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## 1 Scope of this document

This document specifies the requirements of Adaptive Applications to the functional cluster persistency of the AUTOSAR Adaptive Platform. The motivation is to provide a standardized and portable way to store and write data persistently.

## 1.1 Document Conventions

The representation of requirements in AUTOSAR documents follows the table specified in [TPS\_STDT\_00078], see Standardization Template, chapter Support for Traceability ([1]).

The verbal forms for the expression of obligation specified in [TPS\_STDT\_00053] shall be used to indicate requirements, see Standardization Template, chapter Support for Traceability ([1]).

## 2 Acronyms and Abbreviations

The glossary below includes acronyms and abbreviations relevant to AP\_RS\_Persistency that are not included in the AUTOSAR Glossary [2].

Abbreviation / Acronym:	Description:
-	-

**Table 2.1: Acronyms and abbreviations**

### 3 Functional overview

The AUTOSAR Adaptive Platform Persistency provides services for Adaptive Applications and other clusters of the AUTOSAR Adaptive Platform. The AUTOSAR Adaptive Platform Persistency is responsible for all aspects which regard the storage/retrieve of data and therefor it has to deal with:

- Persistently store data over boot and ignition cycles
- Load data which is persistently stored
- Access data using a unique identifier
- Read and write data from file-like structures

## 4 Requirements Tracing

The following table references the requirements specified in [3] and links to the fulfillments of these.

Requirement	Description	Satisfied by
[RS_Main_00440]	AUTOSAR shall standardize access to non-volatile memory	<a href="#">[RS_PER_00001]</a> <a href="#">[RS_PER_00002]</a> <a href="#">[RS_PER_00003]</a> <a href="#">[RS_PER_00004]</a>



## 5 Requirements specification

### 5.1 Persistent Storage of Data

**[RS\_PER\_00001] Adaptive Applications shall be able to store data on a platform instance persistently over boot and ignition cycles.** [

<b>Type:</b>	draft
<b>Description:</b>	The functional cluster persistency shall provide the functionality to persistently store data over boot and ignition cycles.
<b>Rationale:</b>	Persistent storage of data
<b>Dependencies:</b>	–
<b>Use Case:</b>	Storage of data which shall be available after an Adaptive Application has been shut down and restarted.
<b>Supporting Material:</b>	–

] ([RS\\_Main\\_00440](#))

**[RS\_PER\_00002] Adaptive Applications shall be able to retrieve data persistently stored on a platform instance.** [

<b>Type:</b>	draft
<b>Description:</b>	The functional cluster persistency shall provide the functionality to load data which is persistently stored.
<b>Rationale:</b>	Load of persistently stored data
<b>Dependencies:</b>	–
<b>Use Case:</b>	An application which stores persistent data needs to restore it in a new boot or ignition cycle.
<b>Supporting Material:</b>	–

] ([RS\\_Main\\_00440](#))

**[RS\_PER\_00003] Adaptive Applications shall be able to access data identified by a unique identifier** [

<b>Type:</b>	draft
<b>Description:</b>	Data shall be stored in way that it can be accessed from an Adaptive Application by using a unique identifier e.g. identify a value by a key.
<b>Rationale:</b>	Load of persistently stored data
<b>Dependencies:</b>	–
<b>Use Case:</b>	Storage of a variety of different data objects that can be accessed individually for loading.
<b>Supporting Material:</b>	–

] ([RS\\_Main\\_00440](#))

**[RS\_PER\_00004] Adaptive Applications shall be able to access file-like structures.** [

<b>Type:</b>	draft
<b>Description:</b>	The Adaptive Platform shall provide a standardized way to access file-like structures. Adaptive Applications shall be able to read and write data from file-like structures.
<b>Rationale:</b>	Filesystem abstraction
<b>Dependencies:</b>	–
<b>Use Case:</b>	Persistent data can be represented in multiple ways, e.g. human-readable format or binary. Every format of data needs to be accessible by the Persistency cluster.
<b>Supporting Material:</b>	–

]([RS\\_Main\\_00440](#))

## 6 References

- [1] Standardization Template  
AUTOSAR\_TPS\_StandardizationTemplate
- [2] Glossary  
AUTOSAR\_TR\_Glossary
- [3] Main Requirements  
AUTOSAR\_RS\_Main