



APPLIED TECHNOLOGY: A NEW ERA TO COME ?



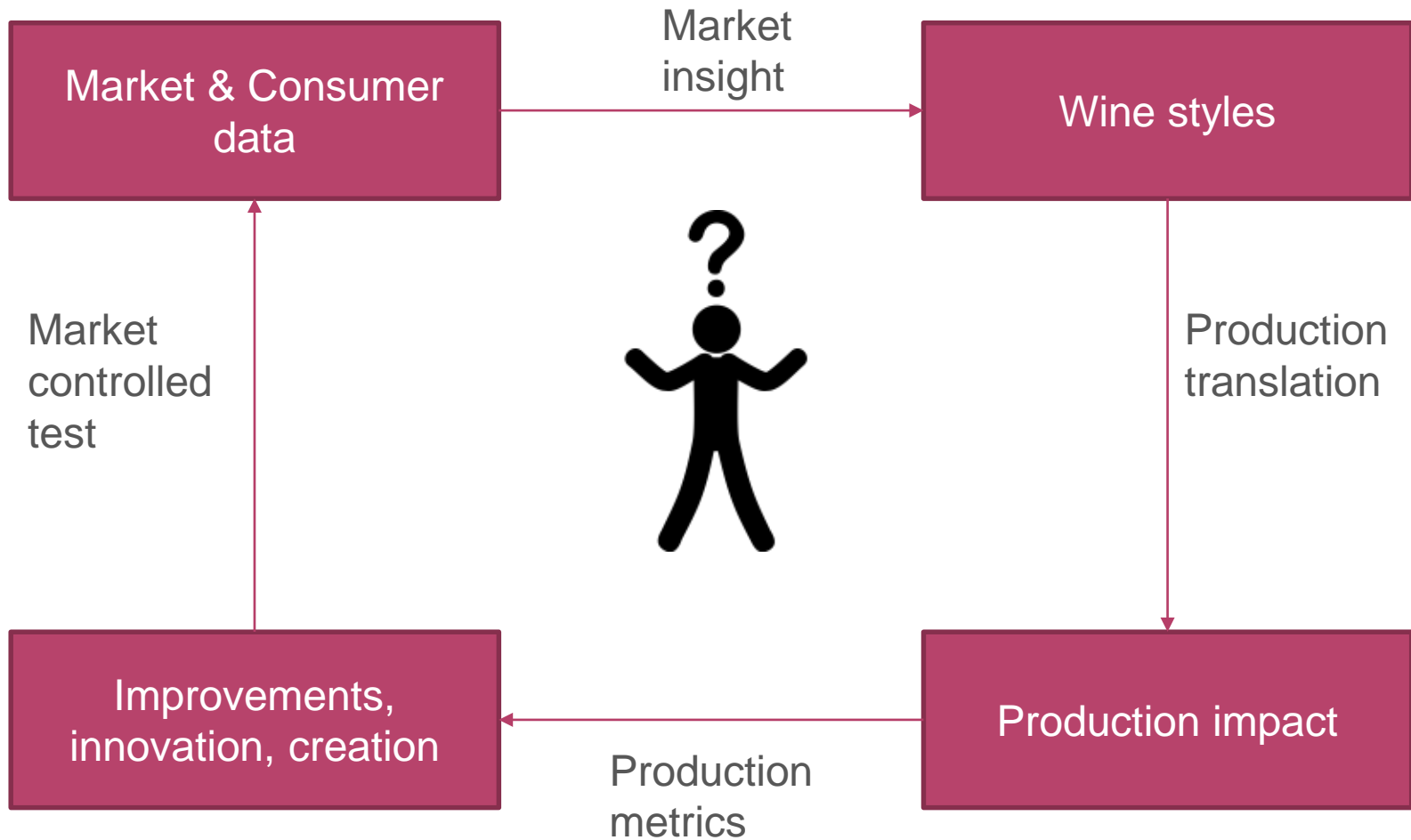
TASTE THE INNOVATION



YOUR MISSION IS TO KEEP
IMPROVING CONSTANTLY PRODUCTS
AND SERVICES WHICH IN TURN WILL
REDUCE COSTS.

W. E. DEMING

THE GROWING CHALLENGE



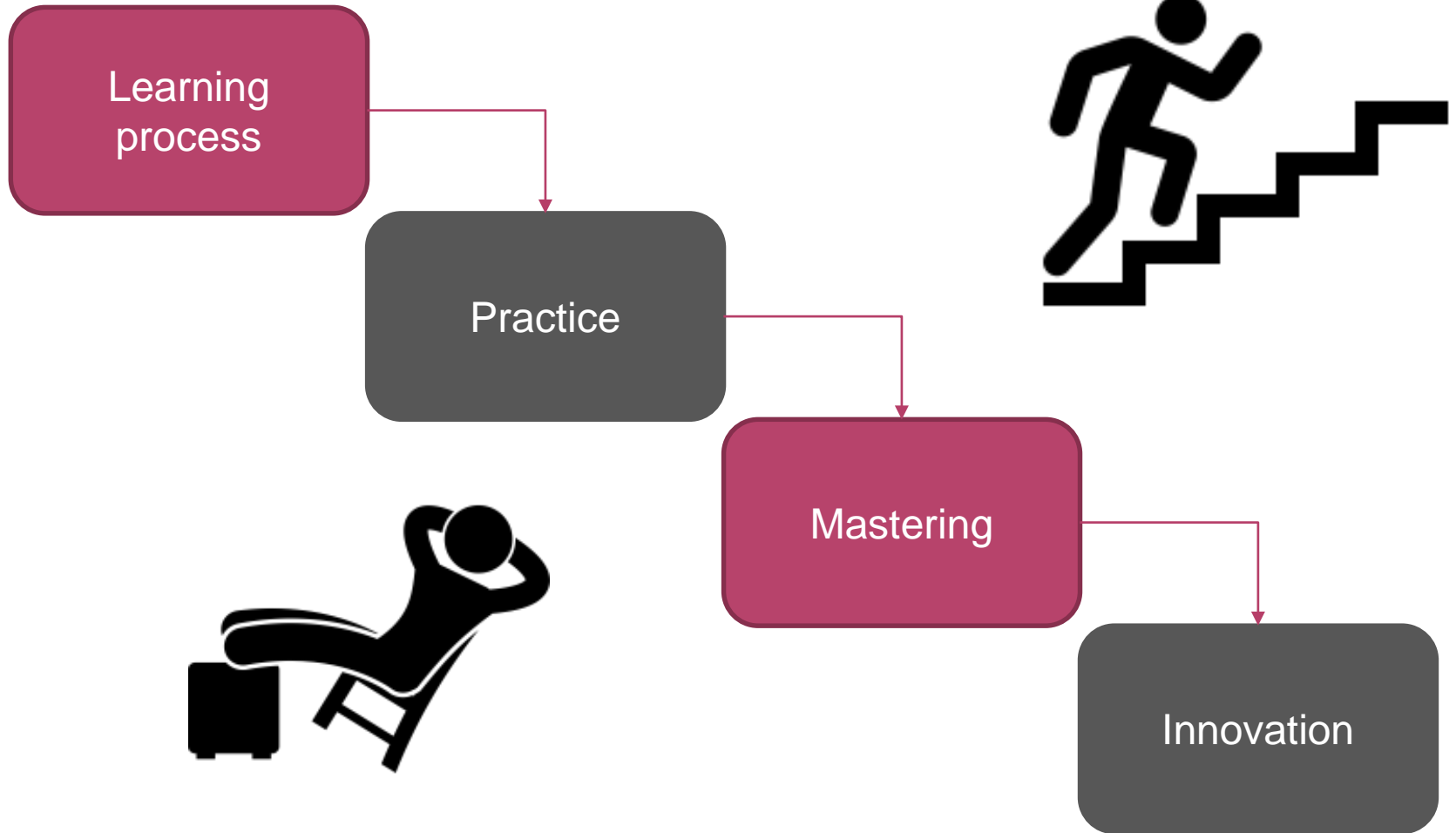
FORECASTING – REVERSE



Aromatics
Sweet
Acids
Astringency
....

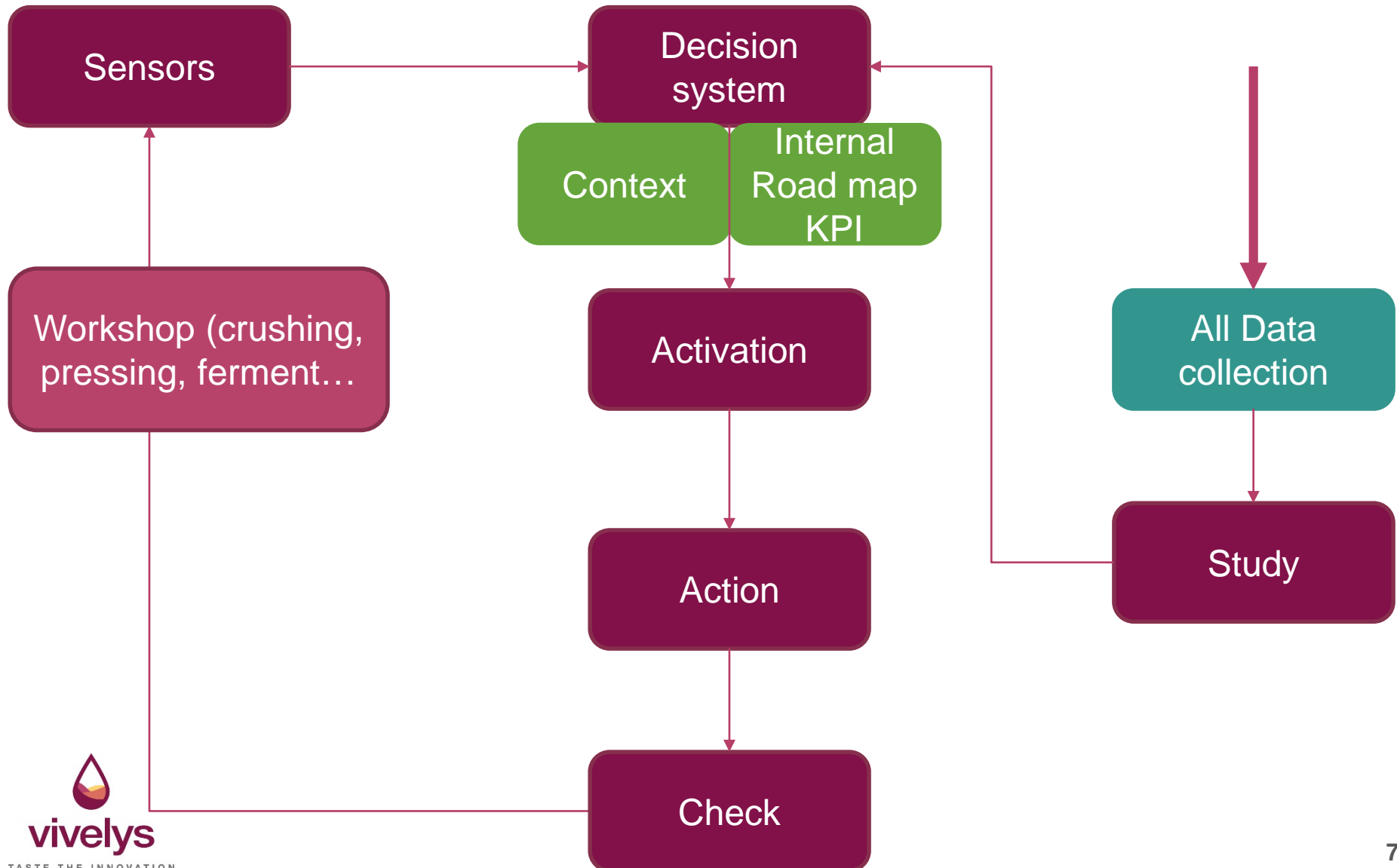


ARE YOU COMFORTABLE WITH YOUR TECHNOLOGY, DATA? KEEP IMPROVING!

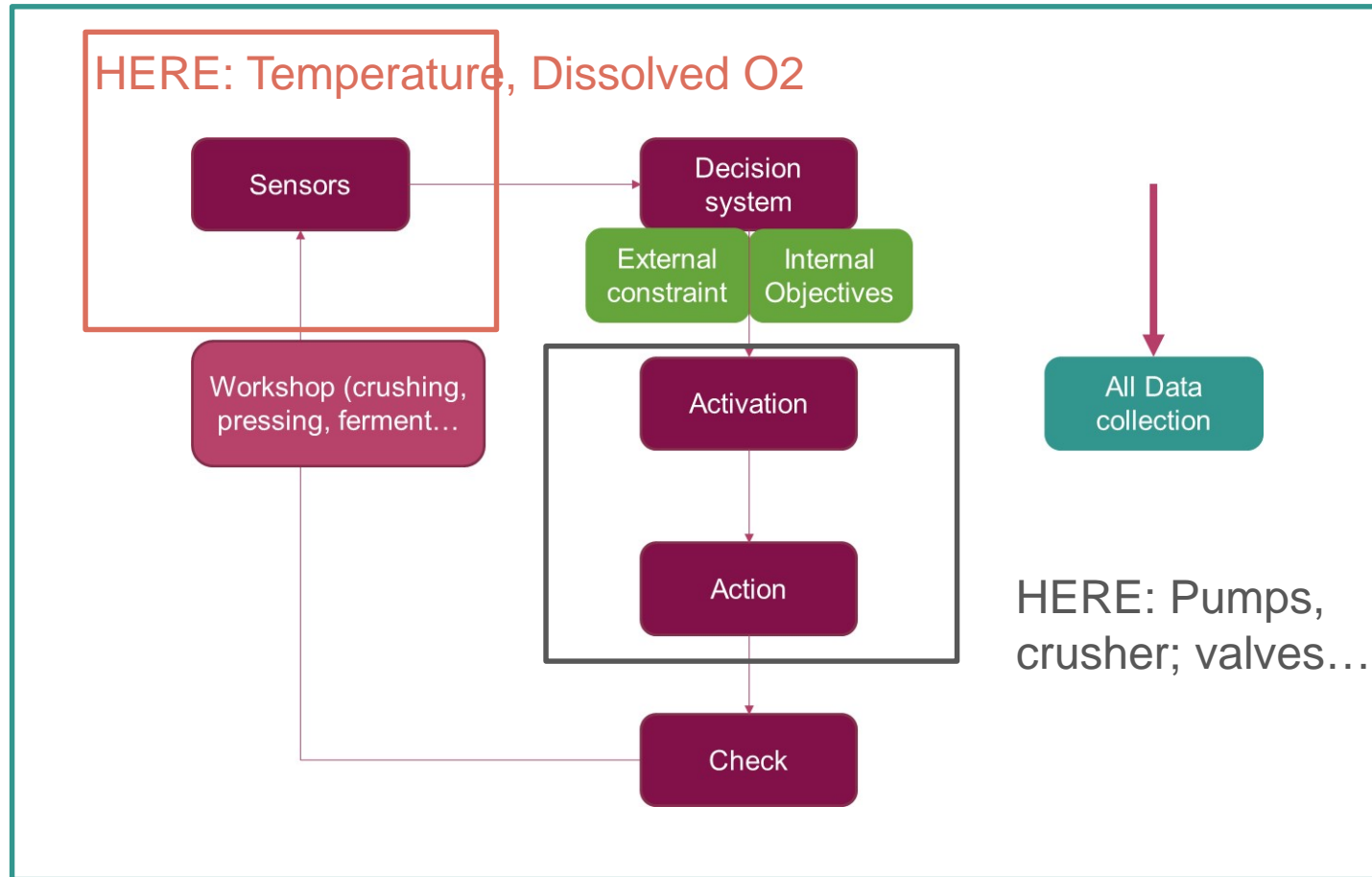


SOME CONTEXT...

A BRIEF DESCRIPTION OF ANY PRODUCTION WORKSHOP, AND TECHNOLOGY



ANY APPLIED TECHNOLOGY CAN BE WORKING IN DIFFERENT PLACES LIKE



HERE:
thermoregulation;
sorting tables...

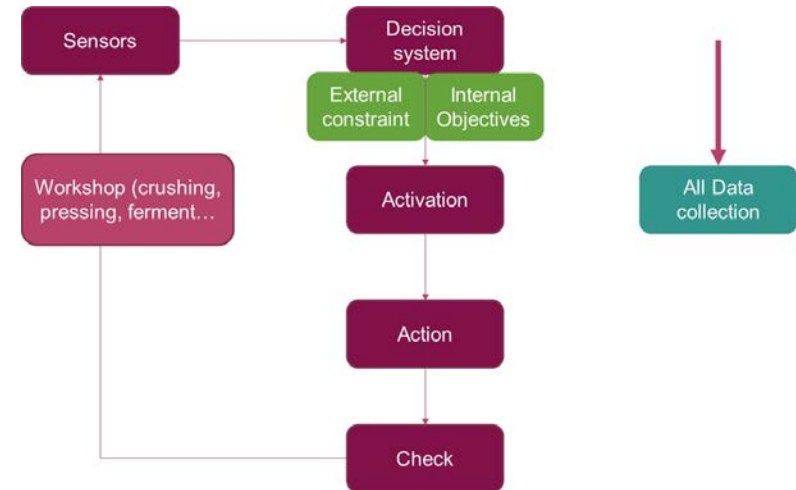
ANY OR ALL OF THIS CAN BE

100% MANUAL

SEMI AUTOMATED

AUTOMATED

CLOCK BASED or
KNOWLEDGE BASED



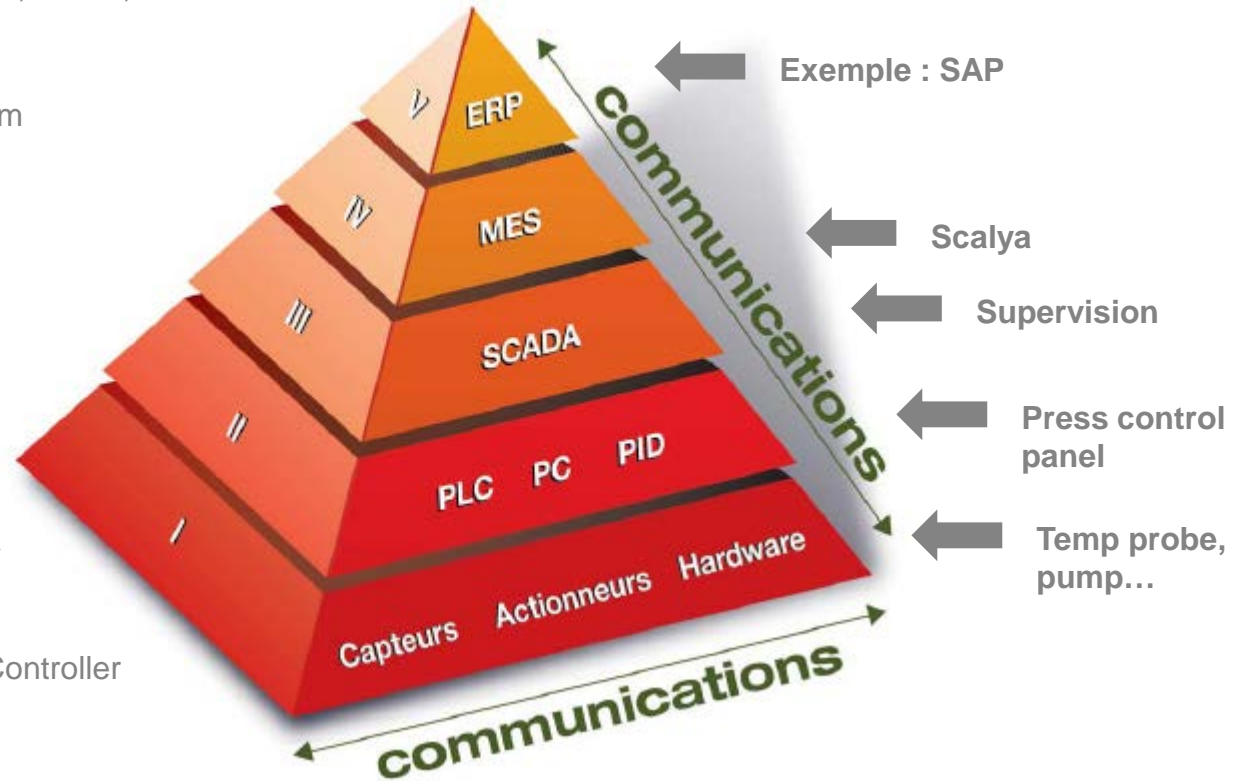
CIM (COMPUTER INTEGRATED MANUFACTURING)

V ERP = Entrepise Resource Planning
Plan all ressources of the company (sales, admin, HR....)

IV MES = Manufacturing Execution System
Data acquisition
Scheduling
Flow charts
Traceability
Quality control
Process management
Performance analysis
Document management
Maintenance management

III SCADA = Supervisory Control And Data Acquisition

II Automate = PLC Programmable Logic Controller



**BEING A SMALL WINERY OR THE
LARGEST ONE DOES NOT PREVENT
YOU TO ASK :**

WHY DO WE NEED IT ?

WHAT DO WE NEED ?

**HOW THIS WILL INCORPORATE THE
WINERY ? PHISICALLY, PROCESS,
HUMAN...**

GOING BEYOND ?

WHY DO WE NEED IT ? IN MOST CASES IT WILL BE LINKED TO...

QUALITY ?



VOLUME ?

COSTS ?



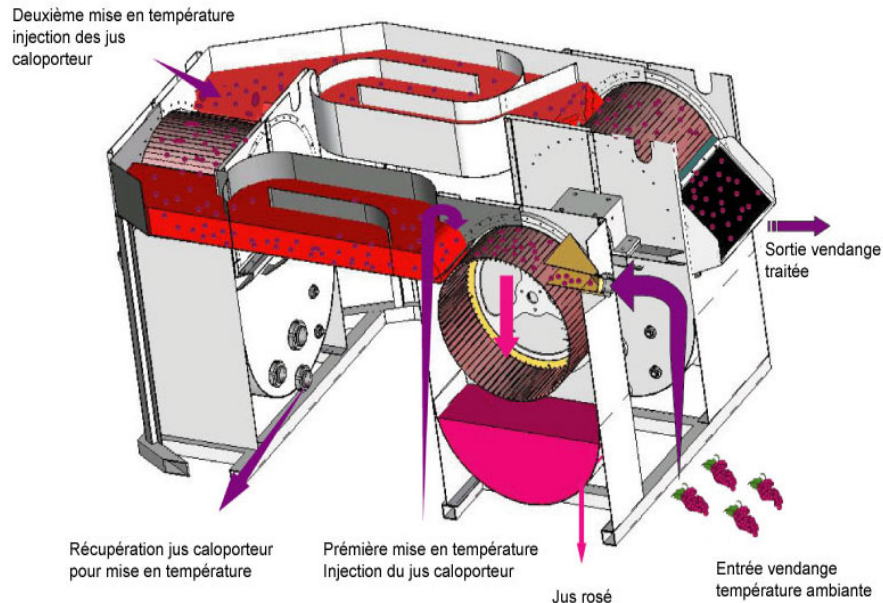
TIME ?

EFFORTS ?



ALL ?

FIRST EXAMPLE AROUND QUALITY— PREVENTING DEFECTS AND CONSTANT IMPROVEMENT



When grape heating appeared in Europe it was created to correct a defect by destroying Laccase in grape and juices.

Then it appeared to be efficient in evaporating partially pyrazines.

As most of the time a vacuum filter was used behind with little control it ended up with Amilyc wines which flourished for a while

But controlling metrics or when added heated maceration, and or flash and you can now use it in many different ways, solids AF (MPC), AF in liquid phase (Thermo), Thermo-mix....

FROM 1 PROCESS

Grape
reception
tank

Heating
unit

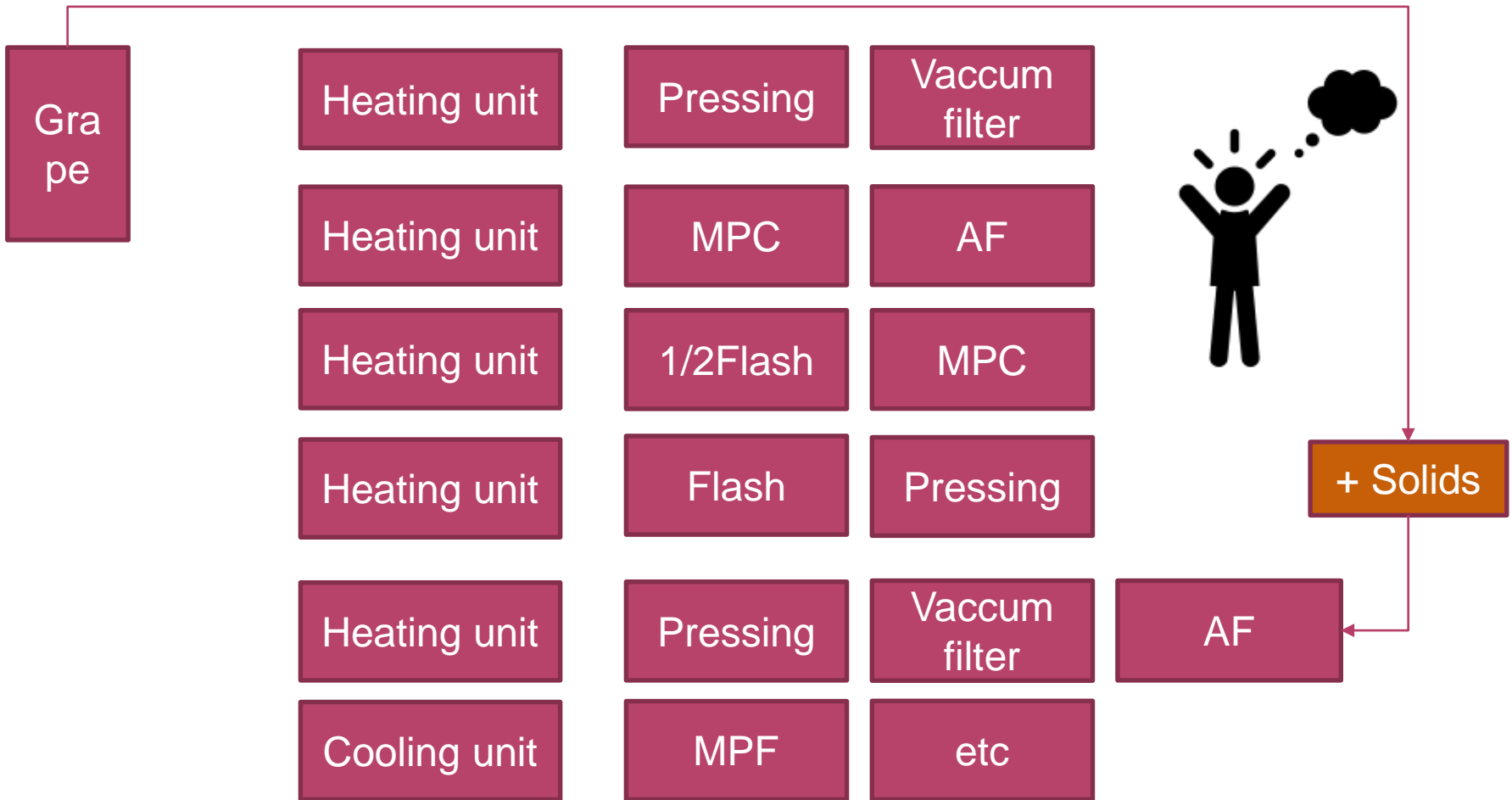
Pressing

Vaccum
filter

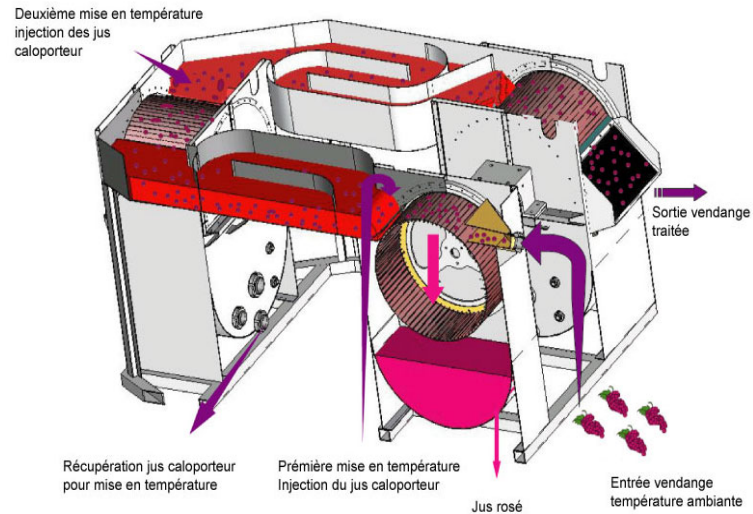
AF



TOO MANY PROCESS



FIRST EXAMPLE AROUND QUALITY– PREVENTING DEFECTS



Immediate technology impact

Laccase and pyrazines

Knowledge and process impact
using the technology

Solid AF, Liquid AF, Mix –
different wine styles and
production efficiency

WHAT FINAL IMPACT



QUALITY ?

VOLUME ?



COSTS ?

TIME ?



EFFORTS ?



ALL - YES...Hey,
things never look that
easy

Impact of K\$
per year – ROI
< 3 y



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TASTE THE INNOVATION

CONCLUSION OF FIRST EXAMPLE

A technology can have a primary use for which it has been created but may be applied in very different ways. So, you may be using 20% of the technology.

In order to choose, decide what it good for me, in terms of technology, and process one should look to understand:

What product definition am I looking for ? (Wine style or profile)

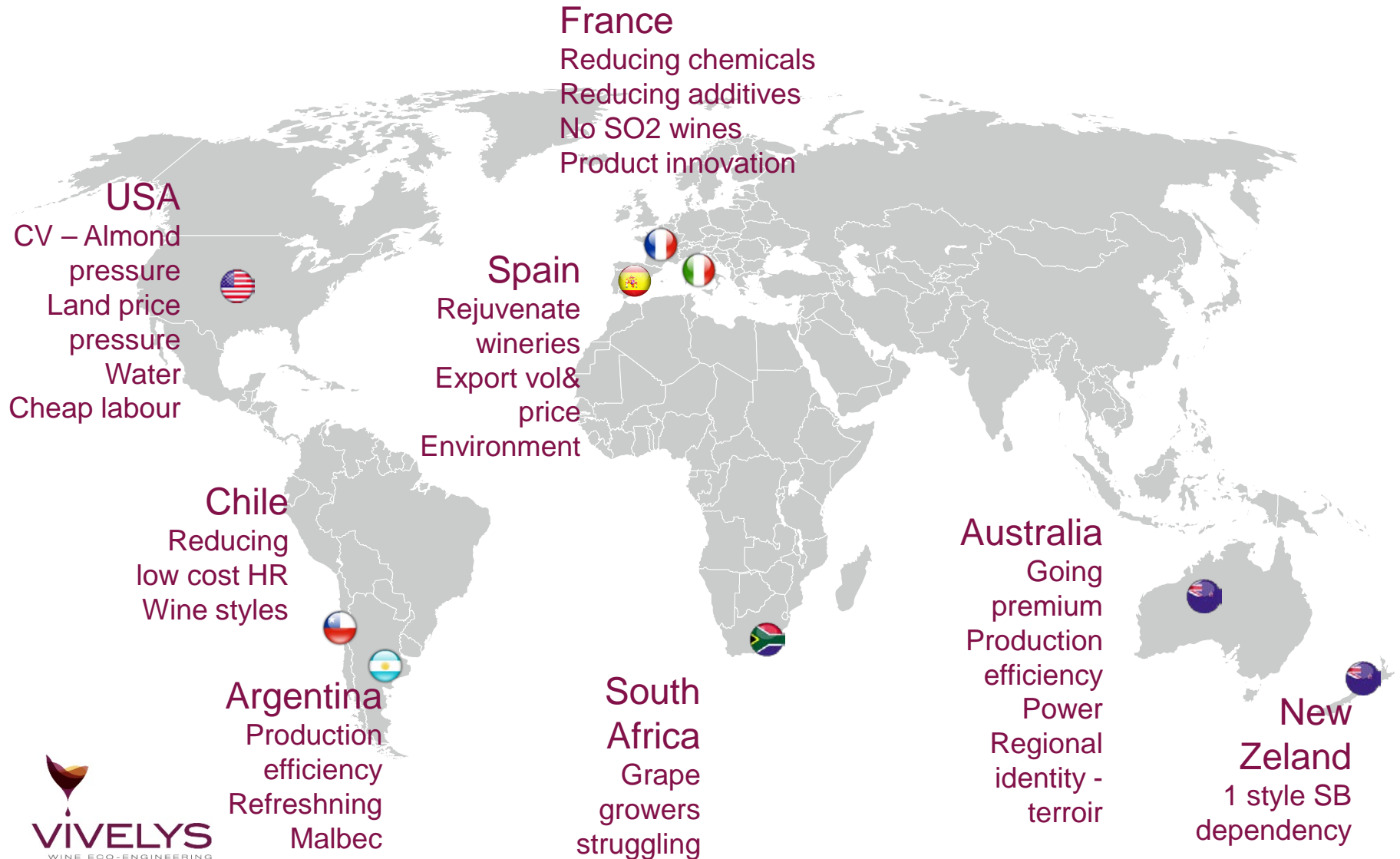
What consequences in terms of production from final blend to grape ?
(cost, human, ...)

Which parameters will help me to reach the final goal and what decision system will help me ?

How will I be more efficient tomorrow ? ROI ?

**PRIMARY TECHNOLOGY FUNCTIONS ARE
OFTEN THE RESULTS OF LOCAL PROBLEMS**

WORLD CHALLENGES





WORLD CHALLENGES

And everywhere:

Climate change

Consumer awareness

Energy

SECOND EXAMPLE AROUND QUALITY – MARKETING TO PRODUCTION - IMPROVING PRODUCTS

Context: A fierce European bulk market competition.

A growing pressure on grape growers.

A South- West of France bulk company linking marketing to their production.

A need to create value linking market to production.



SECOND EXAMPLE AROUND QUALITY – MARKETING TO PRODUCTION - IMPROVING QUALITY



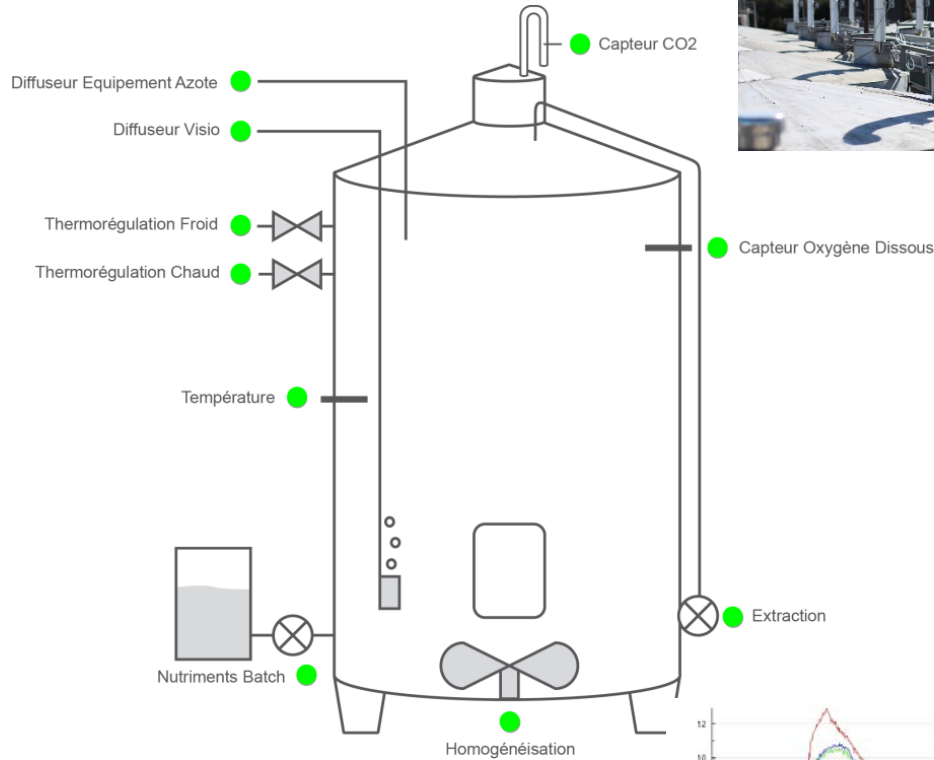
This creates a range of SB & Colombard wines on specific wine styles & price range



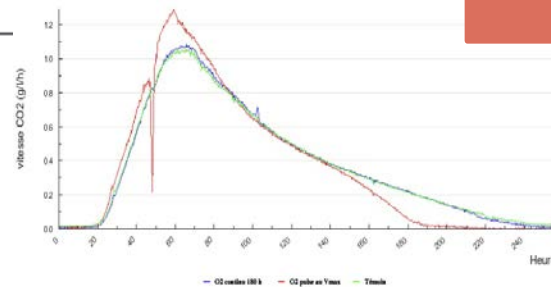
Harvest management has been key



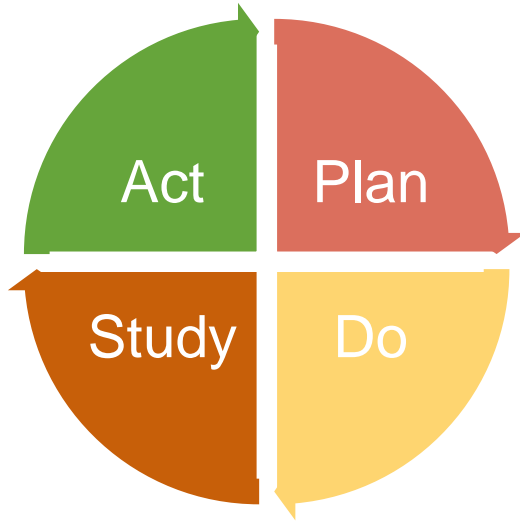
SECOND EXAMPLE AROUND QUALITY – MARKETING TO PRODUCTION - IMPROVING QUALITY



AF under strict real time monitoring



SECOND EXAMPLE AROUND QUALITY – MARKETING TO PRODUCTION - IMPROVING QUALITY



			Product goal SauvBlanc (voir standards sensoriels)	Super Premium	
			Objectif Technique	Fresh SB varietal flavours Mix process with thiol_fermentative reductive to be applied. Grape class are SL stop at high TAP and harvest D+8 high hue or blocks in SL with thiols hue more advanced. Winemaking proces head on mix of 3MH/ Ac-3MH	
1	2	3	4		
Process stage	Mastering	Parameters	System/ tools		
Harvest	Grape characteristics	Maturation physiologique (chgmt/arrêt)	Dyosystem		
		Teinte			
		TAP arrêt			
		Elements d'équilibre :		Mesure chimique	
		TAVP			
		AT			
		Nass			
Etat Sanitaire		Evaluation Terrain			
Rendement		Pesée			
Reception	-				
Pre ferment maceration	Extraction magt	Mise en œuvre (O/N)			
		T°C de macération	non mesurable		
		Temps de macération			
Pressing	Extraction magt	Programme pressurage	-		
		Sélection gouttes	-		
Pre ferment work – cold soak	Extraction magt	Mise en œuvre			
		Temps (j)			
		T°C (°C)			
		Turbidité cible (NTU)	Turbidimètre		
		Rendement réelcuve	Pesée		
Af start	Propagation	souche de levure			
		dose			
		concentration cellulaire			
	Aromatic mgt	Turbidité cible (NTU)	Turbidimètre		
		Nass (mg/L)	Mesure chimique		
	Nitrogen mgt	Correction azotée @ Levurage (g/Hl)	Surveillance soft Scalya		
Correction azotée @ Post Vmax (g/Hl)		Surveillance soft Scalya			

CONCLUSION OF SECOND EXAMPLE

By working together between marketing and production, product definition has been improved. A common internal vocabulary has been created.

By writing down all metrics in production linked to final products, they have been able to improve process.

As a result in some products (whites) they have been able to push yields over 20 to 40% and increase product quality.

They have revised their production management.
And they keep improving and innovating....



**TAKE DOWN BARRIERS BETWEEN
DEPARTMENTS – W.E.DEMING**

DON'T BE AFRAID TO CHANGE !

AN IMPACT ON WINE PRODUCTION – FROM VERTICAL

Traceability

Traceability

Objectives of production
Vineyard data
Grapes analyses
Weather conditions
Logistics

↓

Grapes lots / qualities
Harvest date

Objectives of production
Grapes lots / qualities
Reception analyses
Logistics, tasting

↓

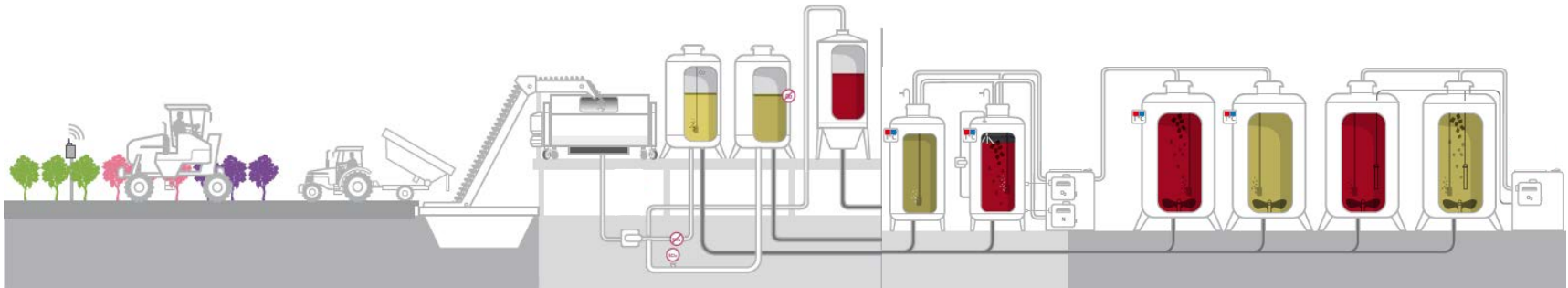
Extraction management
(press programs, juice fraction selection, maceration time)

Fermentation management
(yeast strain, T°C, supply)

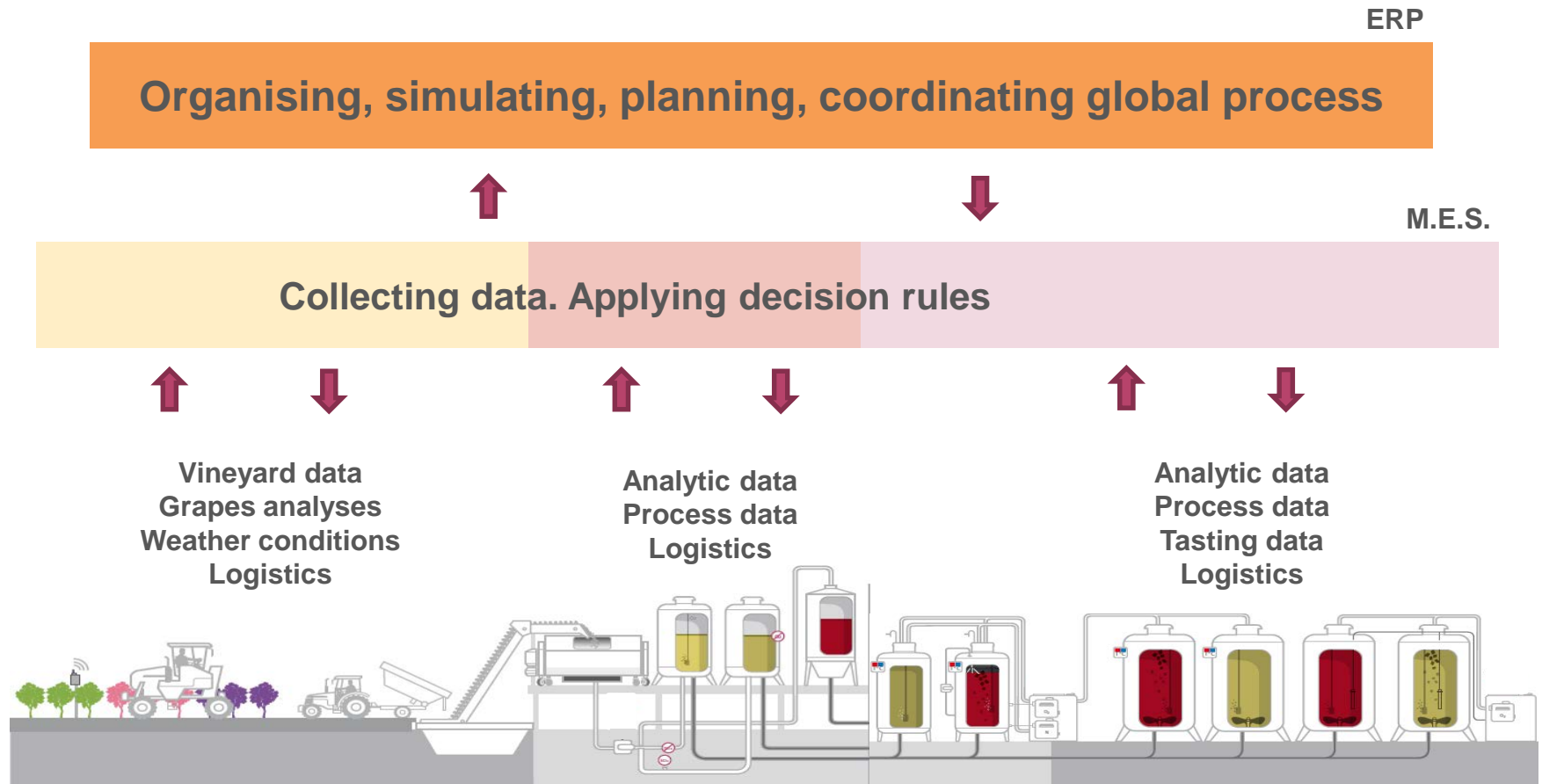
Objectives of production
Wine batch/ quality
Wine analyses
Marketing
Tasting

↓

Ageing management
(T°C, O₂, oak, lees)



TO TRANSVERSAL. NEED OF MES, AND LATER ERP



AND TOMORROW !

CONCLUSION 1

LEARNING



MEASURING



ALLIANCE

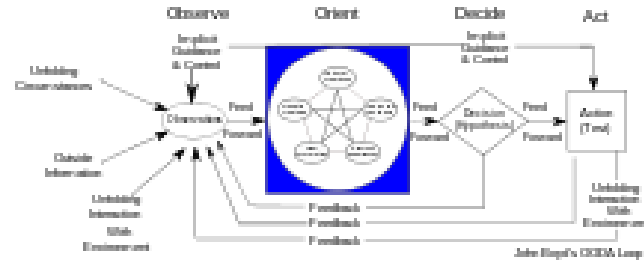


WHAT ABOUT TERROIR ?

IS IT WORTH IT \$WISE ?

CONCLUSION 3 - SOME REFERENCES...

John Boyd – OODA loop



W.E. DEMING – The 14 Key principles/ 7 deadly diseases.

Walter A. Shewhart – PDCA/ PDSA

Raymond Vaillancourt – About uncertainty and changement (french sorry ! And from Quebec even tougher !)

www.cio.com

ALONE YOU WILL GO FASTER,
TOGETHER WE WILL GO FURTHER.

African Expression



THANKS !!

THOMAS@VIVELYS.COM



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TASTE THE INNOVATION