



The Global Language of Business

Global Standard Management Process

# RFID Low-Level Reader Protocol (LLRP)

Mission-specific working group



## What business challenges are being solved?

The GS1 Low-Level Reader Protocol (LLRP) was created in order to streamline the interface between RFID readers and solution software (i.e., middleware). Since then, industry implementation of RFID-based solutions has increased significantly, solving traceability issues more efficiently and with much greater accuracy.

While many GS1 members use RFID applications that are based on LLRP—and its use continues to proliferate—the introduction of the GS1 Gen2V2 air interface in November 2013 has resulted in a growing gap in functionality and lack of interoperability between these standards. Many RFID reader vendors have tried to fill these gaps by creating proprietary solutions to “connect” these two GS1 standards.

This work will reduce the risk of a surge in proprietary solutions that could diverge from the GS1 standards, will make more efficient use of RFID technology, and ultimately increase its value to the GS1 community. The updated standard will safeguard the investments made by industry in GS1's RFID standards, will provide a standards-based way forward that is truly interoperable, and enable the implementation of all available functionality.

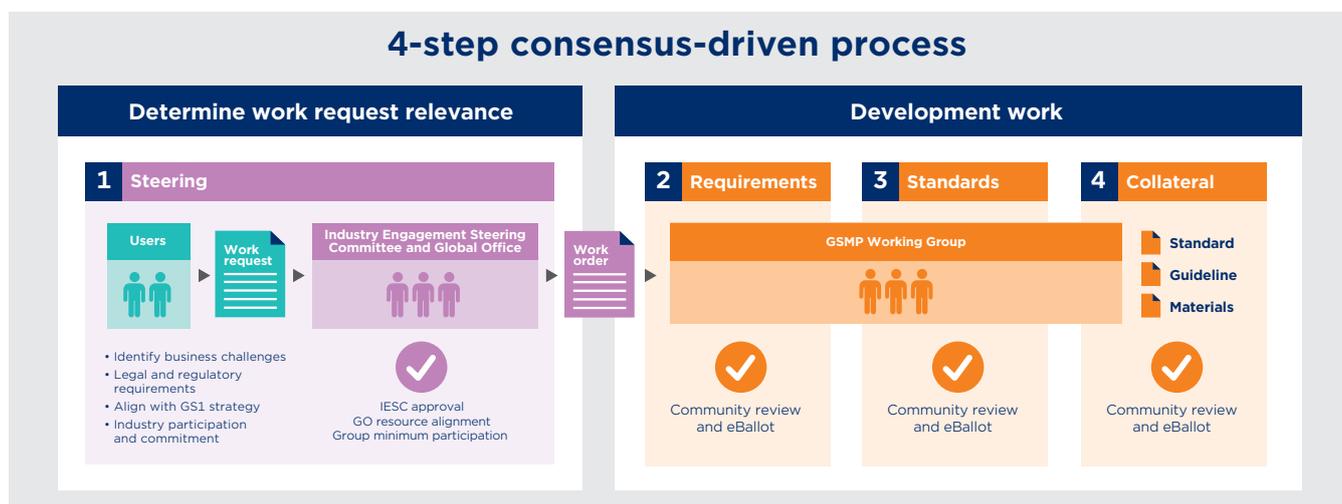
## Background

GS1 has developed and promoted EPC/RFID standards to capture unique identifiers at extremely high rates without line-of-sight contact. The characteristics of RFID are leveraged to boost supply chain visibility and increase inventory accuracy. The set of standards developed by GS1 covers all aspects of an RFID system: identification (Tag Data Standard), RFID Air Interfaces (HF and UHF Gen2), and RFID Software Interfaces (LLRP and ALE).

Since the last revision of LLRP in 2010, new RFID Air Interface features have been standardised to address new business processes and new requirements from the end-user community that have arisen. The aim of this new version of the LLRP standard is to align the different GS1 EPC/RFID standards, creating a more holistic solution, in order to prevent development of proprietary solutions.

The Global Standard Management Process is a community-based forum for businesses facing similar problems to work together and develop standards-based solutions to address them. Active GSMP participants represent industries ranging from retail and consumer goods to fresh foods, healthcare, transport and logistics, government and more—a healthy mix of business and technical people from nearly 60 countries. A neutral participant, GS1 facilitates dialogue and the development of standards-based solutions among business and technical people. Industries represented include retail and consumer goods, fresh foods, healthcare, transport and logistics, governments and many more.

## 4-step consensus-driven process



### Impact

Clarify the use of LLRP within the RFID community so that it will be easier to implement interoperable solutions. The intent is not to cause any disruption, but a way to benefit from the updated features of the Gen2V2 Air Interface while being backward-compatible with existing deployments.

RFID-reader vendors and solution providers will realise significant cost and time savings, as they will no longer need to set up and maintain separate, proprietary solutions.

### Working group objectives

1. Clarify the use of LLRP within the RFID community and identify new features that need to be added in order align with the Gen2V2 Air Interface
2. Ensure that new features do not cause any disruption—and that the revised version of LLRP is backward-compatible with existing deployments
3. The group may identify guidance and training material to support the RFID community when implementing LLRP-based solutions

### Who should join this working group?

Stakeholders of the RFID industry, representing the entire RFID value chain from RFID tag ICs' (Integrated Circuits) manufacturers to software solution providers should join this working group. As LLRP mainly focuses on RFID software interface, RFID reader vendors will play a key role in this working group.

Participants should have knowledge of:

- GS1 EPC Gen2V2 Air Interface
- Low-Level Reader Protocol v1.1
- RFID end user community requirements
- Existing and forthcoming RFID deployment issues to be solved
- Business and IT expertise in supply chain and logistics processes and systems

### Next Steps

#### Join the working group

[www.gs1.org/standards/development-work-groups#LLRP](http://www.gs1.org/standards/development-work-groups#LLRP)

#### Register for the GS1 Industry and Standards Event

Lisbon, Portugal, 9-13 September 2019  
[standards-event-lisbon.gs1.org](http://standards-event-lisbon.gs1.org)

#### Attend the working group kick-off meeting in person or by phone

Lisbon, Portugal, 12 September 2019

### How will this working group operate?

This working group will follow GS1's standards development process:

- Participation Requirements—organisations who wish to participate in this GSMP working group must sign the GS1 IP Policy and the opt-in agreement. These policies help GS1 continue to offer neutral, open supply chain standards that can be implemented on a royalty-free basis.
- GSMP Process—the development of this work will follow the GSMP four-step process, shown above.

For questions, please contact:

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