



Ambient Networks Architecture in Detail

Andreas Schieder, Ericsson

This presentation has been produced in the context of the Ambient Networks Project. The Ambient Networks Project is part of the European Community's Sixth Framework Program for research and is as such funded by the European Commission.

*All information in this presentation is provided "as is" and no guarantee or warranty is given that the information is fit for any particular purpose. The user thereof uses the information at its sole risk and liability.
For the avoidance of all doubts, the European Commission has no liability in respect of this presentation, which is merely representing the authors view.*



Session Outline

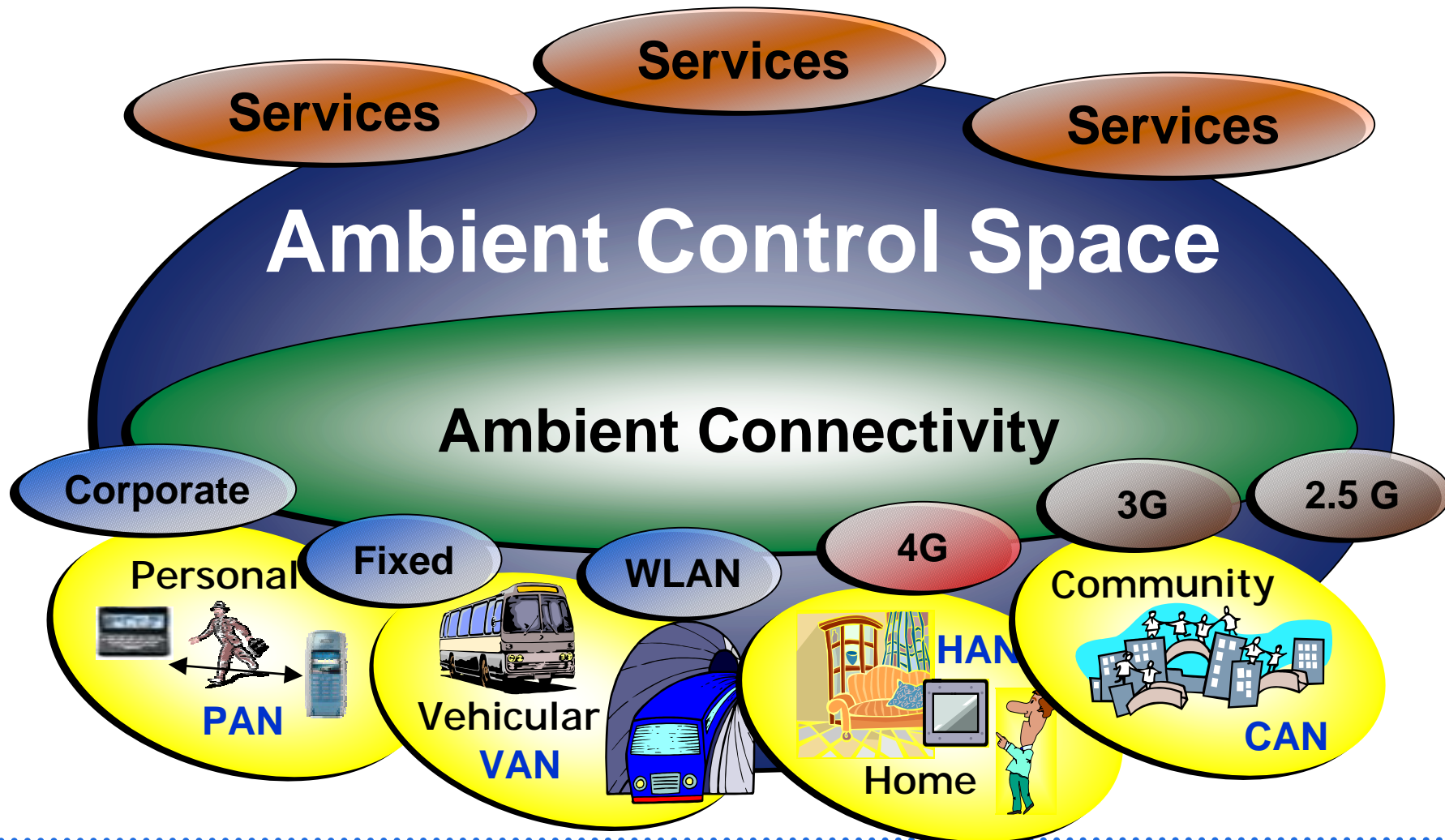


❖ 11:00 – 12:30 **Ambient Networks Architecture in Detail**

- 11:00 – 11:20 **Overview**
(Andreas Schieder, Ericsson)
- 11:20 – 11:40 **Functions of the Ambient Control Space**
(Lars Eggert, NEC)
- 11:40 – 12:00 **Naming, Addressing and Identities in Ambient Networks**
(Bengt Ahlgren, SICS)
- 12:00 – 12:20 **Migration Strategies**
(Bryan Busropan, TNO)
- 12:20 – 12:30 **Questions**

- ❖ Scalable & Affordable networking supporting the dynamics of wireless access
- ❖ Provide rich & easy to use communication services for all in a cost effective manner
- ❖ Increase competition and dynamic cooperation of various players
- ❖ Allow incremental market introduction of new technologies





❖ Architecture Discussion in the Internet Community

- Tendency to structure the Internet into independent realms
- Overlay networks
- Changes to the addressing schemes, e.g. HIP

❖ Trends in the cellular world

- IMS, all-IP networks
- 3GPP standards aim at integrating WLAN and other technologies into the cellular world





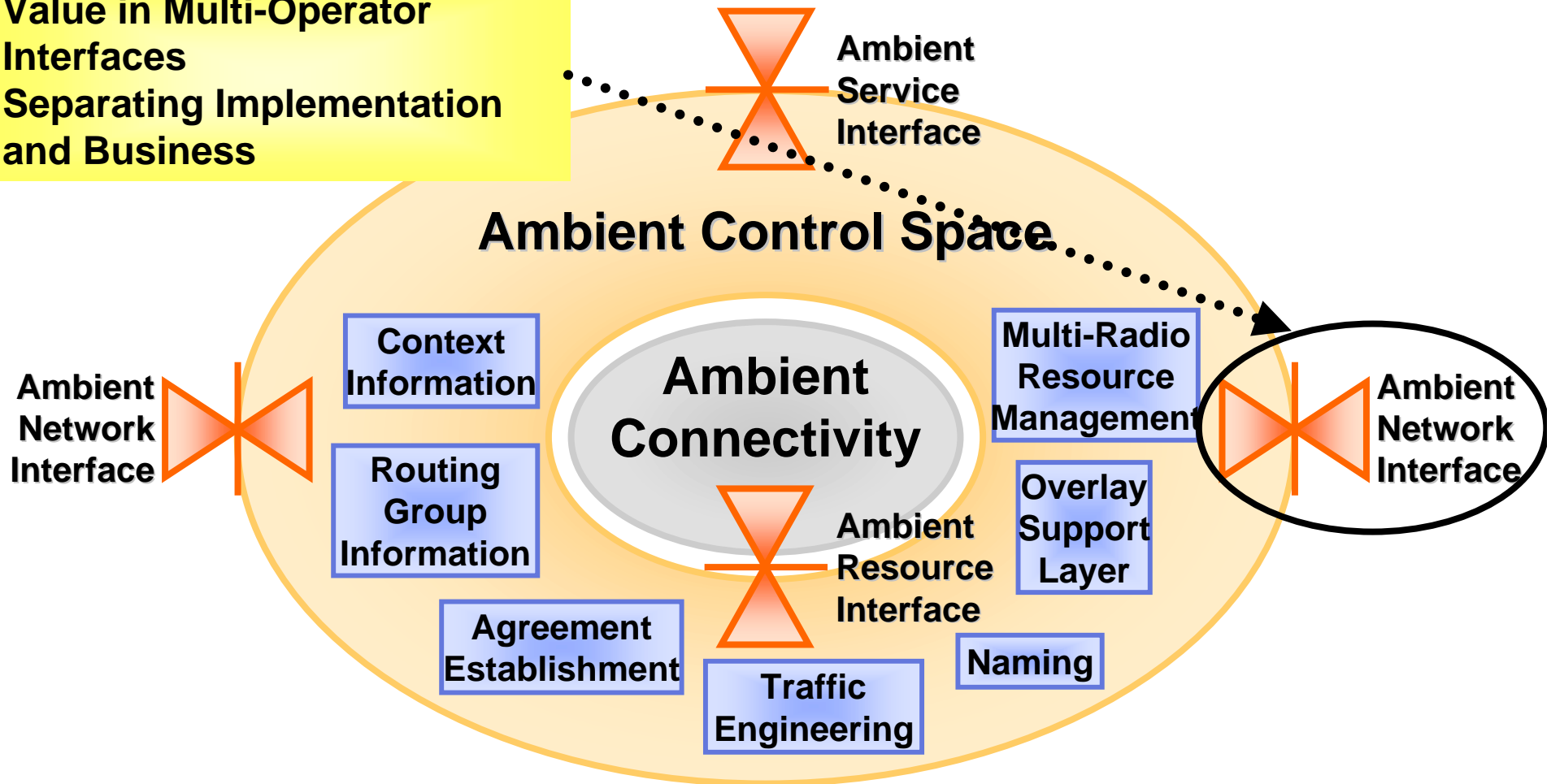
What is the AN Architecture for?



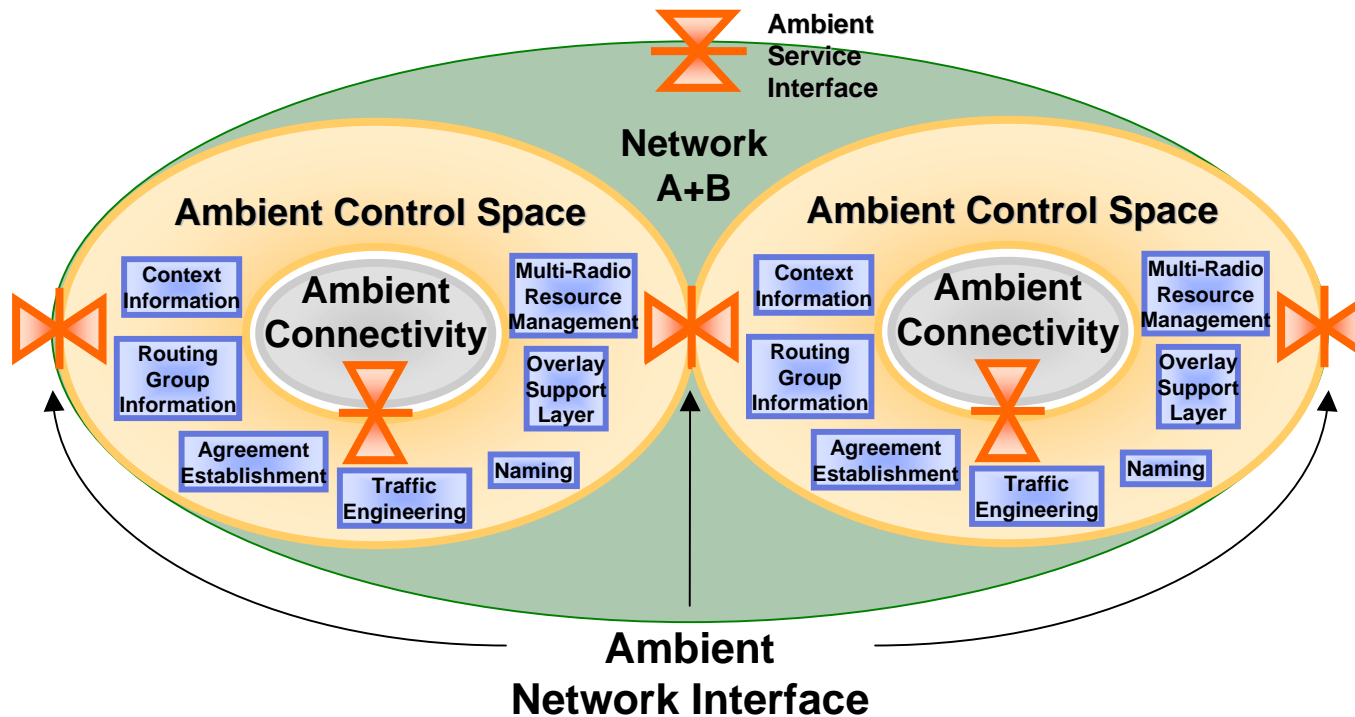
- ❖ A framework to orientate and integrate the project's work
- ❖ To enable consistent interfacing with others
 - networks, services, resources, ...
- ❖ To provide the minimum level of detail to capture the AN essentials
- ❖ To be able to talk about Ambient Networks
 - convincing, consistent, complete
- ❖ Nothing that should block your current work



**Value in Multi-Operator Interfaces
Separating Implementation and Business**



Dynamic merging of heterogeneous networks & network resources ... addresses the challenges





AN Key Issues



- ❖ Transient, spontaneous “composition” of networks
- ❖ Competitive & Cooperative networking (limited sharing of resources & functions)
- ❖ Scalability & Manageability of the concept (easy to use/deploy, many networks everywhere)
- ❖ Integration of legacy technologies & networks



Related Necessary Technical Innovations



- ❖ New generic concepts for
 1. Multi-RAT Radio Resource Management,
 2. Advanced Mobility Management,
 3. Media delivery,
 4. Context Management,
 5. System Security,
 6. Network Self-Management,
 7. Congestion Control



Migration and Deployment Issues



- ❖ Migration and Deployment is part of the concept – just as much as the ‘target architecture’
- ❖ Migration Aspects
 - The Ambient Control Space is an Overlay to existing networks
 - The Control Space operates on an abstracted view of the network resources
 - The AN Concept will become functional even in partial deployment scenarios
 - Not all resources of an Ambient Network have to be AmbNet aware to participate in AN
- ❖ Deployment Aspects
 - We assume the innovation to start from the network edges



The End



Questions ?