



Grape-to-Glass

**The New Horizon of the
Wine Sector.**

Grape-to-Glass: The New Horizon of the Wine Sector

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Having complete control over the life cycle of a wine, from the vine to the customer's glass, has long been an unattainable horizon for producers. Previously, when the cases of wine left the cellar, they lived their own lives from there, and it was very difficult for the producer to follow his product, to have feedback on his work or to have contact with the end customer. The efforts and know-how put into the making of the wine were concentrated in the cases that left the estate and accompanied the wine on an epic with an unknown future. Only professionals, experts and enthusiasts really had access to all the richness and all the complexity of the product and its development.

The demand expressed by consumers for access to products of better quality, more natural, more ecological, more rooted in a terroir, have led to an increased need for information and transparency and to the development of new communication possibilities.

At the same time, democratization, the internationalization of markets and consumption have increased the global circulation of wines, which has caused the emergence of opaque markets where counterfeits, diversions, manipulations and other practices dangerous for the image of brands and consumer health.

The regulatory environment is gradually taking note of this state of affairs, and of these new practices, in particular at European level. The recent Farm to Fork directive of the European Union certainly marks a major turning point for the years to come and attests to the ambition to make the European food system safer, healthier and more invested in sustainable development. For the first time, the European Union is giving itself the means to put in place a regulation of the "Food Chain", with clear and measurable objectives across the entire value chain, whether it is production,



distribution but also consumption. Wine products, wines and spirits are fully affected by this directive. This comprehensive strategy sets out legislative initiatives for the coming years aimed at making the European food system more sustainable in terms of environmental impact while providing economic, social and health benefits. Among the initiatives highlighted, the safety and sustainable development of the food chain are certainly two of the most striking, as they

affect consumer health safety.

The threats to the security of the European food system are numerous. Illegal, unreported or unregulated activities have proliferated in the supply chain for a long time, and are well known to wine and spirits professionals: false names, recycled and re-processed products, false products, dangerous substances substituted for those authorized, introduction or substitution of fakes in the circuits are some dramatic examples of the criminal practices to which consumers are exposed.

Wine players are therefore today in this position where they must establish a relationship of trust with the end customer and use all their knowledge and practices as competitive advantages, watch carefully over the circulation and distribution of their products at the global level, and comply with new regulations with high ambitions, with constraints which are no less so.

Ensure the physical security of products: authenticate & trace

The only viable way to truly secure the supply chain is to integrate a unitary identification and a digital security marking, physically, on the products - or the primary container closest to the product - in order to authenticate it, then to trace it individually throughout its life cycle. This is what has long been understood and implemented by certain health, cosmetic or luxury industries, for example, subjected to extreme pressure from illegal practices. Some forerunners in the world of wine, alcohols and spirits have already integrated it. By using these technologies, they have succeeded in detecting and then reducing fraud and embezzlement, in controlling production and distribution channels and networks, in attracting, reassuring and retaining consumers. It is only through physical security and unit traceability of products that it will be possible to secure the value chain of wine products.

Advanced Track & Trace has worked for many years with wine and spirits producers, and provides them with turnkey solutions based on the physical marking of products, unit identification, and traceability throughout the life of the products, able to easily handle large production volumes. Advanced Track & Trace is thus proud to count among its customers many prestigious Grands Vins in Bordeaux as well as the Alliance des Crus Bourgeois du Médoc, great wines in Burgundy, Provence, Champagne, and leading brands in the world of alcohols and spirits, for example in Japan, a total of more than 350 Châteaux, Wineries, Brands.



Blockchain, the Illusion of a Solution

We are currently seeing many initiatives related to Blockchain technologies flourish. Beyond the “buzzword”, what exactly does this cover? Very schematically, the Blockchain is a technology for the

storage and transmission of encrypted and distributed information, that is to say without a central storage unit. It records all the transactions carried out since a given moment, and, by their distribution in "blocks" allows by comparison to detect any falsification of the data. Blockchain technology has done wonders in finance and fintechs, and it is only natural that it is now looking for its way into other applications. Thus, in the case of the food chain, it would be possible, for example, to secure all transactions: it is thus possible to identify, integrate into the value chain all invoices, all transport and delivery slips, and to ensure their integrity. So we think, it is possible to secure the entire value chain, and consequently, the entire food chain. This technology is therefore excellent for securing transactions, but is it sufficient to ensure the security of the food system? The answer is very clearly and resolutely: No. The blockchain only secures transactions. It is capable of securing acts on the value chain, but it lacks the determining criterion of security, which is that of the physical security of products. It is quite possible that all transactions - purchases, transport, deliveries - were legitimate, and that despite everything, false products were introduced into the value chain. Yes, the products were bought here and delivered there: but how can you be sure that fakes have not been introduced in the meantime or upstream or downstream? This is precisely how unscrupulous operators and criminals operate, taking advantage of the lack of physical track and trace solutions on products.

Imagine a monetary system where transactions are absolutely secure, by blockchain (or some other solution), and where banknotes and denominations are not! False cuts would mix without problem with others, ultimately destroying the entire system and the confidence of the population. This is exactly what is happening in the food chain right now. The consumer is not mistaken.

The advantages of unitary marking technologies (PUF*) to ensure the physical security of bottles

First, digital traceability authentication technologies make it possible to detect fakes immediately and remotely. The first step is to give each bottle a unitary digital identifier, or "Digital ID". The product is thus marked for its entire lifespan, and it can be authenticated and traced at all stages in the logistics chain, up to the consumer. In addition, it is also possible to detect any illegal practice: why the code disappeared? Why are these products no longer in the batch or delivery to which they belonged? Why do they find themselves in a different market from the one they were intended for? Why was he manipulated? Abnormal situations are detected which makes it possible to initiate corrective measures, either at the level of the manufacturer, or at the level of other actors in the chain, or the competent authorities and services. Beyond their intrinsic effectiveness, they are also proof of a good mastery of the products and their organization by a producer, by a Brand.



Improve consumer information & relationship

In addition to the security advantages, digital physical marking technologies bring a crucial benefit in the field of the relationship with the consumer. It is likely that the space taken up on labels by regulatory information - labeling of origin, provenance, nutritional information, climatic, environmental and even social aspects of products - will increase considerably in the future, leaving room for improvement, less and less space for information from the producer. New labeling practices will have to be put in place, while consumers will no longer be satisfied with the little information that is now communicated to them. The consumer is more and more demanding and producers must find new channels to demonstrate the quality of their products, maintain confidence and build loyalty. Digital physical marking technologies allow brands to establish a direct connection with the consumer via a simple smartphone and with a simple click, to provide them, in addition to regulatory information which can be certified by a trusted third party, all the information that they deem relevant in order to stand out from the competition and promote their products. The product then becomes the best vector of communication, and the unique code tells its story: the terroir where it was produced, the climatic and geological conditions, the period when the grape was harvested, how it was processed, assembled, aged, bottled, all the know-how of the producer. Under future European directives, it will also be possible to specify the environmental conditions of production: preservation of biodiversity, use of water, pesticides, and other good practices.



In addition, being digital, these technologies are extremely flexible and scalable: the information available to the consumer can be adapted through unit identification, in time and space, and according to news and circumstances. Wine tasting advice will not be the same if the wine is delivered to Paris, New York, Moscow or Shanghai and can, thanks to these technologies, be adapted according to geographies.

Competitive solutions



Finally, physical marking technologies respond perfectly to issues of economic feasibility. One fear that arose following the publication of the Farm-to-Fork Directive was that of the costs of implementing such measures. Some have warned of a risk of cost explosion, leading to debt and then to the disappearance of the most risky actors, organic producers or small producers. Fortunately, digital technologies for the physical marking of

products are extremely economical, and can be implemented at controlled costs, largely offset by commercial advantages and gains. They integrate seamlessly into existing marking and printing processes, require no additional consumables - no special inks, holograms, or special "tags", and have a zero carbon footprint. Under these conditions, their cost is largely offset by the benefits that users derive from them, whether in terms of security or the relationship of trust created with the consumer.

For example, Advanced Track & Trace has been the Traceability-Safety-CRM partner of the Alliance des Crus Bourgeois du Médoc union for more than 9 years, whose members benefit from ATT's know-how and experience, ensuring the wine traceability, relationship with distribution networks and consumers, advanced fraud detection and protection against counterfeit. It also allows the Syndicate to control the volumes put on the market. ATT manages all operations, from the supply of stickers, the management of volumes, to the exploitation of data on the market. Advanced Track & Trace has also developed a totally innovative solution with the Syndicat Général des Vignerons de Champagne. Manufactured by approved "capsuliers" who integrate authentication and unit identification on their production sites, the Cloé® cap, the first connected cap for sparkling wines, is distributed to Champagne wineries by the SGV. It accompanies the bottles placed on the market, thus ensuring unit traceability and authentication of each bottle produced and distributed. QR codes that can be activated before and after purchase create a privileged link, stimulate and enrich the relationship with the consumer.



The ID Packline software allows wineries to ensure a complete Track & Trace and manage CRM. Traceability, authentication, CRM and security have made Cloé the ideal tool to protect and promote Champagne wines.

More generally, customers trust ATT to monitor and protect their wines throughout the supply chain until tasting. ATT solutions - unitary glass marking upstream for the pull-stopper, association with authenticators and unit identifiers at the time of dressing, management via the ID PackLine software - have made it possible to control the life of the products and establish a chain of trust with promoters, distributors and customers.

Grape-to-Glass, a new horizon for the wine sector

The Farm-to-Fork Directive is certainly one of the most ambitious initiatives in the world to ensure the safety and sustainability of a food system. There is no doubt that Europe will become one of the

most regulated but also the safest regions in the world when it comes to food. This represents a great opportunity for producers and manufacturers to implement genuine safety and traceability strategies, and to integrate these assets to ensure, win or regain consumer confidence in Europe and beyond. For other regions of the world, Asia or the Americas, in which consumers have the same concerns and fears, the appetite for European products that have become authenticated and have guaranteed traceability is growing rapidly, thus opening up new opportunities and new markets for those who know how to evolve and adapt. The technologies are available, they are secure, proven, economically viable and even - if so at the political will of the EU, fit easily into the eIDAS trust environment. The companies that use them are the first to stand out and benefit from this new environment.

The wine sector, by adopting an identical approach, to that of "farm-to-fork", "Grape-to-Glass" in this case, should logically derive all the benefits:

- Fully control the life cycle of a wine, from the vine to the glass, and be able to trace a product, establish direct communication with the end customer.
- Fight against parallel markets, counterfeits, diversions, manipulations or other practices damaging the brand image, turnover, and sometimes directly to the health of the consumer
- Promote its terroir, its domain, all the know-how put into the creation of wine and allow the customer to access all the richness and all the complexity of the product and its development.

Advanced Track & Trace, a French company, has for many years been one of the world leaders in traceability solutions for the wine and spirits sector. We provide turnkey solutions that are extremely quick to install or tailor-made solutions jointly developed with our customers to meet more complex needs or situations, depending on the needs. Our history of success in this market, in which cutting-edge technologies serve tradition and, ultimately, natural alchemy, makes Advanced Track & Trace your privileged partner to ensure the safety and traceability of your productions.

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About Advanced Track & Trace

Advanced Track & Trace® is a trusted and security provider, and develops innovative authentication, identification and traceability technologies for better protection of products, organizations, citizens and exchanges. For more than 15 years, Advanced Track & Trace® has established relationships of trust with its customers and leading partners: world leaders in their fields, governments, institutions, thanks to its ability to offer high added value, creative solutions, reliable and durable. www.att-fr.com

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