



VIRVE-day 2011

What are the future solutions and technologies of the national security communications?

Janne Koivukoski
Ministry of Interior
Department of rescue

The Communication Needs of Public Safety Authorities?

- Reliable and robust voice communication everywhere
- Allows co-operation and easy communication between all organisations
- Short messaging for alarming, field task delivery and to secure the validity of the information
- File transfer from the place of the incident to support sites as the command or 112 centers
- Offers communication in the field for daily office work

We have invited two network and system vendors;
Let's see what they can offer

- Janne Laitala
- President
- Ericsson in Finland
- Mika J Laitinen
- Director
- Cassidian



HOW DO YOU FIND THE FUTURE EVOLUTION OF THE WIRELESS NETWORKS?

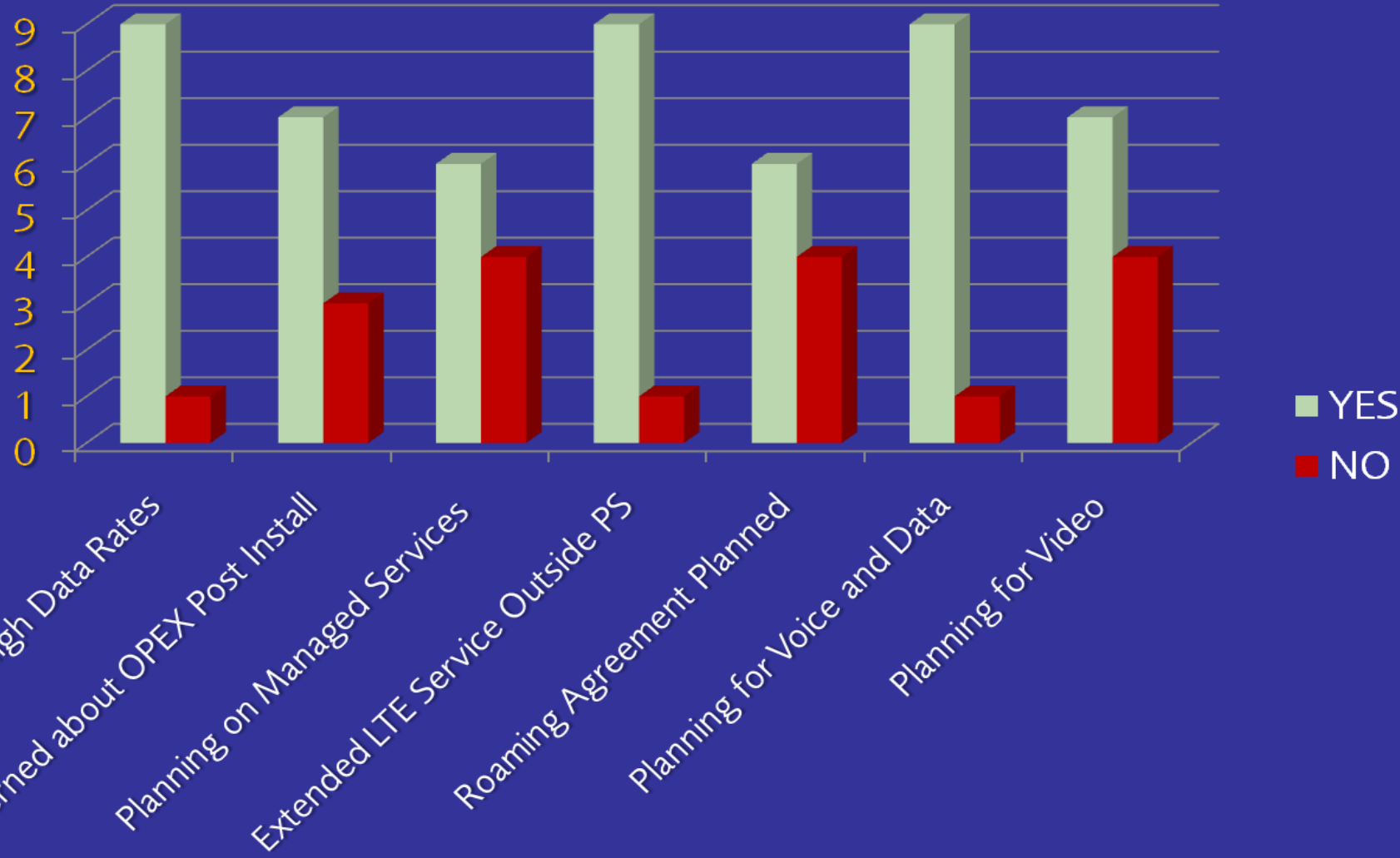


Cassidian Approach for TETRA Network Evolution

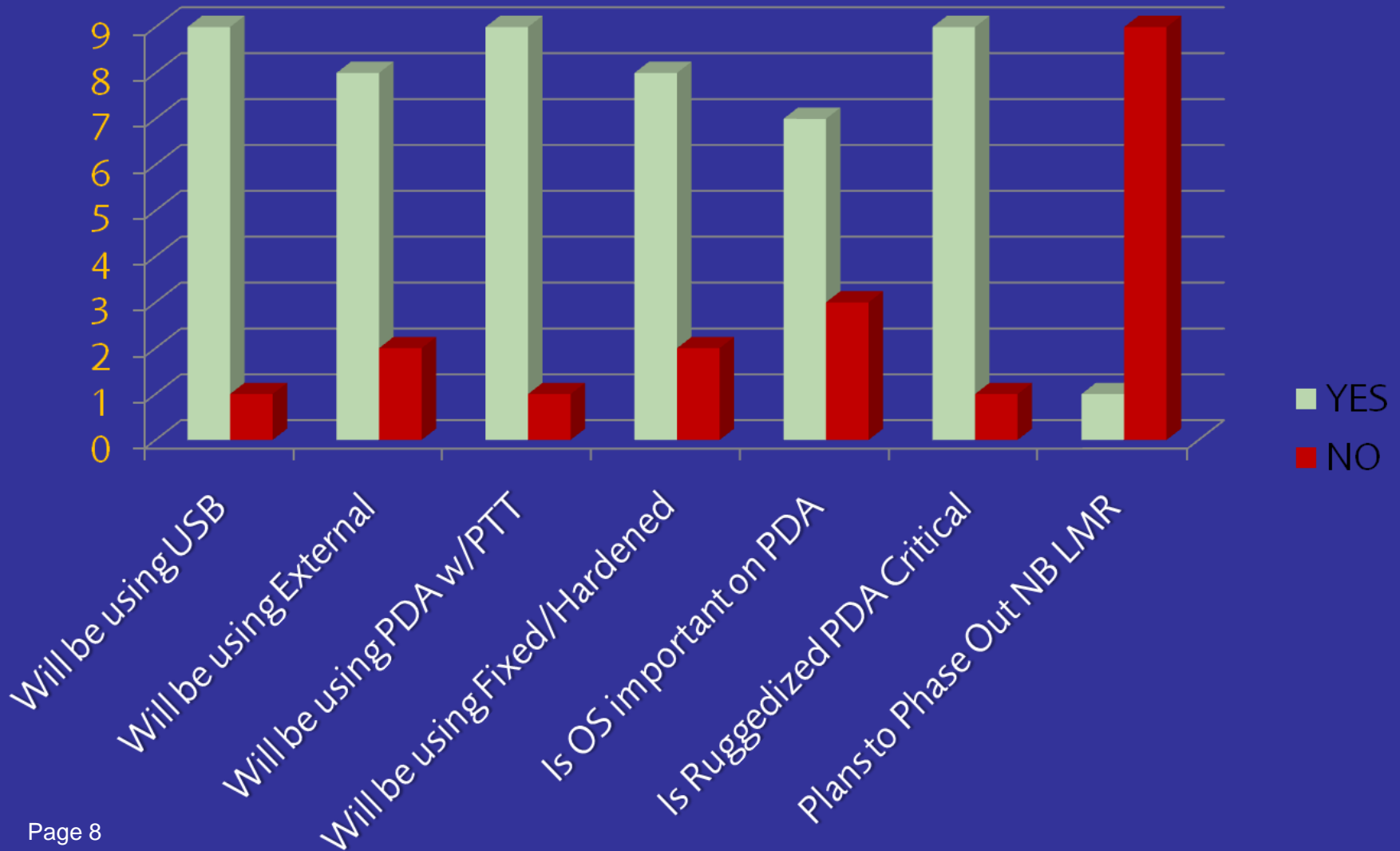
Public Safety Status in North America



Long Term Expectations of LTE



LTE (UE) Needs – Summary



LTE vs P25: 700 MHz Coverage & Performances

LMR P25 sites

Rural Mobile Station Sub urban HH@Belt Urban HH@Belt

LTE Sites for MS Roof Top
200 mw – 384 Kbit/s

High Power Modem

LTE Sites for PDA
200 mw – 128 Kbit/s

Questionable \$\$?

LTE REQUIRES X2 TO X4 P25 NUMBER OF SITES FOR

LTE is far from Mission Critical Voice

THE TRUTH ABOUT LTE

Low power results in less coverage

Lack of appropriate devices

No direct mode

Self Organizing Network

LTE Advanced (release 10)

No standard for voice interoperability

Broadcast/Multicast

*Joe Ross – Radio Resource International –
Mission Critical Communications Magazine,
November – December 2010*



Next question

- Following slide

HOW TO GET STATE OF THE ART COMMUNICATION TOOLS FOR PUBLIC SAFETY IN FUTURE?

Public Safety Status in Europe



Cassidian vision: Convergence of digital PMR standards to meet your needs while leveraging a wider ecosystem



TETRA I	TETRA Enhanced Data Services	Broadband PMR
TETRAPOL	TETRAPOL Data Enhancements	
Mission-critical V+D	Mission-critical high-speed data	Mission-critical broadband

Broadband working group launched at Singapore TETRA World Congress 2010

Additional spectrum availability requires your support and involvement

Broadband should become a true converged solution for TETRA and TETRAPOL community

Will Public Safety have new spectrum to making it a reality?

- Extended spectrum for Public Safety now recognized by European authorities
- CASSIDIAN, together with its Customers, strongly supporting actions across the globe
- Innovations in spectrum management
 - Cognitive radios
 - White Space
- Toward a 400 MHz Broadband Ecosystem with high power devices
- Recommendations for spectrum allocations



New standards for Public Safety ?



- Working group at ETSI
- Customer leaderships into EU Public Safety institutions
 - PSCE / TETRA Association role
 - Needs for Customers to raise their voices/needs into PMR associations
 - Convergence of TETRA and TETRAPOL
- Long co-existence between Narrow band and Broadband systems
- How this will be implemented over time?

Next question

- Following slide

**HOW ABOUT THE BASIC NEED;
THE VOICE SERVICES?**

**DO THE NEEDS MEET THE
SUPPLY; i.e. VIDEO STREAM?**

Beyond today's PMR

- Computer Aided Dispatch/Resources Management System – Wants and Warrants
- Report Generation
- Internal Network/Internet Access
- GPS/Automated Vehicle Location/Vehicle Monitoring
- Mobile Video
- Electronic Citation System/Quick Billing
- Telemetry with Fixed Video/High Security Targets
- Traffic Control Systems
- Fire Station Alerting
- Remote Command and Control – Fixed or Mobile Emergency Operation Center
- Biometrics/Breathalyzers/ Emergency Medical Services Related – EKG/X-Ray Analysis/Vitals
- Remote Meter Reading for Water, Gas, Electric – For those agencies who bill as utilities
- IP-PBX Extensions to First Responders and Field Personnel

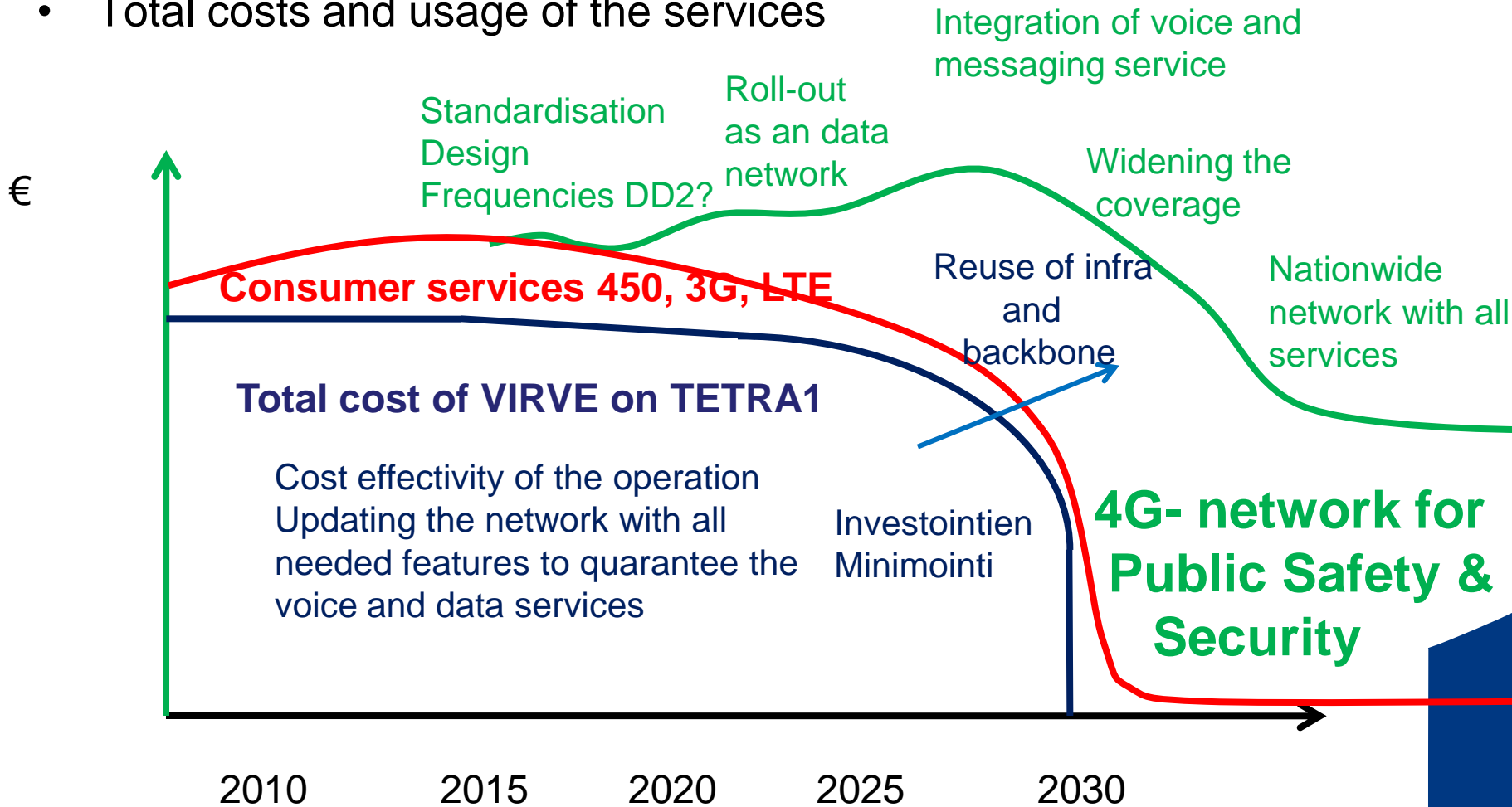
Next Pages

- Summary by Mr. Koivukoski

Let's predict!

The evolution of Public Safety and Security Networks

- Total costs and usage of the services





The future will be interesting

The new technologies of consumer telecommunication has a lot to offer also for public safety, let's utilise the best of it, with concern!!

Thank you for your attention!