Call for Mobilizing Ideas - Components Labeling -

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Spare Parts World – Initial Situation

- Innovation cycle time decreases
- Product life time increases
- Variety of assemblies and components increases
- Parts delivery obligation increases

Increase in economical risk for OEMs and Tier-1 suppliers

Reworking and re-using of parts become crucial issues to ensure the long-term supply of spare parts
Actual Issues

- OEMs may use different Tier1-suppliers for the same components or for different variants of parts, construction units and assemblies
- From the start to end of production parts and assemblies may underlie multiple changes
- For a unique identification of used components a lot of different information and technical standards (individual number ranges, different identification techniques) need to be aligned
- The resistance of current identification means (e.g. bar codes) is insufficient for the mean life time of automobiles
- Current identification techniques are not able to receive and store information
Components Labeling - Potentials

- Use of RFID-technology to improve the identification of parts and components within automobile industry

- Economic re-use of parts and components

- Improvement of the ecology by the use of re-conditioned parts and components

- Counterfeit protection by electronic marking, identification and traceability

- Foster the leading position in environmental protection in Europe

Pictures: Volkswagen AG
Relevant Parts and Components

Mechanical components

Electric and electronic components

Body parts

Security relevant mechanical components

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Components Labeling – Operation Phases

Phase 1: Production

Phase 2: Maintenance

Phase 3: Disassembly

Phase 4: Reconditioning

Phase 5: Re-use
Phase 1 - Production

Involved parties:
Automotive manufacturers & Component Suppliers

- Additional information can be stored on the RFID-Tag
- The components and parts always carry information
Phase 2 – First Life Cycle
Maintenance and Technical Service

Involved parties:
Garages & Repair Services

• Transparency of the actual conditions of components
Phase 3 - Disassembly

Involved parties: Disassembly companies, OEMs

- Specific car data
- Specific part data (Producer, Model, specific type, mileage)
- Disassembly company
- Reason for Disassembly
- Date
- Classification into re-useable or not re-usable parts
- ....

Short-termed actual and specific part information (actual needs, specific disassembly and / or recovery instructions, ...)
Phase 4 - Reconditioning

Involved parties: Tier 1-X suppliers, specialized companies, OEMs

- Detailed part history available and useful for reconditioning process
- Information of needs and stock of parts in different conditions

Central Database

- Specific part data
- Kind and extent of reconditioning
- Reconditioning company
- ....

Certificate of re-usability
Phase 5 – Re-use

Involved parties: Garages & Repair services

- Specific car data
- Specific part data (Producer, Model, specific type)

Central Database

- Detailed part information for purposeful order of spare parts
- High availability of reconditioned parts with detailed part information
Challenges

- Development of standards for the identification of parts and components for the re-use in the automotive sector
- Development of universal database for different OEMs and suppliers
- Analysis and approval of suitable RFID-tags for usage in the components labelling
- Development of secure operating and information system
- Creation of business model
- Approval of business case
Components Labeling

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