

XEIKON

STREAMLINED PRINTING FOR SMART LABELS

White paper



A division of **Flint**Group

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In partnership with

XEIKON

MAGIC ADD

UPMRAFLATAC



Section 01

INTRODUCTION

Magic Add, Xeikon, and UPM Raflatac have come together to create an end-to-end smart label digital printing integration.

The result is a faster, easier, and more cost-efficient **smart label printing process for brand owners and converters.**

In this white paper, we introduce this new end-to-end integrated label printing workflow with a case example of Finnish premium water brand Vellamo. As part of their data-driven product marketing strategy, they will print millions of smart labels this year through the Magic Add and Xeikon smart label printing integration.

DRIVERS

Digitalization is transforming the way brands and users communicate together. It's a natural shift that digital marketing is coming closer to products in the physical world.

Technologies such as digital printing, smart mobile devices and networks, and integrated scanning applications make it easier to adopt the Internet of Packaging (IoP). As they become more developed, early adopter brands like Vellamo are taking data-driven approaches to find efficiencies in marketing, logistics and supply chain control.

Vellamo has chosen the RafMore by UPM Raflatac smart labeling solution, powered by Magic Add IoP technology, to turn their labels smart. With RafMore, they intend to provide always-on digital content to consumers while collecting real-time insights about their products and product users.

Through the printing case of Vellamo's labels, we explain the smart label integration between Magic Add IoP's cloud and Xeikon's cloud - an integration that was born from the mutual need for an error-free, secure, and cost-efficient smart label printing process.



Section 02

SMART LABELS FOR DATA-DRIVEN BUSINESS

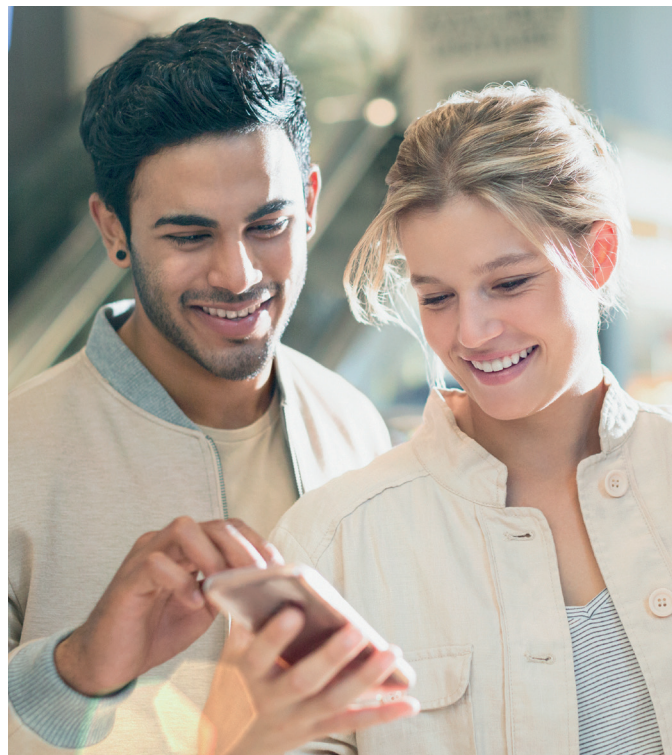
Connected labels bring consumers closer to brands

Any product can be made smart by implementing a machine-readable identity into the product label or packaging. These identities are typically dynamic QR codes, NFC tags, or Invisible Watermarks. While most consumer smart devices can read these identities, they might require installment of a scanning application, depending on the device model or the kind of identifier.

When a consumer scans a product, the unique identity connects the product to the content in the Magic Add IoP cloud platform. The content can be tailored for the consumer's location, previous interactions with the brand's products, or time of scanning.

Brand owners and converters expressed a need to make smart labels available in higher volumes. In response to such requests, the smart label printing integration came about as a natural stepping stone towards a more integrated workflow. Together, Magic Add, UPM Rafatac, and Xeikon started to develop a solution for converters, which would be easy to use and offer to brand owners.

Vellamo is an excellent example of a highly marketing-oriented and data-driven brand looking to find efficiencies in content creation. Their goal is to help consumers in different contexts to learn about their products' unique origin, and have an enjoyable experience while using the product. In exchange, Vellamo gains valuable anonymized real-time data that provides insight into their product users, key locations, and internal processes.



Increasingly, data-driven brands like Vellamo are turning their labels smart. Internet of Packaging cloud technology makes it easier to control the experience dynamically, personalize content based on the user context, and collect real-time digital interaction data to build efficient marketing communications around their products. The platform enables tracking and tracing products for process optimization and authenticity and safety control.

The shift to data-driven marketing with physical products

Many data-driven brands turn their labels smart to collect actionable, real-time data on their target audience. Each time a user scans a product, real-time third-party data accumulates into the cloud. This information is valuable for brands that wish to collect additional data on how consumers perceive their brand and consume content when interacting with their physical products.

On top of this valuable data, brands can use the same smart label and IoP functionalities to track their products to maintain better control of what happens to their product at each point in the product lifecycle.

The physical smart label implementation can be the same for both use cases, depending on the brand's needs. The brand should first decide what data they want to collect, and for which purpose, whether it's for optimizing marketing or operational efficiencies in logistics. The brand can communicate their authenticity and transparency. The data can be mixed and matched to display to different users. User data can also optimize the experience of internal stakeholders in the value chain. For digital marketing campaigns, brands can share digital content and set digital KPIs for physical products as they do for traditional digital marketing channels.

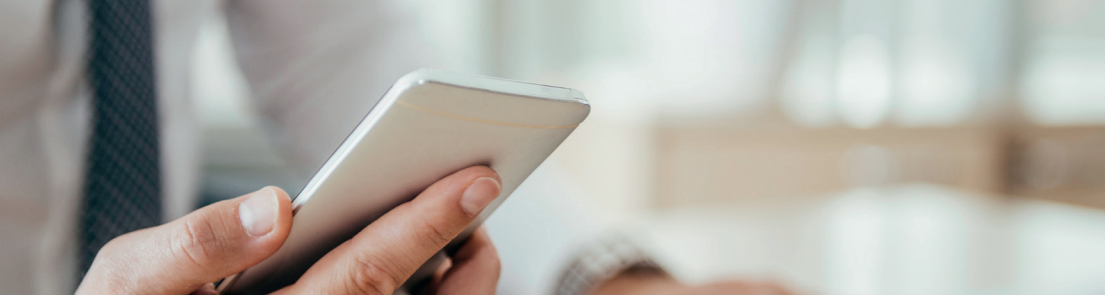
In this sense, the physical product becomes a new media among other digital marketing media. With smart labels, it is easy to implement a dynamic, data-driven strategy to physical interaction between products and users, merging the digital and physical experience. It's also easy to measure how digital content impacts physical actions and user satisfaction.

To collect lifecycle or operational data, brand owners can implement hierarchical identities into product packaging, boxes, or palettes early in the product lifecycle, and manage and monitor these identities in the cloud platform. When products are scanned in the production line and later in logistics, location, and time data is stored into the cloud. This data allows consumers and internal users to have a transparent view on each individual product's history and origin.

Additional security elements, secured with geo-fencing or blockchain, alert brand owners when counterfeiters are attempting to enter counterfeit products in to the market. Such solutions require easy-to-implement and extremely secure integrated production processes that are as fast to implement and print as regular labels, and are available in any geographical location anytime.

The Magic Add, UPM Raflatac, and Xeikon smart label printing integration has managed to reduce this friction for brand owners and converters, and will provide these functionalities to all their customers worldwide as a new standard. With RafMore and Magic Add IoP, there are fully integrable solutions available for brands for a variety of use cases.





How to alter the label design for the smart label experience?

Magic Add, UPM Raflatac's, and Xeikon's goal has been to make smart label implementation as easy as the push of a button, for both smaller and higher volumes of products.

When brands choose smart labels with unique identifiers, it is relatively quick to start building services and content around them. Naturally, the label design might need some reorganization because the identifier and call-to-action require space in the label. Therefore, what the brand needs to decide at the first stage is the number of labels, the label design, and the initial content or experience that the brand wants to offer users.

With the smart label application on Xeikon digital print press, volumes can be small or high, and the printing process can remain easy and effortless for the brand owner. Brand owners manage their content with a dashboard from Magic Add's IoP platform. Brands can set different triggers to modify

the content users see with each scan, such as the location of the scan, a special edition or shipment, or how many times a user has scanned the brand's products.

Brand owners and marketers know their brand personality the best. Every brand has to design the experience so that it integrates with their label and brand design. But the user experience must be relevant and personalized enough to provide extra value to the user. We provide support, inspiration, and best practices to facilitate the building of the initial product experiences.



"The essential thing for the visual design of the smart label is that the scannable ID stands out, and there is a clear call-to-action beside it, indicating the value the user gets by scanning the product."

Ari Salonen, Magic Add

Section 03

THE INTEGRATED SMART LABEL PRINTING WORKFLOW

Magic Add, UPM Raflatac, and Xeikon originally started developing the smart label printing integration in order to make RafMore smart label solutions more readily available to brand owners, and to remove manual work and risk of human error from the printing process. This integrated workflow was necessary for Magic Add, UPM Raflatac, and Xeikon to make smart label implementation smooth with all volume ranges and to make additional label orders available with just a push of a button.

“Smart labels, or labels with unique or changing elements, is not a new thing. They have been around for thirty years. Today, the increasing interest of brand owners, on the one hand, to track where their products move, and on the other, to initiate direct communications through their packaging to stand out from the competition, have increased the requests for smart labels at converters” says **Jeroen Van Bauwel** from Xeikon.

The development process for the smart label printing integration started back in 2018. There were increasing requests from brand owners to label converters to add smart packaging elements into the label. Xeikon had discussions with long-time partner UPM Raflatac, who was developing their smart label solution RafMore with Magic Add. UPM Raflatac needed an integrated solution to order their unique labels for tracking purposes. “We were looking for technology for our customers to answer their requirements, and there was a need for an end-to-end integrated solution, so we needed to work together with different parties in such an environment.” Jeroen Van Bauwel from Xeikon.

“Especially for security applications, or when brand owners want to make use of smart labels to track and trace the supply chain to make sure that there are no counterfeit products, there is a need for a secure process - not too many steps in between.” Van Bauwel continues.

“We needed to be able to remove all possible hiccups and errors in the process.”

Jeroen Van Bauwel, Xeikon

“The development process took roughly two years because we wanted to take a more comprehensive approach and not just connect APIs. We needed to set up a kind of code environment first. When the code environment was in place, it was fairly easy to connect the two databases.” **Johan Peeters** from Xeikon.

“Along the development process, we tested the integration with RafCycle labels. As the first consumer product printing job over the integration, we printed smart labels for

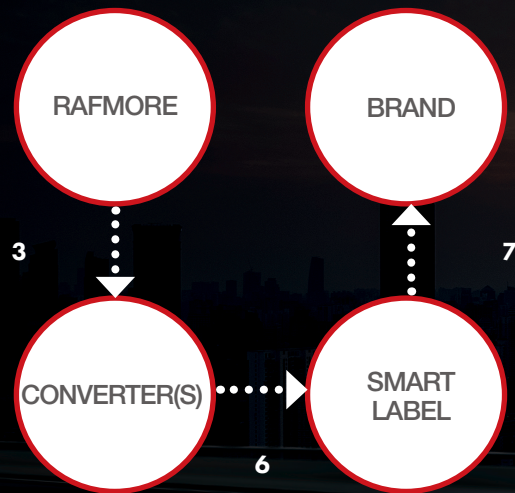
Paulig’s coffee packaging alongside a tracking case of sustainably farmed coffee beans from Guatemala to Finland. We haven’t seen any problem integrating the smart label application with the printing process. Labels were generated at rated print speed, says Johan Peeters from Xeikon.

Now the development is complete. **Along with Xeikon’s new software release, the 7.0., including the smart label printing integration, manual work will be made redundant at the converter’s side.**

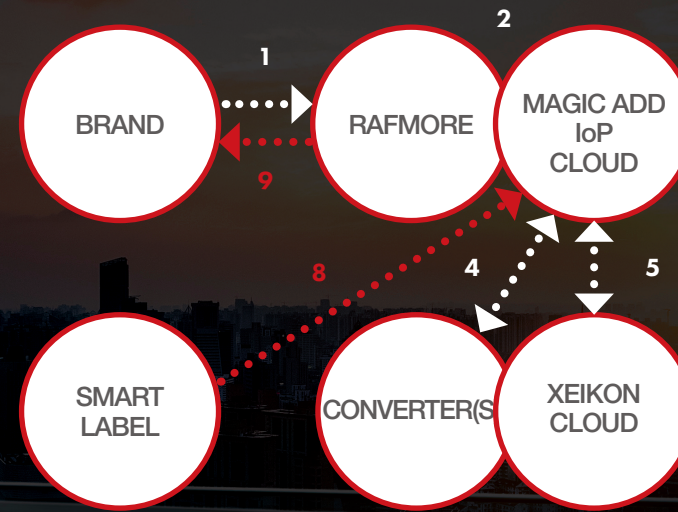


THE STREAMLINED SMART LABEL PRINTING PROCESS

Material flow



Data-flow



1. Brand owner places a smart label order with RafMore.
2. RafMore makes a request for a new product job folder at Magic Add IoP platform and a printing job order is placed to the converter, along with the designs for the new labels.
3. The converter orders UPM Raflatac's material.
4. Magic Add creates a product job folder with credentials and sends the credentials to the converter.
5. The converter uses the Xeikon front-end to initiate token fetching from the Magic Add cloud.

6. The converter performs the printing job. The brand's experience is the same as any regular label printing job.
7. Products are labeled with smart labels.
8. Data from scanning the smart labels along the products life-cycle is collected and shown content is managed by Magic Add IoP Cloud.
9. Actionable real-time data is visualised to the Brand.



The end-to-end integrated smart label printing solution

At the first stage, there is a brand that wants to add smartness into their labels. They contact RafMore or Magic Add to make the order. The order for the smart label goes to UPM Raflat-ac, and a new product job folder is created on the Magic Add IoP platform. The order is placed at the converter, and they receive the designs for the labels. The cloud platform will automatically talk to Xeikon's X-800 digital front-end, and based on specified settings on the job, it will automatically populate, for example, 10,000 tokens from the application.

Next, the converter enters the credentials to the Xeikon front-end to fetch the tokens for the printing job. The transfer of tokens from the Magic Add IoP platform is fully integrated and optimized. The product job folder can be assigned to one printer or several printers if the brand owner wants to spread the job to multiple locations. The printers are going to get login access to the product job folder and the product tokens under the folder.

Now, within the Xeikon digital front-end, they are going to create a printing job, and link the smart label printing job with a specific folder they have access to. Now that they have the access to the folder, the design of the label for the printing job, they can create the smart functionality on top of these labels, within the Xeikon digital front-end and via the cloud, by downloading the elements that need to be used on the labels to make them unique and variable.

Through the cloud, the converter gets access to the brand owner's product job folder and will get all the variable elements that need to be available. The variable data will be added while printing the labels in text, barcodes, datamatrices, QR-codes or other formats.

FETCHING THE METADATA

Traditionally, smart label metadata has been copied and pasted from Excel or text files. Depending on the complexity of the labels, such as several changing elements, manual work of the operator might be needed. The new printing integration removes all manual labor. The operator now gets credentials from the Magic Add IoP platform that he or she inserts in the same place where previously the Excel or text form metadata was added. The process is not significantly different, but now there is no need for manual work or risk of human error.

UPDATING THE SOFTWARE

Xeikon offers a full update service for print houses which includes updates in the software and hardware.

"Now there's one step less in the printing process. Now we don't need to think about who processes the unique identifier data; we can fetch the credentials and focus solely on printing the data."

Timo Eero, Nordic Label Ltd

The result

"This year we will be announcing several new presses into the market, and together with that release, we are also providing a new annual software release, the 7.0., that also has that new smart label functionality onboard. The update will be available for both new and existing presses. Existing presses need to integrate the software to the most recent level and it is very easy to do over the air. From the moment they have the 7.0. installed, they can smoothly and without any intervention, integrate the smart label application to their digital press."

Jeroen Van Bauwel, Xeikon

THE CONVERTER'S EXPERIENCE

"Smooth and easy."

**Timo Eero,
Nordic Label**

THE BRAND OWNERS EXPERIENCE

"We didn't see any difference in our ordering process"

**Petteri Ahonen,
Vellamo**



"The smart label printing process is now exactly the same with any Xeikon machine, wherever in the world. If a brand wants to move the production to another location or several locations, they can easily move label production there and have an identical smart label printing process, without any extra work required from brand owners or converters."

**Sami Poukka,
UPM Raflatac**

Section 04

THE CONSUMER AND BRAND OWNER EXPERIENCE

Vellamo uses smart labels to connect with users

Brand owners are looking for ways to efficiently gain insight into their target audience and collect data on their product movements. For sustainable brands interested in auditing their carbon footprint and product safety, smart labels are an efficient solution to track and trace products in the production and logistics phase. Consumers benefit from immediate access to valuable and relevant product information and a more personalized and contextual digital experience.

Vellamo saw smart labels as a holistic solution supporting their sustainable conduct of business, and their highly marketing-focused activities. **Petteri Ahonen**, the CEO at Vellamo, sees smart labels as the ideal solution for Fast Moving Consumer Goods (FMCG) brands, as the technology supports their marketing-centric approach with a constant flow of data and easy-to-test models to consumer and B2B communications.

"There were so many upsides in the technology; tracking and authentication, increased food safety, and agile marketing communications - we just had to have it." says Petteri Ahonen from Vellamo.

The first batches of the smart labels have been printed on UPM Raflatac's Forest Film at Nordic Label Oy in Finland, using Xeikon technology. The related scanning technology is installed. "As for the internal process of getting the smart labels, we didn't see any difference regarding the label ordering process, so the whole printing process over the Xeikon integration went smoothly.

The implementation of dynamic QR codes on 50 different label designs took some time because, especially in some markets, the requirements for label information are high by law", Ahonen explains.



NEXT STEPS FOR VELLAMO

“We will utilize the technology in our general marketing communications and also in highly targeted campaigns and events. We will provide significantly different information from the same link according to the market and context where the product is used. The consumers will be able to authenticate the products, to see that the product they are holding is real – authentic Vellamo water from a verified source – and see more information about sustainability together with the general brand story. We are also planning co-marketing activities around our bottles with our biggest hotel chain clients.”



“All in all, we see that smart labels bring us a tremendous competitive advantage if I think about our overall brand image and the brand association we want to convey. In that sense, smart labels as a strategy integrate well with our business. As a highly data-driven and marketing-oriented company, we are purely interested in the efficient collection of highly targeted and well-analyzed data. With that strategy, we will save plenty of resources in the long run, and we can grow rationally. That’s why optimal data is highly essential for us.”

“When we talk about FMCG brands, the importance of marketing is enormous, and the more efficiently we can produce marketing content, the more competitive we can remain in the long run. We are using smart labels to maximize our competitiveness.”

Petteri Ahonen, Vellamo

Section 05

SUMMARY

The purpose of this white paper was to introduce the benefits of the smart label integration between RafMore smart labels, Magic Add's Internet of Packaging (IoP) platform, and Xeikon printing technology. As we saw in the smart label printing case of the brand Vellamo, smart labels could be ordered and printed as easily as any regular labels, and bring actionable data to brands instantly after implementation.

For UPM Raflatac, Magic Add, and Xeikon the integration has been a success. The new workflow naturally integrates with the development that is happening in business towards a data-driven model affecting physical products.

A cloud integration between Magic Add's IoP platform and Xeikon printing software makes label printing easy and fast for progressive companies like Vellamo.

The Xeikon integration changes the process for smart label printing by allowing the labels to be ordered directly from the Magic Add IoP cloud, resulting in:

- ▶ Increased speed in smart label implementation
- ▶ Increased safety and reduced chances for manual errors when ordering smart labels
- ▶ Reduced manual work in the printing process and automatic updates for all Xeikon digital presses
- ▶ Always identical smart label ordering process for the brand owner.



"Xeikon's product roadmap is clear: all our new developments are done to support a "transformation" of digital label printing to digital label manufacturing. Xeikon has the experience, the expertise, the tools and the technology available to make smart label solutions a reality. We are recognised as a technology agnostic supplier and a trusted advisor to the label community.

Every product we bring to market is designed and created for tomorrow's challenges. Our mission is to provide added value solutions and automate label production."

Jeroen Van Bauwel, Xeikon

UPMRAFLATAC

RafMore by UPM Raflatac is a turnkey solution for brands that wish to improve the user experience and efficiency across company operations with smart labels. RafMore is a dynamic combination of product labels and Magic Add's cloud-based Internet of Packaging (IoP) platform, managing the unique identities of products.

MAGIC ADD

Magic Add is the platform provider for RafMore, enabling brands to make their product labels smart and scannable. The cloud-based Magic Add IoP platform allows brands to dynamically manage the experience and data flow around the products, bringing benefits at scale for marketing, logistics, and business at large.

XEIKON

Xeikon, a division of Flint Group, is a long-standing leader and innovator in digital printing technology. Grounded in the principles of quality, flexibility and sustainability, Xeikon designs, develops and delivers web-fed digital colour presses for label and packaging applications, document printing, and commercial printing. These printing machines work with different imaging technologies, open workflow software and application-specific consumables.

VELLAMO°

Vellamo Water is a Finnish luxury water brand currently exploring RafMore to create extraordinary experiences around their products and to learn more about their target audience. Vellamo has printed their RafMore smart labels over the Magic Add and Xeikon smart label integration and plan to print millions of smart labels over the integration only in 2020.

NORDIC LABEL

Nordic Label Ltd, part of Tilgmann group, is the leading label manufacturer in Finland. They manufacture high-quality labels with offset, flexo, and digital printing machines for food and beverage manufacturers and industrial applications. Nordic Label operates on Xeikon's digital printing machine.

ABOUT XEIKON

Xeikon is an innovator in digital printing technology. The company designs, develops and delivers web-fed digital color presses for label and packaging applications, document printing, as well as commercial printing. These presses utilize LED-array-based dry toner electrophotography, open workflow software and application-specific toners. Xeikon also manufactures basysPrint computer-to-plate (CtP) solutions for the commercial printing market. These proven CtP systems combine the latest exposure techniques with cost-efficient UV plate technology, high imaging quality and flexibility. For the flexographic market, Xeikon offers digital platemaking systems under the

ThermoFlexX brand name. ThermoFlexX systems provide high resolution plate exposure including screening, color management, as well as workflow management. All the Xeikon solutions are designed with the overarching principles of profitability, quality, flexibility and sustainability in mind. With these guiding principles and a deep, intimate knowledge of its customers, Xeikon continues to be one of the industry's leading innovators of products and solutions.

For more information,
visit www.xeikon.com

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