AGENDA

Who we are

- Why choose 9°E orbital position?
- SMART solutions for Telcos
A LEADING GLOBAL SATELLITE COMPANY

➤ **Experience:** over 30 years of satellite operations

➤ **Global coverage:** 38 satellites from 117° West to 172° East

➤ **Continued investment:** 6 further satellites to launch

➤ **Core broadcasting infrastructure:** 5,800 TV channels, over 274 million homes

➤ **Balanced service portfolio:** growing data, broadband and government markets

➤ **Global presence, local knowledge, technical excellence, innovation:** assured by 1,000 company experts in Europe, Africa, Asia, the Americas

➤ **Full-year revenues:** €1.4 billion
Unique range of C, Ku and Ka-band resources
OUR PORTFOLIO OF SERVICES

- Data/IP
  - IP backbone
  - Mobile backhaul
  - Corporate networks

- Mobility
  - Disaster relief
  - Maritime connectivity
  - In-flight broadband

- Video
  - SNG
  - Play-out
  - TV headends
  - DTH
  - DTT
BALANCED SERVICE PORTFOLIO

At 30 June 2015

63% Video
14% Government Services
23% Data & Broadband
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INVESTMENT PROGRAMME FOR EUROPE: SECURING EXISTING BUSINESS, FUELING GROWTH

EUTELSAT 9B 9° East

Coverage: Europe
Launch: Q4 2015/Q1 2016
Capacity: 50 Ku
Eutelsat 9B – Downlink Coverage
Clear Sky Link margin for 60-80 cm reception

Availability for 60-80 cm reception
Use of Clipsat enable to receive a satellite which is at 4° orbital spacing from 9°E

- HotBird at 13°E
- SES-4A/5 at 4.9°E

Advantages

- Existing antenna pointed towards 4.9°E/13°E can receive content from 9°E by adding Clipsat to existing LNB
- Any new antenna that will be pointed at 9°E can receive existing content from 4.8°E/13°E without the need to retransmit those channels
KA-SAT: THE BIGGEST EUROPEAN HTS

KA-SAT extended coverage

(*) Artist view of KA-SAT coverage, exact coverage depends on the targeted application.
Broadband for everyone everywhere

A true “always-on” service comparable to DSL
- Up to 22 Mb/s downstream - 6Mb/s upstream
- Full triple-play with DTH TV reception from 9°

Easy operation and installation
- Easy-to-install and as accessible as satellite television
- Plug and play
### Basic terminal
- plastic box IDU
- 77cm/3W ODU
- 75W electrical power usage
- Only Layer 3 services

### Max HW Performance
- up to 40 Mbps download
- up to 10 Mbps upload

### Advanced terminal
- metal box IDU
- 77cm/3W or 120cm/4W ODU
- Dual processor
- Layer 2/3 capability
- 80W electrical power usage

### Max HW Performance
- up to 50 Mbps download
- up to 20 Mbps upload
<table>
<thead>
<tr>
<th></th>
<th>Fiber</th>
<th>Wired (DSL, ISDN)</th>
<th>3G/4G</th>
<th>Tooway B2B</th>
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</thead>
<tbody>
<tr>
<td>Bandwidth</td>
<td>Flexible</td>
<td>Flexible</td>
<td>Unpredictable</td>
<td>Flexible</td>
</tr>
<tr>
<td>Price point</td>
<td>Expensive</td>
<td>Varies</td>
<td>Competitive</td>
<td>Competitive, one price plan for Europe</td>
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<td>SLA</td>
<td>Yes</td>
<td>Possible</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Reliability / Disaster recovery</td>
<td>Possible</td>
<td>Depends of copper infrastructure</td>
<td>Poor</td>
<td>Yes</td>
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<tr>
<td>Availability</td>
<td>Limited to cities</td>
<td>Mostly</td>
<td>Limited</td>
<td>Everywhere</td>
</tr>
<tr>
<td>International Deployment</td>
<td>Complex</td>
<td>Complex</td>
<td>Complex</td>
<td>Easy</td>
</tr>
</tbody>
</table>
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SMART solutions for Telcos
APPLICATIONS OF B2B SERVICES AT A GLANCE

Application Overview
EXAMPLES OF PROFESSIONAL USE OF THE TOOWAY

- Broadband Communication for Trucks
- Backhauling and Back-up for PMR infrastructure
- Connection for Remote Sensor Networks
- Redundancy for Terrestrial Infrastructure
- Temporary Broadband Communication in Case of Major Disaster
- Video Surveillance of Remote Sites
Solution for mobile groups in case of disaster

- Connectivity in case of earthquake and other disaster
- Connectivity of refugee camps
- Back-up for terrestrial infrastructure
HIRES/Mobotix

- Mobotix is a leading supplier of professional video surveillance systems
- HIRES is a system integrator of the Mobotix-technology
- Ka-SAT is used for surveillance of remote locations, where no personnel is present
CASE STUDY: BROADBAND FOR FIRE BRIGADE TRUCKS

Used by fire brigades in France

- Nomadic use to enable broadband data communication when working remotely
- Back-up of terrestrial Infrastructure for the fire brigades
- Connectivity in Alpine locations with no infrastructure
Wind farms are located mostly in rural areas, far from DSL and UMTS connections.

Thanks to the Europe-wide availability of KA-SAT, wind farms in Germany benefit from broadband access anywhere.

Services delivered by distributor SatSpeed, provide robust and fast internet connections.

Wind farms can now deliver energy measurements and important weather data to the core storage.

Online system tests can also be carried out remotely.
Engineers working on highway construction sites in Germany need internet access and telephony at competitive prices. Tooway™ is the only solution flexible enough to provide fast internet connections for every new site in any location. Terminals delivered by SatSpeed distributor are installed quickly on the road works site (less than 1 hour). Engineers benefit from the same service when changing locations. Tooway™ also provides internet access and VoIP services to engineers for the construction of offshore wind turbines in the North Sea.
SUCCESS STORIES

**OIL AND GAS**

KA-SAT is used to deliver IP services for SCADA applications on energy plants (traditional and green energies), on offshore plants on pipes etc. Moreover KA-SAT provides IP connectivity for Gas Stations (telemetry, broadband and telesurveillance).

- **ITALY** – connectivity for the gasoline stations
- **GERMANY** – monitoring of offshore wind farms
- **ITALY** – Green energies – monitoring of Eolic and photovoltaic plants
- **ALBANIA**: monitoring and control of Hydroelectric Plants
- **POLAND** – telemetry and backup solution for gas station and remote storage
- **UK** – telemetry and broadband for offshore oil & gas platforms

- **ITALY** – monitoring of industrial manufacturing plants
- **SPAIN** - Awarded a tender to give connectivity for solar plants
SUCCESS STORIES

PUBLIC ADMINISTRATION

- UKRAINE - ELECTIONS MONITORING (12 400 sites) with Datagroup: web monitoring via satellite of the elections campaign for the parliamentary elections in Ukraine of October 2012. over 500 terminals per day installed in 6 weeks prior to elections
- MONTENEGRO – Police Dept. Adopt the KA-SAT solution, in double Hop (full satellite solution) for Security, Availability & Performance.

EMERGENCY MANAGEMENT

- ITALY – Broadband nomadic system to send and receive high throughput files to manage communications in real time
- ITALY – Emilia Romagna – Earthquake – Satellite links to implement data, video and voice communications to manage rescue activities and improve welfare of population (no revenues)

Other SERVICES for PA

- FRANCE – M2M communication for meteorological data
- UK – CCTV for several police, fire and military units

eutelsat
SUCCESS STORIES

// GAMING

→ ITALY – LOTTONATICA: Tests have qualified KA-SAT to manage gaming applications with Telecom Italia; small bandwidth requirements and single hardware configuration minimizes maintenance and installation costs

// POST OFFICES

→ ALBANIA: 850 Post Offices connected.
→ ITALY: Poste Mobile: backup network and mobile offices

// HOTELS AND BUILDINGS

→ ITALY – Developed and manufactured a multi-dwelling solutions to provide connectivity to buildings and hotels
SUCCESS STORIES

CARRIER SERVICES: BACKHAULING AND TRUNKING

KA-SAT is used to deliver IP trunking and IP backhauling for telcos and ISPs. Many fixed, mobile, WiMax and LTE operators are using or testing KA-SAT.

» GERMANY – backhauling via KA-SAT for remote DSLAMs to provide internet access
» LIBYA – trunking for country-wide WiMAX network (over 1Gbps capacity)
» ITALY – satellite backhauling (for Mobile Operator) for Wi-Fi distribution & Offload Connectivity
» UK – connectivity for caravan parks
KA-SAT is co-located at 9°E with Eutelsat 9A/B

- Eutelsat 9A/B reception through dichroic HW on Tooway terminals
- Triple play offer of DTH and Broadband services on a single antenna
**DICHROIC SUBREFLECTOR**

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**Dichroic Multifeed**

- Single antenna for Ka-Band Tooway and Ku-Band DTH
- Dichroic subreflector kit to be installed on a Tooway Antenna
- TV Reception for 9°E or 7°E
- Ku Band TV reception performance equivalent of 60 CM Antenna
- Frequency Selective Plate
DICHROIC SUBREFLECTOR

Eutelsat 9 East

Ka-Band

Ku-Band

Ka-Sat

Frequency Selective Plate
# DICHROIC SUBREFLECTOR VS. 60CM ANTENNA

## C/N Measurements

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THANK YOU