

**How emission-related repair information
is handled by BMW AG.**

Emission-related repair information

1) Who creates the information?

All emission-related repair information, general repair information and diagnostic data is created by the BMW AG, Munich.

2) What format is it created in?

The information is available in different systems which use a huge variety of formats. These formats are: SGML, TOROS, MEDUSA, HTML, TIF, PNG, ASCII.

3) How is it stored and where?

Oracle Database, TOROS Database and proprietary databases in Munich and by different providers.

4) Who uses the information in its stored format?

Publication algorithms and authors use the information in its stored format.

5) How is it accessed, manually or automatically?

The information access takes place automatically by different document management systems, proprietary databases, content management systems, a test module editor and a diagnostic development system.

6) How is it presented to end users, what formats?

For BMW fully-fledged dealers: X-Window on special tester hardware (SCO – Open Server).

For independent repair shops: Web-Browser in HTML and other web-based formats

7) How is it shared / exported to other systems?

For BMW fully-fledged dealers: DIS is only available on special tester hardware. TIS is also available on Windows PCs.

For independent repair shops: the formats are exported and shared via Tarantella through the internet.

8) What other systems use the information?

- Technical Information System (TIS)
- Diagnostic and Information System (DIS)
- Coding Individualisation Programming (CIP)
- Electronic Parts Catalogue (EPC)
- Commercial Service Data (KSD)

9) Who uses these systems?

BMW fully-fledged dealers use the systems.

For independent repair shops special versions of these systems are available at www.bmw-service.de.

Use cases scenarios:

	BMW fully-fledged dealers	Independent repair shops
1) Where do the end users get the information from?	BMW Information Systems: TIS, DIS, CIP, EPC, KSD	BMW Online Service System www.bmw-service.de
2) How do end users receive the information?	CD-ROMs	world-wide-web
3) How often do the end users receive the information?	TIS, KSD, EPC – monthly DIS, CIP – quarterly	on demand
4) Who are the end users?	BMW fully-fledged dealers	Independent repair shops
5) What do they use the information for?	All technical service purposes	All technical service purposes
6) How often should they receive the information?	see 3)	see 3)
7) Where do they keep the information?	CD-ROMs in a jewel case, partly stored on hard-disk	No need to store the information. (see 2)
8) What do they do when they want more information?	not necessary	not necessary
9) What do they do when they want new information?	regularly updated	regularly updated and accessible for paying customers
10) How do they get updates	Updates are sent regularly and automatically by BMW.	Automatically – TIS, KSD → monthly DIS → quarterly
11) Is the information used as input to other systems used by the end users?	not necessary	yes
12) What systems, how is it important to those systems?	not applicable	Information systems of generic information providers (e.g. Autodata, Audatex). Imported manually.

Repair Example: A car has a defective oxygen sensor, the MIL is on and the car comes to an **independent repair shop**.

Necessary steps to repair it:

1. Read out DTCs
2. Find out what the DTCs mean and what part is defective.
3. Find out the part-number and how to order it.
4. Find out where the defective oxygen sensor is, how to remove it and install the new one.
5. Check if the local electrical connections are functioning.
6. Clear DTCs

Current Situation for BMW:

Information type	Read out of DTC's	Diagnostic Information	Part Information	Repair Description	Wiring Diagram
Available for independent repairers?	Yes	Yes	Yes	Yes	Yes
What kind of format?	Electronic program on a generic Scan Tool. Different formats viewed in a Web-Browser	different formats (SGML, TOROS, Medusa, ASCII) displayed in Web-Browser via Tarantella	BMW Electronic Parts Catalogue; format and structure is different to the other Informationtypes	SGML, HTML, PNG, TIF, JPG	different formats (SGML, TOROS, Medusa, ASCII) displayed in Web-Browser via Tarantella
How to get this information?	BMW Online Service System (OSS) www.bmw-service.de	BMW OSS --> Diagnostic and Information System (DIS) www.bmw-service.de	BMW Web-EPC available on internet	BMW OSS --> Technical Information System (TIS) www.bmw-service.de	BMW OSS --> DIS Viewer www.bmw-service.de
What are the costs?	Annual fee 180 €, shorter terms are possible. 3.00 € for 6 minutes approx. 9 € for use case		different prices for each European country	0.40 € for each document	3 € for 6 minutes

Simplified information flow process diagram

