RFID - Call for Mobilizing Ideas

Administrative information				
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Acronym (up to 20 characters)	ComLabel – Components Labelling			
Abstract (max. 10 lines)	The production series of complex technical equipment (e.g. cars and utility vehicles) is characterized by a large variety of assemblies and components. From the start to end of a production assemblies are often changed multiple times. Against this background manufacturers focus more and more on reworking and reusing parts to ensure the long-term supply of spare parts. For reuse parts have to be clearly identified after their lifecycle. Currently the insufficient labelling, the lack of available information, the variety of used number cycles, etc. form a technical and economical obstacle for all participants involved in this process. The availability, the development potential and the future possibilities of RFID offer potential solutions for the problems described above.			

Tick to request that the information given in this form is not to be published	X

Classify the idea, either as a Business or Technological idea, according to the classification below:	AB, AF, BD, T7

Application/Business Idea

If the idea is focused on a business application, use the code ("AA" …"HC") according to the RFID-reference model defined in www.rfid-in-action.eu/rfid-referencemodel (excel Overview)use "OAF" for Other application fields

Technological Idea

If the idea is essentially of a technical nature, use one of the following codes:

T1 – Tag sensors and cost reduction (polymer and new materials)

T2 – Energy supply (new energy supply/harvesting, storage and saving)

T3 – Ubiquitous sensors and readers

T4 – RFID Information architectures

T5 – Smart tags

T6 – Middleware

T7 – Large scale networks and information systems

Please add to this form a short description (maximum 3 pages of text plus – Arial 12, one space - and page of schema that represents graphically the idea. Word (.doc) or a compatible format should be used)

Labelling assemblies and components for the production of exchange parts or reuse by means of RFID

Initial situation:

The production series of complex technical equipment (e.g. cars and utility vehicles) is characterized by a large variety of assemblies and components. From the start to end of a production assemblies are often changed multiple times. For the spare parts management only the latest development state is of relevance since it represents all previous states.

Furthermore, because of shorter innovations cycles in line with a longer product life the classical/traditional warranty period (10-15 years) becomes an economical risk for tier-1 suppliers. Ever more often components are discontinued from tier-2 and tier-3 suppliers before the end of the supply period because the component manufacturers have adopted advanced technologies and changed their production.

Against this background manufacturers focus more and more on reworking and reusing parts to ensure the long-term supply of spare parts. In this context the reuse of electronic components and assemblies plays a special role.

For reuse parts have to be clearly identified after their lifecycle. Currently the insufficient labelling, the lack of available information, the variety of used number cycles, etc. form a technical and economical obstacle for all participants involved in this process. For this reason, the clear labelling and identification of components and assemblies offers high potential and is of great importance.

The EU guideline 2000-53, article 8, requires a labelling which facilitates the identification of components to be reused. This labelling is currently still insufficient and in most cases is mainly used for material recovery purposes (labelling of materials).

Approaches:

The availability, the development potential and the future possibilities of RFID offer potential solutions for the problems described above. The first step towards this goal is the storage of all necessary identification data (e.g. clear allocation throughout all used number cycles). The RFID technology constitutes a clear and reliable method to identify and characterize assemblies. The quick and easy identification of included software and hardware parts is a prerequisite for the reuse of an assembly.

All information which has been generated during the production process can be stored additively and thus allow for the clear identification and tracking of assemblies, even of single components.

In addition to the identification for a future reuse RFID can also be of benefit in other fields of application.

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Special RFID tags may be used as counterfeit protection. Thus, the quality, the stated origin and the guaranteed characteristics of the used components and assemblies can be warranted. The increasing rate of counterfeiting constitutes a growing problem for European manufacturers and suppliers because they invest in research and development while counterfeiters can sell their faked products much cheaper.

An efficient quality assurance requires the allocation and localisation of used components and assemblies. Against this background, the recall of only the affected assemblies offers a large potential.

The recording of operating data and states (assembly-specific allocation of maximum application values) as an index for the remaining function stocks is of great interest for the reconditioning and above all the reuse of components and assemblies.

Schema: