

J.M. Hendriks *Implementing UHF RFID Technology within part of Sony's Supply Chain.*
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UHF RFID is a generic term for technologies that use radio waves to automatically identify individual items. There are several methods of identifying objects using RFID, but the most common is to store a serial number that identifies a product and perhaps some additional information on a microchip that is attached to an antenna. The antenna enables the chip to transmit the information to a reader device.

Sony is very interested in using this UHF RFID Technology within their supply chain because they are convinced that they will find many benefits with this technology to increase supply chain efficiency and increase profit. Besides the benefits for Sony itself, many retailers (and thus customers of Sony) are also experimenting with this new technology to find tracking and tracing benefits for their supply chains. The most important retailers who are experimenting with UHF RFID Technology are: Wal-Mart, Tesco, Metro Group, Target, Albertsons and BestBuy. Since the first of January 2005, Wal-Mart already demands that their suppliers use RFID tags on pallet and case level and soon The Metro Group and Tesco will demand the same. All the expenses of implementation of these tags and readers are for the suppliers, and thus for Sony.

The main goals to use UHF RFID are:

- Decrease counterfeiting
- Decrease level of shrinkage
- Increase shrink reduction
- Decrease (safety) stocks
- Asset tracking
- Less handling

Sony is working on the process of defining these advantages on the end-to-end chain for themselves. This means that the objectives for Sony are still under development; the use of UHF RFID must at least lead to an increase in the number of sales and an increase in the supply chain efficiency.

A technical feasibility study is performed in both a laboratory and within the internal distribution processes of Sony, which showed that the readability issues, based on the current status of UHF RFID Technology, have great impact on the possibilities to use RFID on item level. With the current technology status, only a small amount of product groups can benefit from the advantages of UHF RFID.

After defining these product groups where RFID does bring some benefits, the following step is to implement RFID Technology within the working processes of Sony Logistics Europe BV.

For the pilot during this research the scope is the Flat Television group (ATV Group) for the Birkart platform. The reasons for this are:

- Readability may not be an issue during this pilot
- Outbound processes may not be disturbed too much
- Number of movements must be quite small
- Birkart platform is very interested in RFID Technology
- Birkart platform delivers products to the Metro Group

Once the product groups have been chosen, a process re-design has been developed for the pilot to work from. But, since within these processes the software of SAP is a major driver in defining how these processes should look like, too many limitations in developing an efficient TO BE process are introduced.

Because of the limitations from both the immature technology status and the limitations from the SAP software, there is little space to develop efficient processes for Sony's supply chain. Once the technology and the SAP software is further developed, a good re-design can take place and Sony can really benefit from the use of UHF RFID Technology.