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Presentation **January 2024**





ABOUT NAUTEL

More than 36 years of DAB history in Rennes....

- 1987: Start of the DAB standard development within the EUREKA 141 European Project: CCETT (FT Orange) and IRT (Germany)
- Early 1990s: Jean Luc Pavy, Gerard Faria and Alain Untersee create ITIS company with unique technical expertise in digital COFDM modulation (originally CCETT licenses) as well as multiplexing and audio encoding
- 1996: Harris (GatesAir today) buys ITIS
- 2005: ITIS stopped in Europe, but 3 spin offs:
 - 2003: Creation of Teamcast by Jean Luc Pavy et Gerard Faria
 - 2005: Creation of DIGIDIA by Pascal Olivier, Manuel Billot, Damien Bernard and Christophe Percier
 - 2005: Creation of INNES by Frank Dupin

DIGIDIA History



2005

Creation of DIGIDIA
5 people

Start of the DRM Product Line



2007

7 people

Start of the DAB Product Line



2009

8 people

Start of the SYNCHRONOUS FM
Product Line & DRM+

2010

IP Gateways

2011

Purchase of Dolby AAC+
& FHG Journaline Library

DIGIDIA in the world



DRM30
DRM+



DAB/DAB+
DMB



Synchronous
FM



Transportation
& Public Safety



2013

DAB+ Tunnel Break in products

2014

Monitoring Tools for
DRM & DAB

2015

10 years of DIGIDIA
Construction of Company Building



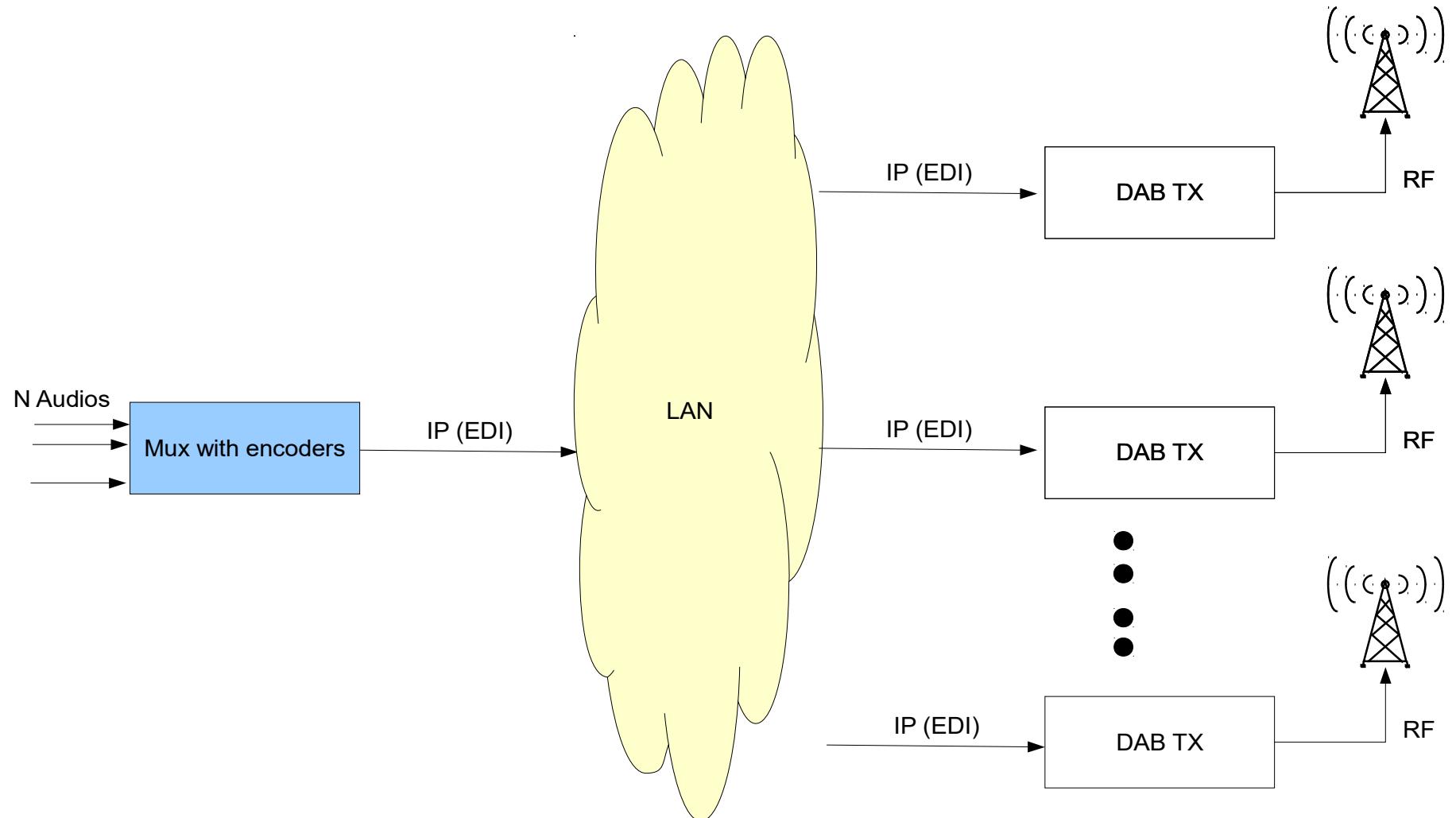
2021

Nautel takes over DIGIDIA
Digidia 100% subsidiary of NAUTEL

2022

DIGIDIA brand as part of
KENTA Technologies
KENTA and DIGIDIA merge to KENTA
Technologies, owned 100% by
Nautel

/// DAB System Overview



Key Products



DAB/DAB+ /DMB

Tunnel Break-in System

- **DAB-BI 2.0:** DAB/DAB+/DMB Tunnel Break-in System

- **SPANFM:** Synchronous FM Head-end



“Control & Monitoring By WEB & SNMP”



“Very Compact & Professional Products”



Head-end Platform; Decoder/Digital Exciter

- **SYNCFM:** Synchronous FM Decoder & FM Digital Exciter



DRM30 /DRM+

Content Server; Modulator/Exciter; Professional Receiver

- **ALTO:** DRM/DRM+ Content Server
- **SOPRANO:** DRM/DRM+ Modulator/Exciter



Encoding & Multiplexing Platform; IP Gateway; Professional Receiver

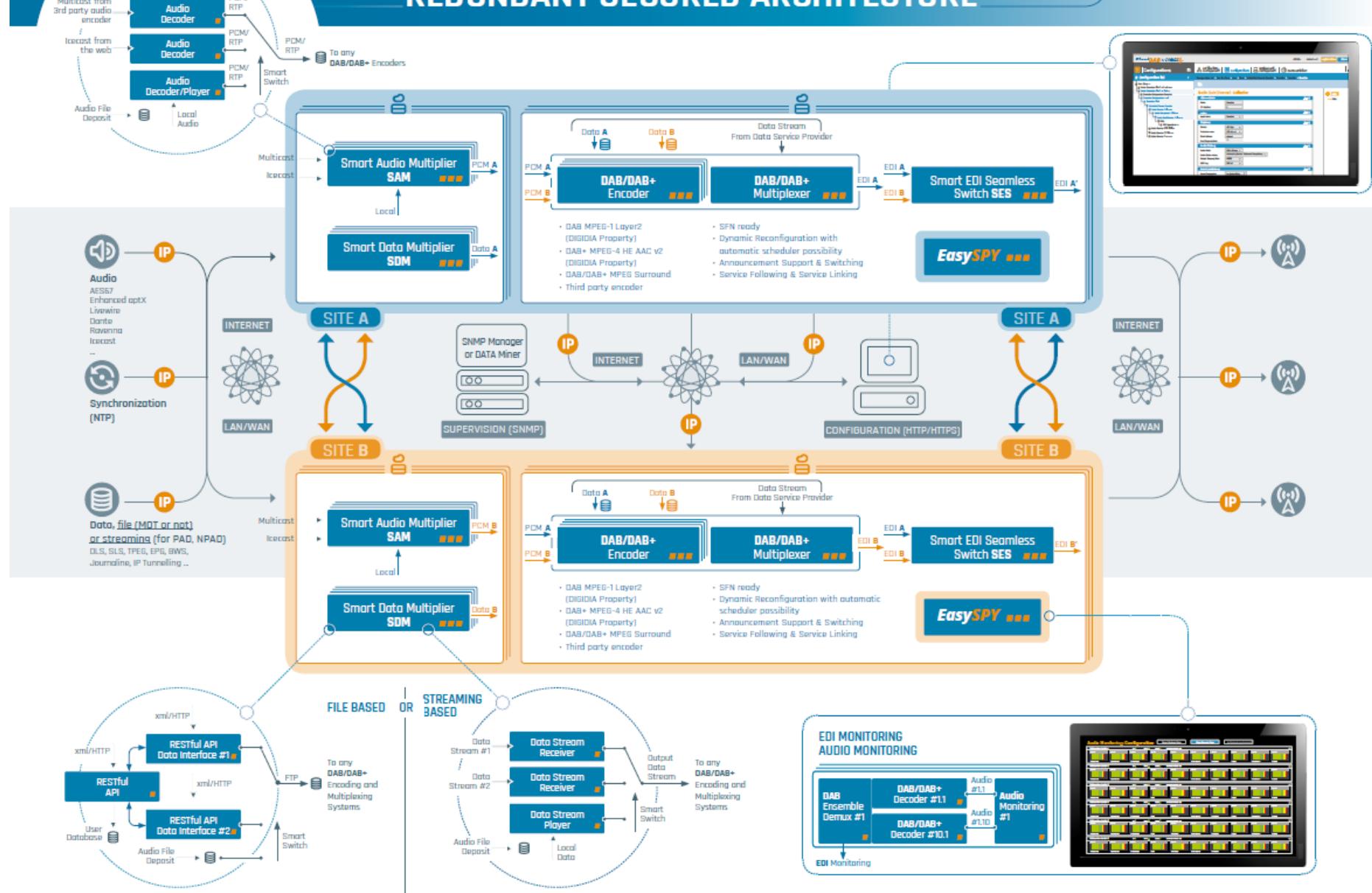
- **FLEXIDAB:** DAB/DAB+/DMB Head-end System



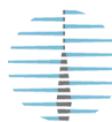
- **EASYSPY:** DAB/DAB+/DMB RF/EDI/ETI Monitoring Receiver

Example

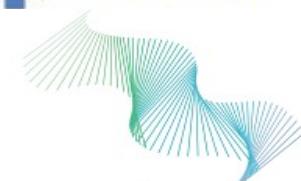
REDUNDANT SECURED ARCHITECTURE



/// Digital Radio Key Customers



ROHDE & SCHWARZ



norkring



arqiva

TOWERCOM



TEXAS INSTRUMENTS



Ford

NEC



/// Partnership & Consortia



N°SMS.LAB.320/50130/A.0

Recognition from the
French Ministry of
Research for R&D



MINISTÈRE DE
L'ENSEIGNEMENT
SUPÉRIEUR ET DE
LA RECHERCHE



/// First and Second Generation of DAB Break-in System supplied in Hong-Kong



5 x complete systems integrated in a 19" Rack have been delivered in 2012/2013 to PCCW

Each 19" Rack includes:

- RF Receiver & Synchronization Unit,
- DAB-BI breaking unit,
- DAB Modulation Unit
- 25W Amplification Unit



2 x DAB-BI 2.0 have been supplied for an extension in Hong-Kong to SEE Telecom in 2015





/// DAB+ Complete Head-end system for the national multiplex in Hungary



Antenna Hungária

Complete system integrated in a 19" Rack has been delivered in 2011

The 19" Rack includes:

- 1+1 Redundant DAB+ Head-end system (FlexiDAB)
- Ensemble Multiplexer with 10 DAB+ Audio Encoders & PAD inserters, EPG & TPEG NPAD data
- SFN operation



System Upgrade and supply of additional products for Magyar Radio in 2013

This Upgrade includes:

- 1+1 Redundant DAB+ Head-end system (FlexiCOD)
- Service Multiplexer with 8 DAB+ Audio Encoders with PAD inserters



/// Complete Systems delivered for the
National DRM Roll-out in India

Key Projects



Complete system delivered
for existing MW transmitters
upgrade



This system includes:

- 23 ALTO DRM Content Servers
- 19 SOPRANO DRM Modulators



Complete system delivered
with HARRIS 25kW MW
Transmitters



This system includes:

- 6 DRM systems in 1+1
- 12 ALTO DRM Content Servers
- 12 SOPRANO DRM Modulators



Complete system delivered with
NAUTEL 50/100/200/300kW MW
Transmitters



This system includes:

- 26 DRM systems in 1+1
- 52 ALTO DRM Content Servers
- 52 SOPRANO DRM Modulators



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