tsat

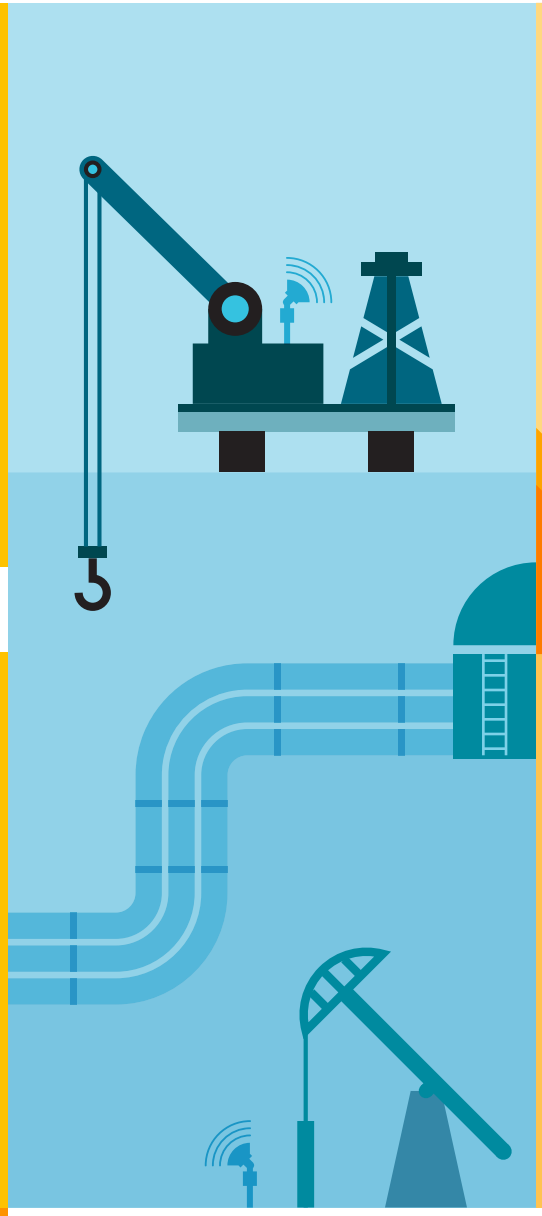
THE INDUSTRIAL INTERNET OF THINGS

AN EMERGING MARKET FOR SATELLITE COMMUNICATIONS

YOUR GUIDE TO GROWTH FOR
KU-BAND SERVICE

EXPONENTIAL MARKET GROWTH

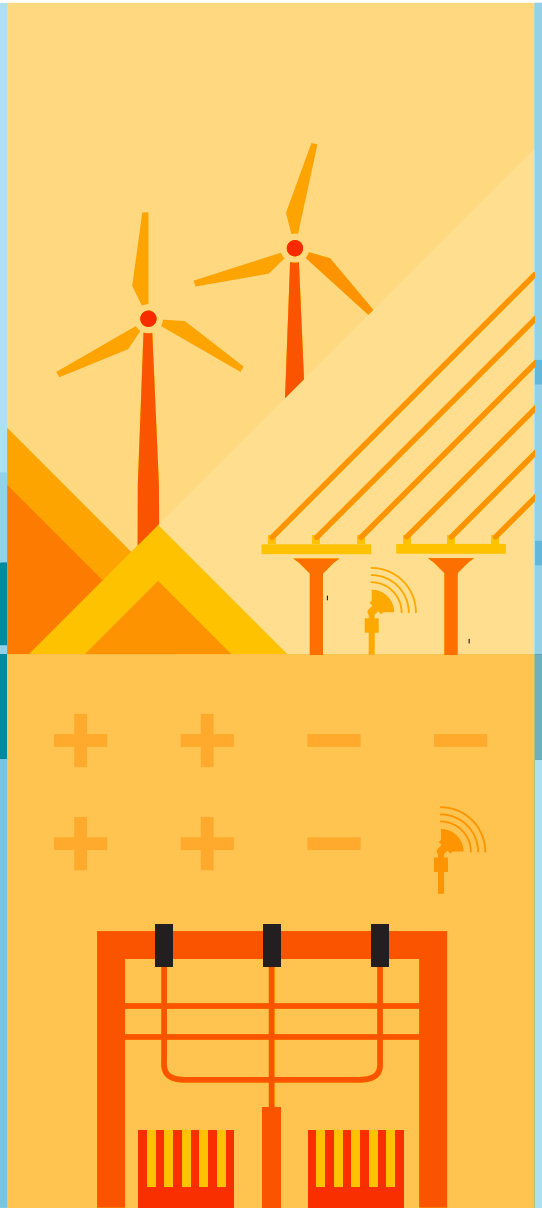
Today, there is tremendous revenue opportunity for satellite service providers as the Internet of Things stretches across rural and remote areas in industrial markets. According to NSR, the M2M and IoT over satellite market will increase to more than 5.3 million terminals by 2024. Here is a map of your opportunities across seven key industries.



SMART ENERGY

Moving the flow of energy across deep-water rigs, remote oilfields and miles of pipelines.

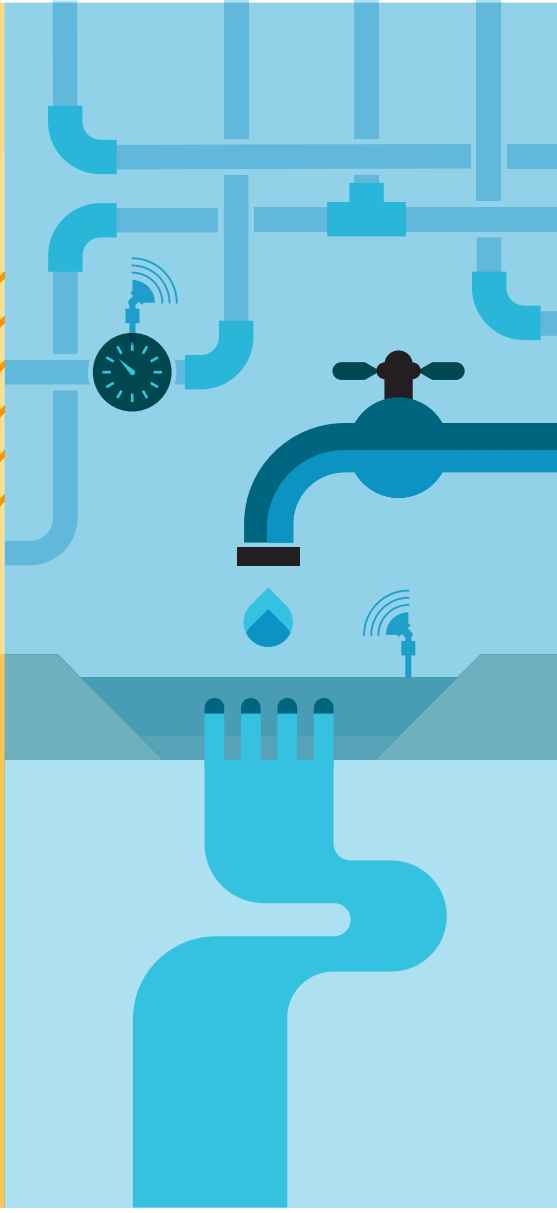
- Drilling, production and pipeline monitoring
- Distribution logistics and retailing (POS)
- Security/CCTV and access control



SMART POWER

The integration and efficient use of energy resources for a sustainable planet.

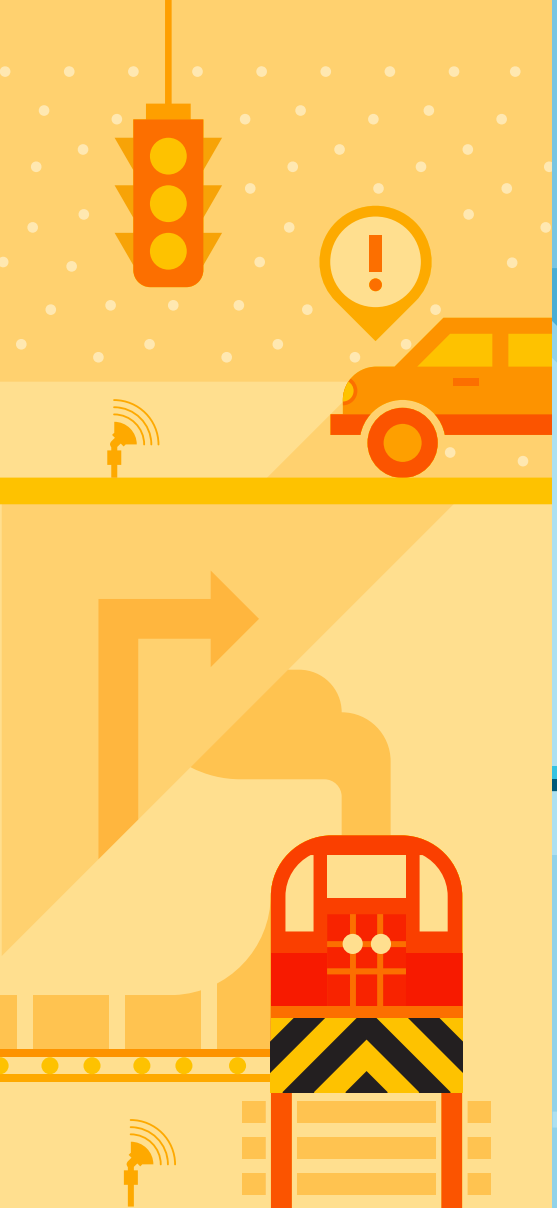
- Substation and distribution automation
- Smart meter backhaul
- Renewable energy integration
- Security/CCTV and access control



SMART WATER

Managing water resources and infrastructure to support human development.

- Water reservoir level and pipeline monitoring
- Smart water meter backhaul
- Security/CCTV and access control



SMART TRANSPORTATION

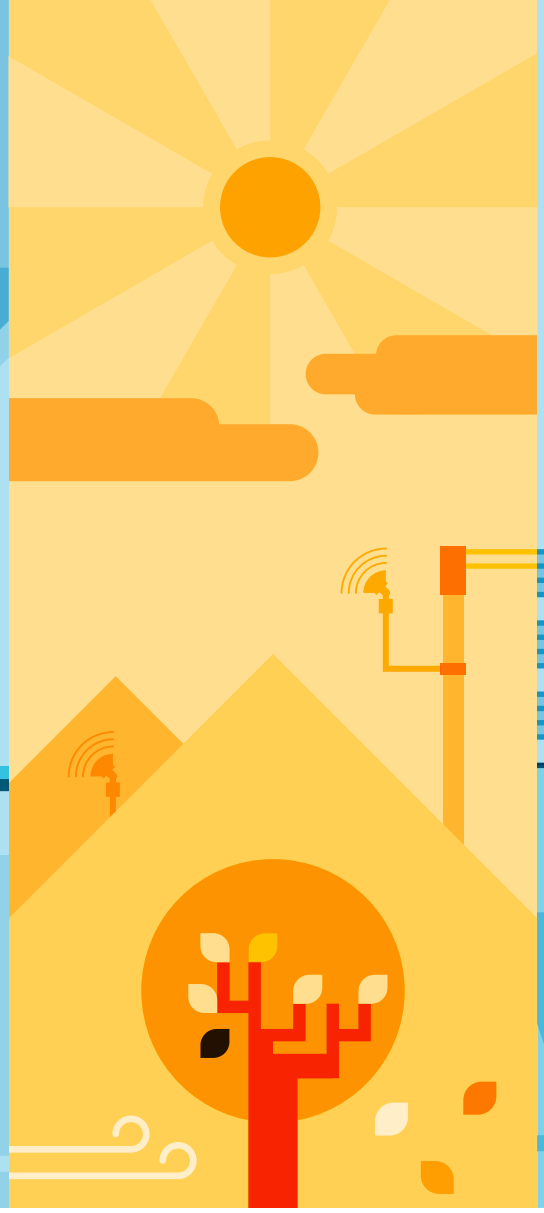
Keeping highway and rail traffic safe and moving forward in any condition.

- Traffic signage, signaling and routing
- Alerting of road and weather conditions
- Level crossing protection
- Security/CCTV and access controls

SMART INFRASTRUCTURE

Protecting core infrastructure and enabling smart engineering design.

- Structural monitoring
- Critical infrastructure protection
- Security/CCTV and access control



SMART ENVIRONMENT

Protecting our environment and ecosystems to ensure a sustainable future.

- Air quality and pollution monitoring
- Earthquake detection
- Tsunami and flood warning
- Landslide and avalanche warning
- Weather monitoring

SMART AGRICULTURE

Make farms more efficient and productive to feed a growing population.

- Soil health monitoring
- Smart irrigation and fertilization
- Livestock growth and feeding

The rise of KU-BAND

While L-band systems will continue to support extremely low data rate IoT applications, Ku-band networks are positioned for future applications as network traffic increases.

L-band

CONNECTIVITY
Store and forward

DATA VOLUME/RATE
Constrained

APPLICATIONS
- State reporting
- Mobile asset tracking

Ku-band

CONNECTIVITY
Real-time

DATA VOLUME/RATE
Easily scales up

APPLICATIONS
- Data aggregation from a greater number of sensors for predictive and prescriptive analytics
- SCADA
- Security/CCTV

The Ku-band COST ADVANTAGE

Ku-band networks handle higher data volume more cost-effectively than most L-band systems due to greater spectrum availability, competitive pricing and flat-fee subscription models.

L-band limitations

- Many terminals limited to discrete sensor or serial connectivity, and not compatible with today's IP/Ethernet sensor or devices
- Many terminals have limitations on the message size and high latency
- As data volumes increase, L-band business models could become very expensive

Ku-band advantages

- Directly compatible with IP/Ethernet sensors and devices, and legacy serial devices without the need for mediation devices
- Able to handle increasing data volume cost-effectively based on flat-fee subscription model
- Lower operational cost is achieved with Ku-band due to greater spectrum availability and more competitive pricing

The TSAT
INDUSTRIAL IOT PLATFORM

TSAT has engineered a new satellite communications platform designed for emerging Industrial Internet of Things (IoT) market. TSAT 4000 Ku-band hub and terminals address the growing demand for Ku-band IoT systems as traffic volumes increase across major industrial markets.

Capex friendly

Affordable narrowband technology versus broadband satellite systems, low barrier to launch

Opex friendly

Ku-band model engineered for higher data volumes at affordable price point

User friendly

Supports popular IoT protocols, integrates with low power wireless sensor technologies

Market friendly

Designed for IoT, M2M, SCADA and higher throughput applications

tsat

Trusted communication – anywhere

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