radio communication solution provides high level of cyber security and by nature, private networks are not vulnerable to attacks from public networks:

- SATEL radios are used over 340 Utility companies with over 170 000 radios delivered
- SATEL Utility customers are divided 50% electricity and 50% water companies
- Reliable communications solutions, such as SATEL XPRS, brings 15-35% improvement to System Average Interruption Duration Index for the Power Distribution network
- SATEL XPRS Solution provides easy deployment of the mission-critical communications network with up to 80% savings in the deployment costs

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YOUR MISSION-CRITICAL CONNECTIVITY PARTNER

- Communication solutions for SCADA and other utility applications
- Global planning and support services
- World-leading reliability and quality
- Lowest lifetime cost for the operator



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THANK YOU

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