

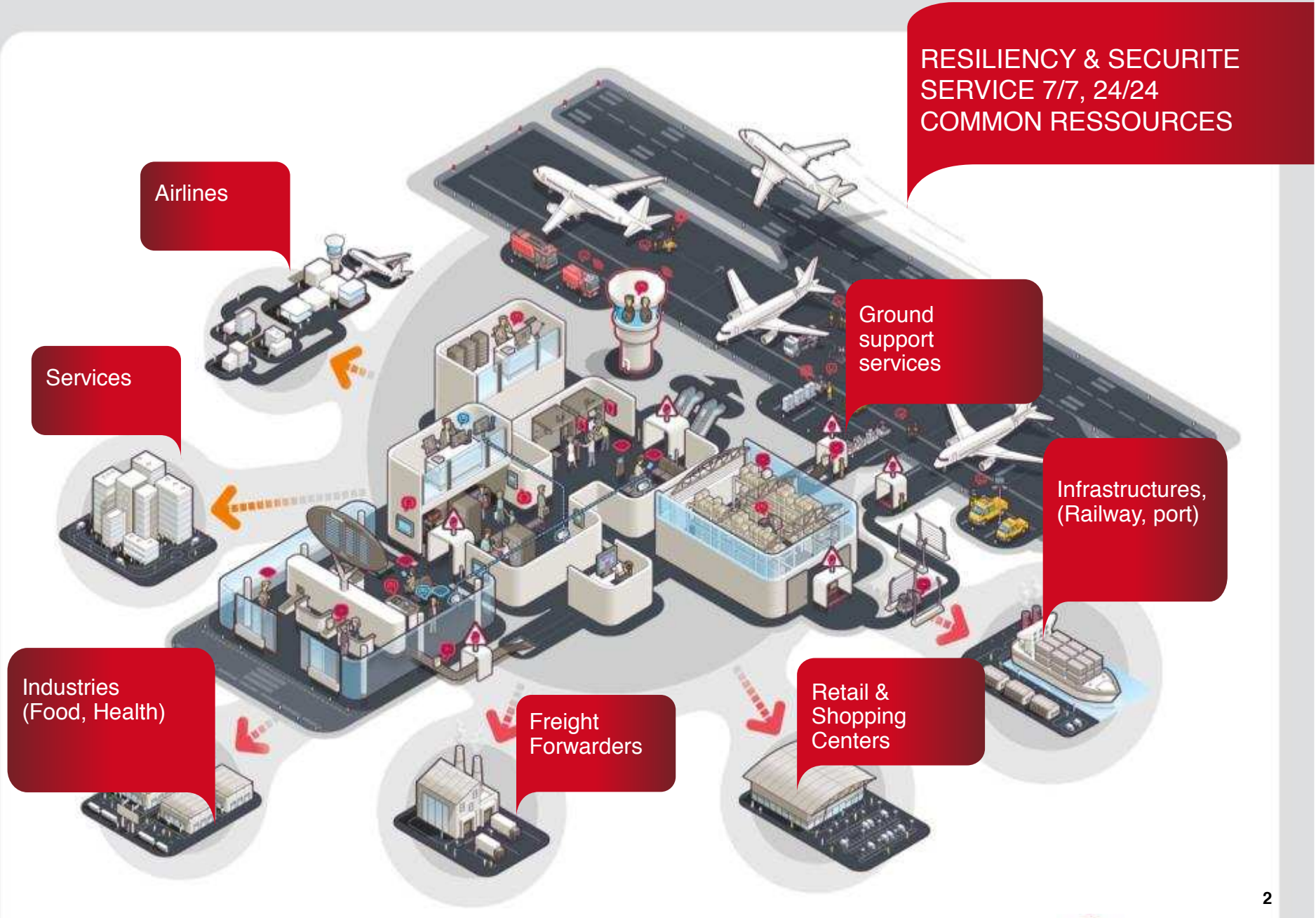


4G Critical and Professional

Soline Olszanski, VP Strategy & Innovation

Paris, PSCE, 26th November 2014

An Expert of the Air Transport Industry...



... Serving Professionals Nationwide



**+ 4 500
Customers**

IN FRANCE

**6th
Operator**

IN FRANCE

**Leader in Mobility
& Traceability**

IN FRANCE

50 000

MANAGED RADIO HANDSET

1st Tetra Operator

IN FRANCE

**European leader
Hotspots Wifi**

+ 10 million users

PARIS & AMSTERDAM AIRPORTS, MALLS

AEROPORT DE PARIS GROUP

1945

FOUNDED

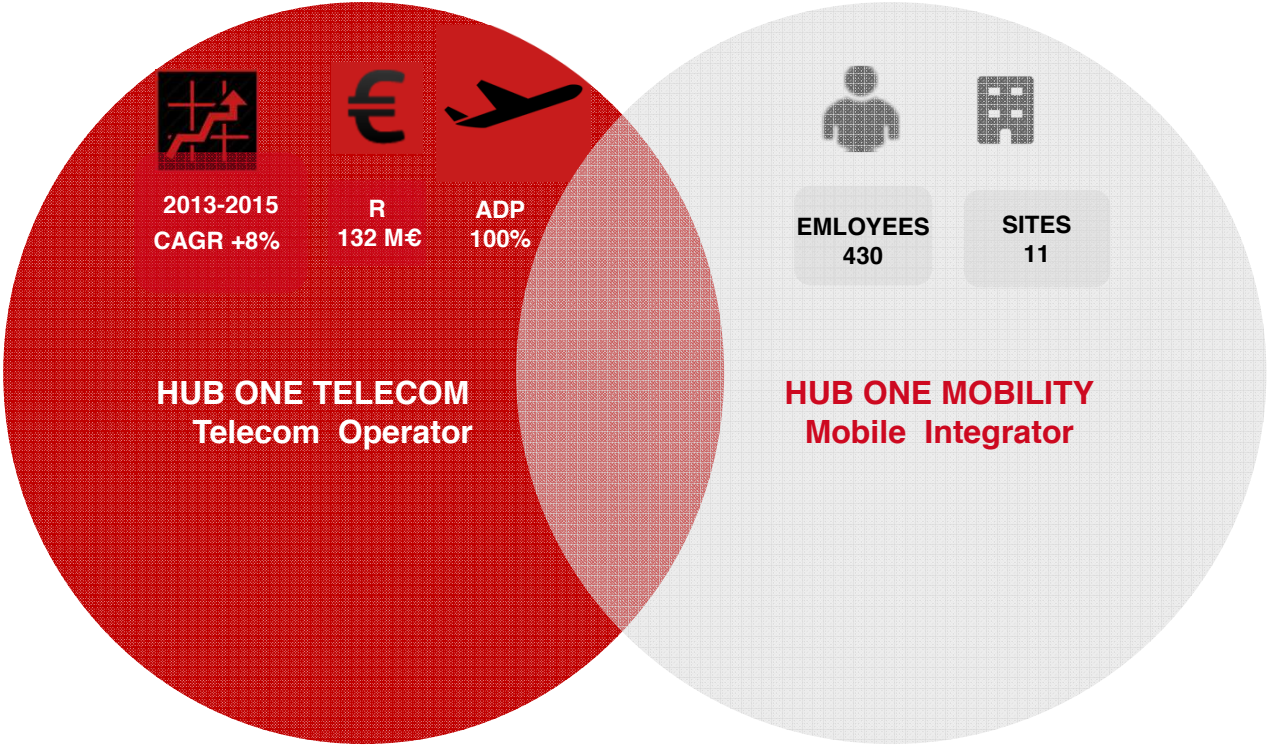


**2ND AIRPORT GROUP
IN EUROPE**



**1ST EUROPEAN GROUP
CARGO AND MAIL**

Key Figures



Expert in Information Technologies

- Radio
- Unified Communications
- Broadband Networks
- Wifi
- Positioning
- Software
- MDM / Payment
- Service

4G / LTE Experimentation



Roissy CDG
December 2013 to April 2014

At the heart of Airport Operations

Experimentation Zone



Scope of the Experiment

- + 500 technical tests
- + 100 airport application scenarios
- LTE PMR Solution
- Professional and Security Applications
- Broadband Communications between the aircraft and the ground
- Evaluation of new use cases

Temporary Licenses

400MHz

700MHz (13 and 28 bands)

Observed Bit Rate

@ 10MHz bandwidth

17 Mbps Uplink, 60 Mbps Downlink



First in Europe : LTE PMR



Compatibility

4G LTE PMR / Tetra

Architecture

Ruggedized Radio Handset

Smartphone

Re-use existing

Distributed
Antenna System (DAS)

PMR Application

Dispatcher

LTE Core network

Group Call

Push to talk

Set-up Time

Priority /
Emergency Call

Quality of Voice

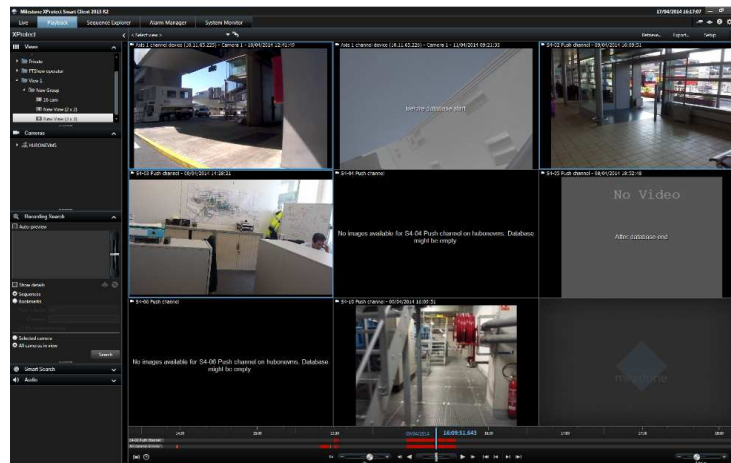
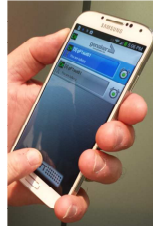
SMS / MMS

Visioconference

Video

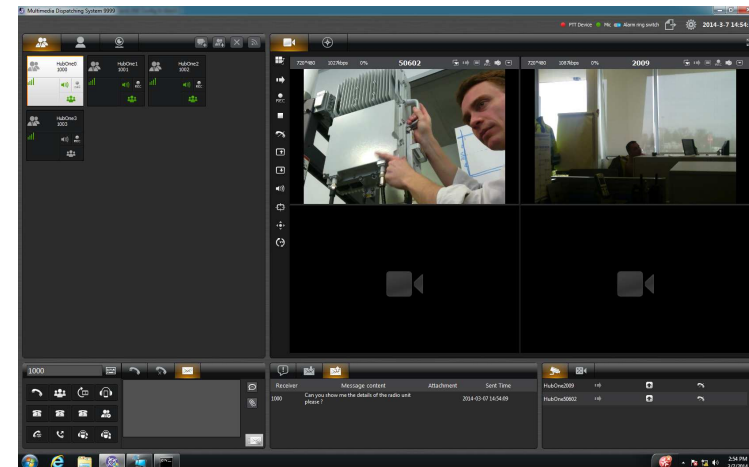
First in Europe : PMR & Video Service

STANDARD 3GPP SOLUTION RELEASE 9



STANDARD (640*380, H264, 8fps) < 2Mbps
HIGH DEFINITION (1920*720) > 2Mbps

SOLUTION THAT ANTICIPATES RELEASE 12/13



STANDARD (QCIF) : 300kbps
HIGH DEFINITION (720*480, 28fps) : 1Mbps

Security Application



**Positioning vehicles
on the runway & aprons**

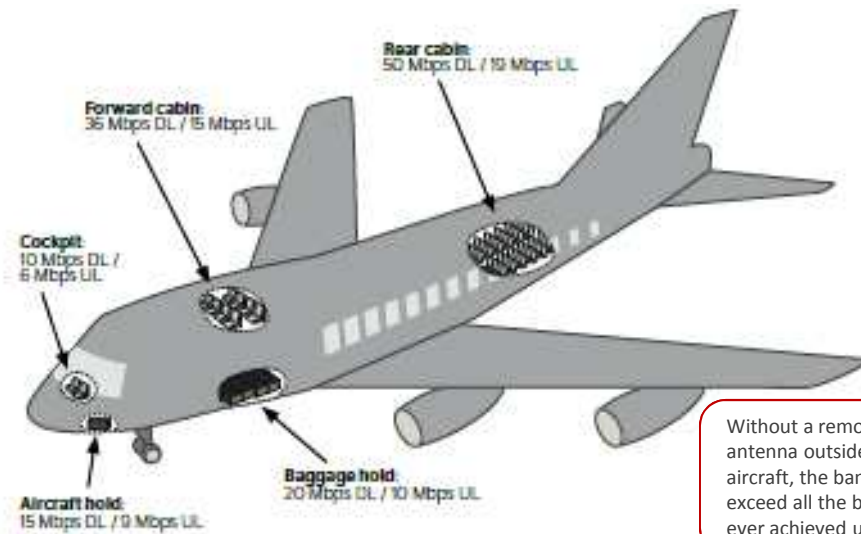
Flyco & Vehicules
Snowblower
Fire Truck

ACCURACY
< 1 METER

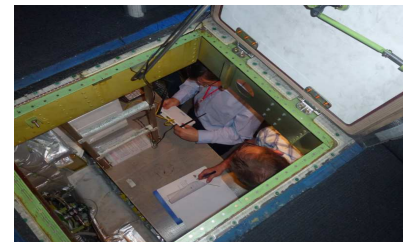
REFRESHMENT
< 1 SECOND

RELIABILITY

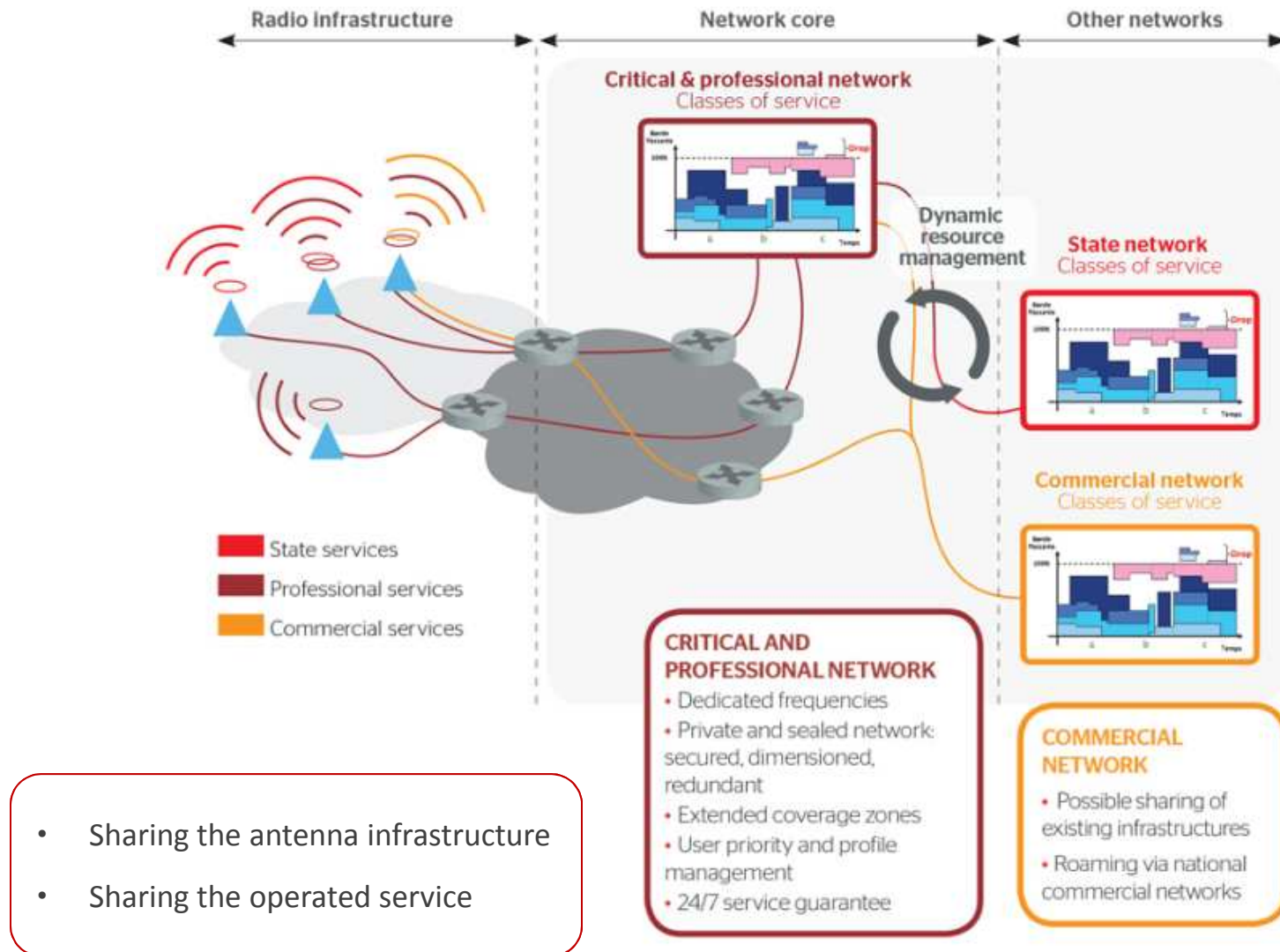
Unrivalled bit rates in an aircraft



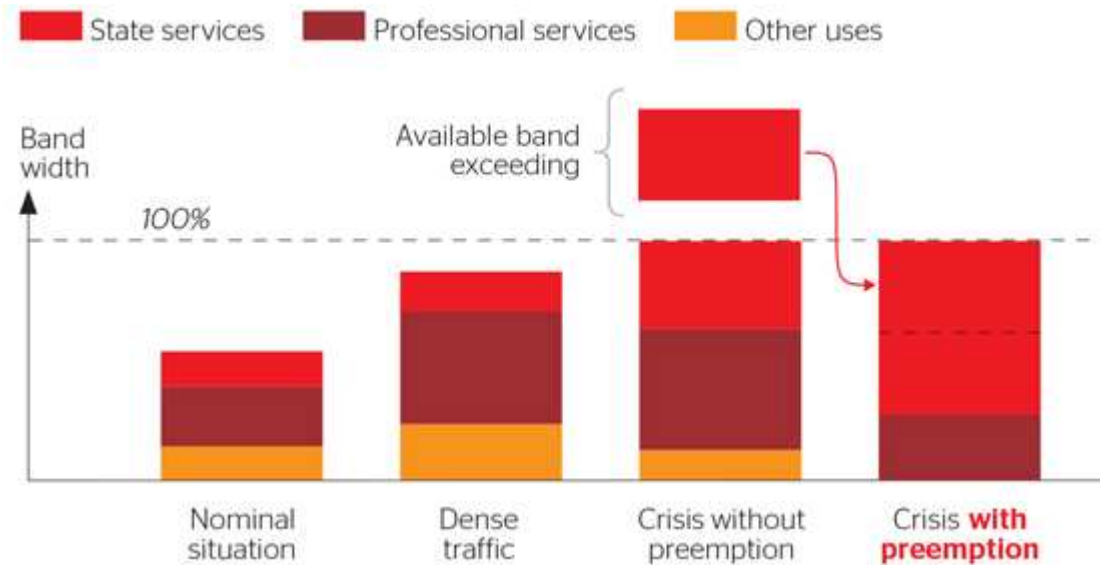
Without a remote antenna outside the aircraft, the bandwidths exceed all the bit rates ever achieved until now.



Service-Sharing Model



Priority Management Mechanism



- Absolute access guaranteed for priority services
- An economic equation found via the commercial uses
- Spectrum use optimisation

Conclusion

Industrial performance

- 4G / LTE can replace low-speed specialist critical and professional networks providing broadband and video
- This evolution contributes significantly to the airport industry performance and to many industrial environments



Prerequisite for security networks

- Extended and adapted coverage
- Specific architecture and redundancy
- 24/7 service and crisis management

And a specific Frequency

Benefits of a shared model

- Broadband service guaranteed under all circumstances
- Optimisation of Resources and spectrum
- Consistency and optimisation of investments
- Viable Economic Model



Implementation conditions

- Network Interoperability
- Player coordination

Thank you all

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Visit us at

www.hubone.fr

