French wine industry digitisation: issues, innovations and trends

DWV Congress
November 5, 2018

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A global picture in the French wine industry: what digitisation? For whom? For what?

Of what digitisation are we talking about?

Digitisation concerns nowadays the entire process chain of wine and cognac production and commercialization.

Data collection: sensors, IoT, remote sensing…
Robotics / automation
Apps: decision-making tools, ERP…
Communication: websites, social networks…

Observation: digital solutions are more present in management activities (administration, inventory management, sales, communication…) than in production activities. We also find them more in the cellar rather than in the vineyard.

In Bordeaux / Cognac region, 60% of producers own a website (vs 72% in Nante’s vineyard). More than 66% of viticulteurs think they don’t need connected devices in the vineyard (tractors, robots, sensors…)*

* Sources: enquête CEFIL (2017), Baromètre de la vigne numérique (2016)
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Digitisation differs extremely according to:

- The size of the winery
  In Bordeaux/Cognac, 66% of organization with less than 2 employees have no website and think they don’t need one, while 89% of organization with more than 26 employees have one*. Same thing proportionally with production tools.

- Winery typology
  Depends on the type of organization and production: company, cooperative…
  And type of commercialisation: in bulk or in bottles
  > different interests in digital solutions

- Winery localisation
  Often linked with winery typology: see Cognac example

- The company’s culture
  Linked with manager’s convictions, its familial culture, its formation…

**Hard to submit a general picture!**
Focus: the role of viticultural consulting

Advisors play a significant role in the use of tools and techniques, and especially in the implementation of new digital solutions.

According to the study « Numérique et Conseil en Viticulture »*

- Almost all advisors use **traceability softwares**
- 10% say spontaneously the wine industry **lags behind** comparing to field crops and breeding
- More than 85% use modelling and soil mapmaking tools
- **Less than 60%** use fixed sensors, and even less embedded sensors
- A majority of advisors also mentioned **the great diversity among vinegrowers** in terms of equipment modernity and interest in new solutions

Main uses of digital technologies among advisors:

- Modèles prédictifs des maladies
- Analyses et cartographies des sols
- Logiciels de traçabilité
- Applications d’identification (maladies, adventices)
- Cartes de vigueur issues de télédétection
- Applications de réglages de matériel

*Sources: study of the Digital Agriculture Uses Observatory among 130 viticultural advisors (linked to cooperative and trade companies, agricultural chamber, technical institutes, unions and independents consultants) (2017)

To learn more: agrotic.org/observatoire
At the commercial level

The majority of French winemakers understood the necessity to adapt to new consumption patterns…

THE CONNECTED CONSUMER, A GROWING SEGMENT...*

- 28% of French consumers surf on the web to get information before buying
- 29% already bought wine online (vs 10% in 2011)
- 34% follow pages on wines and spirits on social network
- 40% of people under 35 years own an application dedicated to wine vs 23% of 35+ years

... BUT, NOT THAT BIG...

- The two first information sources are family / friends and professionals.*
- Wine is a product that provides sensorial experience: hard to digitize that aspect!
- History, traditions, artistic and human dimensions... seem inconsciently incompatible with technologies!

Even online businesses need to develop physical presence!

* Source: SOWINE Barometer 2018
Which tools and trends in France?

In the vineyard

Vineyard management is a complex operation... to meet the demand, lots of digital tools are developed:

To gain efficiency:
- EXAPTA treatment modelling tool (Process2Wine, ERTUS)

... quality...
- MULTIPLEX maturity measure tool (Force A)
- EARN yield estimation tool

... to anticipate climate risks...
- SKYDETECT hail risk modelling solution (Selerys)

... or limitate the use of inputs
- VITIROVER mower robot

05/11/2018
In the cellar

Machine automation gets always better; energy performance and quality monitoring are the new challenges.

Harvest sorting: always more efficiency

ALIEN waste sorting robot (CITF)

Ageing: barrels get always more connected

CHÉNOX sensors for dissolved oxygen and decision making tools for racking, SO2 addition... (Chêne et Cie)

Fermentation management: automation and control to optimize processes and energy

LAMBOX solution for thermoregulation, reassembly, air conditioning, energy... (Lamouroux)

Which tools and trends in France?
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Marketing: the « Wine Startups »

Such a competitive world!

What sustainable economic pattern?
What are the biggest challenges for digitisation?

Main difficulties perceived by wine producers:

- **Cost (even more for small wineries)**: need assurance of reliability and return on investment
- **Lack of time, formation and information on tools that are useful and available**
- **Lack of d’interoperability between the existing tools**: multiple entries, complexity, communication…

*Sources: CEFIL study (2017) and Digital Agriculture Uses Observatory Study (2017)*
What future for digitisation?

Some beautiful perspectives...
Wine production digitisation in France will certainly **intensify** with the acceleration of challenges:
- **Environmental pressure**: energy performance, inputs use reduction and optimisation, robotics...
- **Vineyard concentration**: bigger investments
- **Lack of working forces** for labourious tasks
- **New generations of wine producers**
- The need to differenciate on the global market by producing quality wines

...but not for all... **some issues to be solved**!
Solution providers need to face challenges that always get bigger:
- Solutions interoperability to ensure traceability and better understanding, from A to Z
- **Precision**: it’s all about « precision viticulture », but lots of issues remain about precision (sensors, remote sensing…)!
- Big Data issues are not that Big, **since the main challenge remains in data collecting modes**
- New solutions bring new jobs, but **formation and awareness** are still lacking

« Sometimes the most relevant innovations in food are the most boring ones... »
Jean Van Damme, Startle
A few French initiatives to meet those challenges...

- VINITIQUES
- RobAgri
- CHAIRE AgroTIC
- api-agro
- Vine Health Watch
- « Digilab »
THANKS FOR YOUR ATTENTION

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