Big & heterogeneous data flows in agri-food value chains

Nikos Manouselis, CEO Agroknow

1

Why am I here?

We find, connect and deliver agriculture & food information worldwide.

(for almost 10 years)

Nikos Manouselis

CEO at Agroknow

Agroknow • Agricultural University of Athens

Greece • 500+

CEO Envisioning a global data ecosystem for agriculture and food

Agroknow

Jul 2007 – Present • Athens, Greece and Leuven, Belgium

Leading the company to deliver its mission to find, connect & deliver agriculture and food information worldwide. Strategically positioning Agroknow as a global leader in addressing challenges related to the management, sharing and discovery of agricultural data. Making sure that all employees in the company have the right expertise, responsibility and flexibility to exceptionally support organisations, make online applications, and lead the development of international data infrastructures.

2

Data should flow

FOOD AND AGRICULTURE | 6. SEPTEMBER 2017

After egg scandal, EU wants to improve 'exchange of information'

By dpa

Tallinn – After a widening scandal in 45 countries involving eggs contaminated with the insecticide fipronil, agriculture ministers from European Union member states want to improve "the exchange of information," they said after a meeting Tuesday.

Tarmo Tamm, Estonia's minister for rural affairs, which currently holds the EU's rotating presidency, said better cooperation was needed "to resolve these kinds of crisis situations faster and more efficiently."

Need for information exchange

Fipronil is banned under EU law for use on animals destined for human consumption. Its discovery in eggs in recent months prompted questions about the efficacy and speed of information sharing in the EU.

German Agriculture Minister Christian Schmidt said it was necessary for all EU member states to have the same standards when it comes to sharing information.

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Photo (62)

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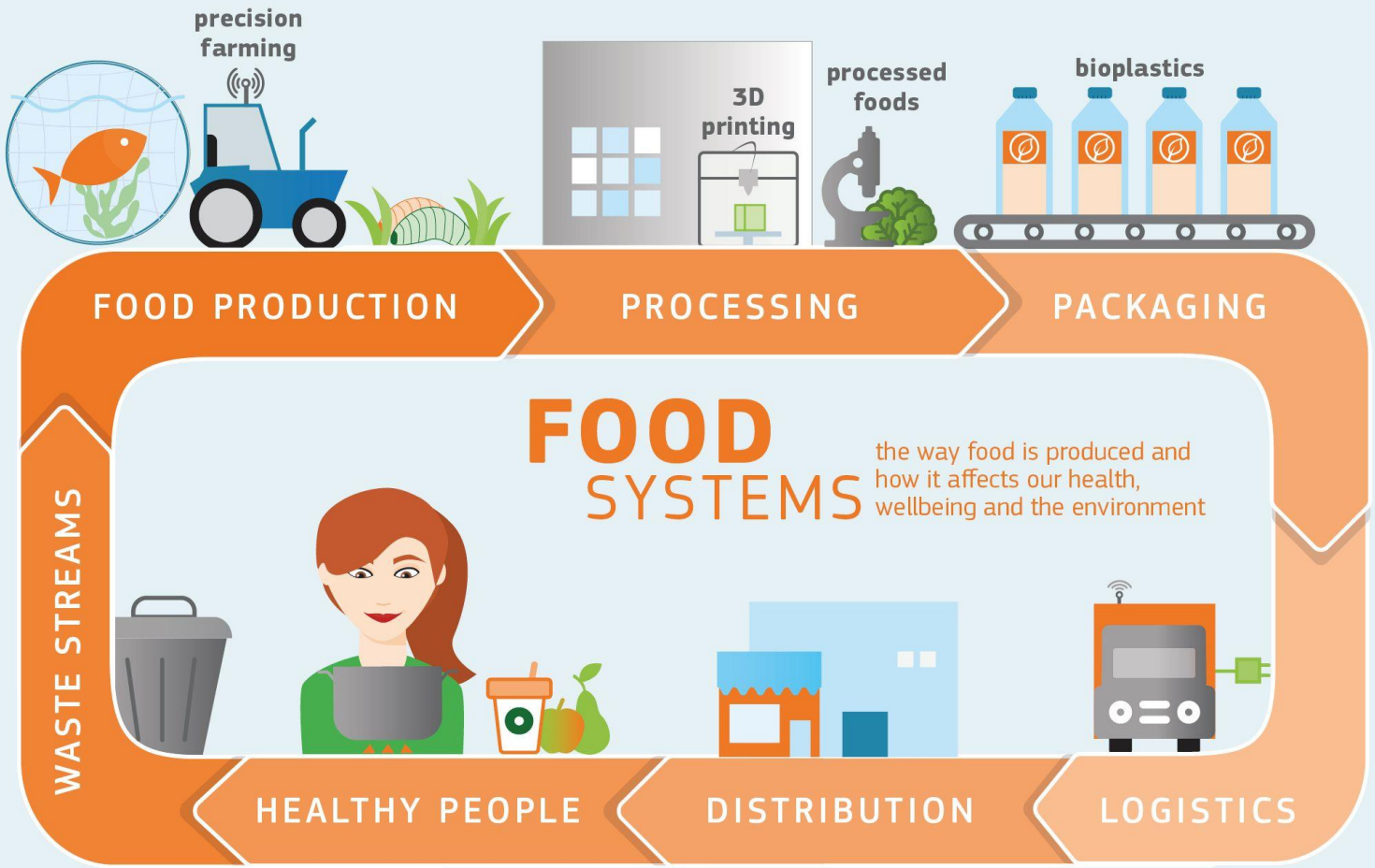
The Problem of Vendor Lock-in For Ag

By Jason Tatge

. . .

We're at an inflection point in our industry, where precision ag techniques are taking off, the value of field data is being realized, and the fight for ownership is coming to a head. As big vendors take their seat at the table, farmers are at risk of losing control.

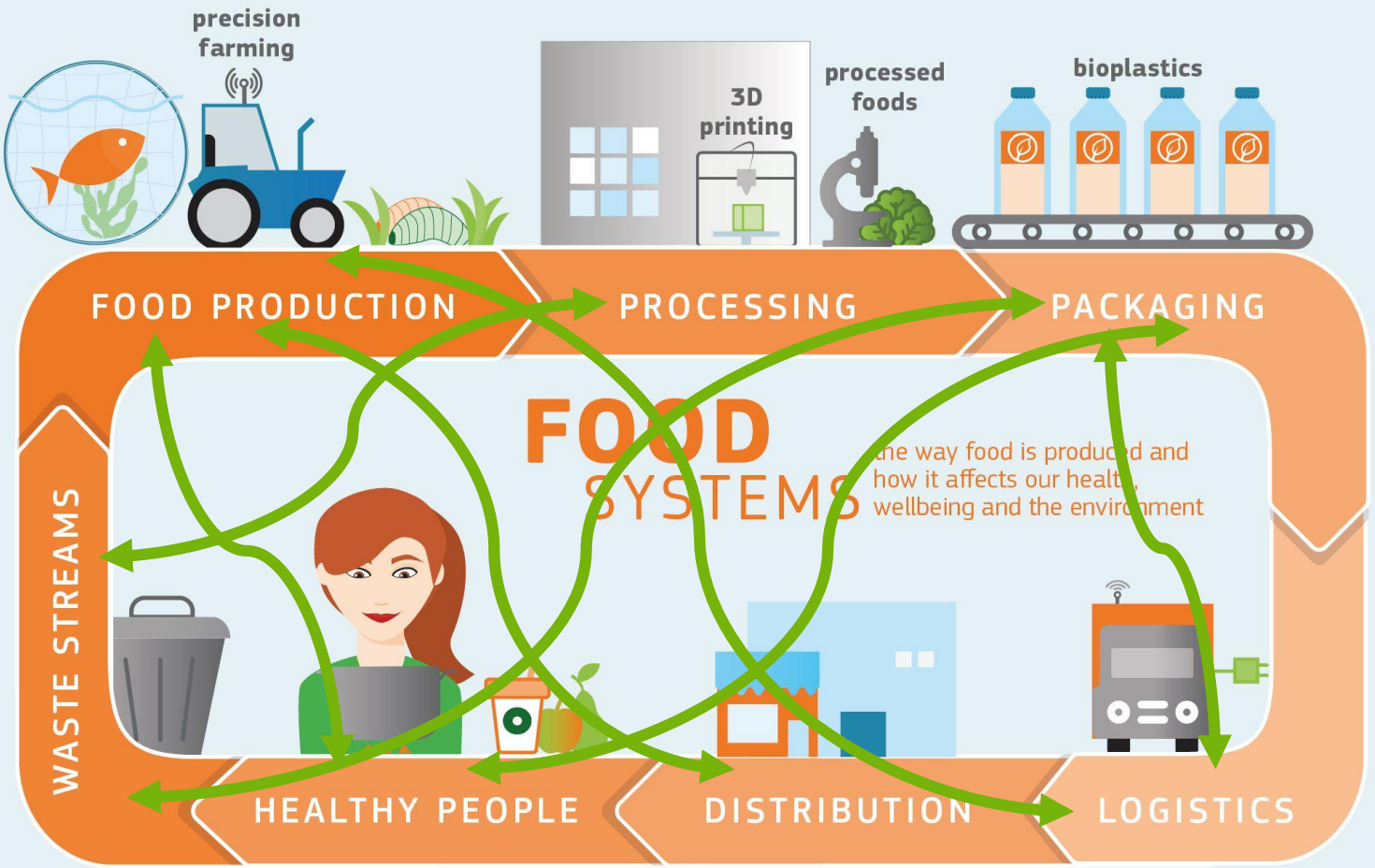
R&I for future-proofing food data value chains



R&I for future-proofing food data value chains

Data flows across the chains

(a lot)



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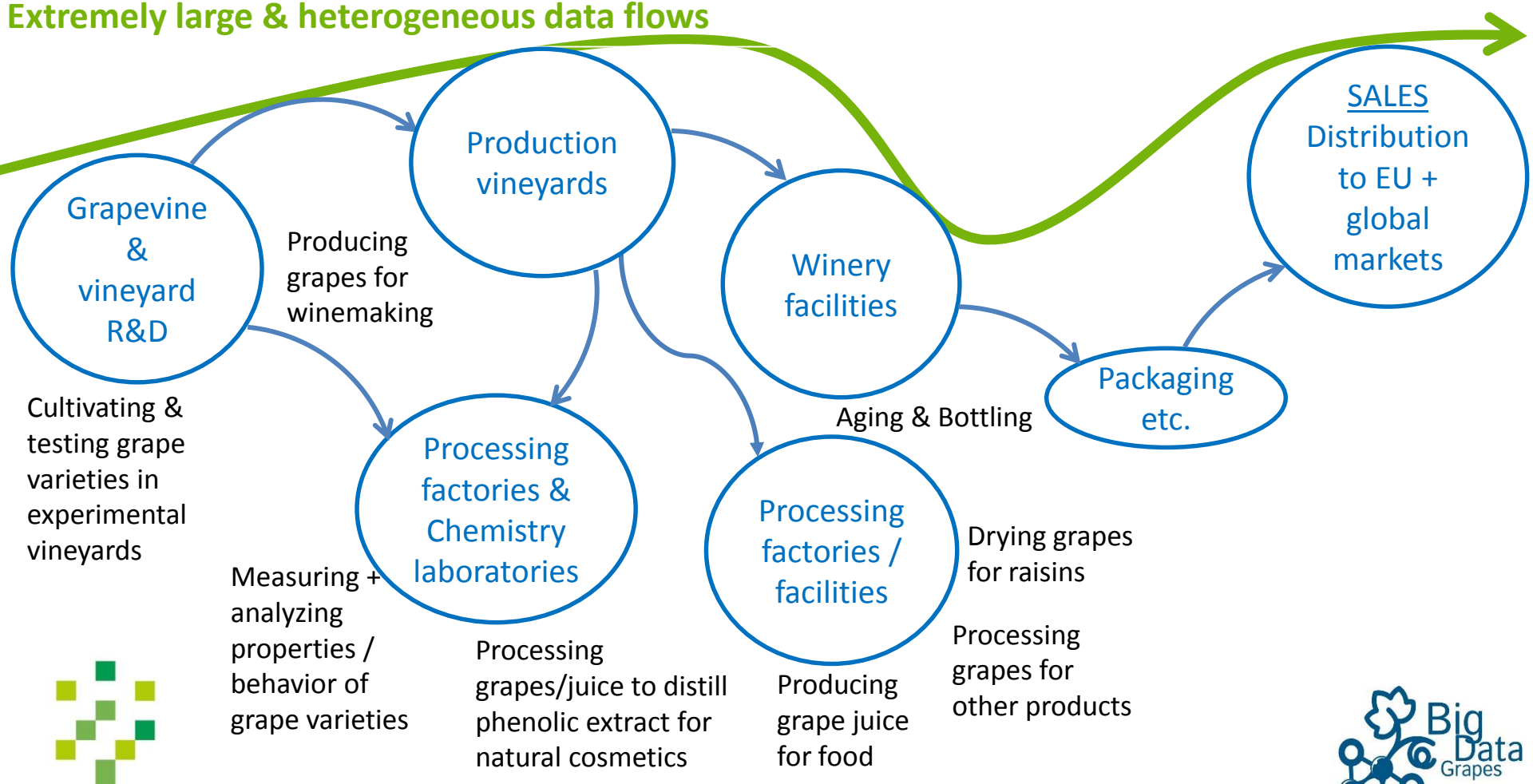
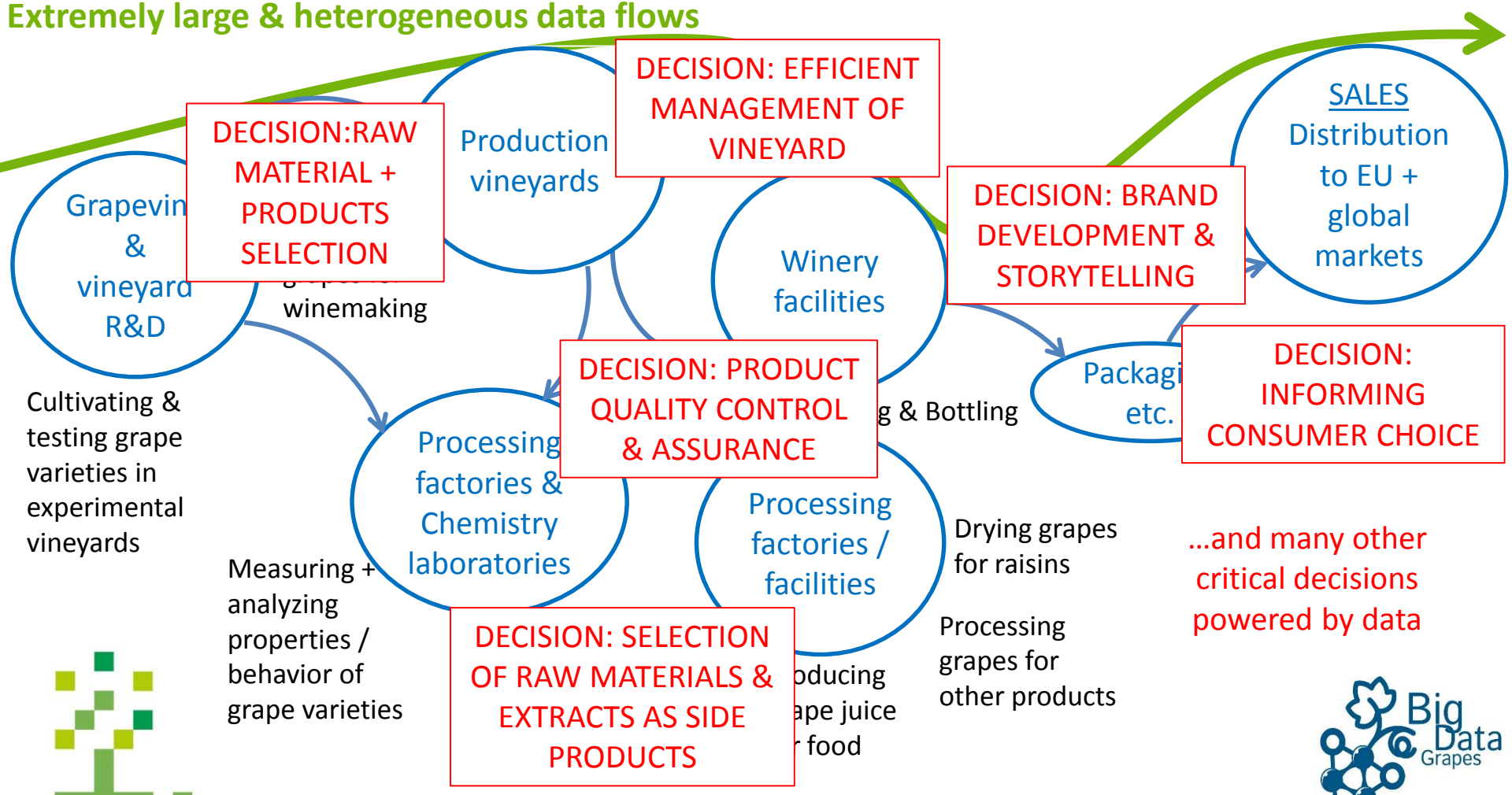
An example: R&I powered by grapes

Extremely large & heterogeneous data flows



Extremely large & heterogeneous data flows



Weather Statistics | Weather Forecast | Vineyard Varieties | Wine Labels

Number of Varieties: 4

AGIORGITIKO
Blue-Black (Wine)
Cultivated in:

RODITIS
Rose (Wine)
Cultivated in:

SAVATIANO
White (Wine)
Cultivated in:

SOULTANINA
White (Wine, Table & Raisin)
Cultivated in:

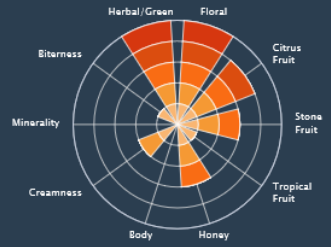
VITIS | HOME | VARIETIES | IDENTIFICATION | NETWORK | APP | DATA API | ABOUT | DASHBOARD

Penteskoufi White *Dry Wine*

Kontogiannis Family

From grapes of the Gravas Vineyard.
The average annual temperature in this vineyard is 64.8°F (18.2°C). The warmest month, on average, is July with an average temperature of 81.0°F (27.2°C). The coolest month on average is January with an average temperature of 50.4°F (10.2°C). The average annual precipitation in this vineyard is 16.1" (408.9 mm). The wettest month is February with an average of 2.4" (61 mm) of precipitation. The driest month is July with an average of 0.2" (5.1 mm) of precipitation. In terms of liquid precipitation, there are an average of 73.2 days of rain, with the most rain occurring in February with 10.9 days of rain, and the least rain occurring in August with 1.0 days of rain.

FLAVOR PROFILE



VITIS | HOME | VARIETIES | IDENTIFICATION | NETWORK | APP | DATA API | ABOUT | DASHBOARD | LOGIN

Gravas Vineyard (37.874805,22.84475)

Kontogiannis Family

°C, km/h

Vineyard Size: 3.003 ha

Climate Info (Mediterranean Climate)

Under the Köppen-Geiger Climate Classification, "dry-summer subtropical" climates are often referred to as "Mediterranean". This climate zone has an an average temperature above 10°C (50°F) in the warmest months, and an average temperature between 18 to -3°C (64 to 27°F) in the coldest months. Summers tend to be dry with less than one-third of precipitation of that of the wettest winter month, and with less than 30 mm (1.18") of precipitation in a summer month. Many of the regions with Mediterranean climates have relatively mild winters and very warm summers.

The average annual temperature in this vineyard is 64.8°F (18.2°C). The warmest month, on average, is July with an average temperature of 81.0°F (27.2°C). The coolest month on average is January with an average temperature of 50.4°F (10.2°C).

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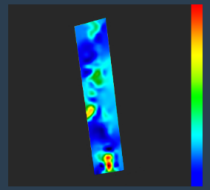
NDVI Variation (01 Oct 2016)



01 Sep 16 | 18 Sep 16 | 01 Oct 16

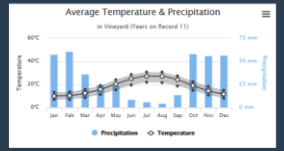
Current Conditions 18:46

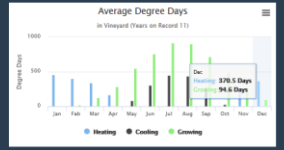
12° Mostly Cloudy
60% Dew Point: 4°
76% 30.22
2 km/h 0 km

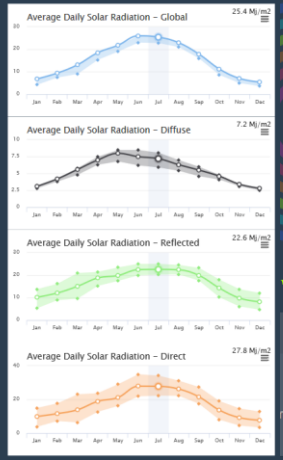
Today's Forecast Wednesday, Nov 1st

15° 8°
Mostly cloudy throughout the day.
7% rain% 94 76%
30.22 2 km/h 326

Weather Statistics | Weather Forecast | Vineyard Varieties | Wine Labels







6) – Savatiano (40%)
16 Cultivation

Veraison | Harvesting | Pruning

Harvesting

Production Data

Vinification Method: Skin Contact Fermentation
Aged In: Stainless Steel Tank
Organic Certification: Yes
Harvesting Type: Selected, By Hand

Analytical Data

Alcohol Volume: 12,5%
Residual Sugar (g/l): 1,72
Total Acidity (g/l): 5 (tartaric acid)
Free/ Total Sulphites (mg/l): 39/105

Potential of Antioxidant Capacity of unexploited rare native Greek grapevine varieties

Grape skins and seeds are sources of vario
characterized by a large number of indigen
to assay the polyphenolic content of seven
Spetson') using high performance liquid ch
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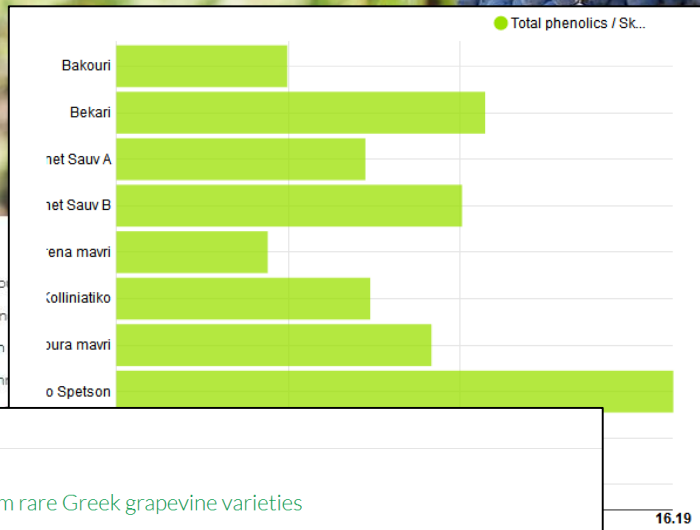


Wine variety	Total phenolics / Skin (mg gallic acid / gr fresh tissue)
Kolliniatiko	7.38
Bekari	10.72
Bakouri	4.97
Kountoura mavri	9.16
Doubrena mavri	4.4
Thrapsa	7.83
Mavro Spetson	16.19
Cabernet Sauv A	7.24
Cabernet Sauv B	10.05
Merlot	8.54

Dataset

Phenolic data from rare Greek grapevine varieties

VITIS

This dataset contains assessment data regarding the polyphenolic content of seven red native Greek grapevine varieties ('Kolliniatiko', 'Bekari', 'Bakouri', 'Kountoura mavri', 'Doubrena mavri', 'Thrapsa', and 'Mavro Spetson') using high performanc

View Dataset CSV

APIVITA Wine Elixir: Anti-Wrinkle and Firming Rich Texture Face Cream

Combination of Natural Ingredients

In the WINE ELIXIR line, APIVITA uses two natural ingredients that work together, through different biological paths each, in order to secure the production of good quality collagen.
In particular:

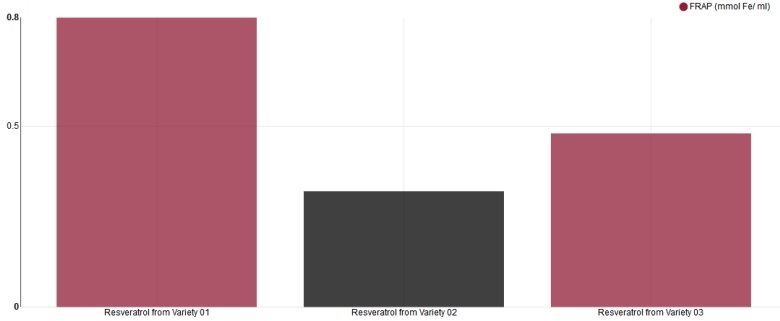
Rich anti-wrinkle, firming cream with red wine rich in resveratrol and beeswax. Moisturizes in depth, offers strong antioxidant protection and rejuvenat

- Red wine, rich in resv
- Lupine and beeswax f

Red wine

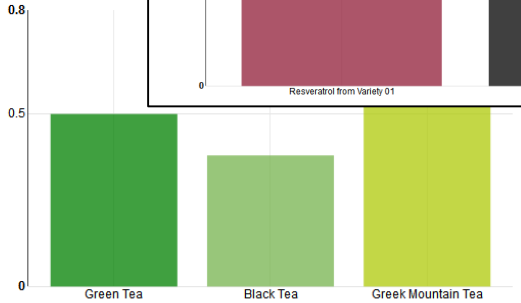
Red wine has strong antioxidant and anti-aging properties.

It is rich in polyphenols and especially resveratrol, which stimulates the synthesis of SIRT-1 proteins and prolongs the life cycle of skin cells. It fights free radicals, detoxifies, purifies and softens the skin through its strong antioxidant, antimicrobial and anti-inflammatory properties.



Green Tea: A Natural Infusion Base

APIVITA replaces water with natural organic infusions that give its products mainly antioxidant attributes. Given that most cosmetics' water content exceeds 70%, APIVITA products are antioxidant-rich in their base. The effectiveness of the infusions selected in each case is proven through scientific methods. The antioxidant action of the infusions is measured through the FRAP method, while their capacity to eliminate free radicals through the DPPH method. Organic green tea, which serves as the basis of many products, has been selected as it is rich in polyphenols, has a great antioxidant effect along with antiseptic, anti-irritant and anti-inflammatory attributes, all contributing in the rejuvenation and hydration of the skin. Over the past few years, APIVITA has been studying and using infusions from Greek medicinal herbs with well-proven, exceptional antioxidant effects, such as the organic Greek mountain tea.



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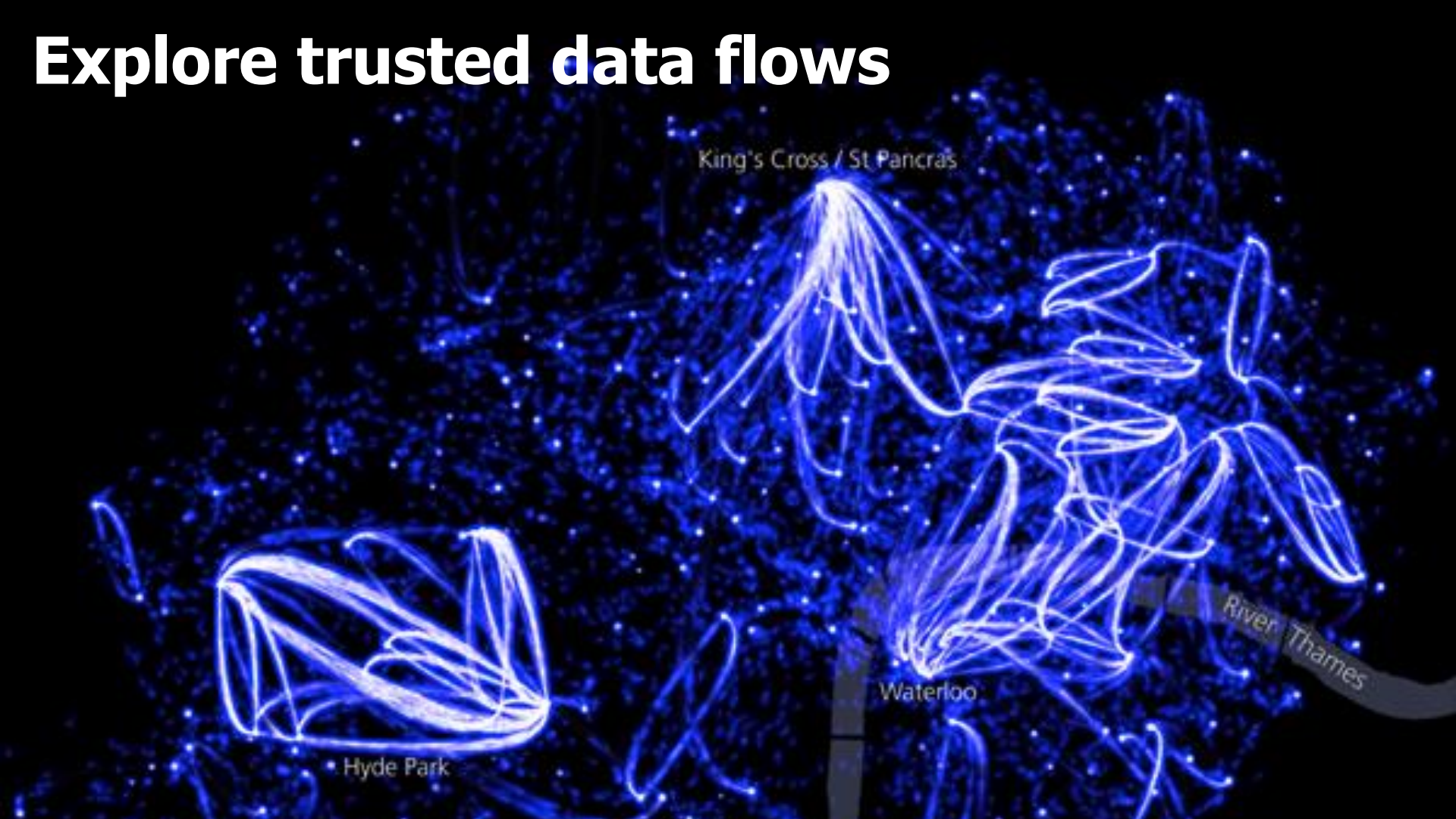
What’s next?

Explore trusted data flows



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VIVINO

Showing 4644 Red Wines between €7 - €30 rated above 3.5 stars

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Greece

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Wine Types

Select multiple

Red | White | Sparkling | Rosé | Dessert | Port

Price Range

EUR

€7 — €30

Vivino User Rating

Tiago Cabaço

blog 2013

Portugal · Alentejo

Average Rating 4.6 ★★★★½ 176 ratings

Average Price €13.37

This wine is available from 1 online merchants

View Shops

Herdade da Maroteira

Cem Reis Reserva Syrah 2015

Portugal · Alentejano

Average Rating 4.5 ★★★★½ 404 ratings

Average Price €24.50

This wine is available from 1 online merchants

View Shops

Disrupt traditional chains

Grape protection you have not experienced – YET!

We combined our scientific experiences in grape diseases with leading edge technologies to bring viticulturists the next generation of grapevine protection solution

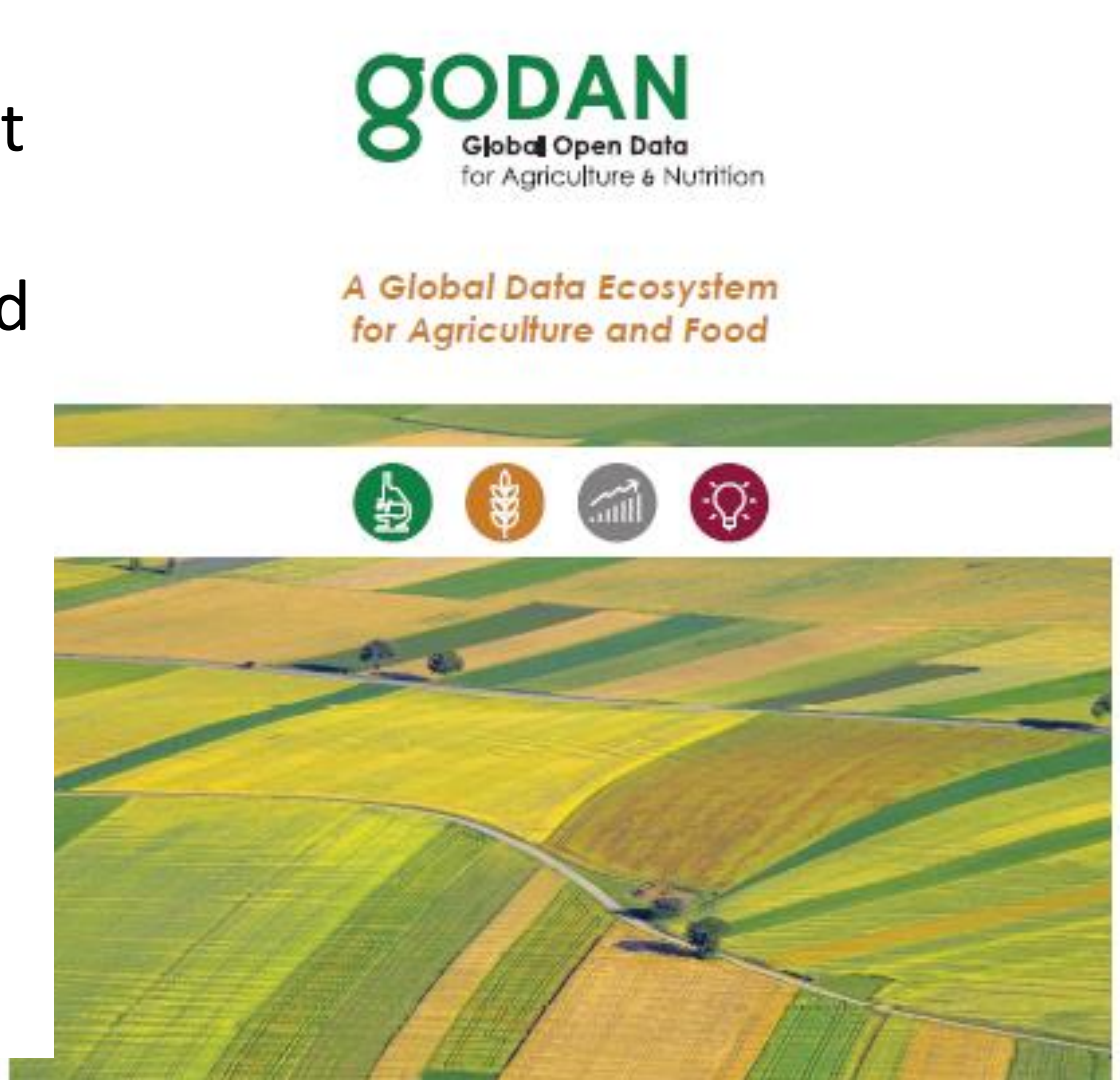
Precision sensors

Microclimate monitoring

Grape disease predictions

Develop the data ecosystem

“Agriculture would benefit hugely from a **common data ecosystem**. Produced and used by diverse stakeholders…a **shared global data space** would help build the infrastructures that will propel the industry forward.”



Thank you

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