

## **RFID Glossary of Terms**

**Active tag** - An RFID tag that contains a battery and a transmitter to send information to an RFID reader, rather than reflecting a signal back to the reader from a tag (as a passive tag does).

**ASN** – Advanced Shipping Notice – notification between vendor and customer of parts due or to be delivered.

**Agile reader** - An RFID reader that can read tags operating at different frequencies or different communication protocols.

**Air interface protocol** - The standards that govern how RFID tags and readers communicate.

**Anti-collision** - Anti-collision algorithms are used to collect data from multiple RFID tags at the same time from the same RFID reader without interference.

**Auto-ID Centre** - The original non-profit organisation that helped develop RFID system technology. This work is now continued by EPCglobal.

**Backscatter** - The communication method between a passive RFID tag and a reader. An RF signal sent by a reader is reflected back to the reader from the tag, which is modulated to transmit data.

**Beacon** - An active or semi-passive RFID tag that is programmed to wake up and broadcast a signal at pre-set intervals.

**Commissioning** - Writing data to an RFID tag for the first time. This can happen at the factory or later using a smart label printer.

**Concentrator** - A device used to gather data from multiple RFID readers at the same time.

**Contactless smart card** - A credit card or buyer card that contains an RFID chip to transmit information without having to be swiped through a reader.

**EPC** – Electronic Product Codes

**EPCglobal** - The organisation set up to commercialise RFID technology.

**Far-field communication** - An RFID tag that is located one full wavelength away from an RFID reader.

**HHT** – Hand Held Terminal – portable handheld RFID reader which operators can carry to manually interrogate RFID tags

**Inductive coupling.** - An RFID reader antenna and a tag antenna each have a coil, which together form a magnetic field. The RFID tag draws electrical energy from this field, which powers its microchip. The microchip then changes the electrical characteristics of the tag antenna. These changes are sensed up by the reader antenna and converted into a serial number for the RFID tag.

**Interrogator** - Another name for an RFID reader.

**KPIs** – Key Performance Indicators – used in performance benchmarking processes

**License plate** - A simple RFID system that only tracks RFID tag serial numbers and no other information.

**Middleware** - In the context of an RFID system, refers to software that is used to filter RFID data and pass on useful information to enterprise software applications for further processing.

**Moore's Law** - The observation made in 1965 by Gordon Moore, co-founder of Intel, that the number of transistors per square inch on integrated circuits had doubled every year since the integrated circuit was invented. Moore predicted that this trend would continue for the foreseeable future. In subsequent years, the pace slowed down a bit, but data density has doubled approximately every 18 months, and this is the current definition of Moore's Law.

**Passive tag** - An RFID tag without a power source or transmitter. Radio waves from an RFID reader are collected from the RFID tag antenna, which powers up the microchip in the tag. The tag is then able to send back information stored in the chip to the reader.

**Phantom read** - When a RFID reader reports the presence of a tag that doesn't exist.

**RFID reader** - A device used to communicate with RFID tags. The reader has one or more antennas, which emit radio waves and receive signals back from the tag. The reader is also sometimes called an interrogator because it "interrogates" the tag.

**RFID tag** - A microchip attached to an antenna in a package. An RFID tag contains a unique serial number at a minimum, but commonly contains other information about a product. RFID tags can be passive, semi-passive or active.

**Semi-passive tags** - Similar to active RFID tags, but the battery is used only to run the RFID chip - not to broadcast a signal to a reader.

**Slap and ship** - Placing an RFID tag on a case or pallet just before it is shipped from a supplier. Used to meet a retailer's requirements.

**Smart label** - A bar-code label that contains an RFID tag.

**Transponder**. A radio-frequency transmitter-receiver combo. Another term for a RFID tag.

**Write-once, read-many (WORM)** - A RFID tag that can be written to (changed) only once by a reader. Afterward, the tag can only be read.