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DEVELOPMENT OF A TRAINING PROGRAM FOR ENHANCING THE USE OF ICT TOOLS IN THE IMPLEMENTATION OF PRECISION AGRICULTURE

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T.P.3 - Case study on the selection and usage of sensors in a production unit

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1 Task A

You are called to decide on the potential selection of sensing systems for an agricultural unit. The referenced unit is a vineyard of 50 ha, and the potential sensing systems and their respective input reduction are presented below.

Sensor	Sensor Cost	Input Reduced	Reduction / ha	Input cost / ha
Non-contact electrical sensor	15,000 €		15%	550 €
IoT weather station	2,000 €		10%	550 €
UAV with multispectral camera	5,500 €		10%	750 €
Handheld reflectance sensor	2,000 €		10%	750 €
UAV with thermal camera	6,500 €		15%	550 €

1. Fill the empty spaces of the table according to the reduced input (‘fertilizers’ or ‘irrigation water’) each sensor can lead to.

2. Select which sensors are appropriate for the experimental vineyard mentioned above, based on your own calculations and the time period required for achieving amortization (when the economic gains from the sensor usage surpass the buying cost).

3. Aside from the economic aspect, which other parameters are related to the sensors that you selected (i.e. time saving, ease of measurements etc)?

2 Task B

Repeat the previous techno-economical selection study, but this time instead of a single production unit, you are called to select potential sensor(s) for a union of agricultural producers, having a total of 10 vineyard fields of 40 ha each.