

# ISO 13141:2015-12 (E)

## Electronic fee collection - Localisation augmentation communication for autonomous systems

---

| <b>Contents</b>     |  | <b>Page</b> |
|---------------------|--|-------------|
| Foreword .....      |  | iv          |
| Introduction .....  |  | v           |
| 1                   | Scope .....  | 1           |
| 2                   | Normative references .....                                 | 2           |
| 3                   | Terms and definitions .....                                | 3           |
| 4                   | Abbreviated terms .....                                    | 4           |
| 5                   | Application interface architecture .....                   | 5           |
| 5.1                 | General .....  | 5           |
| 5.2                 | Services provided .....                                    | 5           |
| 5.3                 | Attributes .....   | 5           |
| 5.4                 | Contract and toll context .....                            | 5           |
| 5.5                 | Use of lower layers .....                                  | 6           |
| 5.5.1               | Supported DSRC communication stacks .....                  | 6           |
| 5.5.2               | The use of the CEN DSRC stack .....                        | 6           |
| 6                   | Conformance requirements .....                             | 6           |
| 6.1                 | General .....  | 6           |
| 6.2                 | Functional requirements .....                              | 7           |
| 6.2.1               | Minimum supported transaction details .....                | 7           |
| 6.2.2               | Initialising communication .....                           | 7           |
| 6.2.3               | Writing of data .....                                      | 7           |
| 6.2.4               | Termination of communication .....                         | 7           |
| 6.3                 | Security .....   | 8           |
| 6.3.1               | General .....  | 8           |
| 6.3.2               | Authentication of RSE -- Access credentials .....          | 8           |
| 6.3.3               | Authentication of LAC Data .....                           | 8           |
| 7                   | Attributes .....   | 8           |
| 7.1                 | General .....  | 8           |
| 7.2                 | Data regarding location reference .....                    | 9           |
| 7.3                 | Operational data .....                                     | 10          |
| 7.4                 | OBE contractual data .....                                 | 10          |
| 7.5                 | Security-related data .....                                | 11          |
| 8                   | Transaction model .....                                    | 11          |
| 8.1                 | General .....  | 11          |
| 8.2                 | Initialisation phase .....                                 | 12          |
| 8.2.1               | General structure .....                                    | 12          |
| 8.2.2               | LAC application-specific contents of the BST .....         | 12          |
| 8.2.3               | LAC application-specific contents of the VST .....         | 12          |
| 8.3                 | Transaction phase .....                                    | 12          |
| Annex A (normative) | LAC data type specifications .....                         | 13          |
| Annex B (normative) | PICS proforma for the data elements in the attribute ..... | 14          |

|   |           |
|---|-----------|
| <b>Annex C (informative) ETSI/ES 200-674-1 communication stack usage for LAC applications .....</b> | <b>21</b> |
| <b>Annex D (informative) IR communication usage for LAC applications .....</b>                      | <b>24</b> |
| <b>Annex E (informative) ARIB DSRC communication stack usage for LAC applications .....</b>         | <b>25</b> |
| <b>Annex F (informative) LAC transaction example .....</b>  | <b>27</b> |
| <b>Annex G (informative) Use of this International Standard for the EETS .....</b>                  | <b>29</b> |
| <b>Bibliography .....</b>   | <b>31</b> |