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ROAD TRANSPORT AND TRAFFIC

TELEMATICS - DEDICATED SHORT RANGE

COMMUNICATION (DSRC) - DSRC

APPLICATION LAYER

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English version

Road transport and traffic telematics - Dedicated Short Range Communication (DSRC) - DSRC application layer

Télématique de la circulation et du transport routier -
Communication à courte portée - Couche applicative

Straßenverkehrstelematik - Nahbereichskommunikation
Fahrzeug-Bake (DSRC) - Anwendungsschicht

This European Standard was approved by CEN on 4 December 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 12834:2003) has been prepared by Technical Committee CEN TC 278 "Road Transport and Traffic Telematics", the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2004, and conflicting national standards shall be withdrawn at the latest by May 2004.

This document supersedes ENV 12834:1997.

The development of this European Standard was carried out under European Commission Mandate M/018.

This European Standard forms part of a series of European Standards defining the framework of a Dedicated Short-Range Communication (DSRC) link in the Road Transport and Traffic Telematics (RTTT) environment.

The communication requirements of many RTTT applications can be fulfilled by DSRC. The DSRC standards enable compliant communication systems to serve multiple RTTT applications in parallel.

The small service areas and severe real-time constraints require a specific protocol architecture leading to the reduced protocol stack shown in Figure A, built up by the Application Layer, the Data Link Layer, and the Physical Layer. Such an architecture is very common for real-time environments.

This European Standard gives the architecture and services offered by the DSRC Application Layer.

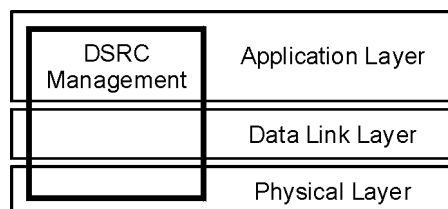


Figure A — DSRC protocol stack

The following set of European Standards for the DSRC link is issued by CEN:

- EN 12253 "DSRC Physical Layer using Microwave at 5,8 GHz";
- EN 12795 "DSRC Data Link Layer: MAC and LLC";
- **EN 12834 "DSRC Application Layer" (this European Standard);**
- prEN 13372 "DSRC Profiles for RTTT Applications".

Annexes A and B are normative. Annexes C and D are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard specifies the Application Layer Core which provides communication tools for applications based on DSRC. These tools consist of Kernels that can be used by application processes via service primitives. The application processes, including application data and application specific functions, are outside the scope of this European Standard.

The standard is named “Application Layer” although

- it does not cover all functionality of OSI Layer 7 and
- it includes functionality from lower layers.

This European Standard uses services provided by DSRC Data Link Layer, [EN 12795], and covers functionality of intermediate layers of the OSI Basic Reference Model [EN ISO/IEC 7498-1].

Figure 1 illustrates the global data flow between the parts of the DSRC stack (Physical, Data Link and Application Layers) and the application.

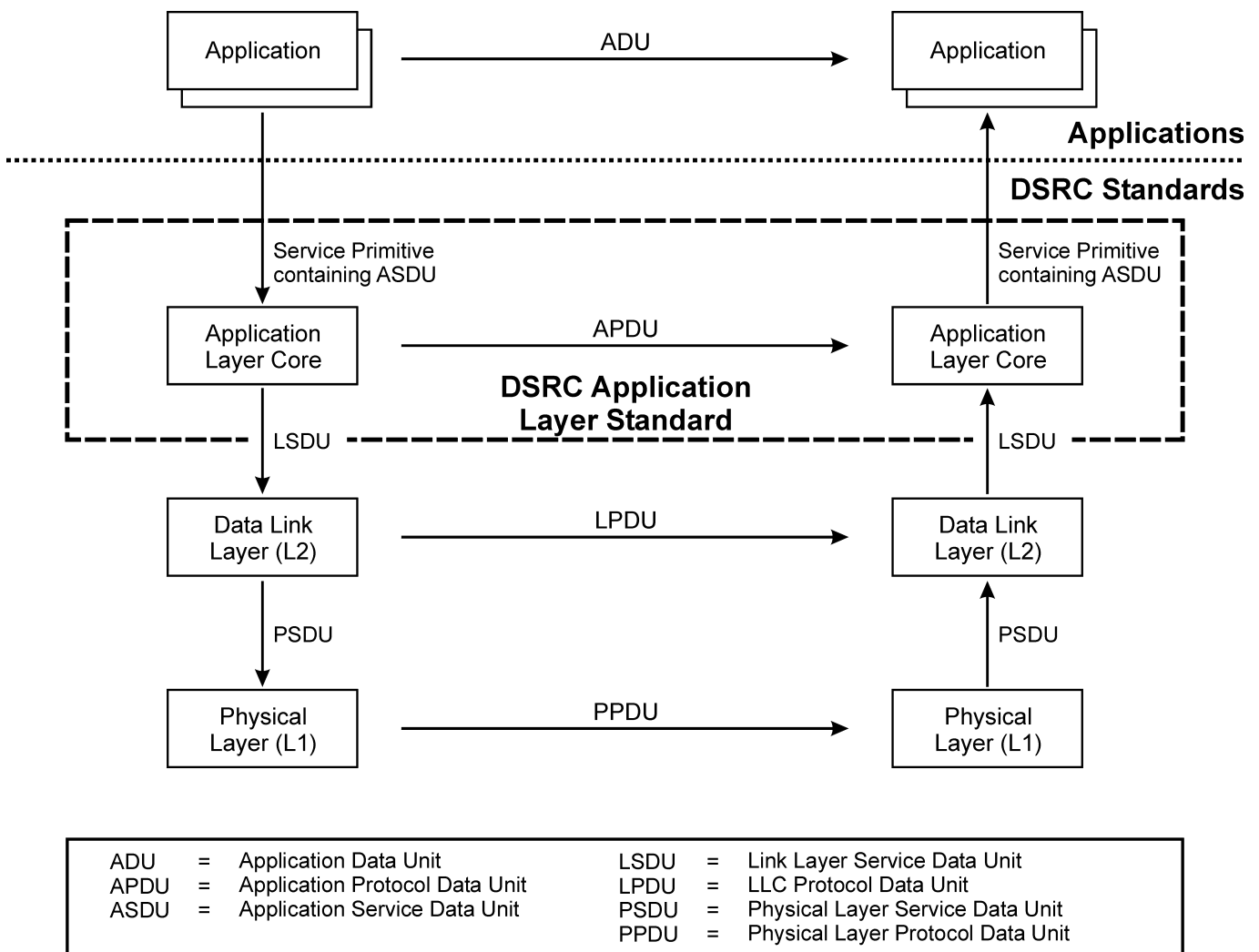


Figure 1 — Architecture and data flow of the DSRC stack

NOTE For definitions of the terms used in Figure 1 see [EN ISO/IEC 7498-1].

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